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USER GUIDE
UGB011-0208

TrueBlend™

Gravimetric Blender
Software Version V2.9.1

Please record your equipment's model and serial number(s) and the date you received it in the spaces provided.

It's a good idea to record the model and serial number(s) of your equipment and the date you received it in the User Guide. Our service department uses this information, along with the manual number, to provide help for the specific equipment you installed.

Please keep this User Guide and all manuals, engineering prints and parts lists together for documentation of your equipment.

Date:

Manual Number: UGB011-0208

Serial Number(s):

Model Number(s):

DISCLAIMER: Conair shall not be liable for errors contained in this User Guide or for incidental, consequential damages in connection with the furnishing, performance or use of this information. Conair makes no warranty of any kind with regard to this information, including, but not limited to the implied warranties of merchantability and fitness for a particular purpose.

Contents

1.0 User instructions

1.1 About this operating manual

This operating manual is a **component** of the TrueBlend Gravimetric blender.

It contains important instructions on the **correct** operative and maintenance of the unit. Follow these instructions to **avoid dangers**, to prevent repair expenses and downtime and to increase the service life of the unit.

The manual must be kept for referral with the unit at its place of use. The manual must also accompany the unit if it is rented or sold.

It is directed to people who operate and repair the unit and must be read, understood and used by every person who is responsible for the following work with the unit:

- Transport and setup,
- Operation,
- Maintenance and repair,
- Correction of faults,
- Decommissioning and disposal.

Take particular note of

- the chapter on,
- the warning notes in the various chapters.

1.2 Layout of the manual

This manual is classified into several main parts:

- User information,
- Safety,
- Technical specifications,
- Transport and setup,
- Structure and function,
- Operation,
- Maintenance and repair,
- Decommissioning and disposal,
- Appendix (menu structure).

1.3 Meaning of safety information

Safety instructions are placed before the work steps. Read the safety instructions carefully before carrying out the subsequent operation.

If safety instructions are not followed, serious personal injury - possibly with fatal results - and property and environmental damage may occur!

The safety instruction in this operating manual are indicated with a symbol. The symbol contains a signal word indicating how serious the danger is.

DANGER!

A symbol with the word **"DANGER"** warns of an **imminent** danger to the health and life of persons.

If these safety instructions are **not observed** serious or even fatal injuries will be caused.

➔ Always observe the directions for avoiding such dangers.

WARNING!

A symbol with the word **"WARNING"** warns of a **possible** dangerous situation for the health and life of persons.

If these safety instructions are **not observed** serious or even fatal injuries may be caused.

➔ Always observe the directions for avoiding such dangers.

CAUTION!

A symbol with the word **"CAUTION"** warns of a **possible** dangerous situation for the health and life of persons or of property and environmental damage.

If these safety instruction are **not observed** injury or property and environmental damage **may** occur.

➔ Always observe the directions for avoiding such dangers.

1.4 Pictograms for safety and information

In this operating manual you will find sections of text that a re identified by pictograms. The meaning of the pictograms is described below.

Pictogram for general identification of hazards. This pictogram occurs in connection with safety instructions (see 1.3 Meaning of safety information).

Pictogram for hand injury. This pictogram occurs in connection with safety instructions (see 1.3 Meaning of safety information).

Pictogram for electric shock. This pictogram occurs in connection with safety instructions (see 1.3 Meaning of safety information).

Pictogram information for identification of important instructions, additional information and tips.

Pictogram for safety gloves that warns you to wear safety gloves.

1.5 Abbreviations

The following terms and abbreviations are used in this operating manual (in alphabetical order):

Abbreviation	Meaning
CAN	Controller Area Network
E-motor	Electric motor
LED	Light-emitting diode
PU	Polyurethane

2.0 Safety

2.1 General

This chapter contains basic safety instructions for working with the gravimetric batch blending unit.

Observe all the instructions for the operation and maintenance of the unit in this chapter.

In addition, observe the warning notices that are placed before the action directions where the operating steps are described.

2.2 Safety Hazards

MIX BLADES

Mix blades are driven with substantial torque.

NEVER place your hand in the mix chamber unless power is completely disconnected.

SERIOUS INJURY may result.

ADDITIONAL MIX BLADE HAZARD

Over time, mix blades may become **RAZOR SHARP**.

Always be careful when **TOUCHING** or **CLEANING** these blades.

Check for sharp edges frequently.

Replace blade if a hazard exists.

VERTICAL VALVES

Vertical valves in hoppers **SLAM CLOSED** without warning.

They will injure your fingers.

ALWAYS keep fingers clear valve openings.

NEVER use your fingers to clear an obstruction.

NEVER use your fingers to move a sticking valve.

SLIDE GATE/MIX CHAMBER

NEVER use your fingers to move a sticking slide gate under the mix chamber.

2.3 Safety Features

SAFETY INTERLOCK SWITCH

The **ACCESS DOOR** is equipped with a safety interlock switch that prevents the mix motor from running and the slide valves from operating.

DO NOT defeat this safety switch

HOPPER FINGER GUARDS

Finger guards are fitted into each hopper compartment.

DO NOT reach through these guards.

DO NOT use your fingers to clear an obstruction below these guards.

DO NOT remove these guards.

2.4 Designated use

The TrueBlend gravimetric blender must be used exclusively for metering and mixing free-flowing[1] plastic granulate and additives. A total of four different materials can be metered and mixed in the TB 45 and TB 100 models. Other models for up to six different materials are available including the: TB 250, 500 and 900 model series.

The following must not be metered and mixed:

- Foods of all types (the unit does not meet the hygienic standards),
- Highly abrasive materials, such as stones, sand (increased wear of unit components),
- Poorly free-flowing, sticky materials (materials only flow poorly, airtight seal by the pneumatic cylinder is adversely affected),
- Liquids and powders (airtight seal by the pneumatic cylinder is not possible).

[1] as per DIN ISO 3435

Do not make any changes to the unit. Any changes may adversely affect the safety of the unit.

Designated use includes following this operating manual and following the specified maintenance intervals and conditions.

NOTE

Please contact Conair if you have any questions about the designated use of the unit.

2.5 Sources of danger

The unit is manufactured to comply with the state of the art in technology and the generally accepted rules of safety engineering. However, operation of the unit may give rise to dangers for life and limb of the operator or third parties or damage to the unit or other property.

The unit has four sources of danger, which are shown in the figure below:

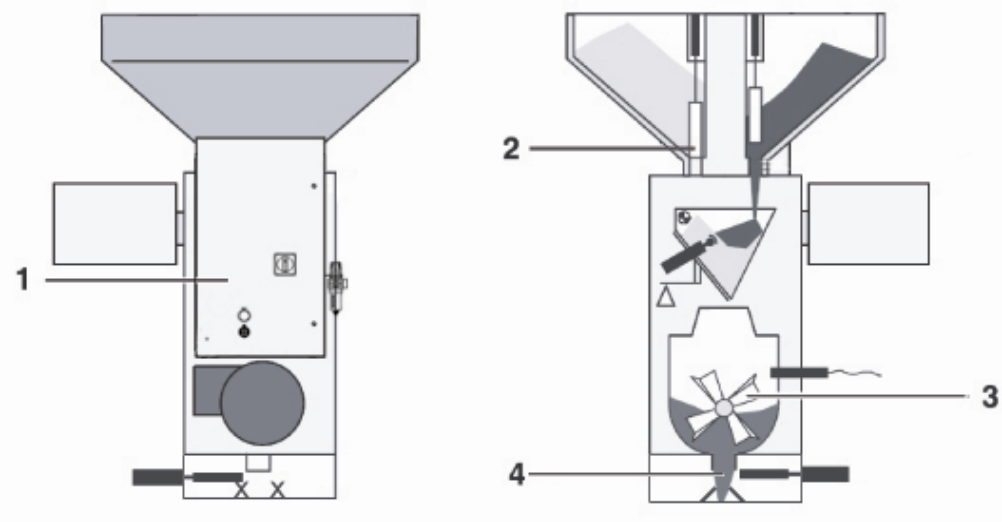

Fig. 1: Sources of danger

[1] Electrical system/power cabinet

[2] Pneumatic material seal at the outlet of the pneumatically operated vertical valves

[3] Agitator in mixing chamber

[4] Pneumatic seal at the discharge slide gate

The sources of danger and the consequences are shown in more detail below:

Danger source	Consequences
Electrical system	**Fatal injury by electric shock!** High voltages can cause life-threatening currents in the body and electric shock. ➔ Allow only trained and qualified electrical technicians to work on the electrical system. ➔ Before any electrical work disconnect the unit from the power supply and lock to prevent unauthorized persons switching it on.
Pneumatic seal on supply hoppers	**Danger of injury by moving parts!** Vertically moving pneumatic cylinders can cause crushing, impact and shearing injuries. ➔ Do not reach into the pneumatic seal of the supply hopper during normal operation and during manual operation.
Mixer	**Danger of injury by moving parts!** Rotating mixing blades can catch body parts and pull them in and cause life-threatening crushing, shearing and bone fracture injuries. The edges of the mixing blades can be as sharp as knives after extended operation. ➔ Never reach into the mixing chamber while the mixer is rotating. ➔ Do not extend any objects into the movement range of the mixer. ➔ Do not disable the safety interlock switch. ➔ Wear gloves when touching or cleaning the stationary mixer.

Danger source	Consequences
Pneumatic seal on the discharge slide gate[2] at bottom of mix chamber	**Danger of injury by moving parts!** Horizontally moving pneumatic cylinders can cause crushing, impact and shearing injuries and bone fractures. ➔ Do not reach into the pneumatic discharge slide gate during normal operation and during manual operation.

[2] The pneumatic discharge slide gate is not installed if a manual slide gate is installed and the unit is mounted directly on the injection molding machine.

2.6 Safety devices

Safety devices protect your health and your life.

Do not operate the unit without effective safety devices.

WARNING!

DANGER OF INJURY!

The operator runs the risk of injury if the safety devices are not operating correctly.

➔ Check that the safety devices function correctly after work has finished (see 7.7.1 Testing the mix chamber safety interlock switch).

2.6.1 Position of safety devices

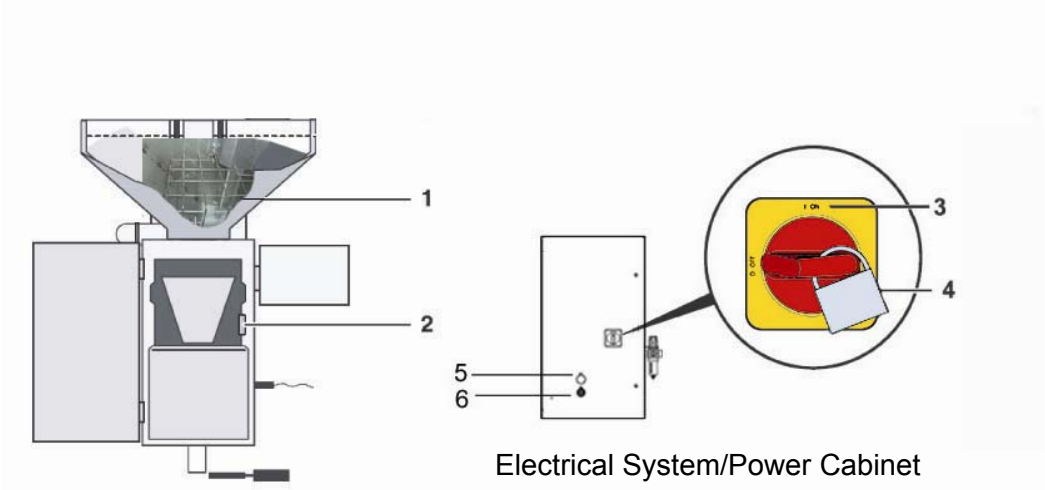

Fig. 2: Safety devices

[1] Finger guard

[2] Safety interlock switch (Mix chamber door)

[3] Main switch (=EMERGENCY STOP)

[4] Padlock

[5} Alarm beacon

[6] Alarm horn

Safety device	Safety function
Safety guard	Prevents injury by crushing and impact at the pneumatic cylinder of the supply hopper.
Safety interlock switch	Stops the mixer motor when the main door is opened.
EMERGENCY STOP switch	Stops all movement of the machine.
Padlock	Locks the switch to prevent unauthorized persons switching it on.

2.6.2 Detachable Material Hopper Procedure

Detachable material hopper for TB45 (4 bins) TB100 (2 bins) and TB250R-4 (2 bins) models.

All detachable material hoppers on the above referenced models are held in place with a captive retainer (screw) held in the hopper support frame. The retainer stabilizes the detachable hopper when mounted in the blender support frame from forces exerted on the hopper by resin weight and various types of automatic loading/receiving device(s) during normal vibration from the process. There is a separate retainer for each detachable hopper.

When removing any of these detachable hoppers for cleaning or material changeover; first, remove the automatic loading/receiving device; then use the proper hex head socket or screwdriver and back out the captive retainer. Hopper can then be removed.

Upon re-insertion of the detachable hopper, it is very important to re-anchor the respective hopper(s) using the captive retainer to provide stability during normal operation of the blender. Once the hoppers have been placed and anchored, the respective loading / receiving devices can be mounted.

2.7 Warning symbols on the unit

The instructional, warning and prohibition signs on the unit are a component of the operating manual. Observe and follow these signs in the same way as with the manual. Keep the signs clean and legible and never remove them, paint over them or stick other signs over them.

2.7.1 Position of warning symbols on the unit

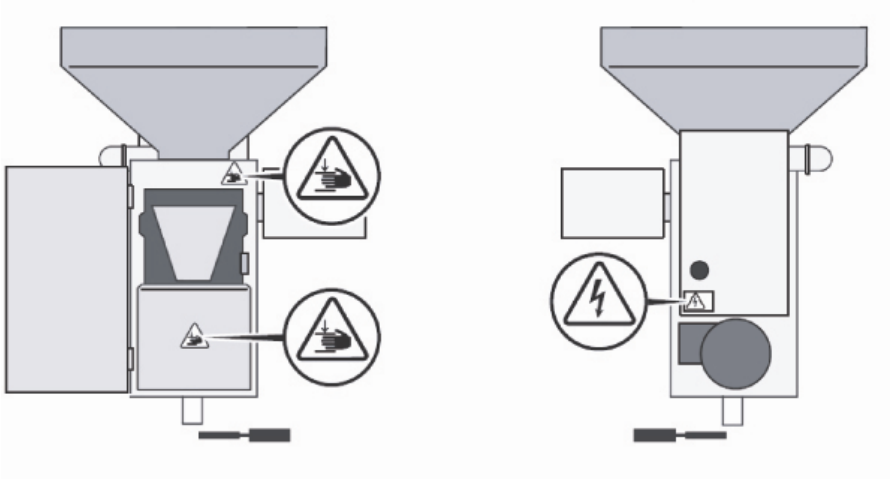

Fig. 3: Warning symbols on the unit

2.7.2 Meaning of warning symbols on the unit

Symbol	Meaning	Explanation
	Warning of hazardous electrical voltage	Only electrical technicians may work on the electrical system.
	Warning of injury to hands	Do not reach into the pneumatic seal on the supply hoppers and the discharge slide gate during operation. Never touch the mixer blades.

2.8 Information for the operator

The operator is responsible for the designated use of the unit.

2.8.1 Qualifications of personnel

The operator is responsible for ensuring that the personnel are qualified for the requirements of their tasks.

- The machine must only be operated by trained and qualified person authorized by the operator.
- Personnel, who are apprentices, are in training or instruction may only work on the machine under the supervision of an experienced person.

WARNING!

DANGER OF INJURY!

Improper operation and maintenance by insufficiently qualified personnel may lead to incalculable risks with negative results for persons, machine and the environment.

➔ Only qualified and authorized technicians may operate the machine and carry out repair and maintenance work.

2.9 Information for operating and maintenance personnel

Persons who are required to operate and maintain the unit must read and understand the operating manual, particularly the section on safety, before starting work.

The following safety instructions are particularly important for avoiding personal injury and property damage:

- Observe all safety and danger information on the unit.
- Keep all unauthorized people clear of the unit.
- Make sure that no people are in the danger zone every time before starting the unit.
- Keep the operating station clear of tools, equipment and other objects. Do not place tools or other objects on the unit. Vibration can cause them fall off the unit and injure persons and/or cause property damage.
- Keep the unit and work area clean and make sure that granulate does not accumulate on the floor. It may cause people to slip and injure themselves.
- Wear work gloves when working on the stationary mixer. Work gloves protect hands and fingers from being cut.
- The local safety and accident prevention regulation always apply for work with the unit.

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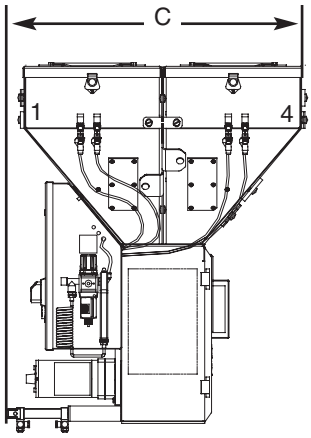
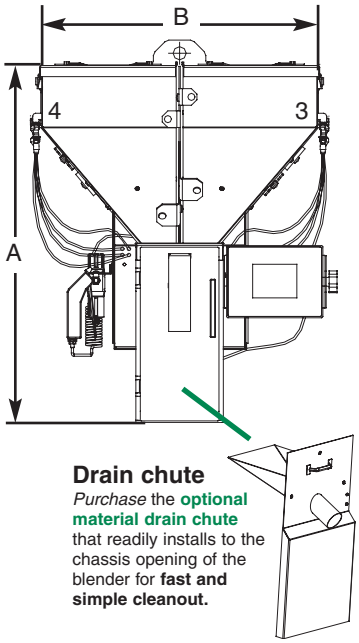
Side view



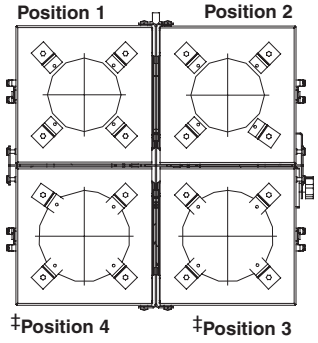
Front view



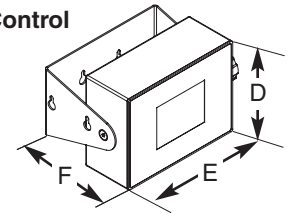
Drain chute

Purchase the **optional material drain chute** that readily installs to the chassis opening of the blender for **fast and simple cleanout.**

Top view



Control

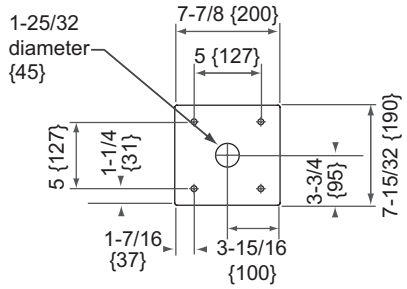


MODELS	TB45-4
Performance characteristics	
Batch size lb {g}	1.0 {450}
Maximum throughput rate lb/hr {kg/hr}*	200 {91}
Bin capacity - main ingredient ft³{liter}	0.2 {5.7}
Bin capacity - minor ingredient ft³{liter}	0.2 {5.7}
Maximum number of materials	4
Number of vertical discharge valves	4
Number/(size) of major bin valves	2 - (40 mm)
Number/(size) of minor bin valves	2 - (20 mm)
Dimensions inches {mm}	
A - Height above mounting plate†	30.90 {785}
B - Width	23.63 {600}
C - Depth	25.78 {655}
D - Control height	8.25 {209.6}
E - Control width	9.25 {235.0}
F - Control depth	4.75 {120.6}
Weight lbs {kg}	
Installed	75 {34}
Shipping	125 {57}
Voltage total amps	
115V/1 phase/60 hz	1.0
230V/1 phase/50 hz	0.5
Compressed air requirements	
Discharge valves	90 psi @ 0.2 ft³/min {6 bars @ 0.09 liters/sec}; 1/4 in. NPT fitting
Maximum loader sizes	
8 inch loaders	Number of loaders - 4

MOUNTING INTERFACE

Dimensions shown in inches and {mm}.

Mixing chamber access door - this side of the interface.



Mounting bolt hole size (4 holes) 7/16 inch {11.0 mm}. Predrilled 5 x 5 mounting pattern as standard.

SPECIFICATION NOTES

* Maximum throughput rates are based on 35 lb/ft³ pelletized material and using all standard valve sizes. Use of reducer inserts will lower the rate shown.

† The optional flow control valve will mount inside the chassis in the space of the manual slide valve. Conair recommends using the optional flow control valve when mounting the blender on a stand, surge bin or hopper.

‡ Hopper positions three and four are supplied with eight inch cover plates as standard.

Specifications may change without notice consult with a Conair representative for the most current information.

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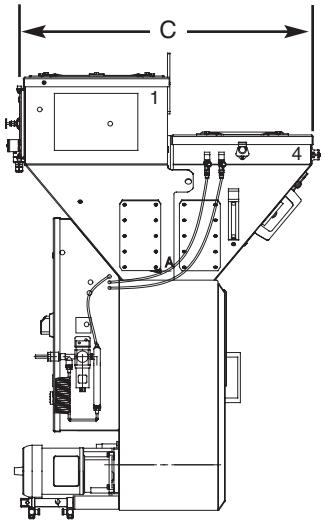
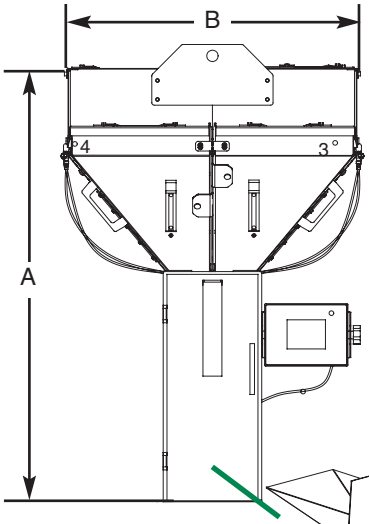
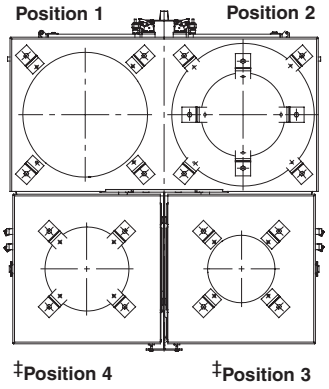
Side view



Front view



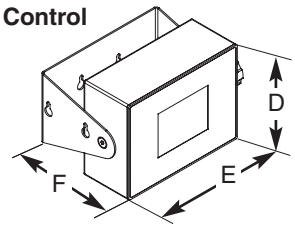
Top view



Drain chute

Purchase the **optional material drain chute** that readily installs to the chassis opening of the blender for **fast and simple cleanout.**

Control

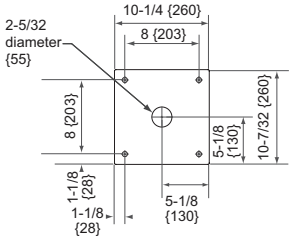


MODELS	TB100-4
Performance characteristics	
Batch size lb {g}	2.2 {1000}
Maximum throughput rate lb/hr {kg/hr}*	450 {204}
Bin capacity - main ingredient ft³{liter}	0.6 {17}
Bin capacity - minor ingredient ft³{liter}	0.3 {8}
Maximum number of materials	4
Number of vertical discharge valves	4
Number/(size) of major bin valves	2 - (60 mm)
Number/(size) of minor bin valves	2 - (20 mm)
Dimensions inches {mm}	
A - Height above mounting plate†	45.0 {1145}
B - Width	30.25 {769}
C - Depth	31.85 {809}
D - Control height	8.25 {209.6}
E - Control width	9.25 {235.0}
F - Control depth	4.75 {120.6}
Weight lbs {kg}	
Installed	160 {72}
Shipping	270 {122}
Voltage total amps	
115V/1 phase/60 hz	3.0
230V/1 phase/50 hz	1.5
Compressed air requirements	
Discharge valves	90 psi @ 0.2 ft³/min {6 bars @ 0.09 liters/sec}; 1/4 in. NPT fitting
Maximum loader sizes	
8 inch loaders	Number of loaders - 2
12 inch loaders	Number of loaders - 2

MOUNTING INTERFACE

Dimensions shown in inches and {mm}.

Mixing chamber access door - this side of the interface.



Mounting bolt hole size (4 holes) 9/16 inch {14.0 mm}.
Predrilled 8 x 8 mounting pattern as standard.

SPECIFICATION NOTES

* Maximum throughput rates are based on 35 lb/ft³ pelletized material and using all standard valve sizes. Use of reducer inserts will lower the rate shown.

† The optional flow control valve will mount inside the chassis in the space of the manual slide valve. Conair recommends using the optional flow control valve when mounting the blender on a stand, surge bin or hopper.

‡ Hopper position two is supplied with a 12-8 adapter and eight inch cover plate as standard.

Specifications may change without notice consult with a Conair representative for the most current information.

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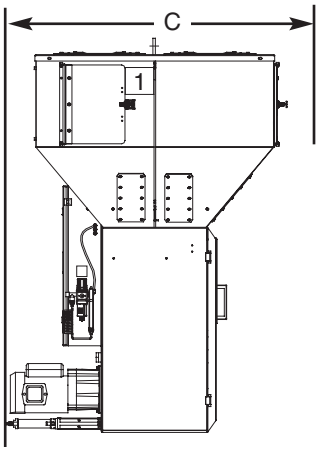
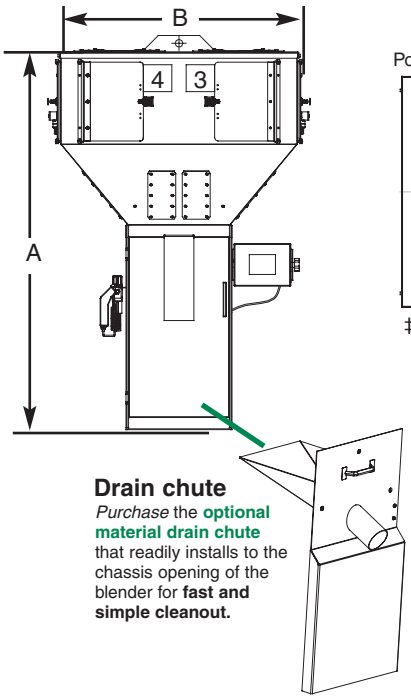
Side view



NOTE: Side and front view drawings are model TB250-4. The bin positions change for a TB250-6 see the top view.

Front view

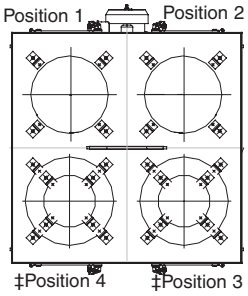


Drain chute

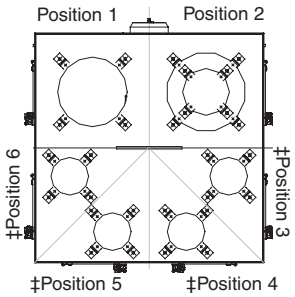
Purchase the **optional material drain chute** that readily installs to the chassis opening of the blender for **fast and simple cleanout.**

Top view

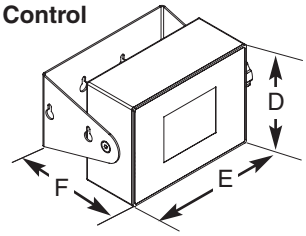
4 position



6 position



Control

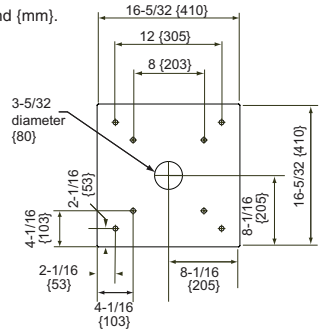


MODELS	TB250-4	TB250-6
Performance characteristics		
Batch size lb {g}	5.5 {2500}	5.5 {2500}
Maximum throughput rate lb/hr {kg/hr}*	1000 {454}	800 {363}
Bin capacity - main ingredient ft³{liter}	1.6 {45.3}	2.7 {76.4}
Bin capacity - minor ingredient ft³{liter}	1.6 {45.3}	1.4 {39.6}
Maximum number of materials	4	6
Number of vertical discharge valves	4	6
Number/(size) of major bin valves	2 - (60 mm)	2 - (60 mm)
Number/(size) of minor bin valves	2 - (30 mm)	4 - (30 mm)
Dimensions inches {mm}		
A - Height above mounting plate†	57.50 {1461}	63.0 {1600}
B - Width	36.50 {926}	40.13 {1026}
C - Depth	40.83 {1037}	42.67 {1084}
D - Control height	8.25 {209.6}	8.25 {209.6}
E - Control width	9.25 {235.0}	9.25 {235.0}
F - Control depth	4.75 {120.6}	4.75 {120.6}
Weight lbs {kg}		
Installed	320 {145}	400 {182}
Shipping	440 {200}	520 {236}
Voltage total amps		
115V/1 phase/60 hz	6.3	6.3
230V/1 phase/50 hz	3.2	3.2
Compressed air requirements		
Discharge valves	90 psi @ 0.2 ft³/min {6 bars @ 0.09 liters/sec}; 1/4 in. NPT fitting	
Maximum loader sizes		
15 inch loaders - number of loaders -	4	2
8 inch loaders- number of loaders -	NA	4

MOUNTING INTERFACE

Dimensions shown in inches and {mm}.

Mixing chamber access door - this side of the interface.



Mounting bolt hole size (8 holes) 9/16 inch {14.0 mm}.
Predrilled 8 x 8 and 12 X 12 mounting pattern as standard.

SPECIFICATION NOTES

* Maximum throughput rates are based on 35 lb/ft³ pelletized material and using all standard valve sizes. Use of reducer inserts will lower the rate shown.

† The optional flow control valve will mount inside the chassis in the space of the manual slide valve. Conair recommends using the optional flow control valve when mounting the blender on a stand, surge bin or hopper.

‡ TB250-4 hopper positions two and four are supplied with 12-8 adapters with eight inch cover plates as standard. TB250-6 hopper position two is supplied with a 12-8 adapter with an eight inch cover.

Specifications may change without notice consult with a Conair representative for the most current information.

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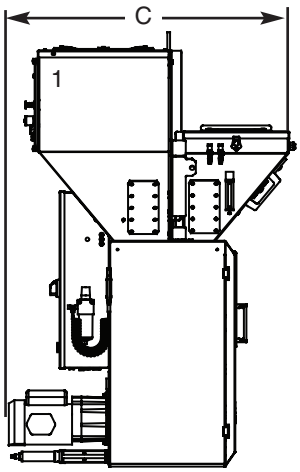
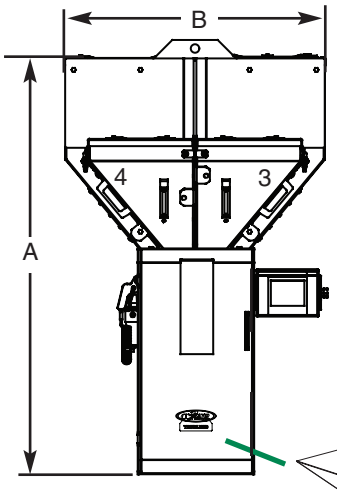
Side view

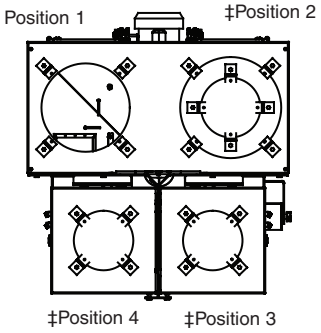


Front view



Top view

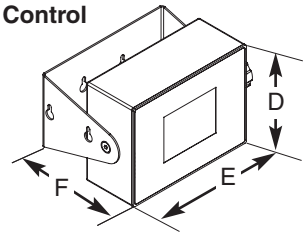
4 position



Drain chute

Purchase the **optional material drain chute** that readily installs to the chassis opening of the blender for **fast and simple cleanout.**

Control

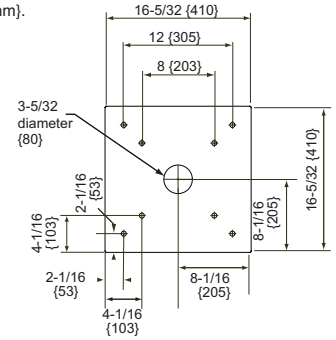


MODELS	TB250R-4
Performance characteristics	
Batch size lb {g}	5.5 {2500}
Maximum throughput rate lb/hr {kg/hr}*	800 {363}
Bin capacity - main ingredient ft³ {liter}	1.6 {45.3}
Bin capacity - minor ingredient ft³ {liter}	0.3 {8}
Maximum number of materials	4
Number of vertical discharge valves	4
Number/(size) of major bin valves	2 - (60 mm)
Number/(size) of minor bin valves (removable)	2 - (20 mm)
Dimensions inches {mm}	
A - Height above mounting plate†	57.50 {1461}
B - Width	36.50 {926}
C - Depth	38.88 {988}
D - Control height	8.25 {209.6}
E - Control width	9.25 {235.0}
F - Control depth	4.75 {120.6}
Weight lbs {kg}	
Installed	280
Shipping	400
Voltage total amps	
115V/1 phase/60 hz	6.3
230V/1 phase/50 hz	3.2
Compressed air requirements	
Discharge valves	90 psi @ 0.2 ft³/min {6 bars @ 0.09 liters/sec}; 1/4 in. NPT fitting
Maximum loader sizes	
15 inch loaders - number of loaders -	2
8 inch loaders- number of loaders -	2

MOUNTING INTERFACE

Dimensions shown in inches and {mm}.

Mixing chamber access door - this side of the interface.



Mounting bolt hole size (8 holes) 9/16 inch {14.0 mm}.
Predrilled 8 x 8 and 12 X 12 mounting pattern as standard.

SPECIFICATION NOTES

* Maximum throughput rates are based on 35 lb/ft^3 pelletized material and using all standard valve sizes. Use of reducer inserts will lower the rate shown.

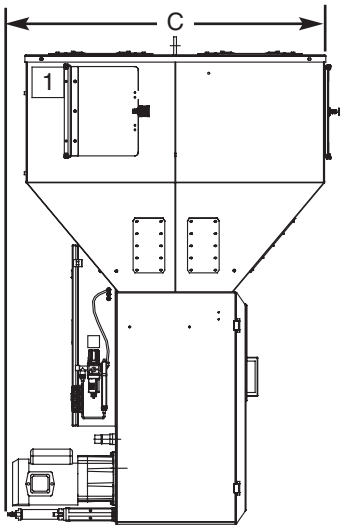
† The optional flow control valve will mount inside the chassis in the space of the manual slide valve. Conair recommends using the optional flow control valve when mounting the blender on a stand, surge bin or hopper.

‡ TB250R-4 hopper position two is supplied with a 12-8 adapter with an eight inch cover plate as standard. Position three and four are supplied with hand-fill lids.

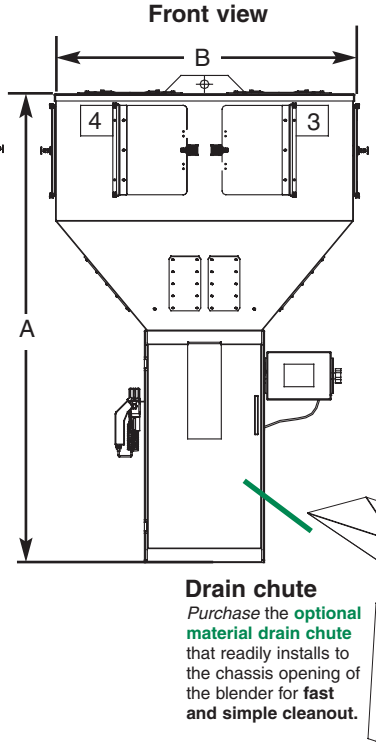
Specifications may change without notice consult with a Conair representative for the most current information.

TPBS027-0207

Side view

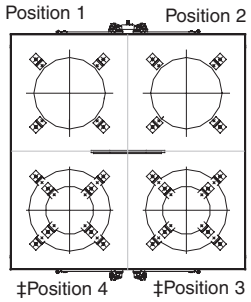


Front view

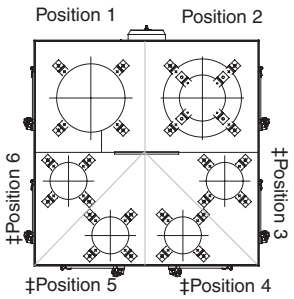


Top view

4 position



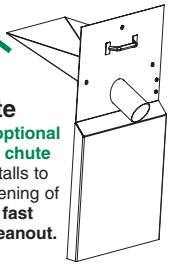
6 position



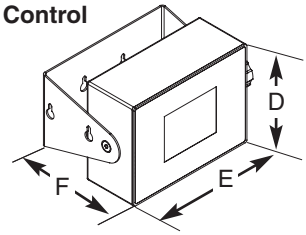
NOTE: Side and front view drawings are model TB500-4. The bin positions change for a TB500-6, see the top view.

Drain chute

Purchase the **optional material drain chute** that readily installs to the chassis opening of the blender for **fast and simple cleanout.**



Control

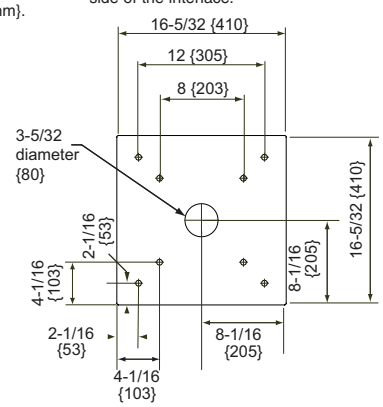


MODELS	TB500-4	TB500-6
Performance characteristics		
Batch size lb {g}	11 {5000}	11 {5000}
Maximum throughput rate lb/hr {kg/hr}*	1550 {703}	1200 {544}
Bin capacity - main ingredient ft³{liter}	2.7 {76.4}	2.7 {76.4}
Bin capacity - minor ingredient ft³{liter}	2.7 {76.4}	1.35 {38.2}
Maximum number of materials	4	6
Number of vertical discharge valves	4	6
Number/(size) of major bin valves	2 - (100/60 mm)	2 - (100/60 mm)
Number/(size) of minor bin valves	2 - (30 mm)	4 - (30 mm)
Dimensions inches {mm}		
A - Height above mounting plate†	63.00 {1600}	63.00 {1600}
B - Width	40.13 {1026}	40.13 {1026}
C - Depth	43.00 {1092}	43.00 {1092}
D - Control height	8.25 {209.6}	8.25 {209.6}
E - Control width	9.25 {235.0}	9.25 {235.0}
F - Control depth	4.75 {120.6}	4.75 {120.6}
Weight lbs {kg}		
Installed	400 {182}	400 {182}
Shipping	520 {236}	520 {236}
Voltage total amps		
115V/1 phase/60 hz	6.3	6.3
230V/1 phase/50 hz	3.2	3.2
Compressed air requirements		
Discharge valves	90 psi @ 0.2 ft³/min {6 bars @ 0.09 liters/sec}; 1/4 in. NPT fitting	
Maximum loader sizes		
15 inch loaders - number of loaders -	4	2
8 inch loaders - number of loaders -	NA	4

MOUNTING INTERFACE

Dimensions shown in inches and {mm}.

Mixing chamber access door - this side of the interface.



Mounting bolt hole size (8 holes) 9/16 inch {14.0 mm}.
Predrilled 8 x 8 and 12 X 12 mounting pattern as standard.

SPECIFICATION NOTES

* Maximum throughput rates are based on 35 lb/ft³ pelletized material and using all standard valve sizes. Use of reducer inserts will lower the rate shown.

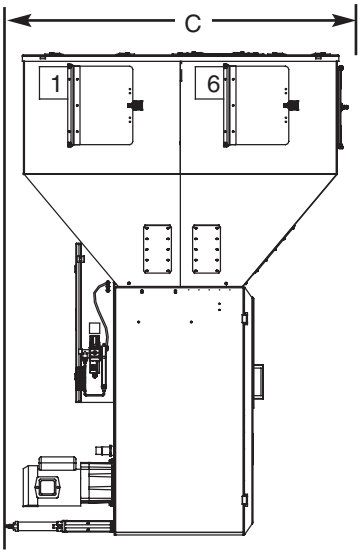
† The optional flow control valve will mount inside the chassis in the space of the manual slide valve. Conair recommends using the optional flow control valve when mounting the blender on a stand, surge bin or hopper.

‡ TB500-4 hopper positions three and four are supplied with 12-8 adapters with 8 inch cover plates as standard. TB500-6 hopper position two is supplied with a 12-8 adapter and an 8 inch cover plate as standard.

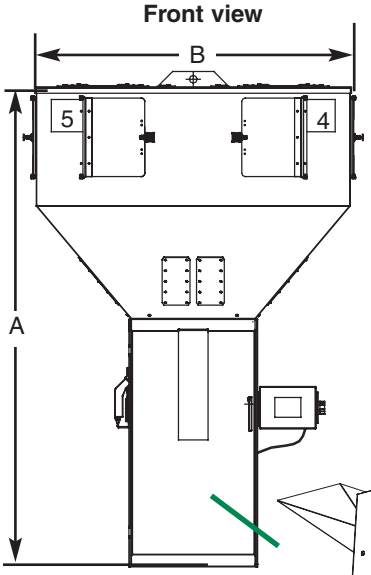
Specifications may change without notice, consult with a Conair representative for the most current information.

TPBS028-0207

Side view

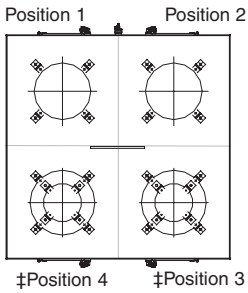


Front view

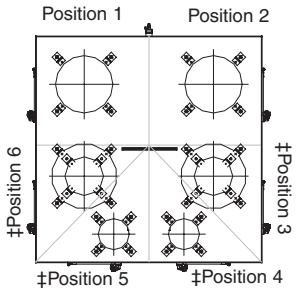


Top view

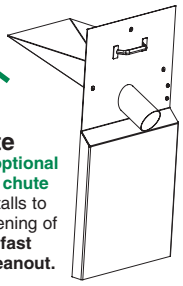
4 position



6 position



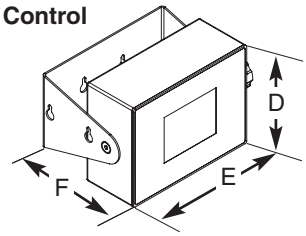
NOTE: Side and front view drawings are model TB900-6. The bin positions change for a TB900-4, see the top view.



Drain chute

Purchase the **optional material drain chute** that readily installs to the chassis opening of the blender for **fast and simple cleanout.**

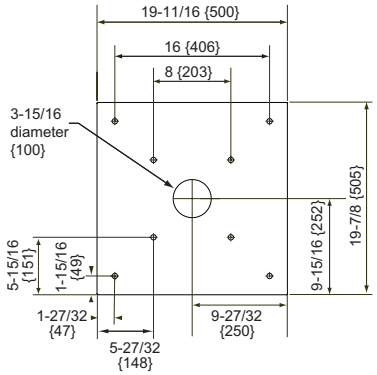
Control



MODELS	TB900-4	TB900-6
Performance characteristics		
Batch size lb {g}	19.8 {9000}	19.8 {9000}
Maximum throughput rate lb/hr {kg/hr}*	3500 {1588}	2800 {1270}
Bin capacity - main ingredient ft³{liter}	4.4 {124.6}	4.4 {124.6}
Bin capacity - minor ingredient ft³{liter}	4.4 {124.6}	2.2 {62.3}
Maximum number of materials	4	6
Number of vertical discharge valves	4	6
Number/(size) of major bin valves	2 - (100 mm)	2 - (100 mm)
Number/(size) of minor bin valves	2 - (60 mm)	4 - (60 mm)
Dimensions inches {mm}		
A - Height above mounting plate†	74.75 {1896}	74,75 {1896}
B - Width	48.5 {1229}	48.5 {1229}
C - Depth	51.0 {1296}	51.0 {1296}
D - Control height	8.25 {209.6}	8.25 {209.6}
E - Control width	9.25 {235.0}	9.25 {235.0}
F - Control depth	4.75 {120.6}	4.75 {120.6}
Weight lbs {kg}		
Installed	550 {249}	550 {249}
Shipping	700 {318}	700 {318}
Voltage total amps		
115V/1 phase/60 hz	6.3	6.3
230V/1 phase/50 hz	3.2	3.2
Compressed air requirements		
Discharge valves	90 psi @ 0.2 ft³/min {6 bars @ 0.09 liters/sec}; 1/4 in. NPT fitting	
Maximum loader sizes		
20 inch loaders - number of loaders	4	2
15 inch loaders - number of loaders	NA	2
8 inch loaders - number of loaders	NA	2

MOUNTING INTERFACE

Dimensions shown in inches and {mm}.



Mounting bolt hole size (8 holes) 9/16 inch {14.0 mm}.
Predrilled 8 x 8 and 16 X 16 mounting pattern as standard.

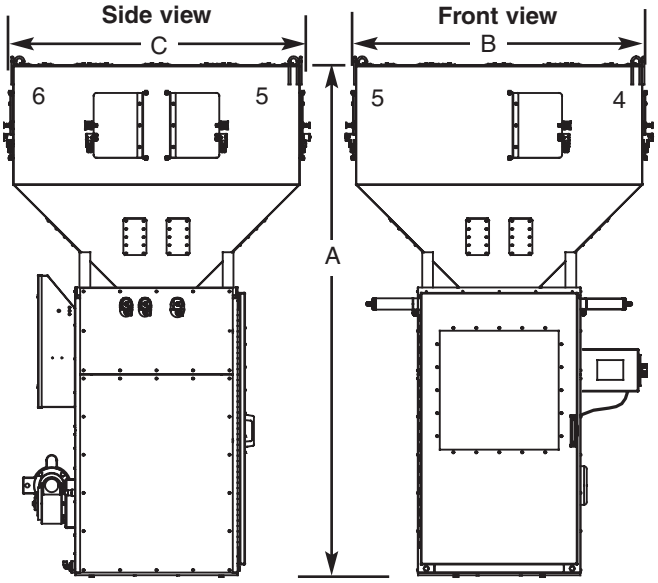
SPECIFICATION NOTES

* Maximum throughput rates are based on 35 lb/ft³ pelletized material and using all standard valve sizes. Use of reducer inserts will lower the rate shown.

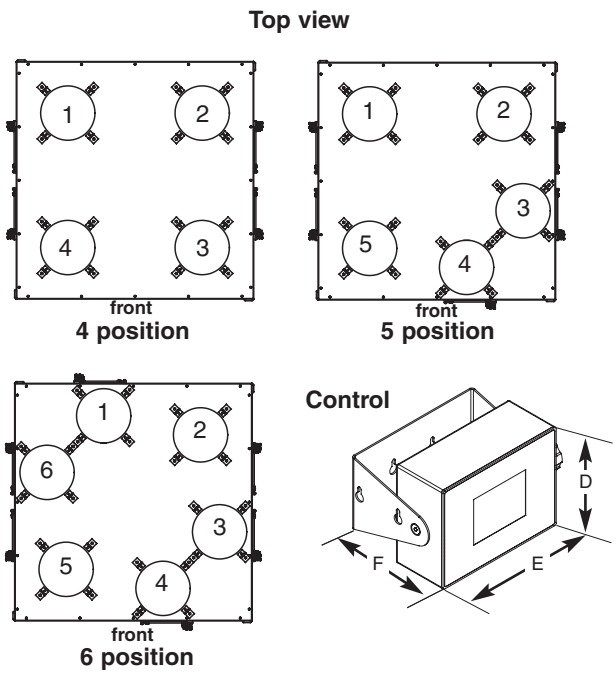
† The optional flow control valve will mount inside the chassis in the space of the manual slide valve. Conair recommends using the optional flow control valve when mounting the blender on a stand, surge bin or hopper.

‡ TB900-4 hopper positions three and four are supplied with 12-8 adapters with eight inch cover plates as standard. TB900-6 hopper positions three and six are supplied with 12-8 adapters and eight inch cover plates as standard.

Specifications may change without notice, consult with a Conair representative for the most current information.

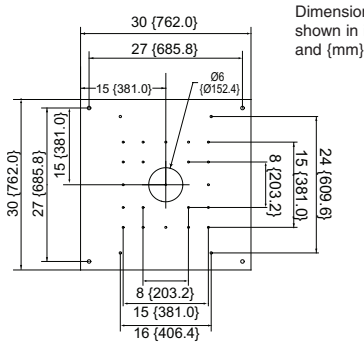


NOTE: Side and front view drawings are shown for model TB1800-6. The bin positions change for a TB1800-4 and TB1800-5 models, see the top view.



MODELS	TB1800-4	TB1800-5	TB1800-6
Performance characteristics			
Batch size lbs {g} (grams or kilograms)	40 {18000}	40 {18000}	40 {18000}
Maximum throughput lbs/hr {kg/hr}*	6000 {2722}	5500 {2495}	4800 {2177}
Bin capacity - main ingredient ft³{liter}	6 {170}	6 {170}	6 {170}
Bin capacity - minor ingredient ft³{liter}	6 {170}	4 {113}	4 {113}
Maximum number of materials	4	5	6
Number of major valves	4 (5X5)	3 (5X5)	2 (5X5)
Number of minor valves	0	2 (2X5)	4 (2X5)
Dimensions inches {mm}			
A - Height above mounting plate	94.4 {2397.8}	94.4 {2397.8}	94.4 {2397.8}
B - Width	53.0 {1346.2}	53.0 {1346.2}	53.0 {1346.2}
C - Depth	53.0 {1346.2}	53.0 {1346.2}	53.0 {1346.2}
D - Controller height	8.25 {209.6}	8.25 {209.6}	8.25 {209.6}
E - Controller width	9.25 {235.0}	9.25 {235.0}	9.25 {235.0}
F - Controller depth	4.75 {120.6}	4.75 {120.6}	4.75 {120.6}
Weight lbs {kg}			
Installed	1465 {665}	1498 {679}	1532 {695}
Shipping	1715 {778}	1748 {793}	1782 {808}
Voltage total amps			
220V/1 phase/50 hz	11.3	11.3	11.3
220V/1 phase/60 hz	11.3	11.3	11.3
240V/3 phase/60 hz	7.5	7.5	7.5
400V/3 phase/50 hz	5.0	5.0	5.0
480V/3 phase/60 hz	4.5	4.5	4.5
575V/3 phase/60 hz	3.9	3.9	3.9
Compressed air requirements			
	0.3 ft³/min @ 90 psi {6 bars @ 0.14 liters/sec} 3/8 in. NPT fitting		
Maximum loader sizes	4 DL25 2 DL25 | 2 DL15 2 DL25 | 2 AR10 4 DL20	3 DL25 3 DL25	2 DL15 2 AR10	2 DL25 2 DL25 4 DL20 4 DL20	4 DL15 4 AR10 2 DL15 2 AR10

MOUNTING INTERFACE

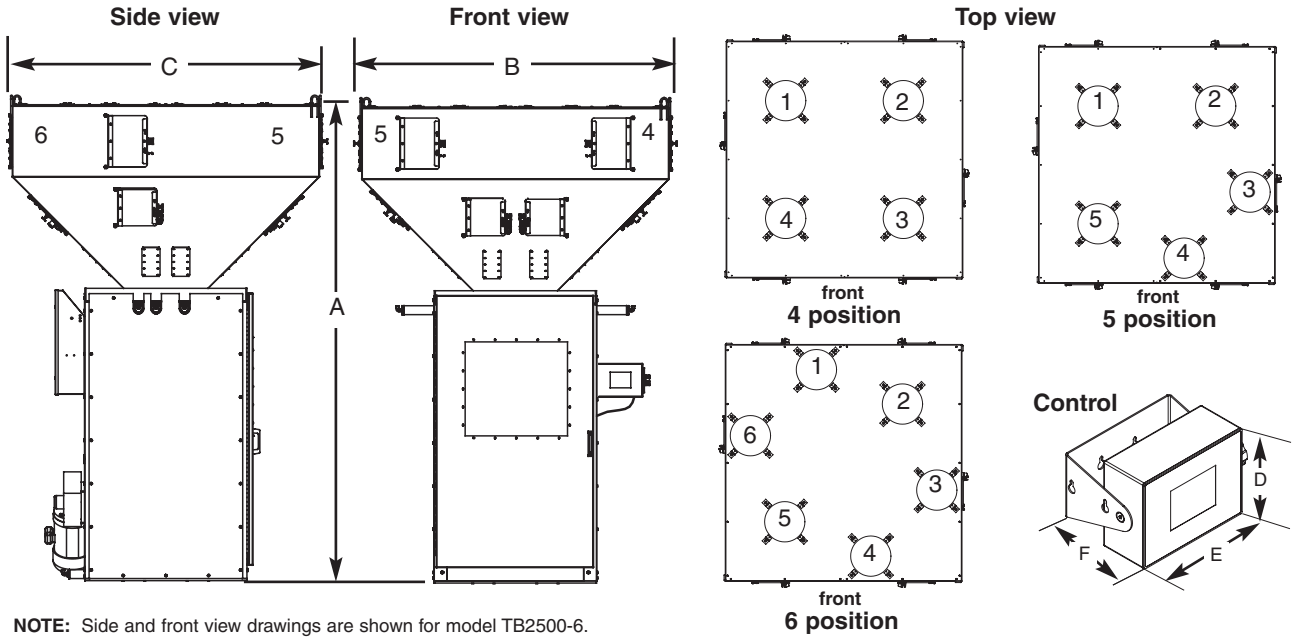


SPECIFICATION NOTES

* Maximum throughput rates are based on 35 lb/ft³ pelletized material and using all standard valve sizes. Use of reducer inserts will lower the rate shown.

The optional flow control valve will mount inside the chassis in the space of the manual slide valve. Conair recommends using the optional flow control valve when mounting the blender on a stand, surge bin or hopper.

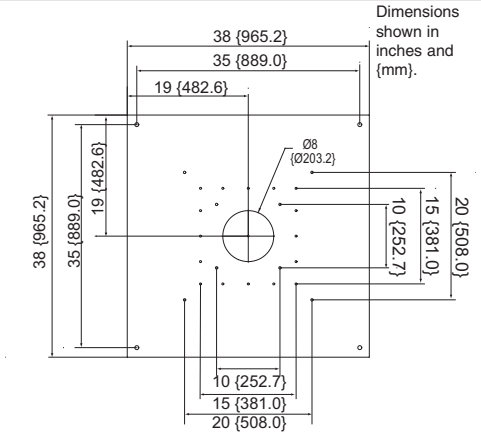
Specifications may change without notice, consult with a Conair representative for the most current information.



NOTE: Side and front view drawings are shown for model TB2500-6. The bin positions change for a TB2500-4 and TB2500-5 models, see the top view.

MODELS	TB2500-4	TB2500-5	TB2500-6
Performance characteristics			
Batch size lbs {g} (grams or kilograms)	55 {25000}	55 {25000}	55 {25000}
Maximum throughput lbs/hr {kg/hr}*	9000 {4082}	8000 {3629}	7000 {3175}
Bin capacity - main ingredient ft³ {liter}	10 {283}	10 {283}	10 {283}
Bin capacity - minor ingredient ft³ {liter}	10 {283}	5 {142}	5 {142}
Maximum number of materials	4	5	6
Number of major valves	4 (6X6)	3 (6X6)	2 (6X6)
Number of minor valves	0	2 (2X6)	4 (2X6)
Dimensions inches {mm}			
A - Height above mounting plate	111.5 {2832.1}	111.5 {2832.1}	111.5 {2832.1}
B - Width	72 {1828.0}	72 {1828.0}	72 {1828.0}
C - Depth	72 {1828.0}	72 {1828.0}	72 {1828.0}
D - Controller height	8.25 {209.6}	8.25 {209.6}	8.25 {209.6}
E - Controller width	9.25 {235.0}	9.25 {235.0}	9.25 {235.0}
F - Controller depth	4.75 {120.6}	4.75 {120.6}	4.75 {120.6}
Weight lbs {kg}			
Installed	2483 {1126}	2531 {1148}	2580 {1170}
Shipping	2783 {1262}	2831 {1080}	2880 {1306}
Voltage total amps			
240V/3 phase/60 hz	10.3	10.3	10.3
400V/3 phase/50 hz	7.7	7.7	7.7
480V/3 phase/60 hz	6.4	6.4	6.4
575V/3 phase/60 hz	5.6	5.6	5.6
Compressed air requirements			
	0.3 ft³/min @ 90 psi {6 bars @ 0.14 liters/sec} 3/8 in. NPT fitting		
Maximum loader sizes			
Number of 25 inch loaders	4	5	6

MOUNTING INTERFACE



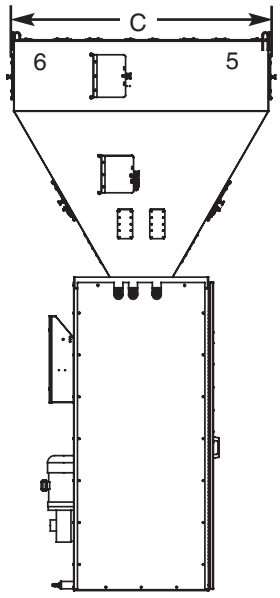
SPECIFICATION NOTES

* Maximum throughput rates are based on 35 lb/ft³ pelletized material and using all standard valve sizes. Use of reducer inserts will lower the rate shown.

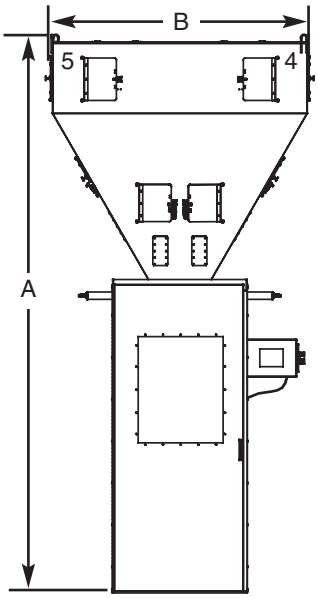
The optional flow control valve will mount inside the chassis in the space of the manual slide valve. Conair recommends using the optional flow control valve when mounting the blender on a stand, surge bin or hopper.

Specifications may change without notice, consult with a Conair representative for the most current information.

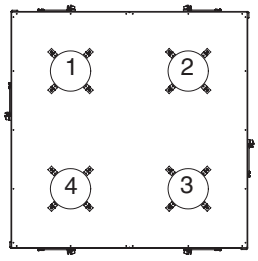
Side view



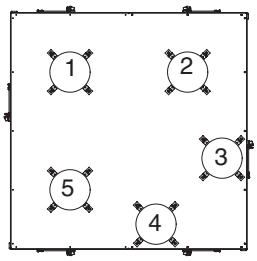
Front view



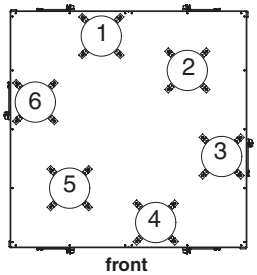
Top view



front
4 position

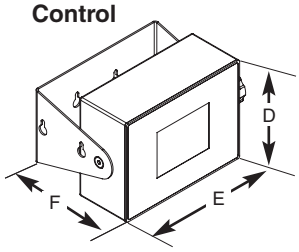


front
5 position



front
5 position

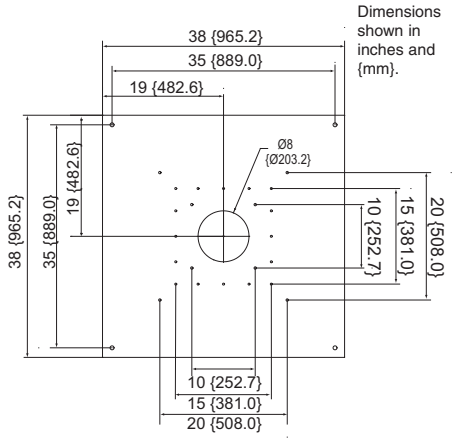
Control



NOTE: Side and front view drawings are shown for model TB3500-6. The bin positions change for a TB3500-4 and TB3500-5 models, see the top view.

MODELS	TB3500-4	TB3500-5	TB3500-6
Performance characteristics			
Batch size lbs {g}	77 {35000}	77 {35000}	77 {35000}
Maximum throughput lbs/hr {kg/hr}*	12000 {5443}	11000 {4990}	10000 {4536}
Bin capacity - main ingredient ft³{liter}	18 {510}	18 {510}	18 {510}
Bin capacity - minor ingredient ft³{liter}	18 {510}	9 {255}	9 {255}
Maximum number of materials	4	5	6
Number of major valves	4 (6X6)	3 (6X6)	2 (6X6)
Number of minor valves	0	2 (2X6)	4 (2X6)
Dimensions inches {mm}			
A - Height above mounting plate	156 {3962}	156 {3962}	156 {3962}
B - Width	72 {1828}	72 {1828}	72 {1828}
C - Depth	72 {1828}	72 {1828}	72 {1828}
D - Controller height	8.25 {209.6}	8.25 {209.6}	8.25 {209.6}
E - Controller width	9.25 {235.0}	9.25 {235.0}	9.25 {235.0}
F - Controller depth	4.75 {120.6}	4.75 {120.6}	4.75 {120.6}
Weight lbs {kg}			
Installed	2982 {1353}	3049 {1383}	3115 {1413}
Shipping	3282 {1489}	3349 {1519}	3415 {1549}
Voltage total amps			
240V/3 phase/60 hz	10.3	10.3	10.3
400V/3 phase/50 hz	7.7	7.7	7.7
480V/3 phase/60 hz	6.4	6.4	6.4
575V/3 phase/60 hz	5.6	5.6	5.6
Compressed air requirements			
	0.3 ft³/min @ 90 psi {6 bars @ 0.14 liters/sec} 3/8 in. NPT fitting		
Maximum loader sizes			
Number of 25 inch loaders	4	5	6

MOUNTING INTERFACE



SPECIFICATION NOTES

* Maximum throughput rates are based on 35 lb/ft³ pelletized material and using all standard valve sizes. Use of reducer inserts will lower the rate shown.

The optional flow control valve will mount inside the chassis in the space of the manual slide valve. Conair recommends using the optional flow control valve when mounting the blender on a stand, surge bin or hopper.

Specifications may change without notice, consult with a Conair representative for the most current information.

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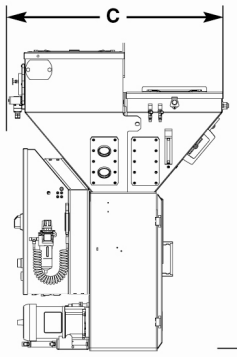
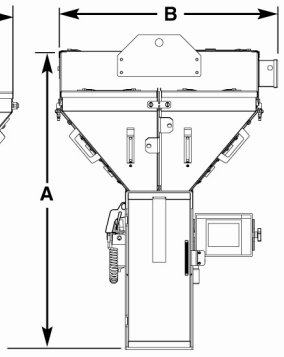
TRUEBLEND HIGH HEAT MODELS

Model TBA/TBH100

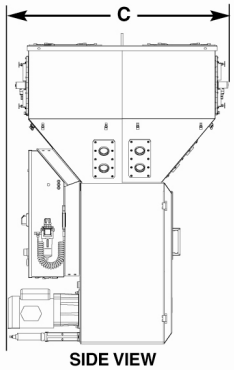


SIDE VIEW

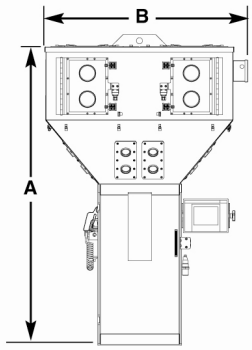


FRONT VIEW

Model TBA/TBH250 - TBA/TBH900

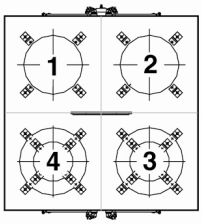


SIDE VIEW

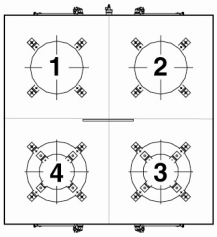


FRONT VIEW

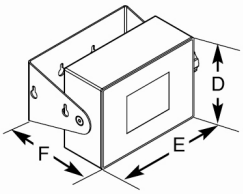
TOP VIEW TBA/H100



TOP VIEW TBA/H250-500



TOP VIEW TBA/H900



CONTROL

MODELS	TBA/TBH100	TBA/TBH250	TBA/TBH500	TBA/TBH900
Performance characteristics				
Batch size lbs {g}	2.2 {1000}	5.5 {2500}	11 {5000}	19.8 {9000}
Maximum throughput lbs/hr {kg/hr}*	450 {204}	1000 {454}	1550 {703}	3500 {1588}
Bin capacity - main ingredient ft³{liter}	0.6 {17}	1.6 {45.3}	2.7 {76.4}	4.4 {124.6}
Bin capacity - minor ingredient ft³{liter}	0.3 {8}	1.6 {45.3}	2.7 {76.4}	4.4 {124.6}
Maximum number of materials	4	4	4	4
Number of vertical discharge valves	4	4	4	4
Number of major bin valves	2 - (60 mm)	2 - (60 mm)	2 - (100/60 mm)	2 - (100 mm)
Number of minor bin valves	2 - (20 mm)	2 - (30 mm)	2 - (30 mm)	2 - (60 mm)
Dimensions inches {mm}				
A - Height above mounting plate†	45.0 {1145}	57.50 {1461}	63.00 {1600}	74.75 {1896}
B - Width	30.25 {769}	36.50 {926}	40.13 {1026}	48.5 {1229}
C - Depth	33.23 {844}	42.29 {1074}	43.00 {1092}	51.0 {1296}
D - Controller height	8.25 {209.6}	8.25 {209.6}	8.25 {209.6}	8.25 {209.6}
E - Controller width	9.25 {235.0}	9.25 {235.0}	9.25 {235.0}	9.25 {235.0}
F - Controller depth	4.75 {120.6}	4.75 {120.6}	4.75 {120.6}	4.75 {120.6}
Weight lbs {kg}				
Installed	160 {72}	320 {145}	400 {182}	550 {249}
Shipping	270 {122}	440 {120}	520 {236}	700 {318}
Voltage Total amps				
115V/1 phase/60 Hz	3.0	6.3	6.3	6.3
230V/1 phase/50 Hz	1.5	3.2	3.2	3.2
Compressed air requirements				
Discharge valves	90 psi @ 0.2 ft³/min. {6 bars @0.09 liters/sec}, 1/4 inch NPT fitting			
Maximum loader sizes				
20 inch loaders - number of loaders	NA	NA	NA	4
15 inch loaders - number of loaders	NA	4	4	NA
12 inch loaders - number of loaders	2	NA	NA	NA
8 inch loaders - number of loaders	2	NA	NA	NA

SPECIFICATION NOTES:

* Maximum throughput rates are based on 35 lb/ft^3 pelletized material and using all of the standard valve sizes. Use of valve inserts will lower the rate shown.

† The optional flow control valve will mount inside the chassis in the space of the manual slide valve. Conair recommends using the optional flow control valve when mounting the blender on a stand, surge bin or hopper.

Specifications may change without notice, consult with a Conair representative for the most current information.

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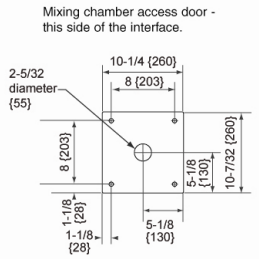
MOUNTING INTERFACES

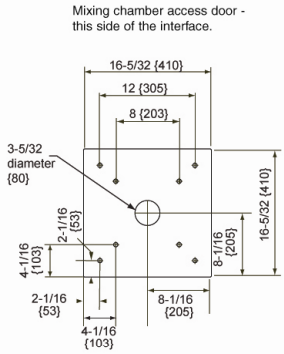
Dimensions shown in inches and {mm}.

TBA and TBH100



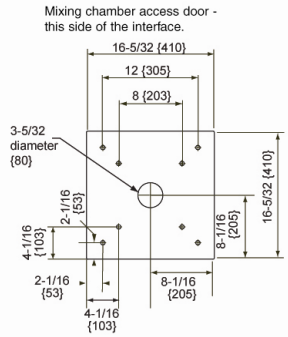
Mounting bolt hole size (4 holes) 9/16 inch {14.0 mm}. Predrilled 8 x 8 mounting pattern as standard.

TBA and TBH250



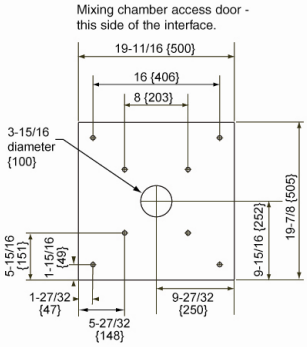
Mounting bolt hole size (8 holes) 9/16 inch {14.0 mm}. Predrilled 8 x 8 and 12 X 12 mounting pattern as standard.

TBA and TBH500



Mounting bolt hole size (8 holes) 9/16 inch {14.0 mm}. Predrilled 8 x 8 and 12 X 12 mounting pattern as standard.

TBA and TBH900



Mounting bolt hole size (8 holes) 9/16 inch {14.0 mm}. Predrilled 8 x 8 and 16 X 16 mounting pattern as standard.

4.0 Transport and setup

4.1 Unpacking

CAUTION!

MATERIAL DAMAGE!

Forces that are exerted on the load cell from outside when attaching and removing the weigh bin load cell may damage the very sensitive load cell.

➔ Do not use excessive force on the load cell.

4.2 Lifting

WARNING!

DANGER OF INJURY!

If the weight is unevenly distributed, the mixing unit may tip and injure people when it is lifted.

➔ Use only the lifting lug provided to lift the mixing unit.

Fig. 4: Lifting unit

4.3 Setup

The unit can be mounted on the processing machine or operated as a centralized mixing station. A frame with reservoir hopper and exhaust box is available if it is used as a centralized mixing station. The frame can be bolted to the floor.

➔ Make sure that the base is as even as possible.

➔ Make sure that the switch cabinet and main door are accessible for maintenance work at all times.

➔ Attach the separately supplied weigh bin carefully to prevent damage to the load cell.

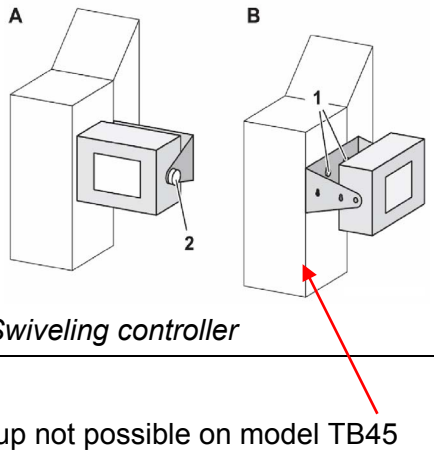
4.4 Positioning controller

IMPORTANT

Please remove the protective film on the touchscreen control for optimum performance

The controller for the TrueBlend can be fixed to the housing with two screws.

- As delivered the rear screw is used to secure the unit for transport while the front screw is attached to the screw hole. (A)
- The controller with the support can be swiveled by 90° by loosening the rear screw. (B)
- The controller can also be removed from the support and fixed to a wall or another position and connected with a 2 m (standard) or 6 m (optional) cable. The controller can be placed on a table and prevented from slipping with the four antislip feet, which are supplied with the cable.



[1] Mounting screws
[2] Rotary knob

Fig. 5: Swiveling controller

NOTE

This setup not possible on model TB45

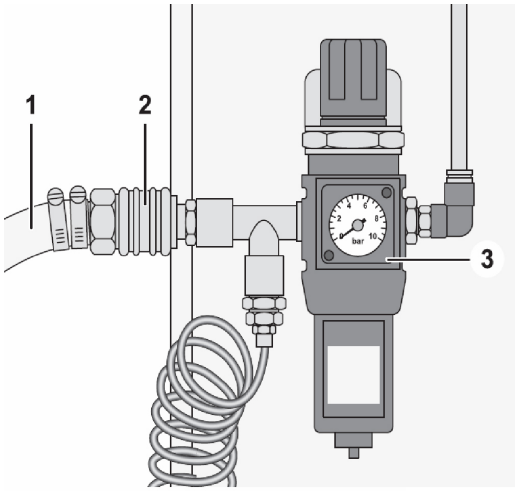
4.5 Making connections

4.5.1 Compressed air connection

➔ Connect the air hose [1] to the compressed air connection of the unit [2].

The operating pressure must be at least 0.6 MPa (87.0 psi) (6 bar).

➔ Check the operating pressure with the manometer [3] and if it is different set it to 0.6 MPa.



[1] Air hose
[2] Compressed air connection
[3] Manometer

Fig. 6: Connecting compressed air

NOTE

No additional compressed air consumers may be connected to the unit, because this may reduce the operating pressure. If the operating pressure is less than 0.6 MPa the loading precision may be affected.

4.5.2 Electrical connection

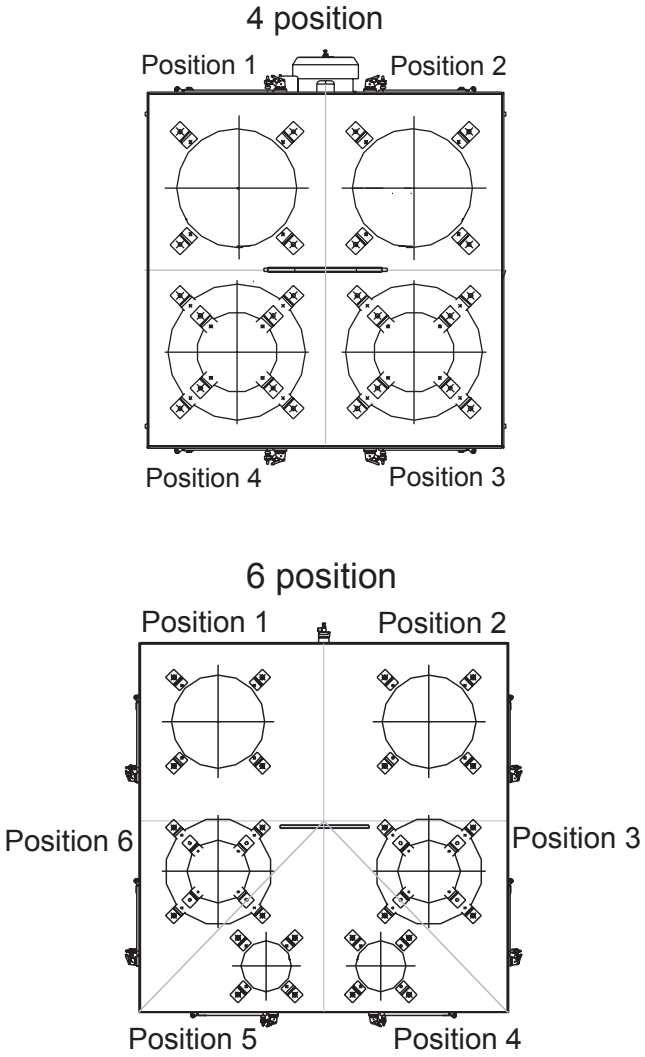
➔ Connect the gravimetric batch blending unit to the mains power-supply system.

➔ Check that the unit functions after assembly (see 7.7 Startup).

NOTE

Electrical supply must be a clean power source with nothing else on the circuit (for example self-loading loaders.) The unit must be grounded to a lug by the sensor on the back of the unit.

4.5.3 Hopper loader connection (option)

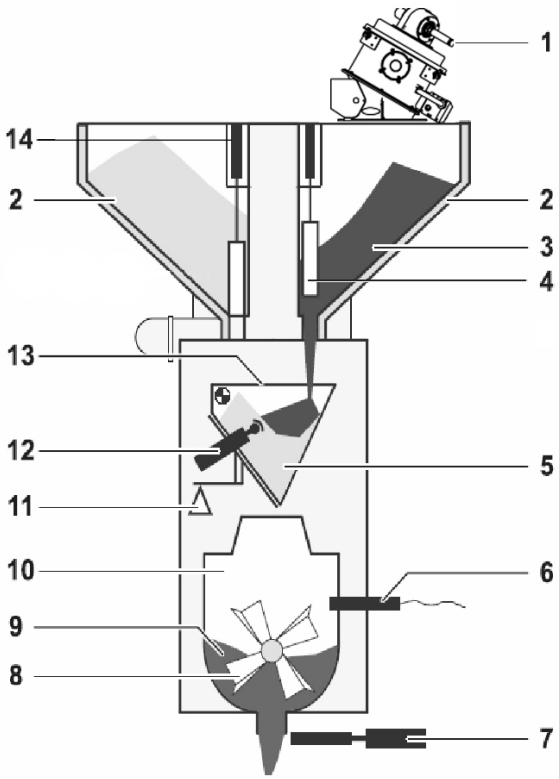


(250-900 models only)

Fig. 7: Connecting hopper loaders

5.0 Structure and function

5.1 Structure of the unit



[1] Hopper loader
[2] Supply hopper
a. TB 45 (4 quick access bins)
b. TB 100 (2 fixed, 2 quick access bins)
[3] Material
[4] Vertical dispense valve
[5] Weighed batch
[6] Level Sensor
[7] Manual side gate[3] (Machine mount)
[8] Mixing agitator
[9] Mixed batch
[10] Mixing chamber
[11] Load cell
[12] Pneumatic cylinder
[13] Weigh bin
[14] Cover for vertical valve assembly

Fig. 8: Side view of unit
(Typical illustration for the TB45 and TB100.)

[3] Pneumatic slide gate is supplied when a blender is remote mounted, (ie. on surge bin, floor stand, etc.) and replaces the manual slide gate. The pneumatic discharge slide gate is not installed if a manual slide is installed and the unit is mounted directly on the injection molding machine.

5.2 Brief description of the functional units

(Item numbers refer to diagram on previous page)

The TrueBlend meters and mixes free-flowing plastic granulate (regrind and natural material) and additives. The unit mixes four to six materials, depending on model and configuration.

For example, the unit has four material hoppers [2] with mounting flanges for one hopper loader[4] [1] each. All components are dispensed by pneumatic vertical cone valves [4] and are fed to the weigh bin [13], which is mounted on a load cell [11]. The pneumatic cylinder [12] opens the weigh bin.

The mixture (batch) [5] falls into the mixing chamber [10] and is mixed by an electrically powered mixer [8]. The mixing chamber holds three batches. After mixing the batch [9] the mixing chamber is emptied by the pneumatic discharge slide gate (remote mount) [7]. Approximately one batch remains in the mixing chamber to ensure that the next batch can be optimally mixed.

The operation of the TrueBlend is by a PLC controller. The controller receives a signal to feed material from the capacitive level sensor [6] in the mixing chamber (see also 9.5.1 Adjust or replace level sensor).

5.3 Layout of the material hoppers

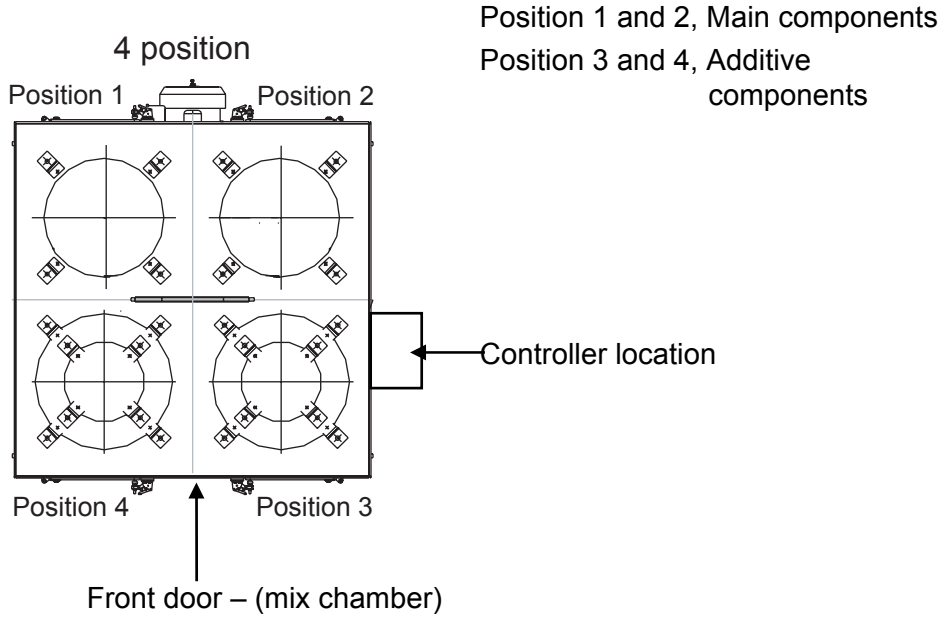


Fig. 9: Layout of the material hoppers

[4] The material hoppers can be loaded with hopper loaders or by hand.

5.3.1 For four component blenders

Based on the blender size, the volume of the blender material hopper can vary.

On smaller blenders, material hoppers can be removable after unlocking the retainer mechanism used for securing the hopper. This is true with all positions on the TB45 series and color/additive positions (3&4) on the TB100 series. See chart below:

Model	Pos 1 & 2	Pos 3 & 4
TB45	Removablewith tool	Removable with tool
TB100	Fixed	Removable with tool
TB250R-4	Fixed	Removable with tool
TB250-4	Fixed	Fixed
TB500-4	Fixed	Fixed
TB900-4	Fixed	Fixed
TB1800-4	Fixed	Fixed
TB2500-4	Fixed	Fixed
TB3500-4	Fixed	Fixed

5.3.2 For six component blenders

Six component TB blenders are also available for handling five or six component blends, or for staging additional components used in different recipes. The following chart and drawing illustrates these combinations.

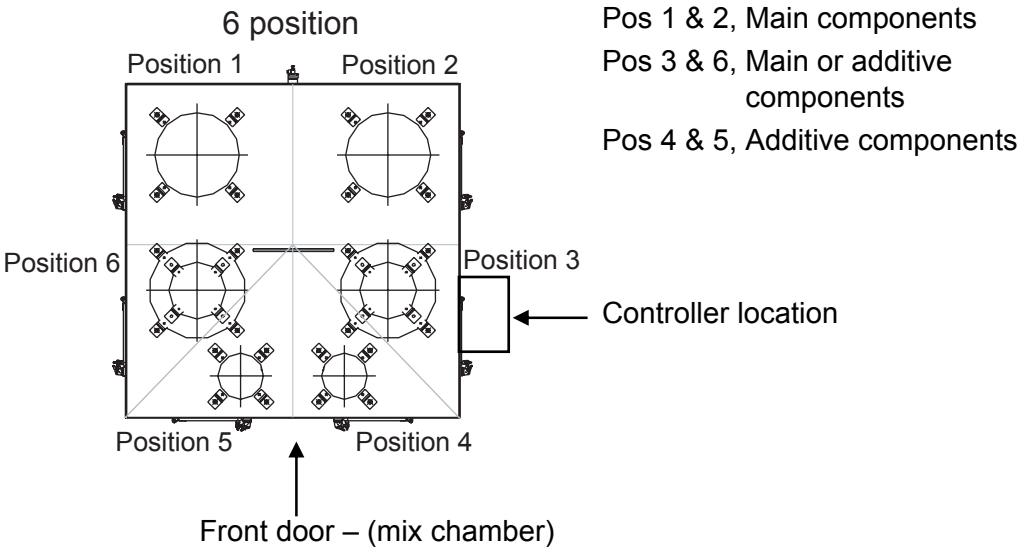


Fig.10; Layout of six component material hoppers

All the following six component blenders utilize fixed hopper positions:

Model	Pos 1 & 2	Pos 3 & 4	Pos 5 & 6
TB250-6	Fixed	Fixed	Fixed
TB500-6	Fixed	Fixed	Fixed
TB900-6	Fixed	Fixed	Fixed
TB1800-5/6	Fixed	Fixed	Fixed
TB2500-5/6	Fixed	Fixed	Fixed
TB3500-5/6	Fixed	Fixed	Fixed

5.4 Operating modes

The TrueBlend operates in three different operating modes:

- **Gravimetric mode:** all components are metered and weighed in sequence.
- **Volumetric mode:** all components are metered in sequence without weighing.
- **Combined mode:** a gravimetric cycle is followed by an adjustable number of volumetric cycles.

5.4.1 Gravimetric mode – General

The metering sequence is identical as outlined below with every metering cycle unless Precision Additive™ (PREC) is selected:

1. The regrind is metered by the vertical cone valve as a percentage of the whole batch and fed into the weigh bin.
2. The required quantity of natural material is calculated by the controller and dispensed as the next component.
3. The additive natural (Add N) is metered as percentage of the natural material(s).
4. The additive batch (Add B) is metered as a percentage of the total batch.

The remainder of the cycle is the same with all operating modes and is described in 5.2 Brief description of the functional units.

5. Precision Additive™ applies to a low percentage (<2%) color or additive natural material which is a critical component of the process. The Precision Additive can only be applied to one additive natural position. When selected that material is dispensed before the natural material, but after regrind if being used. The Precision Additive™ is dispensed and weighed. Then the natural material is dispensed and adjusted for any minor variation with the Precision Additive™ to assure the proper ratio; thereby, assuring this critical component is held to the actual target setting. Then the balance (if selected) of additive naturals are dispensed to their setpoint percentages of the weighted naturals, followed by any additive batch components.

5.4.2 Gravimetric mode – Naturals Blend – All Naturals = 100% (extrusion)

Using this setting:

1. All material type selections are automatically assigned to natural.
2. All ingredients must add up to 100%.

IMPORTANT

Assigned recipe percentages must add up to 100. If the percentages do not add up to 100, the recipe change will not be accepted until the percentages have been changed to equal 100.

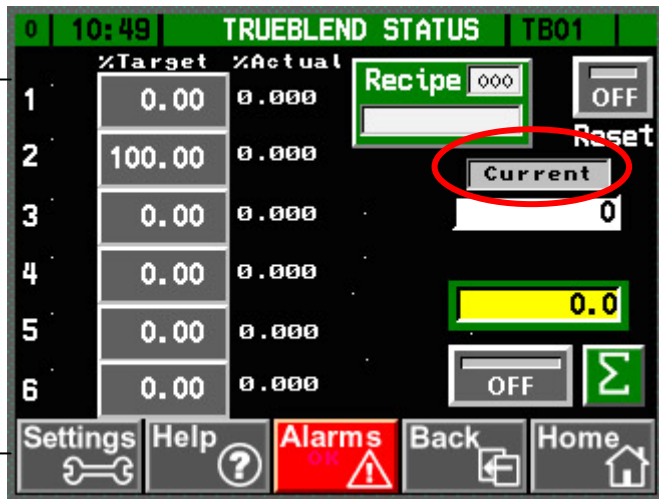
3. The ingredient with the smallest amount assigned to it will be added to the mix first. On the control face the “N” for natural for this smallest ingredient will be replaced with “1st.”

IMPORTANT

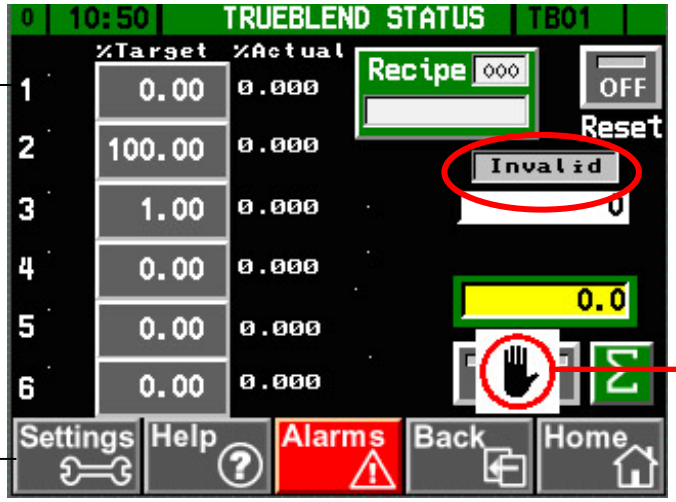
Your most critical component should be in the bins with the smaller valves.

4 Changing the target percentages while the blender is running will result in the text changing from “current” to "invalid,” however the current batch will finish. When the percentages add up to 100% the text will again display “current”, the batch number will reset and the blender will continue with the new recipe.

100% current and valid recipe



101% invalid recipe



Note: The Stop hand is displayed when the recipe does not add up to 100%.

5.4.3 Volumetric mode

Volumetric mode is an emergency mode and must only be used if the weighing system fails or in special circumstances.

The metering sequence is identical with every metering cycle.

1. First the regrind, then the virgin material is metered through the respective vertical valves by time control and filled into the weigh bin. The load cell does not operate in volumetric mode.
2. The additives/batch and additive color are added last through the smaller vertical valves by time control.

The remainder of the cycle is the same with all operating modes and is described in 5.2 Brief description of the functional units.

5.4.4 Combined mode

In combined mode one gravimetric cycle is followed by up to eight volumetric cycles (number is adjustable). The total material throughput can be increased by eliminating the weighing times. The metering cycle is described in 5.4.1 Gravimetric mode.

6.0 Start-up

IMPORTANT

Please remove the protective film on the touchscreen control for optimum performance

Familiarize yourself with the basic functions of the controller before start-up (see chapter 7.7).

7.0 Operation

The TrueBlend series blender is controlled at the touchscreen on the operator station controller. It can be swung forward for ease of use (see also 4.4 Positioning controller).

The operation of the TrueBlend with four components and with conveying is described below. If the loader symbol is disabled in the start screen of your controller (see 7.3.1), you can ignore the section 7.19 Hopper loaders.

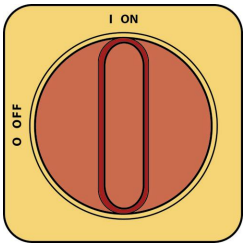
7.1 Switching on

The following prerequisites apply for operation of the unit:

- The unit is correctly wired (see 4.5.2).
- The compressed air is connected (see 4.5.1).
- All material hoppers are filled with the correct material.

7.1.1 Switch on main switch

➔ Switch the main switch to "I" (ON).



The start screen appears. You are at operating level "0".

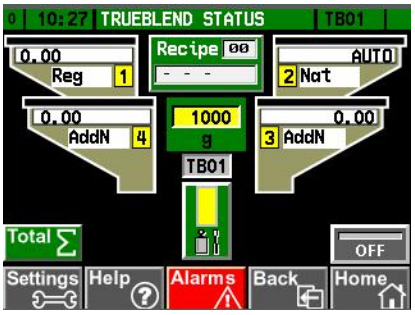
- Press the icon for the gravimetric batch blending unit (TrueBlend symbol) to open the "TrueBlend Status" screen.
- IF your unit has the blender/loader control option,
- Press the icon for the hopper loader to open the "Loader Status" screen.

NOTE

If you did not purchase the blender/loader control package, you will not see the loader icon

The screen with the logout button is only displayed if the operating level is not "0".

- Press Logout to switch to other operating levels (see 7.6 Logging in/logging out).



When logging out of operating levels "1", "2" and "3" you automatically switch to level "0" and the logout button disappears.

If there is no input, the "TrueBlend Status" screen is automatically displayed after 60 seconds.

7.2 Menu structure

For an overview of the menu structure with the various operating levels (Levels 1-3) see the appendix (see 11.1).

7.3 Navigation

The navigation bar is at the bottom of the screen. It contains the following buttons:

7.3.1 Explanation of the navigation buttons

OVERVIEW (UNIT HOME)

Press this button to open the program start screen.

The button is visible but disabled on the "Overview" start screen.

System settings menu

SETTINGS

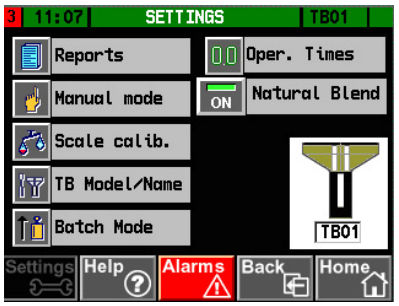
From the overview screen, press this button to open a screen that enables access to various settings.

The associated settings are called from the "Overview" screen. The button is visible but disabled on the "Settings" screen.

Blending settings menu

SETTINGS

This screen is accessible from the TrueBlend status screen.



Loader settings screen

SETTINGS

This screen is accessible from the “Loader Status” and all other loader screens.

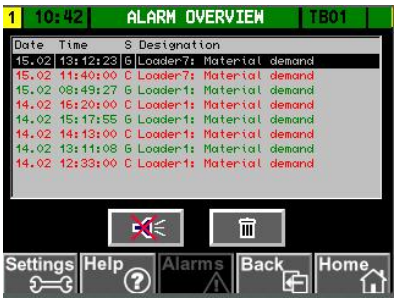
Alarm overview screen

ALARM

In the event of an alarm message press this button to gain direct access to the alarm overview.

The button is visible but disabled on the "Alarm Overview" screen.

This screen is accessible from all screens.



NOTE

Dry contact available for operating remote light or horn

Back button

BACK

Press this back button on any screen to return to the previous screen.

Help button

HELP

Press this button to find help on specific functions (online help is not yet implemented). This is an example of a help screen.

Disabled button

DISABLED

Navigation bar functions that are not available are disabled (grayed out).

7.3.2 Explanation of keypad screens

Input with keypad

When operating the controller you are prompted to input numbers or words.

When the relevant input field is pressed a numeric or alphabetical keypad (separate capital and lower case) opens, which you can use to make your inputs.

- Confirm your input with ↵.

In the alphabetical lowercase keypad you can press 123 to open the numeric keypad.

In the numeric keypad you can press ABC to open the alphabetical upper-case keypad and then press abc to open the lower-case keypad.

Use the _:/ field to input spaces, colons and slashes.

If you cannot switch from the alphabetic to the numeric keypad or vice versa, the fields are disabled (grayed out).

Input with dropdown menu

When operating the controller you are prompted to select one of the multiple values of a dropdown menu.

- Press the arrow.

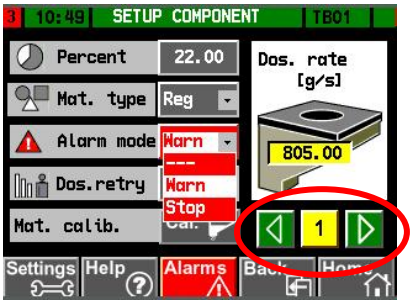
The dropdown menu opens.

- Select the relevant entry and highlight it by pressing it.

The value is imported into the input field.

Scroll

Press the right/left arrows to scroll forward and back (e.g. with settings for components or recipes).



7.3.3 Explanation of additional screen icons

Alarm display

In the event of an alarm a warning triangle is displayed at the top right corner. The alarm mode can be set to specify when an alarm is displayed and how the unit behaves (see 7.9.3 Input Alarm mode).

Operating level

The operating level is shown at top left. There are four operating levels. The operating levels are 0, 1, 2, and 3 (See 7.6.1 User levels and password input).

Time and station name display

The top bar of the screen shows the current time and the station names. (Blender ID)

The time and station name can be set in the "System Setup" screen (see 7.15 System setup).

7.4 Starting and stopping the blending process

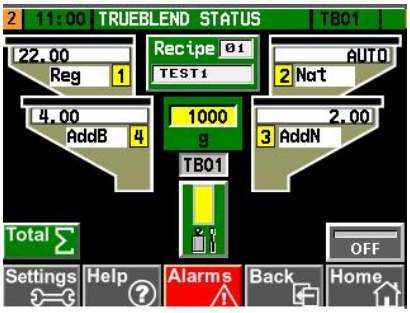
7.4.1 Starting blender process (with set values or factory setting)

➔ Press the blender icon.

The "TrueBlend Status" screen opens.

➔ Press the OFF button to start the blending process automatically with the last set values or the factory settings.

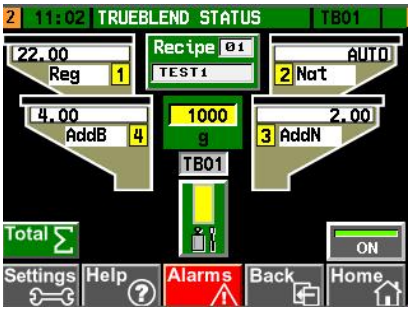
The button signals ON *. (green bar)*



7.4.2 Stopping the blending process

➔ Press the ON button to stop the metering and mixing process.

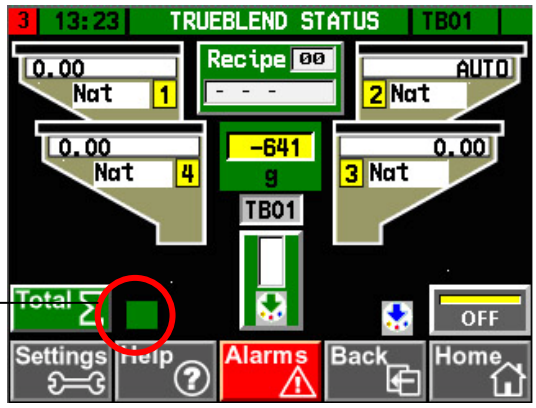
The button changes to OFF *(yellow bar). The current batch will run until it is finished. When finished the display changes to* OFF *(gray bar).*



NOTE

The bar will remain yellow until the batch of material has been dumped. The batch will not dump until there is sufficient room in the weigh bin and the level sensor is exposed. A green square on the screen indicates that the mixing chamber is full and that the weigh bin has no place to put the current batch until the material level in the mix chamber is lowered.

This green square indicates that the mixing chamber is full, and the level sensor is satisfied.



7.4.3 Restarting after EMERGENCY STOP

➔ Switch the main power switch on.

Switching on within two minutes*: the unit continues the interrupted process. This function is used to keep downtime in the event of a short power interruption as short as possible. The screen that was last open before switching off or power failure is opened.*

Switching on after more than two minutes: *the internal functions are completely reset after switching on. The start screen appears.*

NOTE

If the metering cycle is interrupted, the material in the weigh bin must be removed manually before restarting.

This will prevent an incorrect mix ratio.

➔ Remove the weigh bin carefully to prevent damage to the load cell and empty it (see also 7.12).

7.5 Turning off the power

7.5.1 Stopping the blender at the end of a cycle

➔ From the “Blender Status” screen.

➔ Press the ON button.

The cycle is stopped. The button switches to OFF *(yellow bar), after the batch is finished to* OFF *(gray bar).*

NOTE

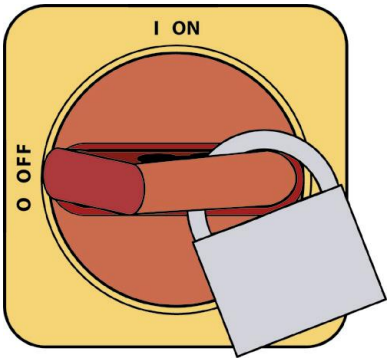
If an alarm message is received when switching off and the unit does not switch off, see chapter 8 Alarms messages and trouble-shooting.

7.5.2 Switching off in emergency

➔ Switch the main switch off.

The power supply is interrupted. If the cone valve was open, it is closed. All other machine movement is stopped immediately. The batch is not finished.

The main switch can also be locked manually with a lock.



7.6 Logging in/logging out

7.6.1 User levels and password input (for service users only!) (Level 3)

The system covers several user levels:

- Level 0: enables access to all guest functions (no password protection)
- Level 1: enables access to all operator functions (password: 3333)
- Level 2: enables access to all setup functions (password: 2222)
- Level 3: enables access to all service functions (password: 1111)

After logging out operating level "0" is opened. Then the user level can be changed by entering the relevant password.

NOTE

When you select functions that are not part of your current user level, e.g. calibration of the scales at user level "0" or "1", you will be prompted for a password to change the operating level.

This is not explicitly mentioned in the following examples.

Example of password input:

➔ Enter the relevant password.

The operating level is changed.

7.6.2 Changing password (for service users only!) (Level 3)

With level 3 access you will have the ability to view all levels of passwords and will be able to change all passwords. Level 0 and 1 can not view or change passwords.

7.6.3 Auto logout (for service users only!) (Level 3)

The system has an auto logout function. This enables the system to return to operating level "0" after a specified period (default value = 15 min).

➔ From the “Overview” screen,
Press Settings.

The "Settings" screen appears.

➔ Press to open "Password Setup".

NOTE

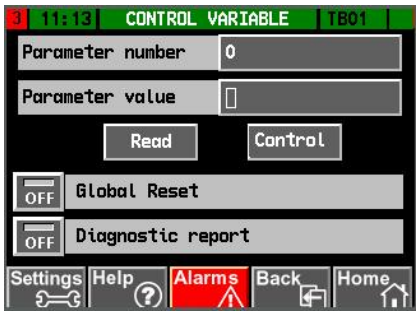
If you want to change the password press on the field beside the user level and the calculator will appear allowing you to change the password. If you change a password it is important that you note your new password. If you forget your password, contact Conair Service.

➔ Press the field beside auto logout (min) and enter the number of minutes before you will be automatically logged out.

The input of "00" means that the user is never automatically logged out. In this case logout is only possible with the logout button.

7.6.4 Parameters/Global Reset (for service users only!) (Level 3)

The overscreen



➔ Press the button beside "Parameters".

IMPORTANT

Please contact Conair service before attempting to make a change to the parameters, number or value. **Currently, there are no parameter functions that can be set or changed.**

The "Control Variable" screen opens.

➔ Assign a parameter number and a parameter value (no function currently set).

➔ Press Read or Control depending on whether the parameters should be readout or set (no function currently set).

➔ Press OFF at "Global Reset" to reset the controller completely. (Defaults to the home screen.)

A "Global Reset" can also be done by switching off the unit for more than two minutes. Once “off” is pressed the unit will default to the home screen.

➔ Press the OFF button to toggle from “off” to “on” at "Diagnostic Report" to create accuracy reports for the service. (Refer to Section 7.14 for connection options.)

7.7 Start-up

IMPORTANT

Please remove the protective film on the touchscreen control for optimum performance

7.7.1 Checking functions in manual mode

All mechanical parts can be manually actuated with the "Manual Mode" function.

If a vertical valve or the mix discharge is opened in manual mode, they are closed automatically by switching the main power switch to OFF or if the power fails.

WARNING!

DANGER OF INJURY!

If you reach into the mix discharge or the dosing unit when the compressed air supply is connected, hand injury may be the result.

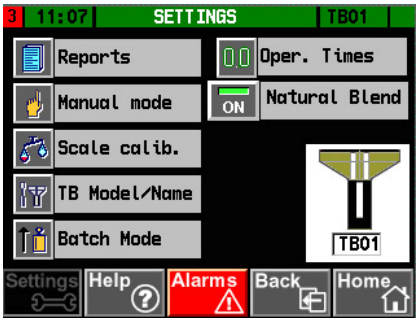
➔ Never reach into the mix discharge or dosing unit.

Conditions for operation

The safety door must be closed.

➔ In the "Overview" screen press the TrueBlend icon.

The "TrueBlend Status" screen appears.

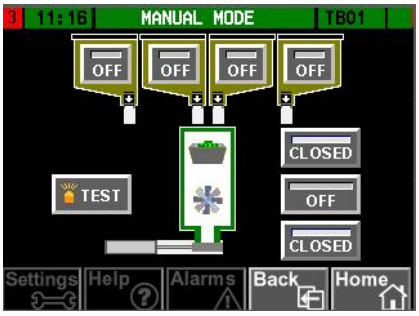


➔ Press Settings.

The "Settings" screen appears.

➔ Press  to start manual mode.

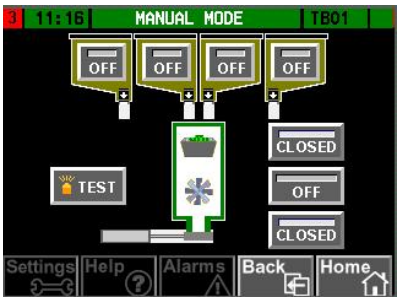
Now you can operate the material hoppers, weigh bins, mixers and discharge slide gates if supplied.



NOTE

If the unit is running or is being calibrated, it is locked to prevent testing of the manual operation.

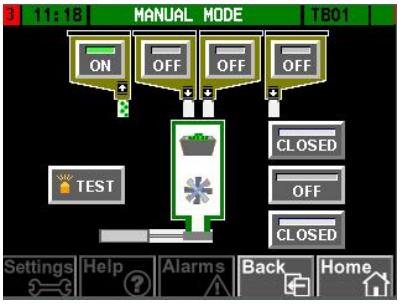
Testing alarm beacon



➔ Press and hold the TEST button to check that the alarm beacon and horn operates. These devices are located on the door of the electrical power box.

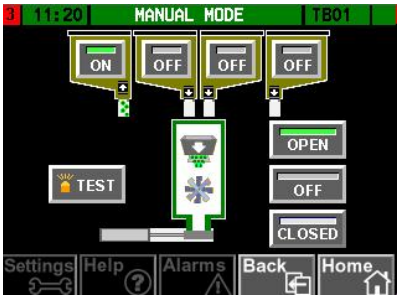
Checking material hoppers

The icons that display the status of the hoppers are at the top of the screen.



➔ Press the OFF buttons in sequence to check that the various material hoppers valves can be opened and closed. (Shown are four hoppers, if your unit has six, all six will be displayed only on the 250, 500, 900, 1800, 2500 and 3500 models.)

Checking weigh bins, mixers and discharge slide gates



Press the buttons beside the unit icon to test the function of the weigh and mix chamber components.

➔ Press the first button to open and close the weigh bin. CLOSED or OPEN

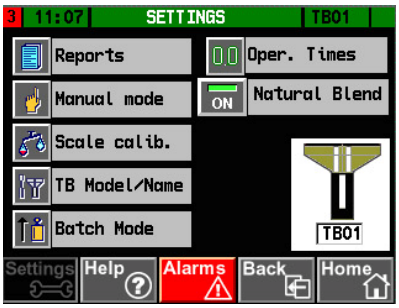
➔ Press the middle button to switch the mixer on and off. OFF or ON

➔ Press the bottom button to open and close the optional discharge slide gate.[5] CLOSED or OPEN (Flow control valve)

Note: Only functions when a pneumatic discharge slide gate is installed.

➔ Make sure that all parts of the unit can be opened and closed:

Testing the mix chamber safety interlock switch



The safety door must be closed.

➔ Press Settings.

The "Settings" screen appears.

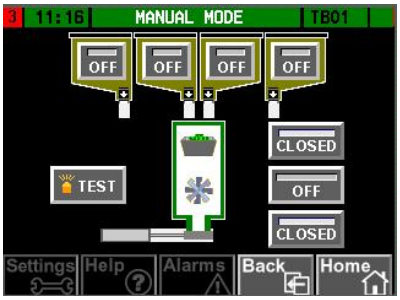
➔ Press to start manual mode.

[5] Only functions when a pneumatic discharge slide gate is installed.

➔ To the right of the mixer icon press the middle OFF or ON.

The mixing blades must rotate.

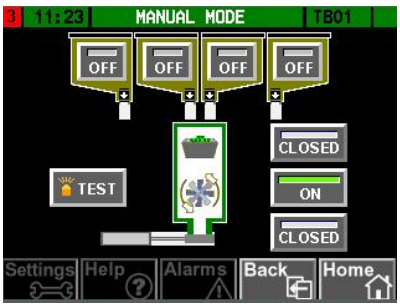
➔ Open the safety door.



The mixing blades must stop.

➔ Close the safety door.

The mixing blades should rotate again.



This screen mask will only be closed when all actions have been completed.

NOTE

When you open the door, the mask will appear, indicating an alarm condition.

7.7.2 Calibrating

NOTE

Conair recommends performing a manual calibration at start-up or material change with a dramatic change in the bulk density of the material being blended. This allows the blender to reach its optimal working point more quickly.

7.7.2.1 Calibrating load cell(s):

Calibrating scales - zero calibration

The scales are calibrated at the factory. The zero calibration is made to set the scales to "0". During shipment and/or operation minor deviations may occur, e.g. from single pellets of material remaining in the weigh bin or positioning of the weigh bin on the load cell support bracket. However, the controller runs an internal zero calibration tare before every cycle.

Calibrating scales - full calibration

A manual full weight calibration is only required after a fault, replacement of load cell(s) or for scale certification. The calibration must be conducted by authorized personnel only. The reference weights are as shown below for the various models:

Conditions

The weigh bin must be empty.

➔ In the "Overview" screen press the TrueBlend icon.

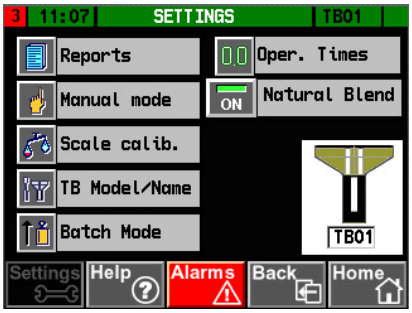
The "TrueBlend Status" screen opens.

➔ Press Settings.

The "Settings" screen appears.

➔ Press to open the "Scale Calibration" screen.

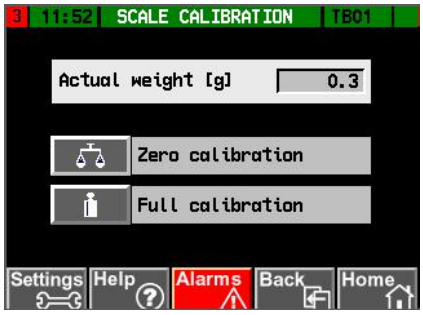
The "Scale Calibration" screen appears. It can only be calibrated with the blender stopped. The main power remains on.



Zero calibration

➔ Press  .

"0" is displayed for "Actual Weight".



Full calibration
(for service users only!) (Level 3)

➔ Press  to open the "Full Calibration" screen.

Before the "Full Calibration" screen appears, you will be reminded that a full calibration cannot be interrupted:

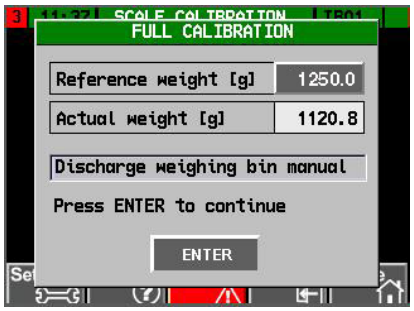
➔ Press "Continue" if you want to proceed with the full calibration.

or

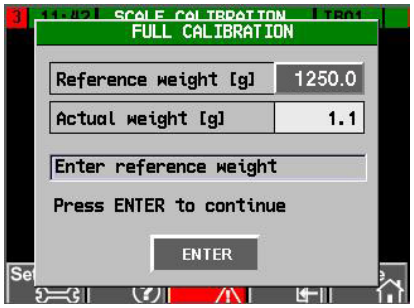
➔ Press "Abort" to stop the full calibration.

➔ Make sure that the weigh bin is empty of material.

➔ Press “Enter” to confirm.



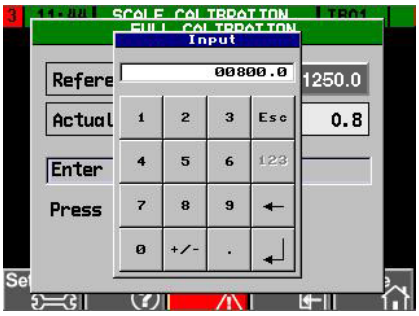
A reference weight of 1250 g is assumed as the factory setting for a TrueBlend 100 series blender or 750 g for a TrueBlend 045 series model.



Model	Calibration Weight
TB045	750 g
TB100	1,250 g
TB250	3,000 g
TB500	6,000 g
TB900	10,000 g
TB1800	22,000 g
TB2500	30,000 g
TB3500	50,000 g

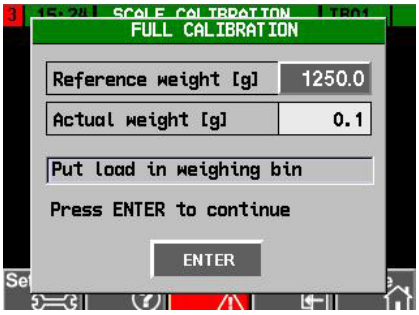
➔ If you wish to change the reference weight, press the number input field and enter the desired weight.

➔ Confirm the value with ↵.



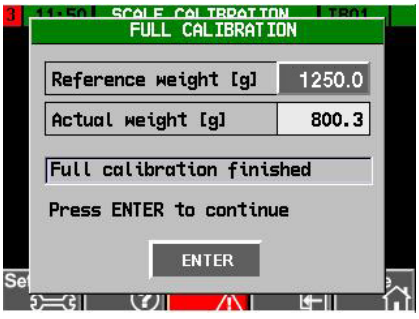
➔ Place the reference weight in the weigh bin and confirm with ENTER.

The current weight is compensated and displayed.



The full calibration is complete.

➔ Confirm with ENTER.



7.7.2.2 Calibrating material throughput

The material throughput calibration is automatically run on startup and is self-optimizing during production.

The respective dispensing valve(s) are run with reduced batch weight(s) at startup. The optimum working point is set after several batches. A high mixing precision is quickly reached with a small quantity of material. Finally it is switched to the preset batch weight.

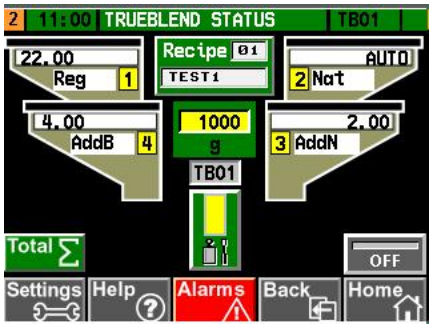
NOTE

Conair recommends performing a manual calibration at start-up or material change with a dramatic change in the bulk density of the material being blended. This allows the blender to reach its optimal working point more quickly.

Conditions

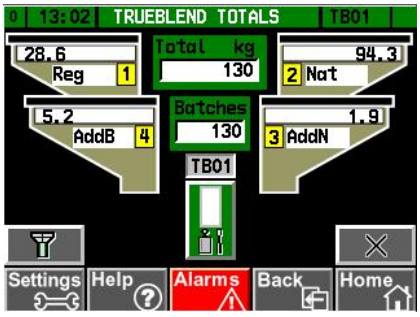
The weigh bin must be empty.

➔ Press on a material hopper on the "BLENDER Status" screen.



or

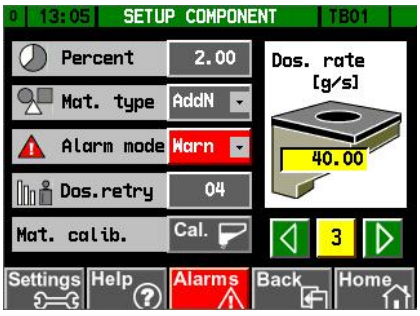
➔ Press on a material hopper on the "TrueBlend Totals" screen.



The "Setup Component" screen appears.

➔ Press Cal. to open the "Material calibration" screen.

The "Material calibration" screen appears.



"1" indicates the material hopper number. You can scroll forward and back with the arrows.

➔ Press START for material hopper "1".

➔ Press START again to empty the weigh bin.

➔ Run the process for all components that require calibration.

***Important*:** *The screen cannot be closed until the procedure is complete.*

For input of the material percentages, see section 7.9.1 Input of material percentages.

7.7.3 Input TrueBlend Model/Name (for service users only!) (Level 3)

➔ In the "Overview" screen press the TrueBlend icon.

The "TrueBlend Status" screen opens.

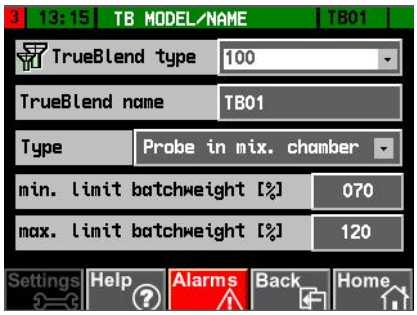
➔ Press Settings.

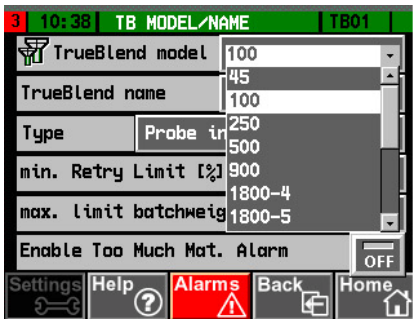
The "Settings" screen appears.

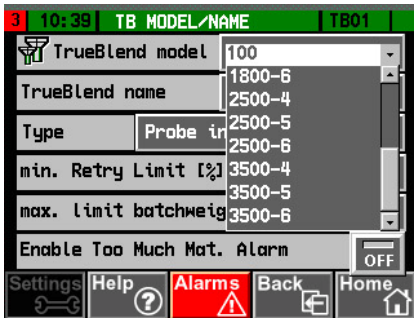
➔ Press to open the "TrueBlend Model/Name" screen.

The "TrueBlend Model/Name" screen appears.

➔ Select the appropriate TrueBlend model in the dropdown menu (Model 45/100/250/500/900/1800/2500/3500).







7.7.4 Input TrueBlend name

➔ In the "Overview" screen press the TrueBlend icon.

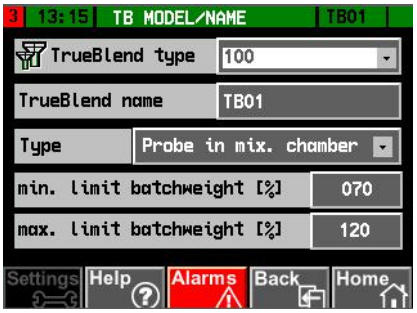
The "TrueBlend Status" screen opens.

➔ Press Settings.

The "Settings" screen appears.

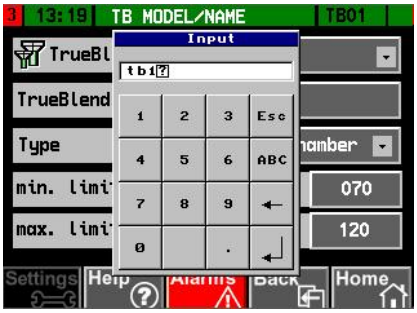
➔ Press to open the "TrueBlend Model/Name" screen.

The "TrueBlend Model/Name" screen appears.



➔ Assign a name to the unit with alpha-numeric keypad to give it a unique identification.

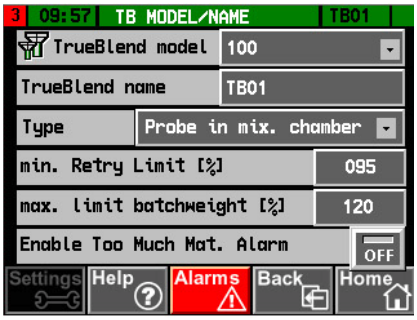
➔ Confirm with .



Explanations of the “minimum retry limit (%)” and “the maximum limit batchweight (%).

Once a position has fed the setting (95% or greater) the control will move on to the next setting. If the blender does not reach the setting within a prescribed number of retries, it then evaluates whether it has reached 50% of the target. If the blender has not reached 50 % of the target the blender will alarm on “Low Material,” and continue to retry indefinitely until it reaches the target weight.

The minimum retry limit (95) can be set from 95 to 100.



NOTE

Increasing the minimum retry limit will decrease the average blender throughput rate. A larger number of retries add up to more time to make a batch. However, somewhat better accuracy can be achieved with the higher number.

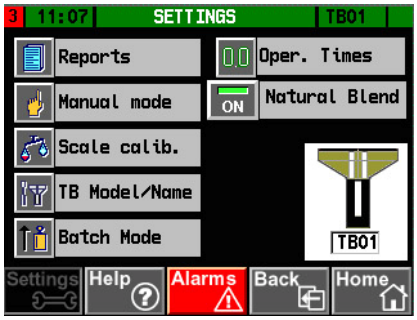
The batch size limit multiplier controls the maximum batch dispensed, regardless of the condition of the (too much material) alarm button. All blender weigh bins have some excess volume capacity to accommodate variations in material bulk density. This setting uses that excess capacity to improve accuracy.

NOTE

If running high percentages of light density material (regrind) you should reduce the maximum batch weight setting for this particular model. (See section 7.10.2 Setting Weight Bin Batch Weight.)

Precision Mode – If running precision or natural blend and the first ingredient is overfed by a large amount the rest of the batch will be diluted as much as possible based upon the maximum batch limit.

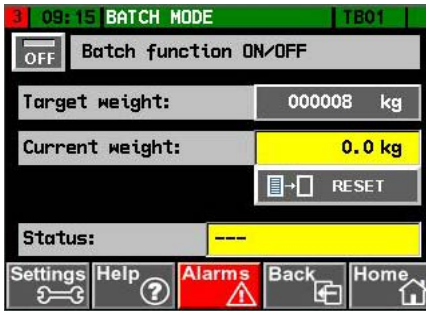
7.7.5 Activating Batch Setting



➔ From the Blender Status screen, press the Settings navigation button.

The blender Settings screen will appear as shown at right. The bottom panel on this screen allows one to access the Batch Mode screen where the Batch Mode of operation can be Turned On and setup for the amount of blended material in that batch.

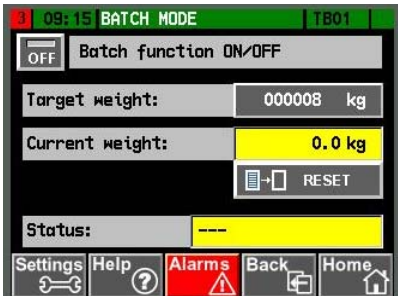
Setting the blender in the Batch Mode



In normal operation the blender will continue to make individual blended batches of material until the level sensor is satisfied or the blender is turned off by the selection button on the Blender Status screen. When placed in the Batch Mode the blender will blend the current settings or recipe until the preset Batch Weight is accomplished and then stop.

➔ To activate the Batch Mode, press the off button in the top panel position.

The "gray" button will change to "green" indicating this mode is now activated.



➔ Next enter the target weight in the next panel position.

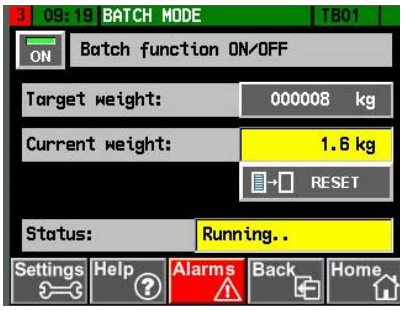
The units will be either "lbs" or "kg". If you need to change from one to the other, please refer to section 7.15 System Setup.

➔ To start the blender operating, return to the Blender Status screen and press the "On/Off" button.

The blender will then begin to weigh the target value. You can return to the Batch Mode screen and monitor process as this is being done.

NOTE

The actual weighed value will be at least the target value you have entered plus up to one additional weighed batch of the blender model you are using. The reason being that the blender can't stop in the middle of an individual batch, but the actual total weight will be indicated and all the ingredients will be included in correct proportions.

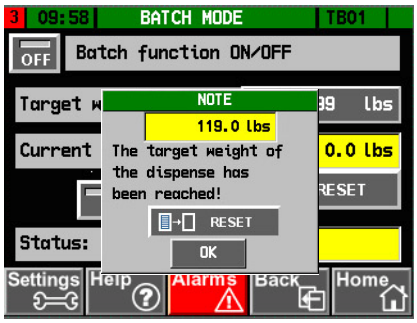


The next panel position on this screen will display the "Current Weight" which could be a portion of the target value if one is viewing during operation or the target weight if the blender has finished.

The last panel on this screen displays the status of the batch mode which can be; --- (if the batch Mode is not activated), "Running" (if in the process of making a Batch), "Finished" (if the targeted batch has been completed) or "Stopped" (appears after the previous Batch amount has been reset).

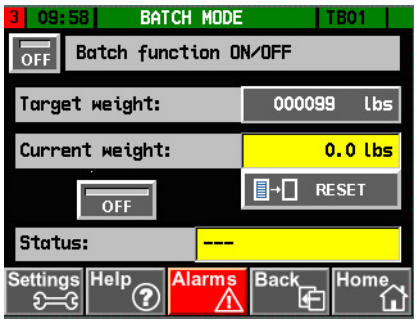
NOTE

When the target value has been reached, a screen mask will appear indicating “Target weight of the dispense has been reached”. There is an acknowledge button “OK” to remove the message.



NOTE

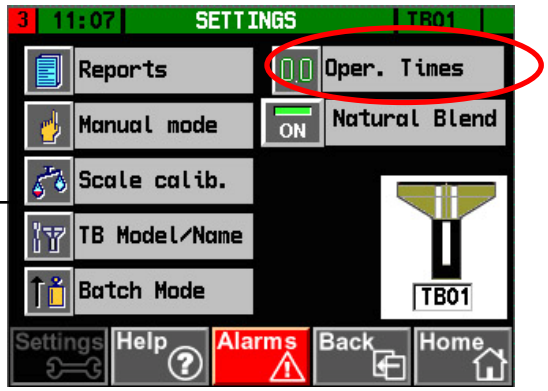
Reaching the preset target weight will also stop the blender operation. To begin another Batch after resetting, return to the Blender Status screen and press the On/Off button.



7.7.6 Advanced Operation Settings (Password level 3 only)

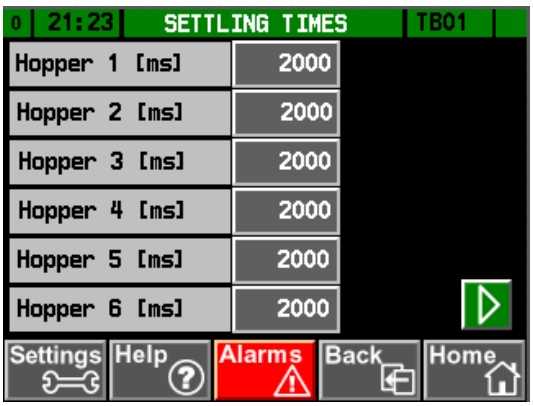
Advanced Operation Settings are accessed through the Operating Times (Oper. Times) tab from the blender settings screen.

Extrusion process (100%)



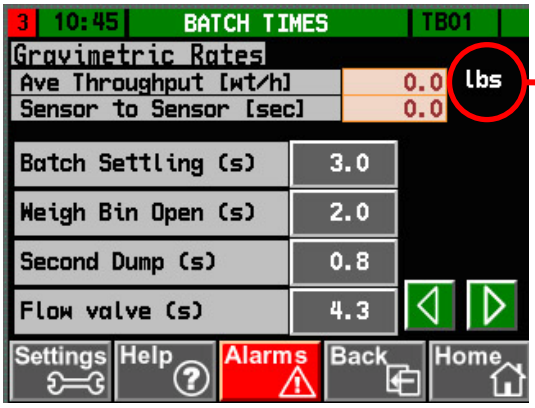
The parameters that are accessible through these menus are available for advanced users, unusual operating conditions, or setup of the control for blender retrofit applications. It should not be necessary for these parameters to be changed in the majority of cases. Please consult with Conair service before you change any of these parameters.

A. Settling times



The settling time is the time after a component dispensed into the weigh bin, while multiple weight reading are taken. (This time allows the material to settle and the load cells to recover from the dumping process before the final weight reading is taken.) The time should be entered in milliseconds For example, in the above screen shot 2000 milliseconds is entered which equals 2.0 seconds. For most Trueblend applications the default time of 2000 milliseconds should be acceptable. In retrofit applications where slow screw feeders are used these times may need to be increased to allow the material to drop from the feeders.

B. Batch times



The units can be changed by touching the symbol and will toggle to the other setting (Kg in this case). The display will not refresh until the next batch

NOTE

Throughput and sensor times are only available in gravimetric mode..

Sensor to Sensor time –

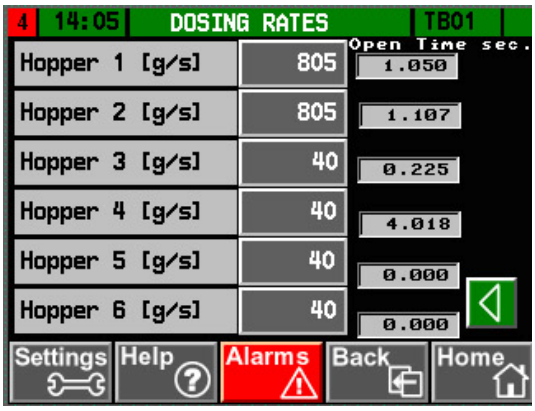
Batch Settling time – The Batch settling time is the time prior to beginning a batch, where the blender waits for the weigh bin to settle and return to the tare weight.

Weigh Bin Open time – The weigh bin open time is the time that the weigh bin is actually open as the material is dumped into the mixing chamber.

Second Dump time – The second dump time is the length of time that the weigh bin opens a second time to knock off any additional material that may remain in the weigh bin. This feature is used on the TB45 and TB100 blenders.

Flow Control Valve time – The flow valve time is the time that the material valve under the mixing chamber is open to allow the material to exit the mixing chamber. (When this option is included)

C. Dosing Rates



NOTE

This screen displays the last dosing time. This value can be useful for optimizing blender valve sizing.

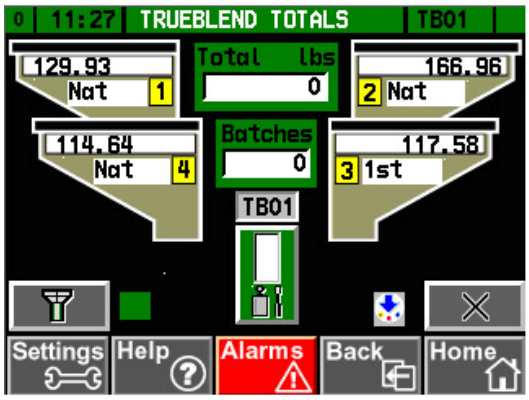
The Dosing rates are the flow rates in gm/sec of each component in the mix. This is the same value as is displayed on the individual component screens. In normal operation the dosing rate starts with a default value and the default value is modified by the blender software during a material calibration, or as blending progresses, to reflect the actual material flow rate seen for each component.

7.7.7

Natural Blend button – **The Natural Blend button, when selected, ensures that the blender will only run if all components add up to 100%**. A warning hand will be displayed above the ON/OFF button to prevent starting. If the percentages are changed while the blender is running, a warning message will be displayed and the blender will stop the current process.

NOTE

When running in Natural Blend – All Naturals (extrusion); any recipe changes that add up to 100% will automatically be used for the next batch and the display will be changed from invalid to current. The ingredient assigned the smallest amount in the recipe will be labeled "1st" and fed first. All other ingredients will be adjusted based upon the actual weight of the "1st" material.



7.8 Blending process

7.8.1 Assigning components – factory default setting

The components are assigned at the factory as follows:

Component 1: regrind

Component 2: natural material

Component 3: additive/natural (color)

Component 4: additive/natural (color)

Component 5: additive/natural (color)

Component 6: additive/natural (color)

The assignment of the components can also be changed (see 7.9 Component setup).

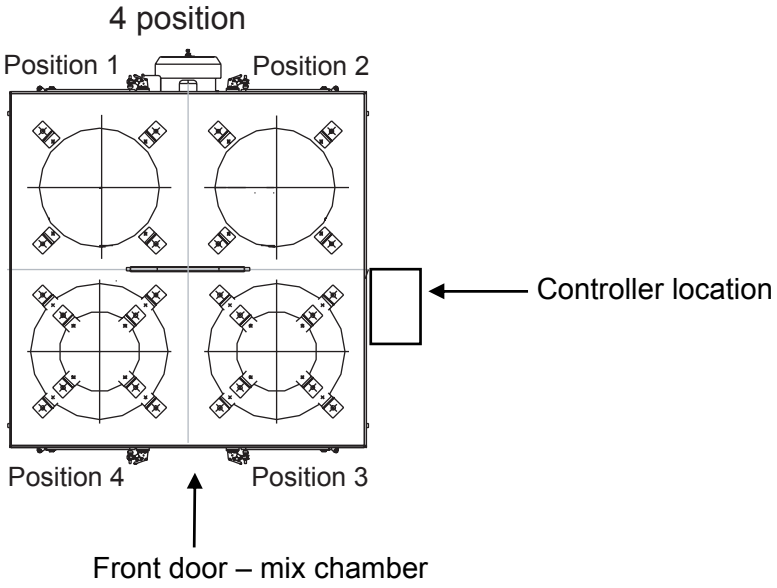


Fig. 11: Layout of the material hoppers-
four position models
(All models)

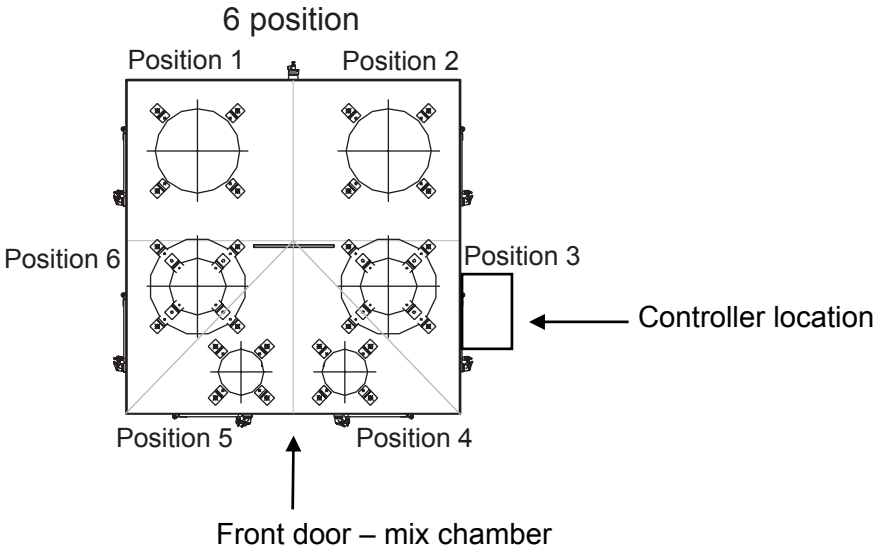
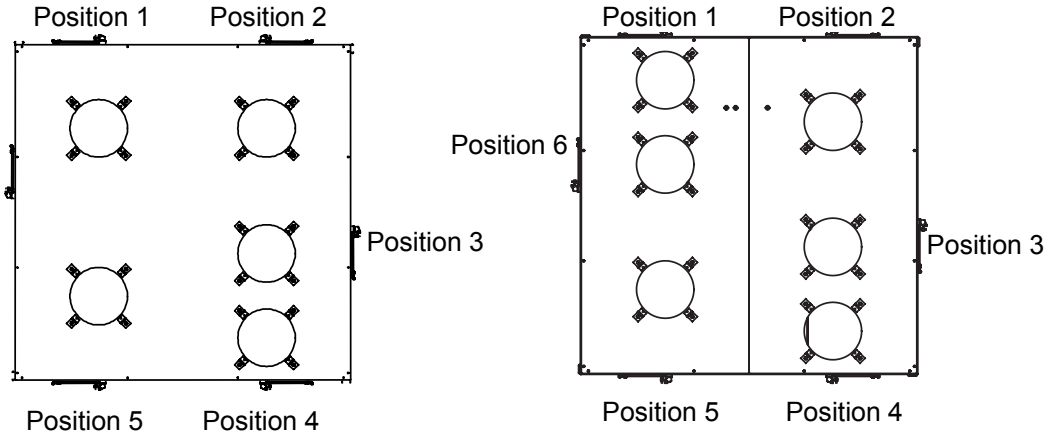


Fig.12: Layout of the material hoppers – six position models (only available on TB250, TB500, TB900, TB1800, TB2500, and TB3500)



a. Five Position

b. Six Position

Fig.13: Layout of five and six position models – (only available on TB1800, TB2500, and TB3500)

7.8.2 Example of a mixing process

Initial values: Total batch weight: 1000 g (TB Model TB100)

Number of materials: 4

Settings: Regrind: 20%

Natural material: AUTO (100% of balance batch after R, AB and AN taken out

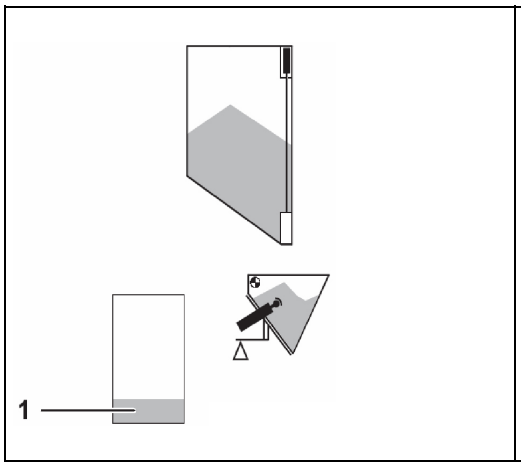
Additive batch: 10%

Additive natural (Color): 2%

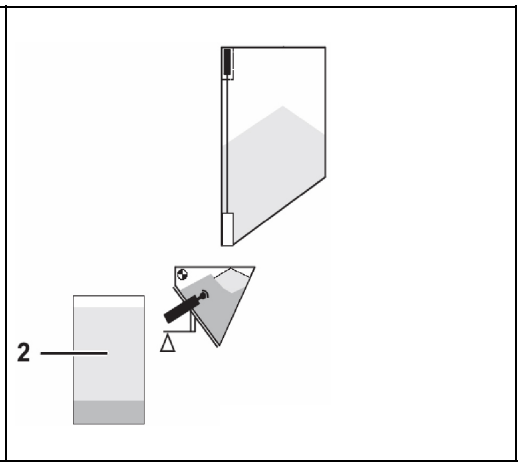
Calculation:

Regrind: R =	Total weight of batch	×	Percentage of regrind	
	1000 g	×	20%	= 200 g
Additive: AB = Batch	Total weight of batch	×	Percentage of additive	
	1000 g	×	10%	= 100 g
Natural material: N = 100%	Natural material and additive natural (color) = 102%	×	Percentage of natural material	700 / 1.02
	700 g	×	100%	= 686.3 g
Additive natural (Color): AN =	Natural material	×	Percentage of natural material	686.3 ×.02
	686 g	×	2%	= 13.7 g

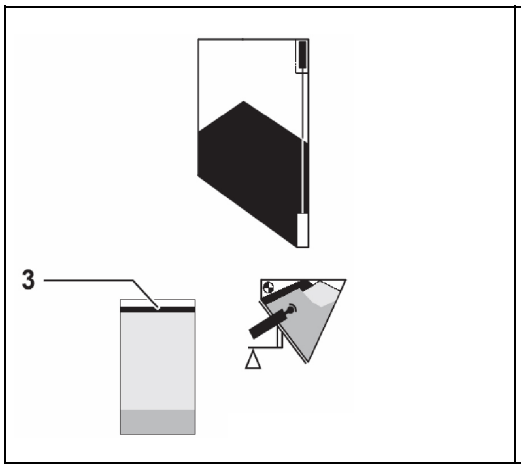
7.8.3 Typical dispense cycle based (7.8.2) settings



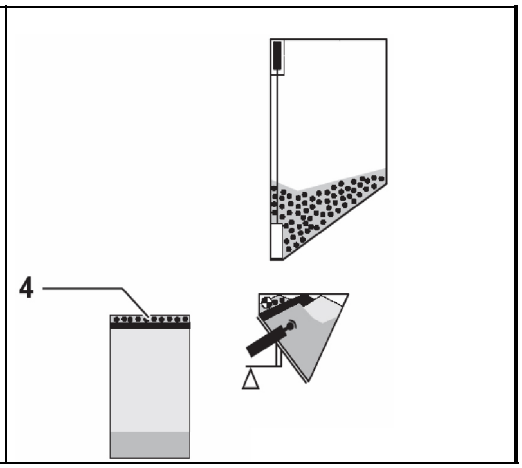
1st Step: *regrind is metered*
regrind 20% of total weight = 200 g



2nd Step: *Natural material is calculated*
as 100% of the balance of batch = 686 g
(automatically calculated/metered)



3rd Step: *additive natural is metered*
(Color) 2% of N = 13.7 g
(automatically calculated/metered)



4th Step: *additive batch is metered*
10% of total weight = 100 g
(automatically calculated/metered)

The controller must be set to match this sequence.

The percentage of natural material is **automatically calculated** by the controller. [Sum of Natural(s) material = 100 %].
The percentages of the additive naturals are **always** based on the natural(s) material.
The percentages of the additive batch are **always** based on the entire batch and therefore are metered last.

If too much or too little was metered in a batch, this is compensated accordingly

The metering process is self-optimizing on the next batch.
The regrind is metered first and deducted from the total batch weight. If there is more than one virgin material, the percentages are interpreted as ratios of the virgin materials and dispensed next.

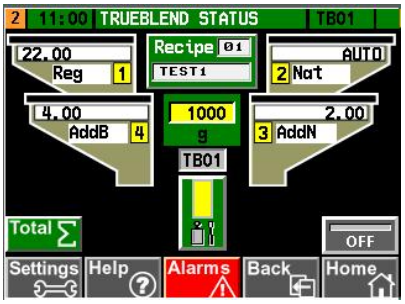
If there are multiple additive naturals or additive batches, they are metered in order of ascending percentage of the total regardless of the sequence of the supply hoppers.

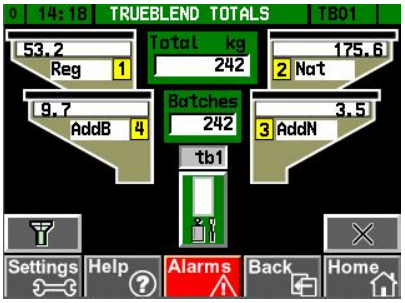
7.9 Component setup

The material component values for a batch are entered as percentages.

Conditions

The "TrueBlend Status" and "TrueBlend Totals" screens show the various material hoppers with the factory material assignment. The material types in the material hoppers can also be changed. The outer number in the hoppers shows the set value for the batch in % (TrueBlend Status) or the total weight in kg (TrueBlend Totals).

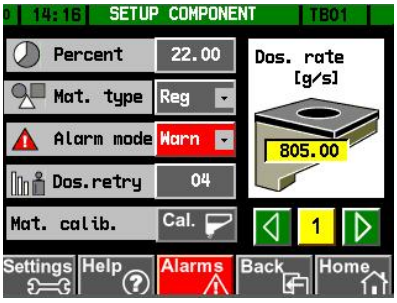




➔ Press the relevant supply hopper to open the "Setup Component" screen.

➔ Make the following settings for all components.

7.9.1 Input of material percentages



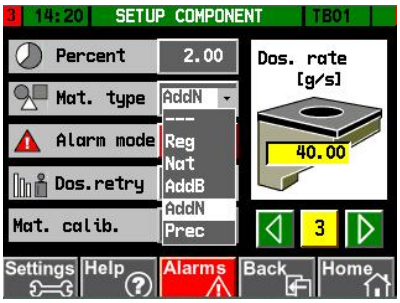
➔ Input the percentage for the material component by pressing the input field beside "Percent %".

➔ Input the value with the numeric key-pad. Note: If using multiple naturals, they must equal 100%.

➔ Confirm the value with ↵.

The metering rate in g/s is automatically learned by the system, but by completing a manual calibration the blender hones in on the rate with greater precision.

7.9.2 Input of Material type

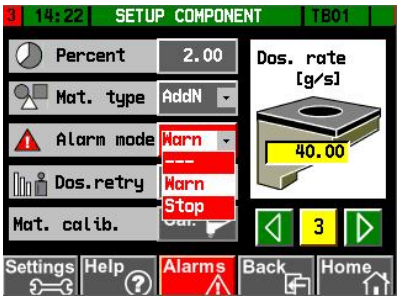


➔ After "Mat. type" input the component for the supply hopper.

➔ Select the desired component --- (a series of three dashes indicates an unused hopper and can be assigned to any position. It is important to note that if you are not using a hopper, material type must be set to “---“), regrind, natural material, additive batch, additive natural, or Precision Additive™ (The Precision Additive™ can only be assigned to one additive natural position on the blender.)

➔ Factory default settings are position 1, Reg.; position 2, Nat.; position 3, AddN; position 4, AddN; position 5 (if applicable), Off; position 6 (if applicable), Off.

7.9.3 Input Alarm mode

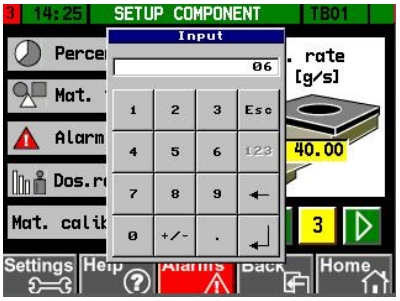


Every material component can be assigned a specific alarm mode. The alarm mode shows the alarm response to overmetering or undermetering. The "Warn" mode is set for regrind and “stop” for natural and additives at the factory:

➔ Press the down arrow for the selection box and select the desired alarm mode.

- **------:** No alarm message, unit continues to run without message.
- **Warn.:** Alarm message is displayed, but unit continues to run.
- **Stop:** Alarm message is displayed, but the blender will continue to try to dispense the component until at least 50% has been fed or the continue or abort button has been pressed. If continue is pressed the control will move on to the next component. Abort will stop without dumping to allow you to manually empty the weight bin.

7.9.4 Input Dosing retries



The “Dos. retry” specifies how often material dispensing will be retried in the event of undermetering before an alarm is displayed (if alarm mode is set to "Warn" or "Stop", see 7.9.3 Input Alarm mode).
The factory setting is 4.
(i.e. material will attempt four times to obtain target weight. If it fails an alarm will occur).

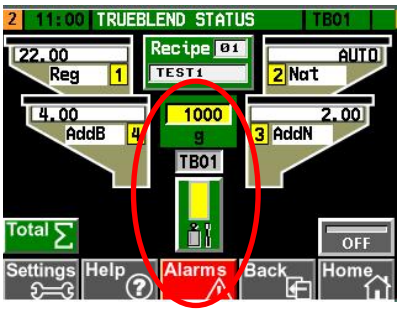
➔ Input the value for metering attempts with the numeric keypad.

➔ Confirm the value with ↵.

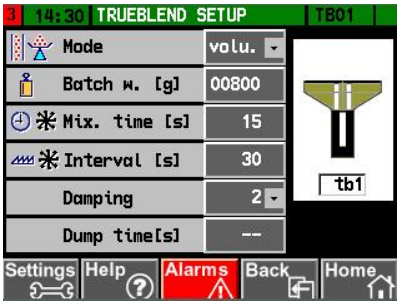
7.10 TrueBlend Setup

Operating mode, batch weight, mixing time and interval time can be set in TrueBlend Setup.

➔ Press the TrueBlend body icon (green column) in the center of the "TrueBlend Status" screen.



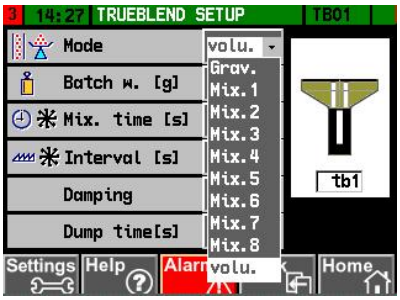
➔ The TrueBlend setup will come up.



7.10.1 Setting Operating mode

The operating mode specifies whether the unit will operate gravimetrically, volumetrically or in mixed operating mode (see 5.3.1 Operating modes).

➔ Press the dropdown menu and select the operating mode.



- **grav.:** all components are metered and weighed in sequence (gravimetrically).
- **volu.:** all components are metered in sequence without weighing (volumetrically).
- **mix. 1-8:** a gravimetric cycle is followed by a number (1-8) of volumetric cycles. The number shows how many volumetric cycles will follow a gravimetric cycle.

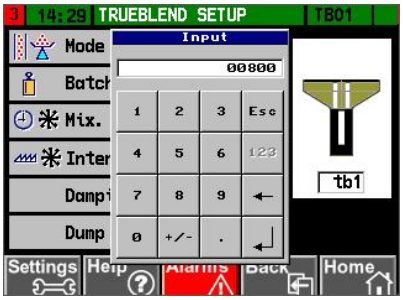
7.10.2 Setting Weigh Bin Batch Weight

Materials with a lower bulk densities (ca. <35 lb/cu ft) may not fit in the weigh bin and granulate may overflow. The batch weight must be reduced in this case. The factory setting is 900 g for the TB100 model or 400 g for the TB045 model, (see chart below).

Model	Batch Weight	Min Weight	Maximum Weight
TB045	400 g	280 g	480 g
TB100	900 g	630 g	1100 g
TB250	2500 g	1750 g	3000 g
TB500	4000 g	2800 g	5000 g
TB900	8100 g	5700 g	9800 g
TB1800	18000 g	12600 g	21600 g
TB2500	25000 g	17500 g	30000 g
TB3500	35000 g	24500 g	42000 g

➔ Press the input field beside "Batch Weight and input the desired batch weight with the keypad.

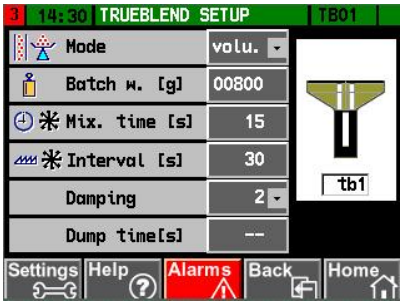
➔ Confirm the value with ↵.



If the minimum value is not reached, the minimum value from the chart is automatically input. If the maximum value is exceeded, the maximum allowable value is automatically input.

The batch weight can also be increased for heavy bulk materials. This will make the material throughput in lbs/hr somewhat higher.

➔ Make sure that the weigh bin does not overflow.

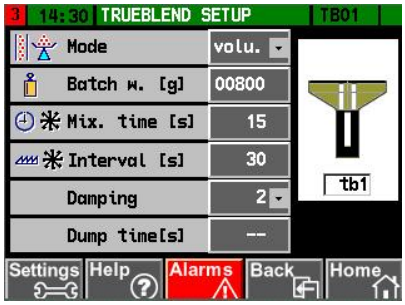


7.10.3 Setting Mixing time

The mixing time shows how long a batch is mixed after discharge from the mixer. The factory setting is 10 to 15 seconds, depending on model.

➔ Press the input field beside "Mix. time" and input the desired duration in seconds with the keypad.

➔ Confirm the value with ↵.

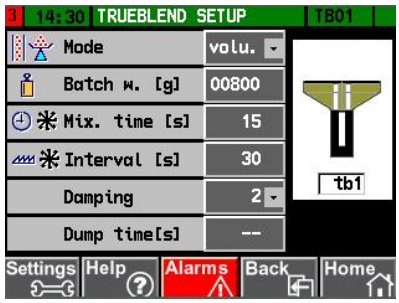


7.10.4 Setting the Interval time

The interval time shows the time for which the mixer will “jog” several rotations to ensure that the mixing blades do not stop in front of the sensor and thus generate a "FULL" message. The factory setting is 30 seconds.

➔ Press the input field beside "Interval (s)" and input the desired duration in seconds with the keypad.

➔ Confirm the value with ↵.



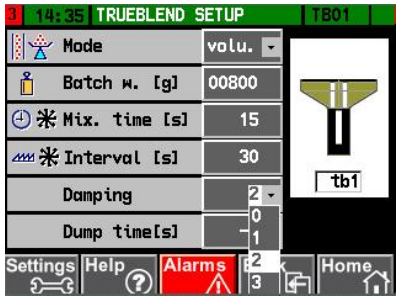
7.10.5 Setting Damping

The following settings are available for impact and vibration damping:

➔ Select values < 2 to increase the sensitivity of the scales.

➔ Select values > 2 to reduce the sensitivity of the scales and to reduce alarm messages.

The factory setting for damping is "2".



7.11 Working with recipes

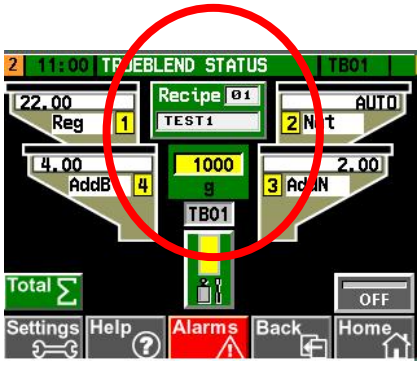
Recipes are used so constant and recurring production processes can simply be called up instead of being input again and again. The controller can store up to 50 recipes.

NOTE

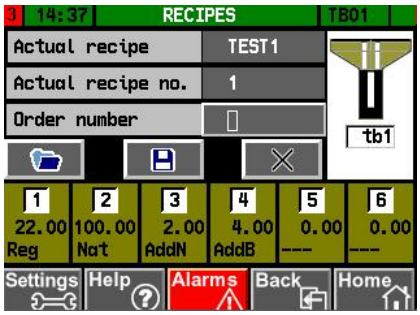
The recipe must be called before recipe data can be changed, i.e. it must be active.

7.11.1 Calling recipe status

➔ Press "Recipe" in the "TrueBlend Status" screen to view the recipe status.

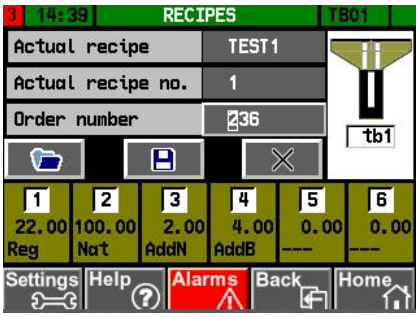


➔ The recipe screen will appear



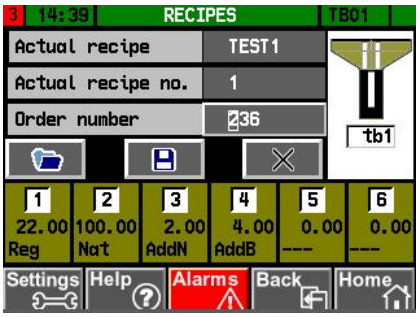
7.11.2 Assigning an order number

➔ Using the alphanumeric keypad assign an order number or job number.



7.11.3 Save a new recipe

➔ Press  to assign a recipe name and to save the recipe.



7.11.4 Naming a recipe

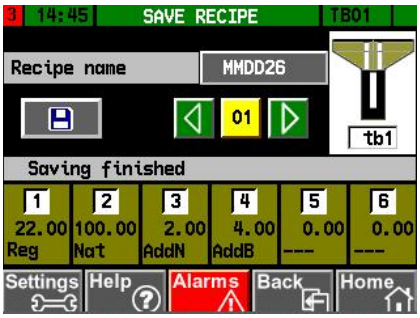
➔ Use the scroll arrows to select a storage location for the recipe or input a storage location number directly.

➔ Assign a recipe name with the keypad.

A recipe name has a maximum of eight characters (alpha-numeric).

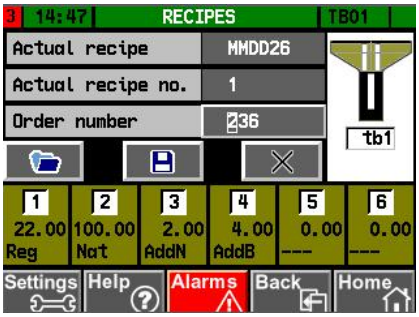
➔ Confirm the value with  .

➔ Press  to save the recipe.



The formula for all components is displayed below in the component view.

When it is saved the current data are transferred to the preselected recipe name. Existing recipes can also be overwritten with this method.



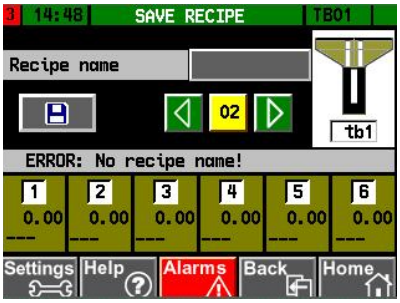
NOTE

Saving is only possible if a recipe name has been assigned. Otherwise a warning is displayed and the recipe is not saved.

Error message

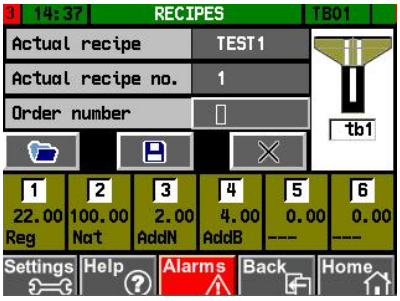
➔ Press on the input field and assign a recipe name.

➔ Press  to save the recipe.



7.11.5 Deleting a recipe

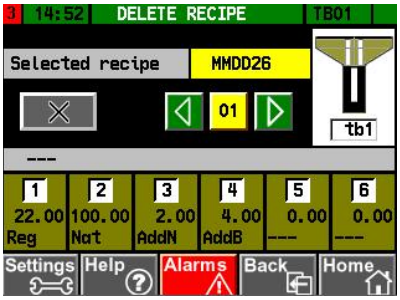
➔ Press  .



➔ Select the recipe that you want to delete with the scroll arrows or by direct input.

➔ Press  .

The recipe is deleted from the memory.



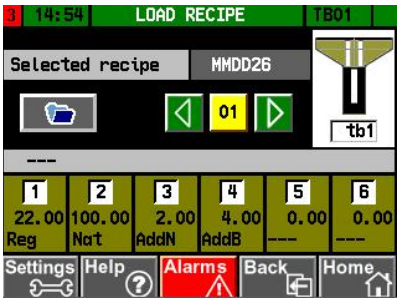
7.11.6 Load/view a recipe

➔ Press  .

➔ Select the recipe that you want to load with the scroll arrows or by direct input.

➔ Press  .

The recipe is loaded and the formula for all components can be viewed.



7.12 Changing material in a blender component (also valid for all other components)

7.12.1 Detachable Material Hopper Procedure

NOTE

Detachable material hopper for TB45 (4 bins) and TB100 (2 bins) models, and TB250R (2 bins).

All detachable material hoppers on the above referenced models are held in place with a captive retainer (screw) held in the hopper support frame. The retainer stabilizes the detachable hopper when mounted in the blender support frame from forces exerted on the hopper by resin weight and various types of automatic loading/receiving device(s) during normal vibration from the process. There is a separate retainer for each detachable hopper.

When removing any of these detachable hoppers for cleaning or material changeover; first, remove the automatic loading/receiving device; then use the proper hex head socket or screwdriver and back out the captive retainer. Hopper can then be removed.

Upon re-insertion of the detachable hopper, it is very important to re-anchor the respective hopper(s) using the captive retainer to provide stability during normal operation of the blender. Once the hoppers have been placed and anchored, the respective loading / receiving devices can be mounted.

7.12.2 Manual cleaning:

- ➔ Turn the power off with the main disconnect switch on the power cabinet
- ➔ Disconnect compressed air
- ➔ Open front access door and remove the weigh bin
- ➔ Position some type of deflector (cardboard tray) to divert material from collecting in the mix chamber to an outside drum or bucket. Also available is the Conair Drain Chute Accessory. This allows the discharge valves to be operated in the manual mode.
- ➔ Using a “dowel rod” approximately 12 inches long, press vertically into the respective valve opening and raise the plunger cone to allow material to flow from the material compartments.
- ➔ Material will flow out of the hopper compartment through the valve opening onto the deflector and into the drum or bucket.
- ➔ Discharge the material completely and clean the material hopper from the top down.
- ➔ You may also want to clean the material receiver at this time while accessing the gravity dump valve through the respective blender clean out door.

Shown with the optional drain chute and safety interlock

The optional drain chute is available from Conair.

Contact Conair Parts
1 800 458 1960

From outside of the United States, call:
814 437 6861

➔ Open the “quick-release” locks of the mixing chamber end cover and remove it.

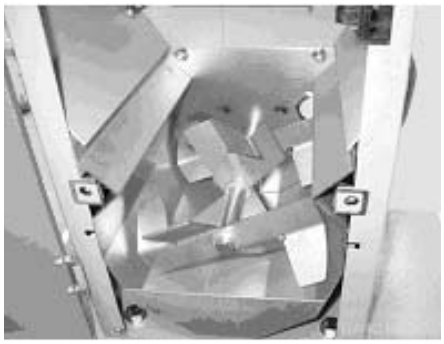
WARNING!

DANGER OF INJURY!

After extended operation the edges of the mixing blades can be knife-sharp and may cause injuries by cutting.

➔ Wear gloves when touching or cleaning the stationary mixer.

Cleaning the mixer



➔ Once the material compartment has been cleaned, remove the deflector

➔ You will now proceed to clean the mixing chamber and shut off valve at the bottom of the chamber.

➔ To fully evacuate the mixing chamber you may need to run the mixing agitator for a short time.

➔ Close the mix chamber access door. Restore power by closing the main disconnect switch.

➔ Now you can manually run the mixer for a short time (see 7.7.1 checking functions in manual mode) to lower the material level

➔ If applicable, open the discharge slide gate at the bottom of the mix chamber.

➔ Open the mix chamber access door. The safety unlock switch will prevent operation of the mixer with the door open.

7.12.3 Clean-out with optional drain chute with safety interlock

➔ Open front access door to the mix chamber.

➔ Remove the weigh bin.

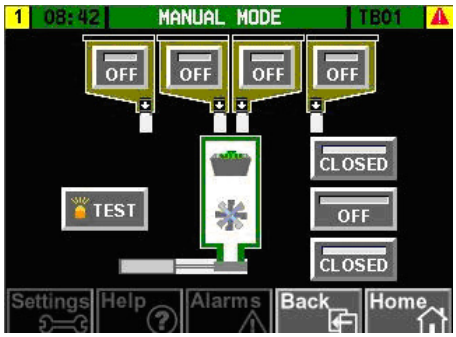
➔ Position the optional drain chute to re-direct material from collecting in the mix chamber to an outside drum or bucket.

NOTE

Be sure to engage safety switch of drain chute into compartment receptacle.

➔ In the "Overview" screen press the TrueBlend icon.

The "TrueBlend Status" screen opens.



➔ Open the "Settings" screen with Settings.

➔ Press  to switch to “manual mode”.

➔ Press on the appropriate material hopper icon to open the respective vertical valve.

Removing material

The dispense valve unit is opened and the material runs out of the material hopper through the optional deflector to the collection receptacle.

➔ Discharge the material completely and clean the material hopper from the top (use the compressed air nozzle supplied if necessary).

➔ Press on the appropriate material hopper icon again to close the dosing unit.

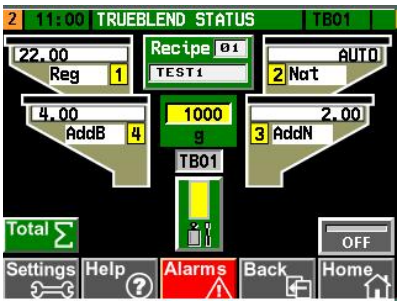
➔ Remove the optional drain chute.

Now you may follow the steps outlined above (cleaning the mixer) to access and clean the mix chamber and bottom discharge valve.

7.13 Checking total throughput

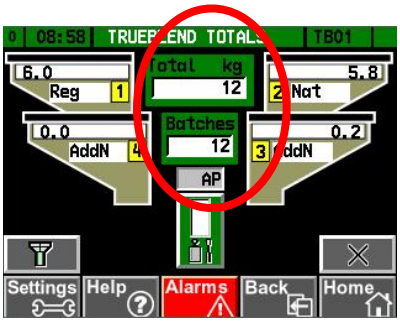
You can display the total throughput of all components from the status screen.

➔ Press the “Totals” icon Total Σ to open the total weight view.



The total weight and the batches run are displayed in the center above the TrueBlend body icon (orange column).

➔ Press ✕ to advance to advance to the screen reset totals.



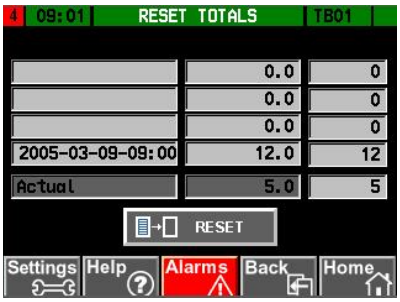
Reset

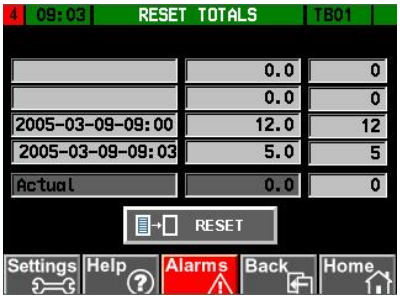
All displayed throughputs are listed in the Global Reset.

The actual throughput values are in the bottom line.

➔ Press RESET to add the actual total weight, the actual time and data and the number of batches to the list.

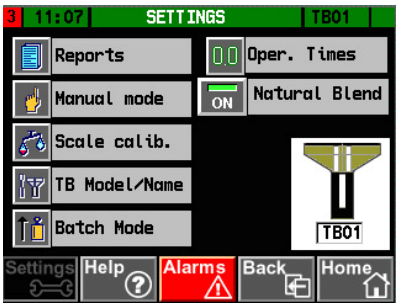
The active register (total weight and batches) are set to "0".





7.14 Creating reports

7.14.1 Reports for batches, shifts, recipes and scales



➔ In the "Overview" screen press the TrueBlend icon.

The "TrueBlend Status" screen opens.

➔ In the "Overview" screen press 

the "Settings" screen.

➔ Press  to open the “Report” selections.

- Shift report: Records individual ingredient and total material usage during defined interval.

➔ Input start time and interval time.

The report position is started daily at the specified start time and after expiry of the interval time.

- Batch report: the batch report shows the averaged batch parameters of the last three batches at the end of the cycle.

Batch report is always on.

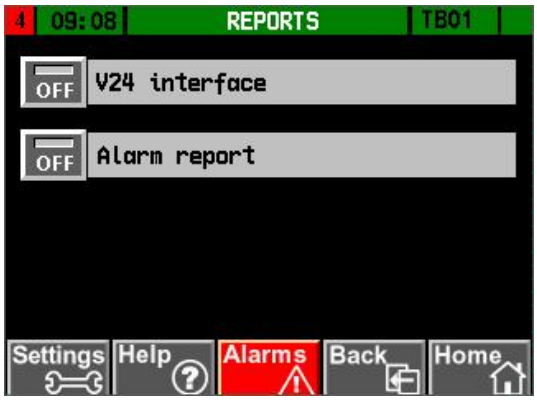
- Recipe report: the recipe report shows all available recipes with the type of material and the percentages of the various materials.
- Scale report: the scale report shows the current measured weight with the current date and time.

7.14.2 Report generator – TrueBlend Reports

The messages from the TrueBlend controller are sent through the message capture and report program "TB_Reports" to a computer.

Data can be outputted either through the V 24 serial interface (RS232) or the network port (cable connection to the appropriate computer is required).

The serial interface V24 (RS232 can be enabled from the "Overview/Settings" menu



ON = serial (V24/RS232)

OFF = network (UDP)

The transmitted message types are:

- Material data
- Batch data
- Alarm messages
- Scale data
- Recipes

The TB_Report Software Package is available from Conair.

Contact Conair Sales.
1 800 654 6661

From outside of the United States, call:
412 312 6000

Reports can be created from the data filtered by data, time and unit or IP address. The reports can be displayed on screen and printed.

It is also possible to save the message files in csv format and read and edit them in spreadsheet programs such as Microsoft Excel. The TB_Report software package is available from Conair.

After starting the program

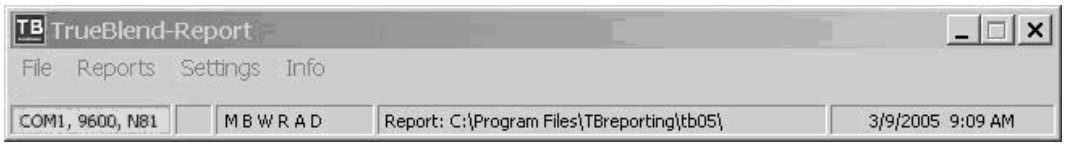
After starting the program the incoming messages are immediately received and saved as a *.rpt file if the interface is connected and configured correctly.

There is no way to switch on or off the message capture in the TB_Report.

Material data, batch data, scale data and recipes are captured via "TrueBlend Status/Settings/Reports". (optional software package)

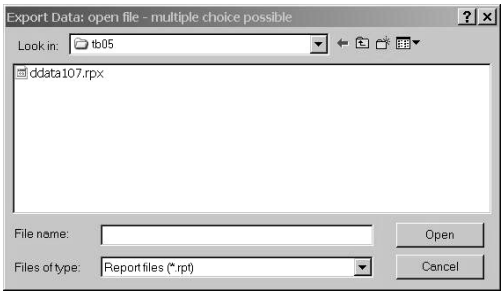
Alarm messages are captured via "Overview/Settings".

Main program window



7.14.3 Operation

Converting data



➔ Select "File/Export data" to open the selection dialog and select the message files that you want to convert.

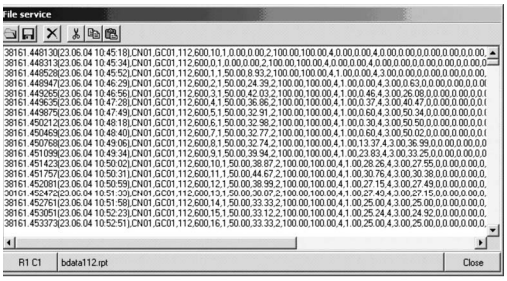
➔ Select "Open" to start the export and save the file in csv format.

Maintaining files

➔ Select "File/File service" to open the maintenance window.

➔ Highlight the position you want to edit and carry out the corresponding action with the icons.

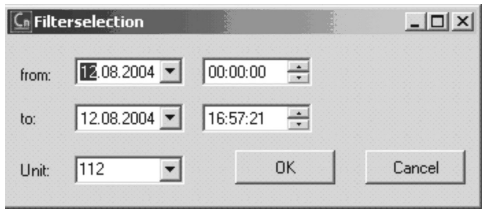
The position of the cursor (row = Z; column = S) is shown in the bottom left of the field below beside the file name of the open file.



Back up files

➔ Select "File/Backup files" and select the directory to which all message files (*.rpt) will be copied.

Creating reports



The "Reports" menu item enables the data of the various message types to be collected.

➔ Select the desired message type in the menu.

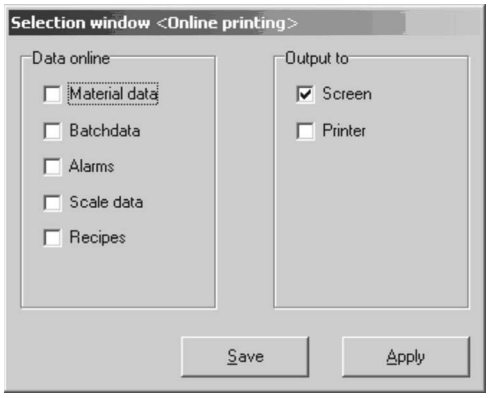
➔ Input the time range and the Unit No. in the filter dialog.

➔ Click "OK" to create the report and display it on the screen.

or

➔ Click "Cancel" to stop the report creation.

Making settings



The program settings for the directories used, the serial port (ComPort), language and printer can be selected in the settings menu.

Directories

➔ Select the directory where the message files will be saved in the dialog.

ComPort

➔ Select the desired ComPort settings in the dialog.

The directories and ComPort settings are stored in the configuration file and are available next time the program is started.

Language

➔ Set the operating language.

Printer

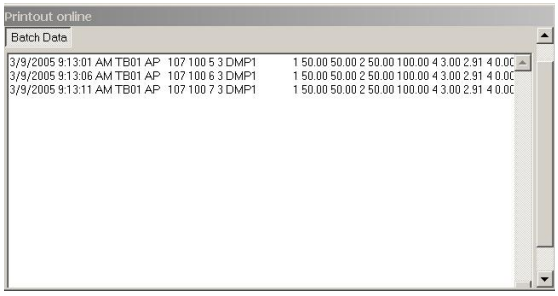
➔ Select the printer.

Changes of language and printer remain in effect until the program is closed or until the next change. They do not change system settings.

Conair UDP

Refers to network settings that do not currently exist.

Printing online



Settings for direct output of messages on screen and/or printer can be made with this function.

➔ Select "Settings/Print online".

➔ Select the checkbox for the desired actions and accept them with "Apply" or "Save".

"Save" saves the specified values to the configuration file. The output to screen is the default setting.

If only one message is read, it is displayed in a new window on receipt.

The window is moved to the foreground with every message, because only the last 15 messages are displayed.

➔ Press the buttons on the top edge of the screen for other selected message types.

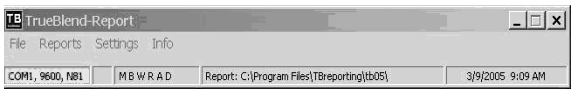
If the print checkbox is active, a print job is generated at the same time, to which the messages are written. They are only printed out if one page is filled or the job is terminated by closing the window.

The print button at the bottom of the screen operates independently to this and generates a printout of the currently available messages (maximum 15) in all active message windows.

NOTE

If both print modes are used simultaneously print errors may occur in some circumstances.

The status of the online checkboxes is shown in the status line:



A displayed letter represents the "Enabled" function.

M = Material data

B = Batch data

W = Scale data

R = Recipes

A = Alarms

<P> = Print online on printer (in red)

Version

➔ Select the "Info" menu.

The current version and the build data are displayed.

NOTE

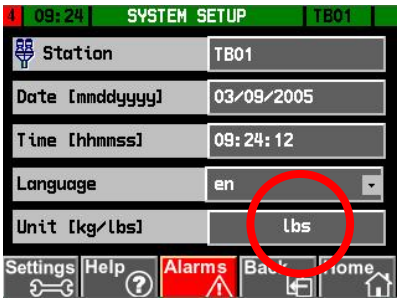
For more detailed descriptions of configuration and the format of message files see the appendix.

7.15 System setup

Different settings can be made in the system, such as station name, operating language, date and time settings and units.

Setting station name

➔ Input a station name with the alphanumeric keypad.

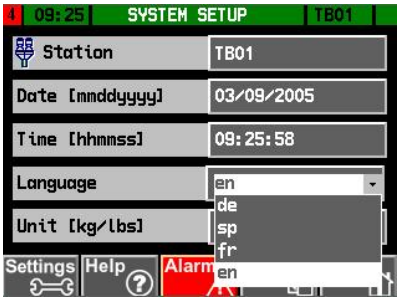


Setting operating language

The operating language can be changed for the entire controller. English (factory setting), Spanish, French and German are available.

➔ Select the desired language in the selection menu.

After switching the language you are prompted to restart the system.



Setting date and time

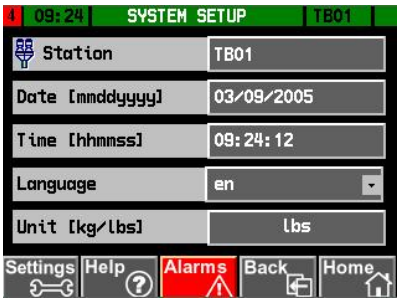
➔ Input the date and the time.
Make sure that there are no dots between the numbers.
You have a choice of:
Date format: [mmddyyyy] (USA)
Date format: [ddmmyyyy] (European)
Time format: [hhmmss].

Setting unit of weight

➔ Select "lbs" or "kg" as the unit of weight by pressing lbs. The button toggles to "lbs" and back.

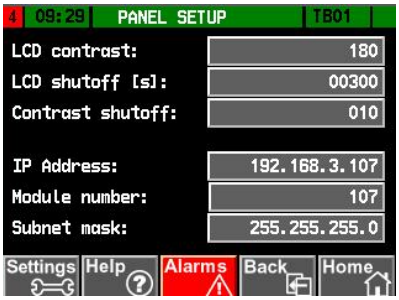
The button toggles to "kg" and back.

The unit of weight only refers to the total throughput and the total weights.



7.16 Panel setup

Screen settings can be made here.



Contrast

➔ Set the contrast (brightness) of the touch panel (10-100; default 100).

Shutoff

➔ Set the time after which the touch panel will change to sleep mode (10-600 seconds; default 180).

Contrast shutoff

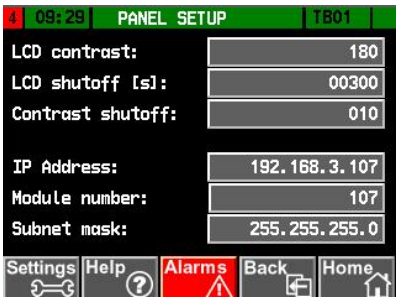
➔ Set the contrast (brightness) for sleep mode (10-20; default 10).

The following settings are only required if your unit is to be part of a network:

IP address *(for service users only!) (Level 3)*

➔ Input the IP address of the controller (default 192.168.3.249).

A reset is run after changing the IP address. After the reset the controller must be switched off and on again.



Module number *(for service users only!) (Level 3)*

➔ Input the module number of the controller (default 249).

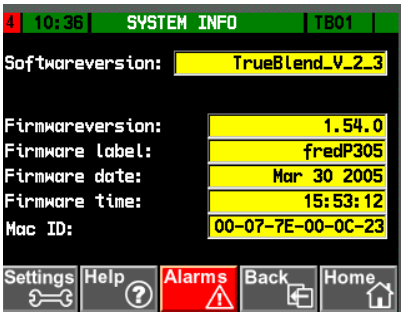
It must always match the last octet of the IP address. After changing the IP address the module is always automatically changed to match the IP address. If it is changed later, the controller must also be switched off and on again.

Subnet mask *(for service users only!) (Level 3)*

Displays the current subnet mask of the controller (all models).

7.17 System info

The software status of the TrueBlend and the firmware status if the touch panel can be read in the system info



➔ Read the software status, the version, the date and the time here.

- Software version:
  Firmware version of the touch panel
- Software label:
  Description of firmware
- Software date:
  Creation date of firmware
- Software time:
  Creation time of firmware

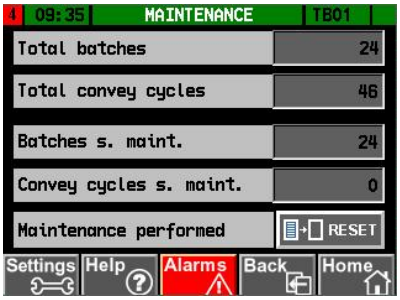
7.18 Maintenance

In the "Overview" screen

➔ Press Settings.

The "Settings" screen appears.

➔ Press to open the maintenance menu.



The "Maintenance" screen appears.

- Total batches:
  counts the total batches that the TrueBlend has run since first started.
- Total convey cycles (material loading option only): counts the total conveying cycles that the hopper loader has run since the first startup.
- Batches since maintenance:
  counts the total batches since the last maintenance.
- Convey cycles since maintenance:
  counts the total conveying cycles since the last maintenance.
- Maintenance run: (Reset).

➔ Press "Reset" to confirm the maintenance.

The batches counted since maintenance and the conveying cycles since maintenance are reset to "0".

Maintenance prompt

The maintenance prompt appears every three months. It indicates that it is time to service the unit.

➔ Press "OK" to confirm and to close the message window and carry out the maintenance work as required (see chapter 9 Maintenance and repair.).

➔ Press "Reset" to confirm that maintenance has been carried out.

If you confirm with "OK" without having done the maintenance and have pressed "Reset", the maintenance prompt appears every six hours or after every restart of the unit.

7.19 Hopper loaders (Optional)

7.19.1 Go to Material loading (conveying) overview screen

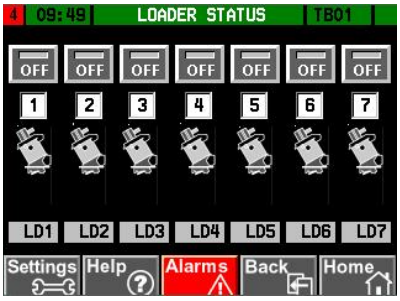
➔ Press the hopper loader icon to open the "Loader Status" screen.

The "Loader Status" screen opens.

7.19.2 Switching on hopper loaders

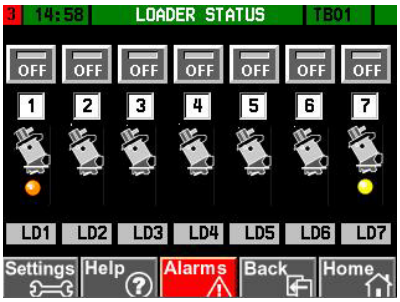
➔ Press the OFF buttons on the "Loader Status" screen to switch on the hopper loaders you will be using.

The status of the hopper loaders is displayed in the hopper loader view.



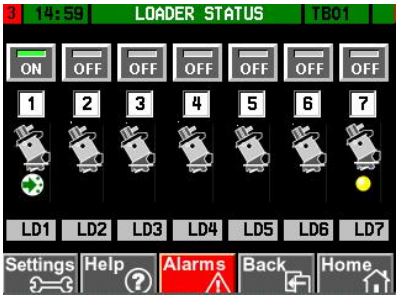
1. Status: Material required

The yellow dot indicates the status "Material required". The demand switch has detected that no material is left in the hopper.



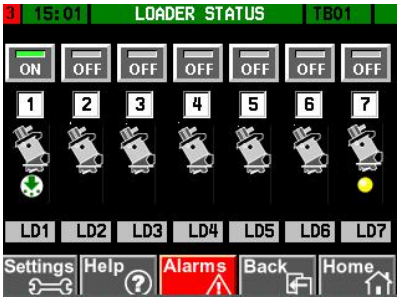
2. Status: Material conveying

The arrow to the right indicates the status "Material conveying". The vacuum valve is actuated and material is conveyed.



3. Status: Material discharge

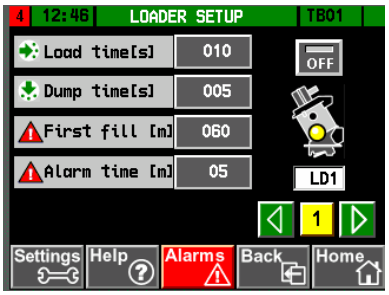
The arrow point down indicates the status "Material discharging". The vacuum valve is closed.



4. Status: Alarm

The flashing triangle indicates a material shortage. The status of the hopper loader is displayed in the background (see also Section 8 Alarm message and trouble shooting).

7.19.3 Changes to Loader Screen



➔ Press a hopper loader icon in the "Loader status" screen to open this screen.

➔ Enter the load time and the dump time.

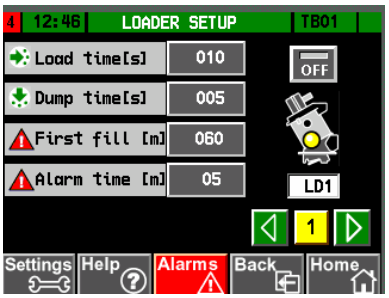
The load time can only be changed if the hopper loader is switched off or is in the "Material discharging" status.

The minimum load time and the minimum dump time is 2 seconds.

The maximum load time and the maximum dump time is 180 seconds.

The status of the hopper loader is also shown on the right (display: yellow dot). The hopper loader can also be switched on and off here.

7.19.4 Loader Alarm Settings



➔ Enter the first fill alarm time. This time allows an empty hopper to be filled for a designated time period before an alarm will be generated. The time starts when the loader is turned on.

➔ Enter the Alarm time. This is the amount of time the hopper will be loaded (after the first fill time) without the demand being satisfied before an alarm will be generated.

7.19.5 Settings

Settings

➔ In the loader “status” and “setup” screens press Settings to open the settings screen to configure the hopper loaders and conveying.

Setting type of hopper loader

➔ Press "Hopper Loader" on the "Settings" screen.

➔ Input the name and type volume in cubic feet of hopper loader.

The appropriate loading and discharge times are preset depending on the type selection. (They can be changed at any time).

Type (volume)	loading time [s]	discharge time [s]
0.15	4	5
0.50	10	10
1.00	15	10
1.80	20	10
3.00	30	15

Sharing Conveying Pumps

If you are using only one blender and one pump, the default settings for the wait list (WCN and LCO) should be adequate.

The Trueblend blender also has the ability to share conveying blowers between blenders. This enables you to have one conveying blower that services multiple blenders. This function requires that the blenders be networked together in an ethernet network. If only two blenders are networked together, the blenders may be connected directly together with a “crossover” style ethernet cable run between the two receptacles located on the bottom of the control enclosure. If more than two blenders are to be tied together, the blenders should be

connected using an ethernet switch and straight through ethernet cables. See your computer technical help for assistance on setting up a network like this. When blenders are connected together, the last three digits of the ethernet IP address (Home > Settings > Panel setup > IP address) must be unique for each blender.

The loading control for an individual blender is divided up into three separate functions as shown here:

- Loading control
- Waiting list (a first in, first out queue)
- Blower control

When a loader needs material, it's demand switch will turn on. When the loading control sees the demand switch input, it sends a message to the waiting list. The waiting list queues the loader's requests in a list. When the blower is available the waiting list then sends a message to the blower control, which operates to satisfy the loader. The connections between the three functions may be configured by the user at the service level. These connections are specified in the loader setting's screen and the blower setting's screen. The following examples illustrate how to configure these variables.

Example 1

In this example two blenders will be sharing a conveying blower. There is a direct connection between the two blenders with an ethernet crossover cable.

Blender 1

Blender 1 is physically connected to the conveying blower. The blender has an ethernet address of 192.168.3.249 (default address).

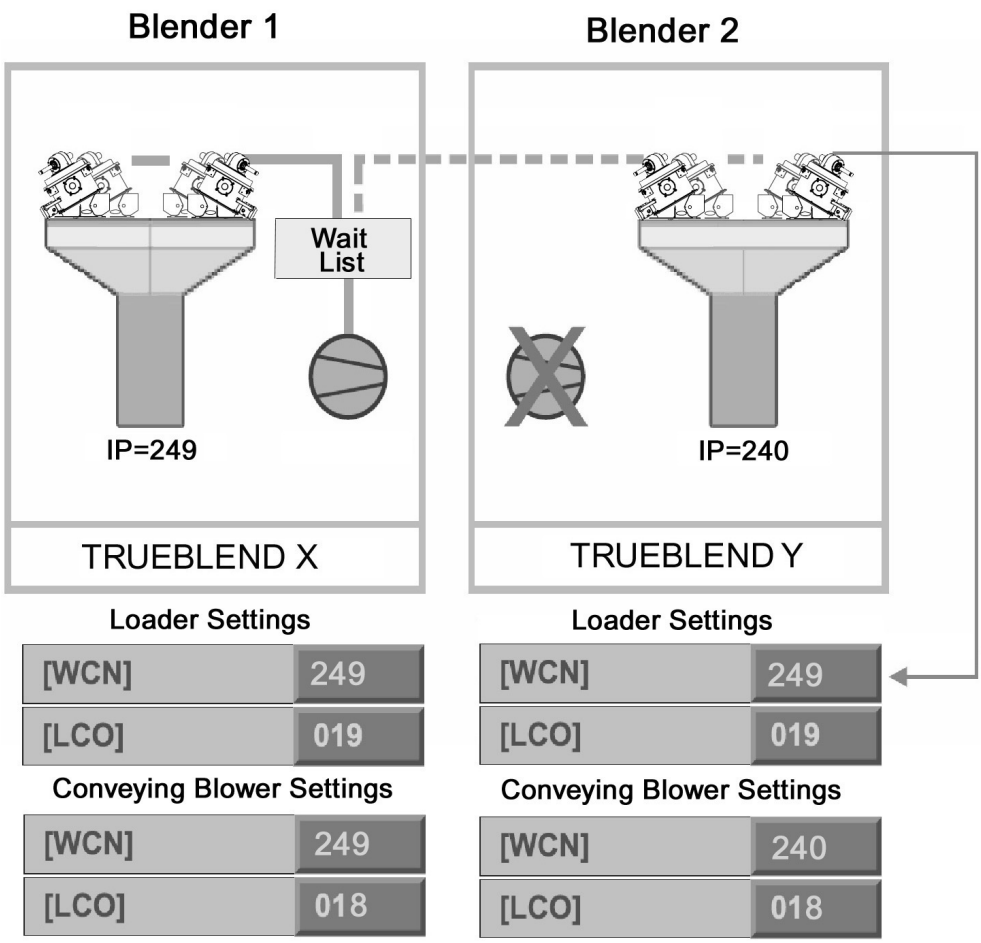
Blender 2

Blender 2 has no physical blower connected. It will use the conveying blower on blender 1. The blender has an ethernet address of 192.168.3.240 (address changed from default). Refer to section 7.16 "Panel setup" screen to change IP address from default.

➔ To set this system up, enter the loader configuration screen on blender 2.

Any loader on blender 2 that will be using the blower on blender 1 should have it's WCN value changed to the last three digits (octet) of blender 1 as shown. In this example the WCN is changed from 240 to 249.

The LCO value refers to the type of device (19=loading, 18=blower) and should never be changed except under direction of Conair service or engineering personnel. The complete system and settings for this example is shown below.



In this example, when a loader on blender 2 has a demand, it will send it's request to the waiting list on blender 1. The loader is put into the queue of blender 1's waiting list, and when the blower is available and the loader is the next in the list, the loader and blower will be operated to convey the material.

Example 2

Suppose that you wish to add a second blower to the above system to use as a spare blower while doing maintenance on the blower connected to blender 1. The blower may be added to Blender 2's electrical controls. When you wish to use this blower you have two options in the control (obviously the piping etc. must be correct also):

8.0 Alarm messages and troubleshooting

8.1 Signaling alarm message

- The alarm beacon flashes.
- The alarm message is displayed in the top right corner of the screen as a warning triangle.
- The alarm message is displayed as text when 

is pressed in the navigation bar.


NOTE

If a dosing unit does not reach the set weight, production does not continue. The metering attempt is repeated several times (number of attempts can be set). If the required value is not reached, the alarm beacon is activated.

The behavior of the controller in the event of error can be specified in the configuration (see 7.9.3 Input Alarm mode).

- **Warn:** Alarm message is displayed, but unit continues to run.
- **------:** No alarm message, unit continues to run without message.
- **Stop:** Alarm message is displayed, unit is stopped.
  If a unit stop is set, the triggering alarm must be acknowledged on the screen.
  All scale errors cause the unit to stop and they must be acknowledged.

The alarm message remains visible as long as the error is pending in the controller.

8.2 Handling alarm messages

➔ Press 

for an overview of all alarm messages.

➔  Clearing alarms

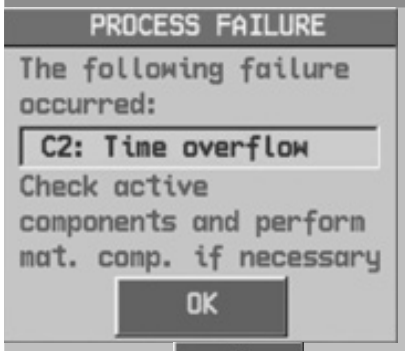
➔  Acknowledging potential-free alarm contact (installation by customer).

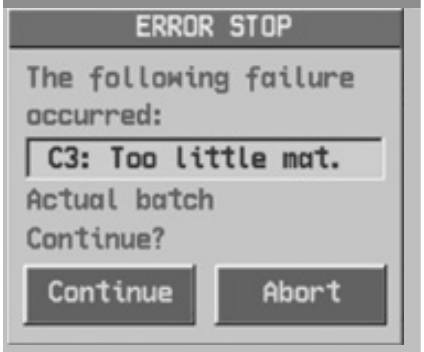
8.3 Deciphering Alarm Messages

In front of some alarm messages you may see these designators:
C1, C2, C3, C4, C5, C6, along with alarm text.

C stands for component and 1,2,3,4,5, and 6 refer to the bin that is causing the alarm. It is important to look at the alarm text and check to see if there is a problem with the component bin number listed.

8.4 Alarm messages and correction

Alarm Message	Possible Cause	Solution
 If you press OK and the component is set at "_ _ _", the batch will continue and an alarm message is recorded. If you press OK and the component is set at "Stop", the component the control is alarming on will stop dispensing and an Error Stop Message will be received. The alarm message will be recorded. Note: C = component 1,2,3,4,5, and 6 = the hopper/bin number	Dosing time is less than zero or greater than 100 and therefore unusable.	Perform a material rate calibration. See section 7.7.2 Calibrating.

Alarm Message	Possible Cause	Solution
	• Component x not enough material (in the example, component #3)	• Make sure the material hopper is full or has an adequate material supply.
	• Component x too much material	• Make sure the material dosing rate is correct. If the rate is out of range perform a material calibration. See section 7.7.2.
or Too much material. Display of screen only in mode: Component STOP: Continue: *Batch is continued.* *Alarm message is sent.* Stop: *Current component is stopped, ERROR STOP screen appears with "Incorrect batch".* *Alarm message is sent.*	• Component x not proper weight (connection from controller to load cell is interrupted, load cell defective, scales jammed or overloaded, measured values are faulty).	• Change the minimum/ maximum batch weight. Limit the percentage found on the model screen.
	• Controller malfunction	• Verify that the valves are functioning correctly.

Alarm Message	Possible Cause	Solution
 OK: *Batch is stopped after confirmation and unit is stopped.* *Alarm message is sent.*	• Tare wrong - The range that can normally be compensated is -50 to 100 g. If the tare value is outside this range it will alarm	When the unit starts a new batch check the operation of the weigh bin. • Make sure the bin is empty. • Perform a zero calibration. • Make sure the material sensor is adjusted correctly (see Section 9.6).

Alarm message "Tare wrong"

Meaning of alarm	Correction
• The weigh bin is still full of material. • The weigh bin is mechanically jammed. • The plunger was not correctly installed and is pressed into the weigh bin. • "No slave" error occurred first, therefore the scale value remains at the last valid value. • The operating air pressure is too low –-> weigh bin closes too slowly. • Choke check valve for closing the weigh bin is incorrectly adjusted –-> weigh bin closes too slowly.	➔ Check why material is not discharged (cone, weigh bin). ➔ Check CAN connection (see No slave). ➔ Check operating pressure and if necessary adjust (min. 6 bar). ➔ Adjust choke check valve correctly.

Alarm message "Door open"

Meaning of alarm	Correction
• While running the safety door must be closed. The door was opened while in operation. • Mixer motor remains stopped; cycle is stopped. • Safety interlock switch is triggered. • Door is not open but message still appears.	➔ Close safety door. ➔ Check wiring connection to safety switch.

Alarm message "Motor fault"

Meaning of alarm	Correction
• Motor protection of the fan motor has tripped. • Wiring to motor protection disconnected	➔ Check motor, then switch motor protection on again. ➔ Check connection.

Alarm message "Filter fault"

Meaning of alarm	Correction
Differential pressure switch in filter has tripped, as filter blocked.	➔ Switch off conveying and clean filter.

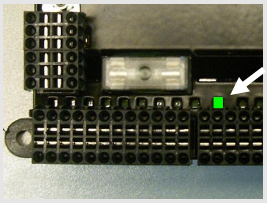
Alarm message "HLx: material demand"

Meaning of alarm	Correction
Display (one flash every second).  The hopper loader x (x = 1.7) has not sent a "full" message within a specified period.	➔ Check the material source or whether the sensor is defective.

Alarm message "Battery error"

Meaning of alarm	Correction
• Battery defective or discharged or no battery. • Mixer is not turning.	➔ Install new battery (see Section 9.4).

Alarm message No slave or Slave disconnected

Meaning of alarm	Correction
During operation the CAN connection between control console and control board has been interrupted. Communication problem	➔ Check connections. ➔ Check the touch screen controller connection ➔ Check the I/O board connection. If the connections are ok, replace either the I/O board or controller. **Tip: Consult with Conair Service before ordering parts** ➔ After switching on again test LED on control board.  ➔ If the LED is green the connection is restored. ➔ If not, the connection is still broken. If the wiring is OK and there is still no connection –-> call service.

8.5 Troubleshooting/Mechanics

Material is flowing out of the weigh bin

Cause of fault	Correction
Weigh bin closing too late can occur when switching from gravimetric to mixed operating mode/volumetric operation.	➔ Adjust the closing speed of the compressed air chokes on the weigh bin cylinder.

8.6 Diagnostic Overview Screens

(for service users only!) (Level 3)

Access the “Settings” screen from the Blender “Overview” screen. This screen gives more detail to the individual material dispenses making up a particular batch, both target and actual percentages, as well as, the running cumulative weight.

This screen shows the information used by the blender for each batch.

Six materials are listed regardless how many hoppers the blender has.

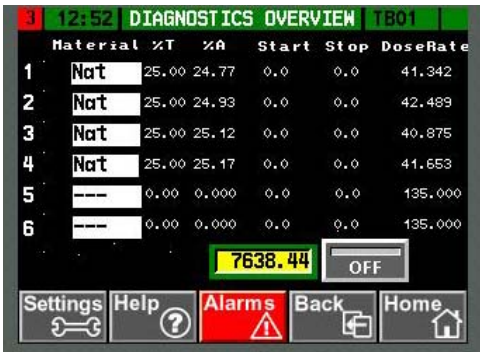
The open state of each component’s valve is indicated by the presence of an icon between the component number and the material type.

%T = Percent Target

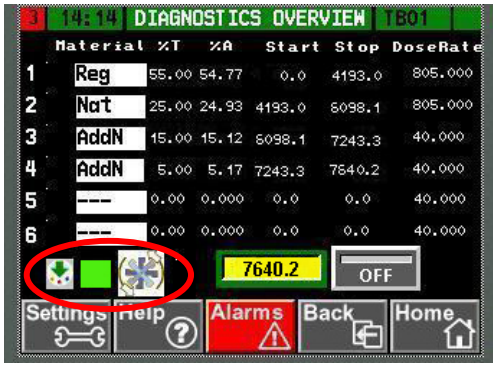
%A = Percent Actual

The start(ing) weight and the stop weight are listed so you can subtract the two values to get the weight of each component. This data is useful to properly adjust settling times and evaluate weigh bin fluctuations due to electrical and mechanical problems.

The dosing rate in grams/seconds is also listed for each component.



The bottom line, from left to right, shows an icon when “ON” for the weigh bin valve, the level sensor logic, the mixer, and the flow control valve. The level sensor logic is based on the level sensor and a timer sequence. The next field with the green outline shows the current weigh bin weight. The next button allows the blender to be started or stopped from this remote screen. In extrusion mode, when the components don’t add up to 100%, a warning hand will be displayed above the ON/OFF button to prevent starting.



In the “Diagnostics Overview” screen shown at right, note the icon to the left of Reg material. This indicates the operation of the regrind valve position. As each subsequent valve position operates, a similar icon will appear to the left of that material type.

9.0 Maintenance and repair

This chapter contains detailed maintenance and repair instructions and information on regular inspections.

9.1 Safety

9.1.1 Qualifications of personnel

WARNING!

DANGER OF INJURY!

Maintenance and repairs carried out by insufficiently qualified personnel will result in incalculable risks with negative consequences for people, the machine and the environment.

➔ Only qualified and authorized technicians should carry out maintenance and repair work.

9.1.2 9.1.2 Safety equipment

The following safety equipment is required for maintenance and repair work:

Wear safety gloves.

9.1.3 9.1.3 Safety equipment

WARNING!

DANGER OF INJURY!

The operator runs the risk of injury if the safety devices are not operating correctly.

➔ Check that the safety devices function correctly after work has finished.

9.2 Before starting work

Before starting work, the following conditions must be met.

9.2.1 Switch off unit/disconnect from compressed air supply

WARNING!

DANGER OF INJURY!

Rotating unit components can catch body parts and pull them in and cause life-threatening crushing, shearing and bone fracture injuries.

➔ Set the unit main switch to "0" before starting maintenance and repair work.

➔ Secure the unit to prevent unauthorized restart.

9.3 Inspections

9.3.1 Checking EMERGENCY STOP function

Procedure

➔ Actuate the EMERGENCY STOP switch (main switch to "0").

If the cone valve was open, it is closed. All other machine movement is stopped immediately.

9.3.2 Testing safety interlock switch

Procedure

9.3.3 Test the safety interlock switch as described in 7.7.1 *Checking functions in manual mode*.

9.4 Mixing chamber instructions

To Remove Mixing Chamber:

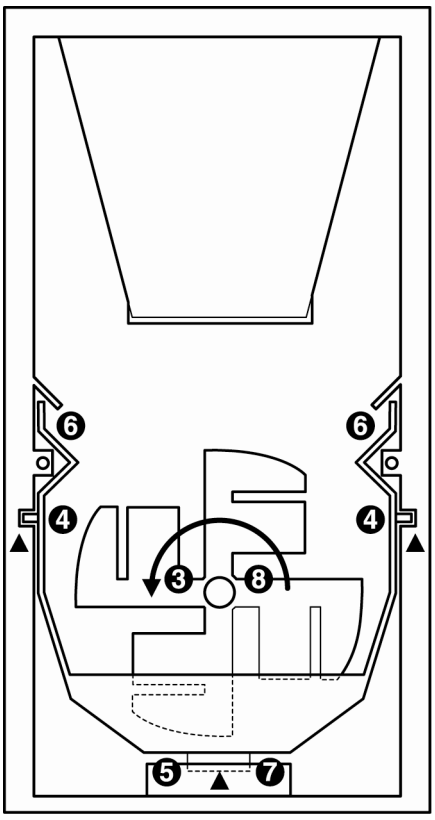
1 Turn all 1/4-turn fasteners on front panel counter-clockwise until they release.

2 Remove front panel. Some models require lifting the panel to clear 2 screws at bottom.

3 Remove mixing agitator by pulling straight out. You may have to rotate the shaft as you remove it in order to clear the front bin wall.

4 Lift front of mixing chamber to align the locking pins with the release slots.

5 Pull mixing chamber forward until the extension on the bottom of the chamber interferes with the nylon drain port. Place hands under chamber and lift fingers to raise the back of the bin over the drain port. Pull bin straight out.



To Install Mixing Chamber:

6 Align bin walls with guides and push straight inward until the extension on the bottom of the chamber interferes with the nylon drain port.

7 Place hands under chamber and lift fingers to raise the back of the bin over the drain port. Push bin straight inward making sure the back of the chamber passes under the tab on the back wall of the chassis. Some models do not have this tab.

8 Install mixing agitator by pushing straight in. You may have to rotate the shaft as you install it in order to clear the front bin wall and align the agitator shaft with the keyed drive shaft.

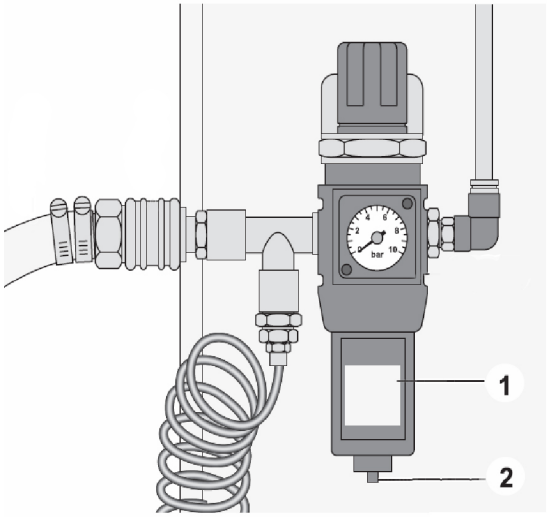
9 Align the 1/4-turn fasteners on the front plate with clips on chassis and install front plate. Turn the 1/4 turn fasteners clockwise until they tighten. Some models require the alignment of the agitator shaft with a bearing installed on the front plate before the plate can be tightened.

9.5 Maintenance work

➔ Monthly maintenance work

Drain water separator

➔ Loosen the knurled screw [2] on the bottom of the water separator [1] and drain the water.



[1] Water separator
[2] Knurled screw

Fig. 14: Draining water separator

Visual check

➔ Check that all screws, attachments and wiring connections are firmly attached.

9.5.1 Annual maintenance work

NOTE

The battery must be replaced during operation.

If it is replaced with the power off, battery-buffered data such as date and time will need to be reset.

Replacing controller battery

➔ Unscrew the four screws [1] on the touch panel case.

➔ Remove the back cover [2].

The 3 Volt lithium cell is positioned on the right side (viewed from the back).

➔ Pull the tab [3] to remove the battery [3].

A replacement controller battery is available from Conair. (Part # 2668900102BA)

Contact Conair Parts

1 800 458 1960

From outside the United States, call, 814 437 6361

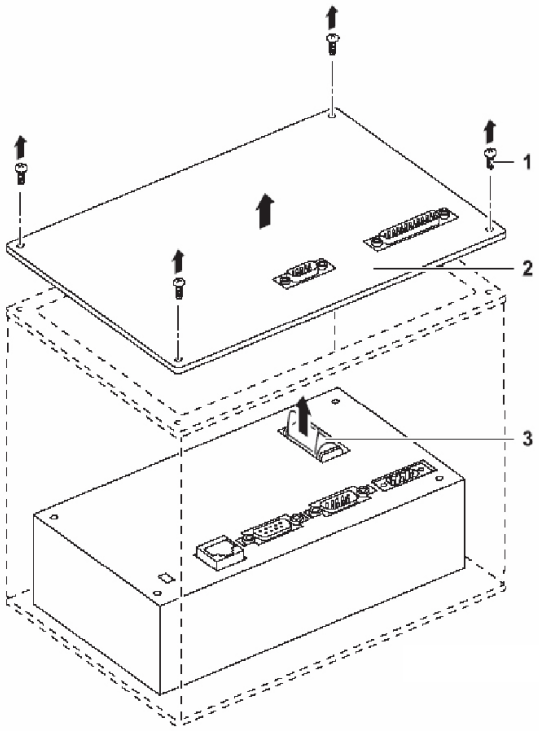


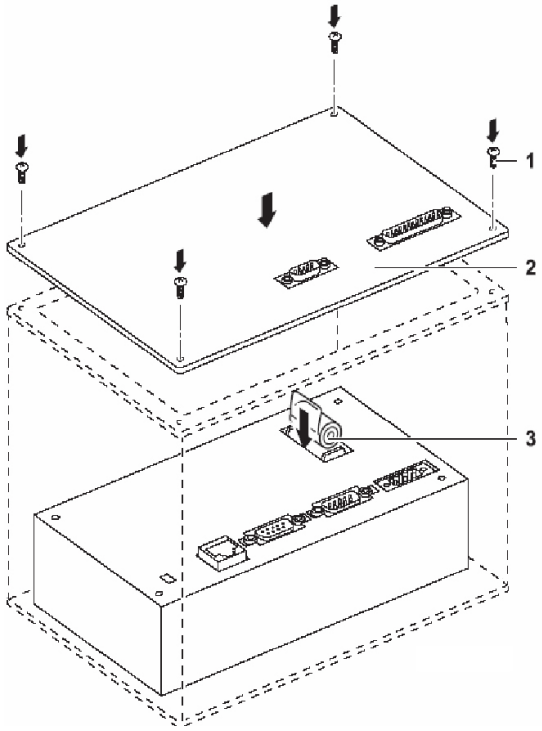
Fig. 15: Replacing controller battery

[1] Mounting screws

[2] Cover

[3] Lithium battery with tab

➔ Make sure the new battery is correctly aligned (see symbol on the battery socket).



[1] Mounting screws
[2] Cover
[3] Lithium battery with tab

Fig. 16: Replacing controller battery

➔ Replace the cover.

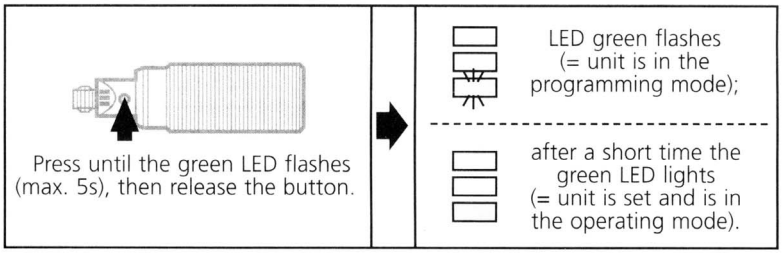
➔ Fasten the cover with the four screws.

9.6 Repair work

9.6.1 Calibrate/adjust a sensor with no material present

IMPORTANT

This style material sensor used prior to September 2007. Refer to section 9.6.2 for instructions on calibrating/adjusting the sensor on units built after September 2007.



The level sensor switches when material passes in front of the active area. The level sensor adjustment depends on the type of material and must be adjusted accordingly.

Instructions:

- ➔ Efector sensor should be installed into the rear of the blender chassis until it just comes flush with inside of the rear of the mixing chamber. This should be as close as possible to being flush and still allow access to push button and indicator light (should be facing away from mixing motor – towards outside of unit).
- ➔ Once sensor is set into position install supplied nut on the back of sensor until it tightens against the weld coupling on the back of chassis – tighten to lock into place.
- ➔ Once unit is powered make sure that all mixing components are in place in chassis and close door.

Use small screwdriver or pen and press the adjustment push button until the green LED flashes at one Hz or 1 flash per second (a maximum of 5 seconds). Release the button as soon as the flashing starts, and after a short time, the green LED lights solid. This means the unit is set and is in operating mode. Unit is set and should need no further adjustment.

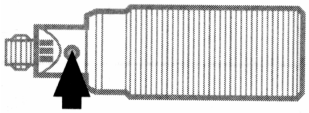
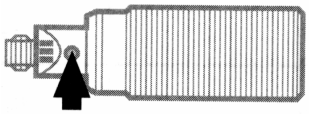
IMPORTANT

Do not hold longer than 5 seconds.
Holding 10 seconds locks the sensor.

➔ Once unit is installed hold a finger over the sensing part of the sensor and make sure that the LED changes state from green to red – this indicates that the unit is working properly.

➔ To make sure that the unit is adjusted correctly and not too sensitive, close the door and manually run the mixer. The LED should not change states while the mixer is running, which would indicate that the sensor is seeing the mixer pass the face. If this occurs make sure that all pieces are installed correctly and adjusted flush with the mixing chamber. If the unit still sees the mixer, adjust blade in front of sensor and re-calibrate so the blades are not seen by the sensor.

9.6.1.1 Calibrate/adjust a sensor with material present

1	 Press the button and keep it pressed (5...10s).		The green LED flashes slowly (approx. 1 Hz). After approx. 5s it flashes faster (approx 2 Hz) (=unit is in the programming mode).
2	 Now release the button.		The yellow and green LED's are lit (=unit is set and is in the operating mode).

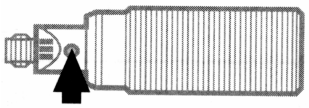
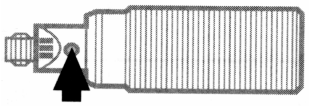
For most applications setting the sensor with the vessel empty is sufficient. You can, if you wish, make additional adjustments with material present in the bin. Making a full adjustment (material present) does not change the empty adjustment. This type of adjustment may need to be completed for low bulk density materials.

With material present, press and hold the pushbutton adjustment with a pen or a small screwdriver for more than 5 seconds, but less than 10 seconds. For the first 5 seconds the green LED will flash slowly (approx. 1 Hz or 1 flash per second) after approx 5 seconds then it will begin to flash faster (approx. 2 Hz or 2 flashes per second). Release the pushbutton as soon as the green LED begins to flash faster (approx. 2 Hz – or 2 flashes per second.


NOTE

The yellow and green LED's will be lit – this means the unit is set and is in operating mode.

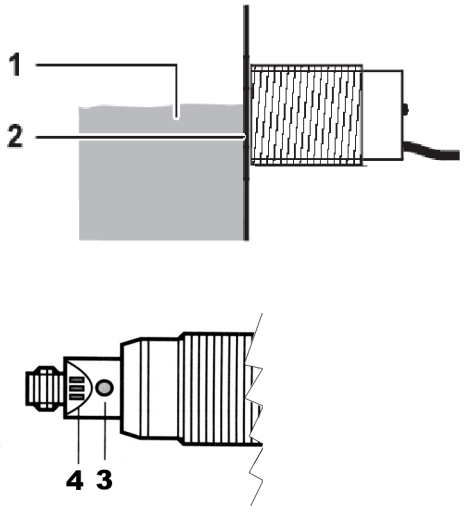
9.6.1.2 Unlocking a sensor

1	 Press for at least 10s.	➡	At first the green LED flashes slowly, then faster, After 10s it goes out. The unit is locked.
2	 Press for at least 10s.	➡	After 10s all LED's go out for a short time. The unit is unlocked and the LED's indicate the current operating status.

IMPORTANT

Empty or full adjustments can not be made if the sensor is locked. These instructions are included in case you have inadvertently locked a sensor. There is no need to lock the sensor.

Press the pushbutton adjustment of a locked sensor with a pen or a small screwdriver for ten seconds. After ten seconds all of the LED's go out until the pushbutton is released. The unit is now unlocked and the LED's indicate the current operating status. Empty or full adjustments (material present) can now be made.



[1] Material
[2] Active area
[3] Push button adjustment
[4] LEDs red, yellow, green

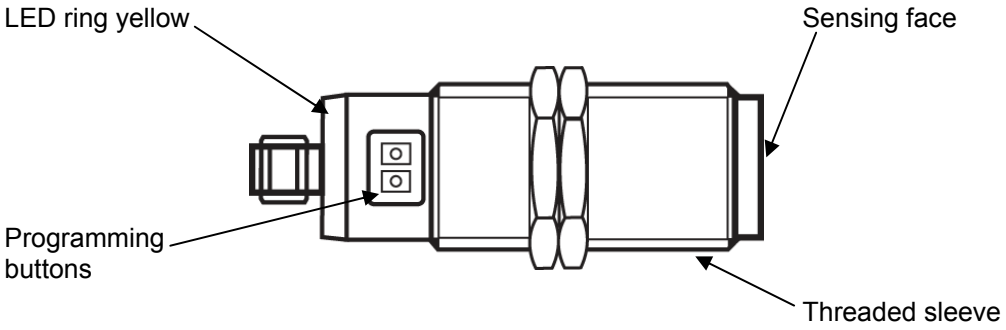
Fig. 17: Adjusting sensor

NOTE

Under a strong static charge the sensor can also be screwed 2-3 mm further into the mixing chamber. This will wipe the material from the probe during mixing.

Do not place the probe too close to the mixing blades. This may destroy it!

9.6.2 Calibrate/adjust a sensor with no material present – (This style material sensor used in units built after September 2007.)



The level sensor switches when material passes in front of the active area. The level sensor adjustment depends on the type of material and must be adjusted accordingly.

1. Efector sensor should be installed into the rear of the blender chassis until it just comes flush with inside of the rear of the mixing chamber. This should be as close as possible to being flush and still allow access to push button and indicator light (should be facing away from mixing motor – towards outside of unit).
2. Once sensor is set into position install supplied nut on the back of sensor until it tightens against the weld coupling on the back of chassis – tighten to lock into place.
3. Once unit is powered make sure that all mixing components are in place in chassis and close door.
4. Use a small screwdriver or pen and press the OUT OFF adjustment push button until the yellow LED ring flashes at a rate of 1Hz – this should take about 2 seconds. Release the OUT OFF button and the yellow LED ring will turn off. The sensor is now set for the empty mixing chamber and should need no further adjustement. IMPORTANT: Do not adjust the OUT ON LED, this will switch the operation of the level sensor.

5 Once the sensor is installed and adjusted hold a finger over the front of the sensor and make sure that the yellow LED ring illuminates to indicate that the sensor is functioning properly.

6 Once completetly adjusted, operate the mixer manually to ensure that the yellow LED ring does not light when the mixer blade passes the face of the sensor. If this does occur, make sure the sensor is inserted flush with the rear plate of the mixing chamber. If the unit still sees the mixer while in opeation, turn the mixer blade to the position where the sensor is sensing the blade and repeat step 4. This will adjust the sensitivity of the sensor so the blade is invisible, but the material will still be sensed during operation.

9.6.2.1 Calibrate/adjust a sensor with material present

For most applications setting the sensor with no material in the vessel is sufficient. A large amount of fines or regrind or a low bulk density material may require calibrateing or adjusting the the sensor with material present in the bin. Making a full adjustment (material present) does not change the empty adjustment.

1 With material present, Use a small screwdriver or pen and press the OUT OFF adjustment push button until the yellow LED ring flashes at a rate of 1Hz – this should take about 2 seconds. Release the OUT OFF button and the yellow LED ring will turn off. The sensor is now set for the the mixing chamber with mateial present. IMPORTANT: Do not asjust the OUT ON LED, this will change the operation of the level sensor and it will no longer work for this application.

NOTE

The yellow LED's will be lit 0 this means the unit is set and is in operating mode.

9.6.3 Replacing pneumatic cylinder on vertical dispense valve assembly

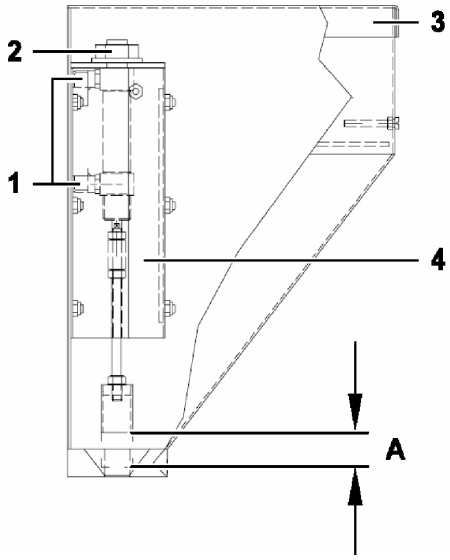
Removal

- ➔ Open the cover [3].
- ➔ Remove the cylinder cover [4].
- ➔ Pull the hoses [1] from the cylinder.
- ➔ Remove the nut [2].
- ➔ Remove the complete unit.

Assemble in reverse order.

NOTE

Note the stroke when installing, otherwise the desired throughput may not be reached.



[1] Hoses
[2] Nut
[3] Hopper Lid
[4] Cylinder cover

Fig. 18: Pneumatic cylinder

WARNING!

IMPORTANT

When disassembling cylinder/valve assemble, measure length of complete assemble (Dim A) and record. This assemble length must be maintained. When reassembling adjust original length to this value. Loc-tite™ all fittings when doing reassemble.

9.6.4 Load Cell Removal and Installation for Trueblend models, TB045 and TB100

DANGER!

ELECTRIC SHOCK!

High voltages can cause life-threatening currents in the body and injury from electric shock.

- ➔ Allow only trained and qualified electrical technicians to work on the electrical system.
- ➔ Before any electrical work disconnect the unit from the power supply and lock to prevent unauthorized persons switching it on.

CAUTION!

MATERIAL DAMAGE!

Forces and torque that are exerted on the load cell when installing and removing it may damage the very sensitive load cell.

➔ Make that no force or torque is applied to the load cell.

Removal

➔ Remove the weigh bin

➔ See figure 19 below for item numbers.

➔ The load cells are very sensitive and must be handled with care. Make sure that when the load cell is being removed or installed that there is no torque affects applied to the load cell.

➔ Disconnect the wiring that extends into the control box (see wiring diagram)

➔ Remove the two screws (item 2) that are used to mount the load cell and weigh bin-mounting bracket to the load cell-mounting bracket (item 7).

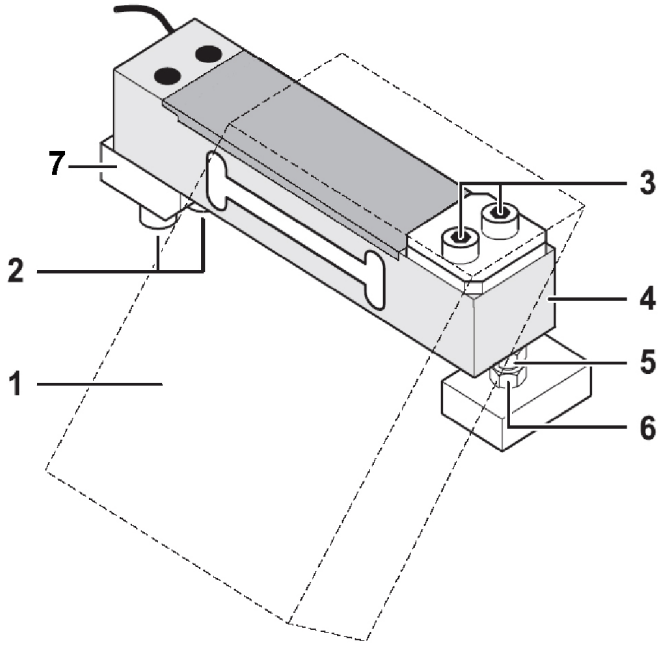
➔ Hold the load cell in a vise or similar and remove the two screws (item 3) weigh bin mounting bracket (item 1) from the load cell.

➔ Mount the weigh bin-mounting bracket (item 1) onto the new load cell using the two screws (item 3) and tighten to 10 Nm. Make sure that the weigh bin-mounting bracket (item 1) is perpendicular and square with the load cell.

➔ Place a small amount of removable strength Loc-tite onto the two screws (item 2) and re-install the load cell and weigh bin mounting bracket back on the load cell mount (item 7). Make sure that the load cell (item 4) is mounted square with the load cell mount (item 7) and tighten the two screws (item 2) to a value of 10 Nm.

➔ Items number five and six are used as a stop for the load cell (item 4) to prevent damage if over weighting occurs. If this bolt was not loosened during removal or installation of load cell this should not need adjusted. If the bolt is loosened during the process the gap needs to be re-set so the load cell (item 4) contacts the bolt (item 5) when the weigh bin is loaded with 3 kg total weight. A .020” feeler gage could be used to set the gap without loading the cell.

Assemble in reverse order.



[1] Bracket for weigh bin
[2] Screws
[3] Screws
[4] Load cell
[5] Stop screw
[6] Lock nut
[7] Load cell mounting bracket

Fig. 19: Removing load cell

➔ To complete the installation of the load cell it is necessary after installation to pre-stress the load cells. Place a 3 kg weight into the load cell for ten seconds and then remove it. Repeat this procedure three times.

➔ Re-route and install the wiring from the load cell to the appropriate location in the control box.

➔ Do an empty and full calibration (see manual) and operate as normal.

NOTE

If the load cell is under tension or distorted by outside influences, this can usually be recognized by a fluttering screen.

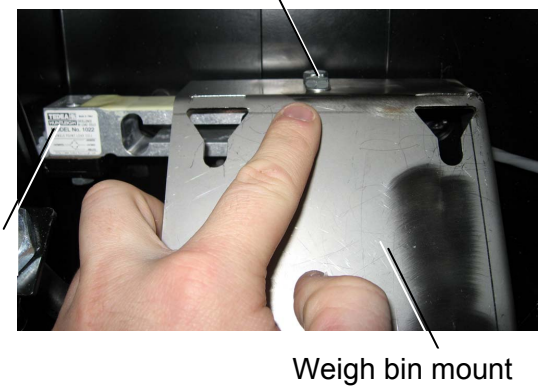
A display of +/- 20 g or more instead of ca. 0 g (at zero calibration) is an indication that the load cell should be replaced.

9.6.5 TrueBlend Weigh Bin Mount Installation and Adjustment models TB45 and TB100

Follow these steps to install and adjust the weigh bin and/or the weigh bin mount on TrueBlend models TB45 and TB100. Use this procedure to fit a new weigh bin mount to an existing weigh bin or to adjust the clearance between the weigh bin and the weigh bin mount.

1 **Remove weigh bin from blender and set aside.**

2 **While holding the load cell in place (to minimize twisting or bending of the load cell) remove the two screws that hold the weigh bin mount to the load cell.**



3 **Remove weigh bin mount and discard (if installing a new weigh bin mount) or use the existing piece if simply adjusting weigh bin and/or weigh bin mount fit.** Locate the weigh bin and place the new or existing weigh bin mount on the back of the weigh bin. Slide the key hole slot on the weigh bin mount - the key hole slot should slide onto the pins on the weigh bin.

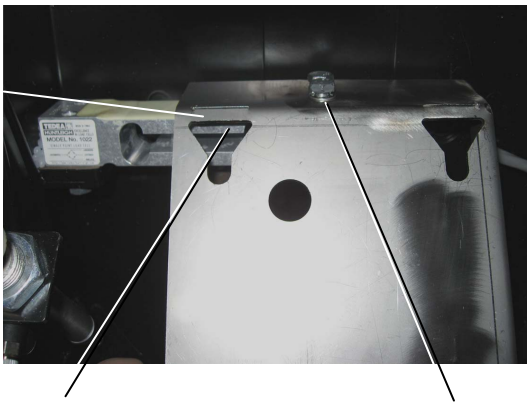
4 **The weigh bin mount should slide on easily with no interference between the two pieces but should be tight enough so there is very little movement between the two parts.** The movement shown should be minimal – less than .010 of an inch.

Movement should be less than 0.010 inch (0.254 mm).

5 **If the weigh bin mount will not slide on the weigh bin, the pins that are welded on the back of the weigh bin will need to be adjusted**. To do this open the weigh bin and place the bin on a vice or similar. Once the bin is on a hard surface lightly tap the backside of the pins with a ball head hammer to move the pin outward. Each pin should be tapped a couple of times and then repeat step 3.

6 **If the weigh bin slides on the pins but excessive movement exists (greater than 0.010 inch) as shown in step 4, the weigh bin pins will need to be tightened.** To tighten the pins, place the weigh bin on a hard surface and lightly tapping the top of the pins. Each pin should be tapped a couple of times and then step 3 should be tried again.

7 **Once the pieces are adjusted correctly, install the weigh bin mount onto the load cell.** Place removable strength (blue) Loctite on the two screws and lightly tighten. Once the mount is in place, adjust the bracket until it is perpendicular to the load cell. This can be accomplished by looking through the key hole slot in the weigh bin mount and comparing the edge of the load cell to the upper edge of the key hole slot – they should be parallel.



8 **After the items are placed correctly, fully tighten the two screws and torque to 10 Nm (88 in-lbs).** Replace the weigh bin and calibrate/re-zero the load cell as described in section 7.7.2.1 of the Trueblend user guide.

9.6.6 Load Cell Removal and Installation for Trueblend models, TB250, TB500 and TB900

DANGER!

ELECTRIC SHOCK!

High voltages can cause life-threatening currents in the body and injury from electric shock.

➔ Allow only trained and qualified electrical technicians to work on the electrical system.

➔ Before any electrical work disconnect the unit from the power supply and lock to prevent unauthorized persons switching it on.

CAUTION!

MATERIAL DAMAGE!

Forces and torque that are exerted on the load cell when installing and removing it may damage the very sensitive load cell.

➔ Make sure that no force or torque is applied to the load cell.

Removal.

➔ Removal of one load cell (both load cells in the unit follow the same procedure)

➔ Remove the weigh bin

➔ The load cells are very sensitive and must be handled with care. Make sure that when the load cell is being removed or installed that there is no torque affects applied to the load cell.

➔ Disconnect the wiring that extends into the control box (see wiring diagram)

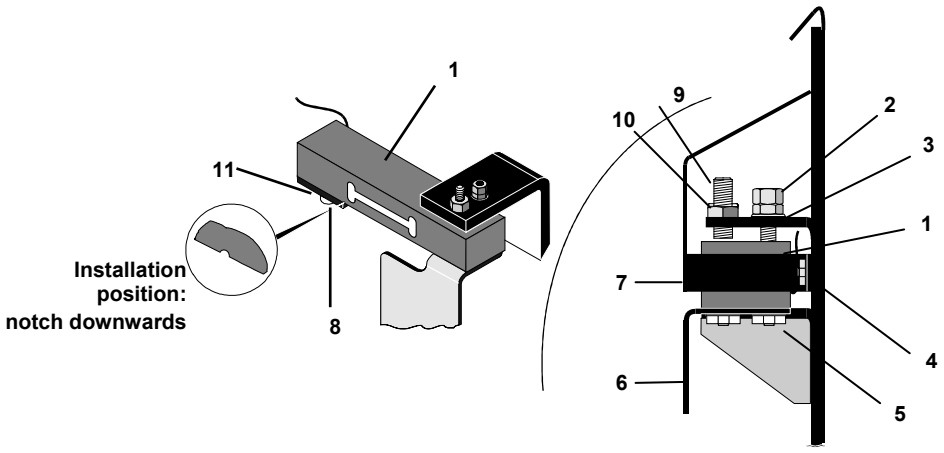
➔ Before removing the load cell look at the general location of all the items to see how the items are installed before removing.

➔ Remove the load cell cover plate (figure 20, item 7) by loosening the load cell cover plate holding nuts (figure 20, item 4) and sliding the cover upward off of the studs.

➔ Unscrew the two hex nuts (figure 20, item 2 and 3) and remove the two hex bolts (figure20, item 5) from the load cell and remove the weigh bin hanger (figure 20, item 6).

➔ Remove the two screws (figure 20, item 8) that mount the load cell to the load cell-mounting bracket (figure 20, item 11) and remove the old load cell.

➔ There is not need to remove the stop screw (figure 20, item 9) and lock nut (figure 20, item 10) during removal of the load cell. It should remain in place so no adjustment is needed during installation.



[1] Load cell
[2] Lock nut
[3] Lock nut
[4] Lock nut
[5] Screws
[6] Bracket
[7] Cover plate
[8] Lock nut
[9] Installation position: notch down
[10] Cap screws
[11] Load cell mounting brackets

Fig. 20: Removing load cell

- ➔ Installation of one load cell (both load cells in the unit follow the same procedure.)
- ➔ Position the new load cell (figure 20, item 1) note that notch on the load cell should be facing downward. Place a small amount of removable strength Loctite onto the two screws (figure 20, item 8) and re-attach the new load cell to the load cell-mounting bracket (figure 20, item 11). Make sure that the load cell is parallel with the chassis wall and load cell mounting bracket (figure 20, item 11) and tighten to 10Nm.
- ➔ Re-attach the weigh bin hanger (figure 20, item 6) and install the two screws (figure 20, item 5). The longer of the two screws should be closest the chassis wall. Only snug the screw at this time - further adjustment needs made before full tightening them.
- ➔ Re-install the weigh bin into the blender chassis and position hanger (figure 20, item 6) so weigh bin can be removed and installed easily. The weigh bin should be installed so it is centered in the chassis and does not contact the weigh bin when the cylinder is at rest (see figure 21). Once satisfied with placement, tighten the two screws (figure 20, item 5) to 10 Nm. Make sure that nothing is twisted after installation and tightening.
- ➔ Re-route and install the wiring from the load cell to the appropriate location in the control box.

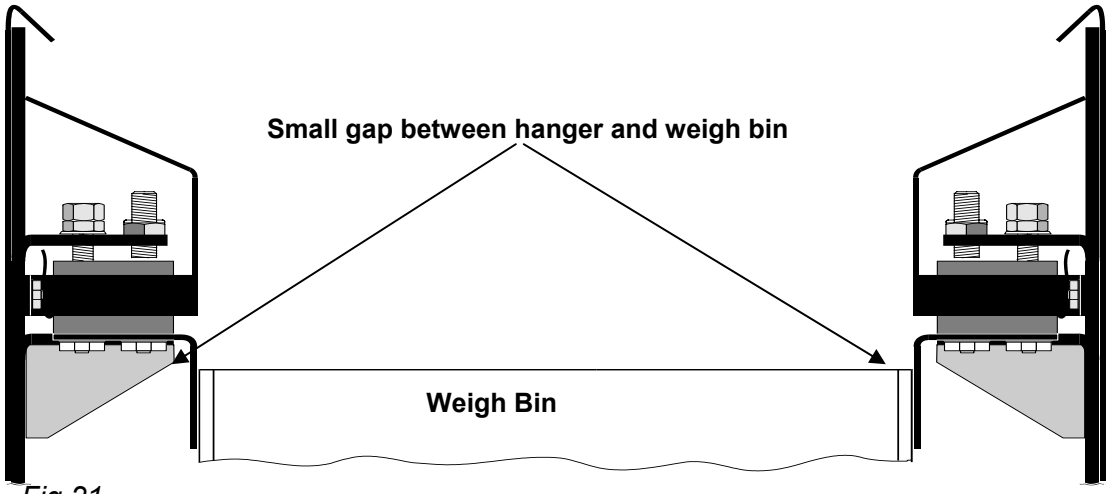


Fig 21

- ➔ The load cell upward motion stop bolt (figure 22, item 4) and lock nut (figure 22, item 5) most likely were not loosened during removal of the load cell and should not need reset. If they were loosened the gap between the upper load cell stop bolt (figure 22, item 4) and the new load cell (figure 22, item 7) should be set at approx. .005" (use a feeler gauge for value) when the weigh bin is in place and at rest. Once set tighten the lock nut (figure 22, item 5) to hold the bolt (figure 22, item 4) in place.
- ➔ Screw nut (figure 22, item 1) and lock nut (figure 22, item 2) onto hanger mounting screw (figure 22, item 8) but do not tighten yet. The purpose of this bolt and nut is to prevent over travel of the load cell to prevent damage to the cell.
- ➔ The gap between the load cell stop bracket (figure 22, item 9) and the bottom of the nut (figure 22, item 1) should be about .020" (use feeler gauge). Once this distance is set tighten the two nuts (figure 22, item 1 and 2). Alternatively this can be set by either hanging a weight of 10 kg on each individual load cell hanger bracket (figure 22, item 6) or re-installing the weigh bin and loading it with a total weight of 20 kg. Once this weight is installed set the gap between the nut (figure 22, item 1) and load cell stop bracket (figure 22, item 9) to zero distance then tighten the two nuts (figure 22, item 1 and 2).
- ➔ To complete the installation of the load cell it is necessary after installation to pre-stress the load cells. This can be performed in two ways - either by hanging a 10 kg weight onto one load cell or re-installing the weigh bin and placing a 20 kg weight into the bin. This weight should stay in place for ten seconds and then removed. Repeat this procedure three times.
- ➔ Do an empty and full calibration (see manual) and operate as normal.

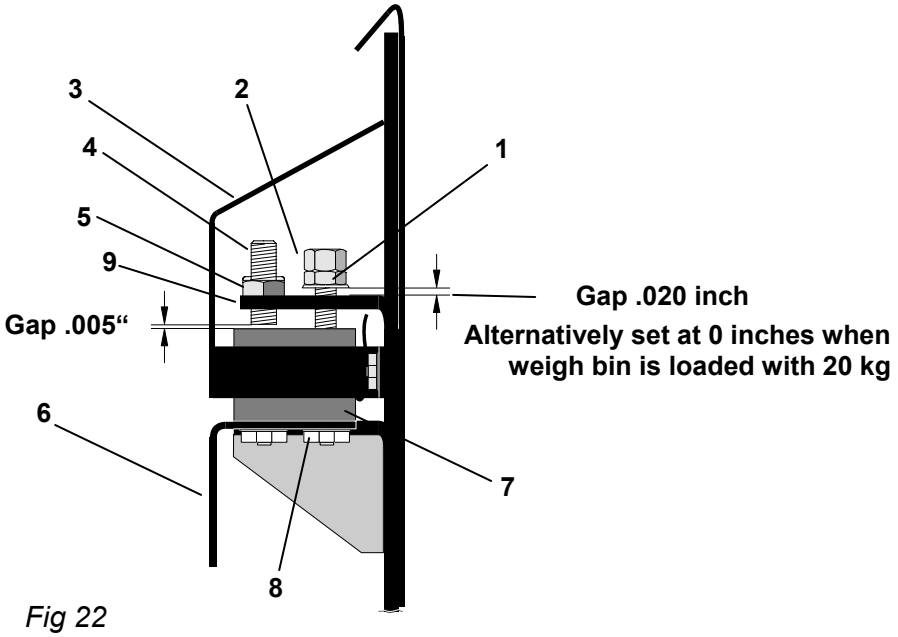


Fig 22

9.6.7 Replacing controller

Determining blender model

See 7.7.3 Input TrueBlend Model. After installing new controller, verify that the blender model designated on the control matches the model number of the blender it is connected to.

9.7 Cleaning

The mixing chamber and the material hopper of the unit should be cleaned of all material residues before changing material.

9.7.1 Cleaning material hopper and mixing chamber

- ➔ Open the main door.
- ➔ Remove the weigh bin.
- ➔ Position the discharge chute (see 7.12).
- ➔ Discharge the material completely and clean the material hopper from the top (use the compressed air nozzle if necessary).
- ➔ Open the quick-release locks of the mixing chamber cover and remove it.
- ➔ Pull the mixer from the drive shaft.
- ➔ Clean the mixing chamber (with compressed air gun if necessary).
- ➔ Replace the mixer.
- ➔ Position the mixing chamber cover on the bolts first and then close the quick-release locks.

CAUTION!

DANGER OF SLIPPING!

Material pellets can fall on the floor and there is a risk of people slipping on the material and injuring themselves.

➔ Keep the floor free of material pellets.

10.0 Decommissioning and disposal

10.1 Decommissioning the unit

➔ Switch the unit off.

➔ Disconnect the unit from the power-supply system.

➔ Remove the hose for the compressed air supply.

10.2 Disposing of unit parts

CAUTION!

PERSONAL INJURY AND ENVIRONMENTAL DAMAGE!

By incorrect disposal of operating fluids.

Incorrect disposal of operating fluids endangers people and damages the environment.

➔ Dispose of the unit parts and operating fluids sorted and correctly.

➔ Follow the manufacturer's directions.

Dispose of unit parts as follows:

Part	Disposal
Remove PU hoses	➔ dispose of with plastic refuse
Remove inspection glasses	➔ dispose of with plastic refuse
E-motor	➔ drain gear oil and dispose of
Remainder of mixing unit	➔ dispose of with metal
Controller: Remove battery	➔ dispose of battery with hazardous waste
Remainder of controller	➔ dispose of with electronic waste

11.0 Appendix

11.1 Menu structure

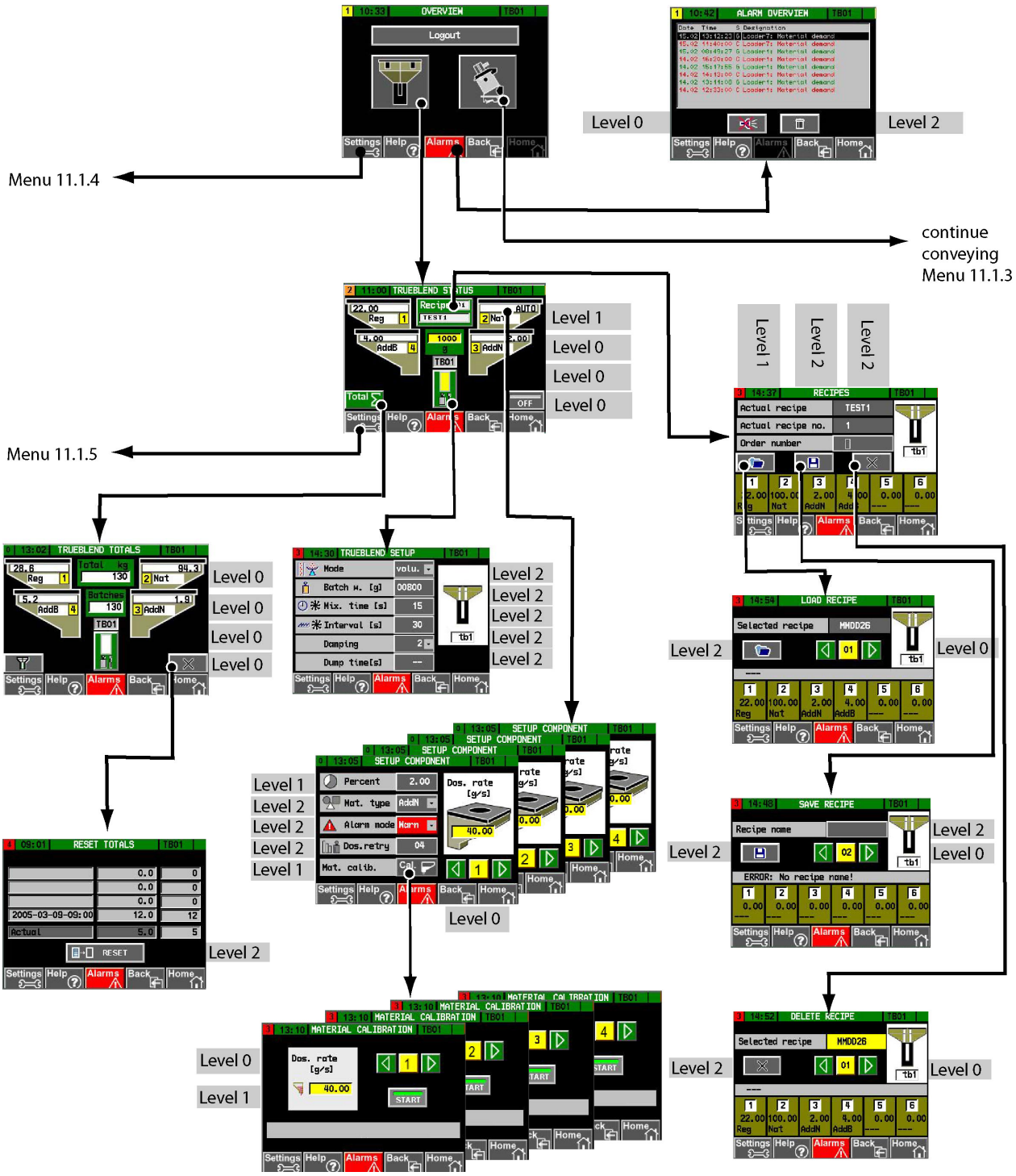
11.1.1 Operating levels/password level

The different operating levels are identified with level 1-3 in the menu structure:

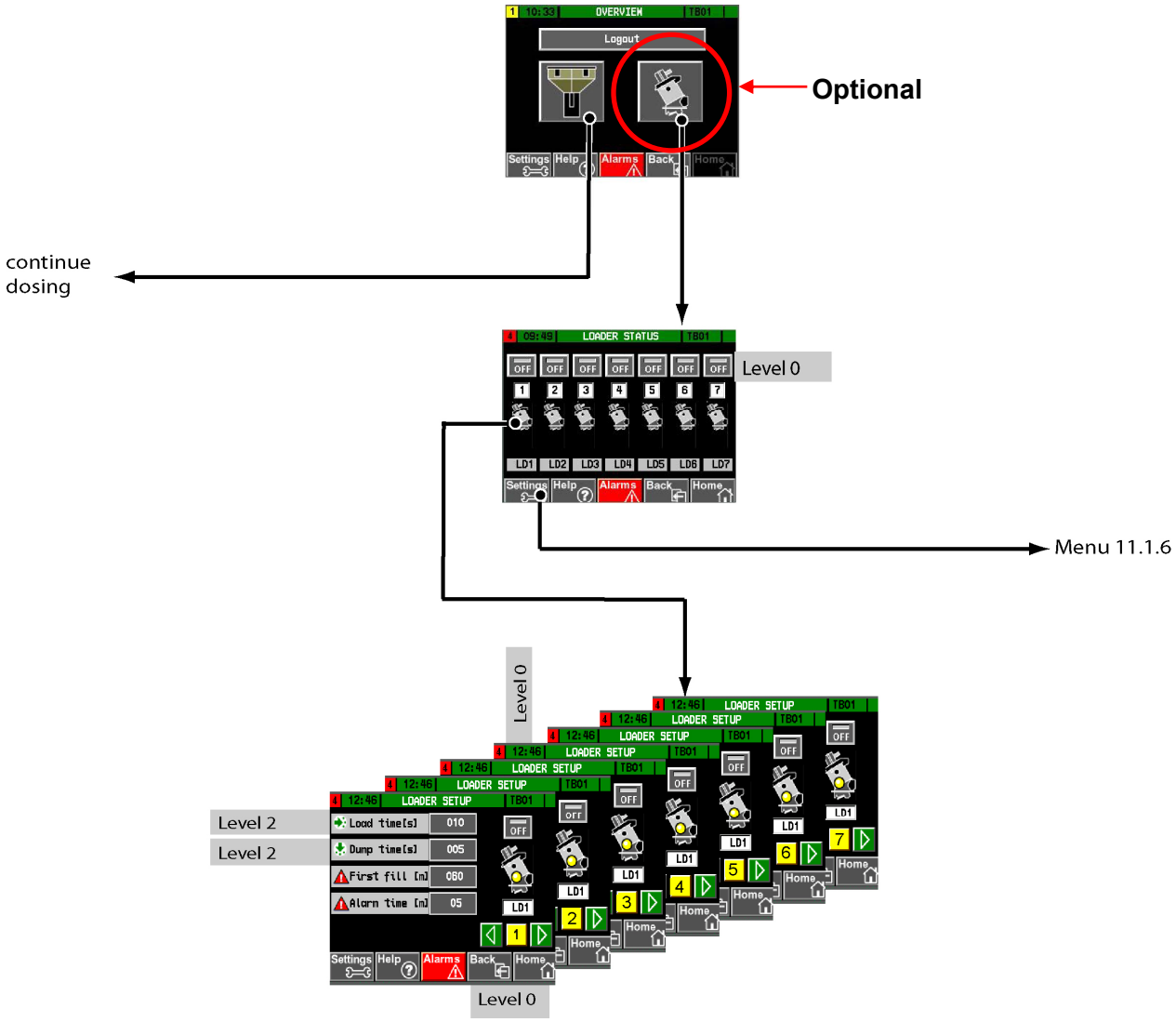
- Level 0: for guests
- Level 1: for the operator
- Level 2: for making settings
- Level 3: for the service user

See also 7.6 Logging in/logging out.

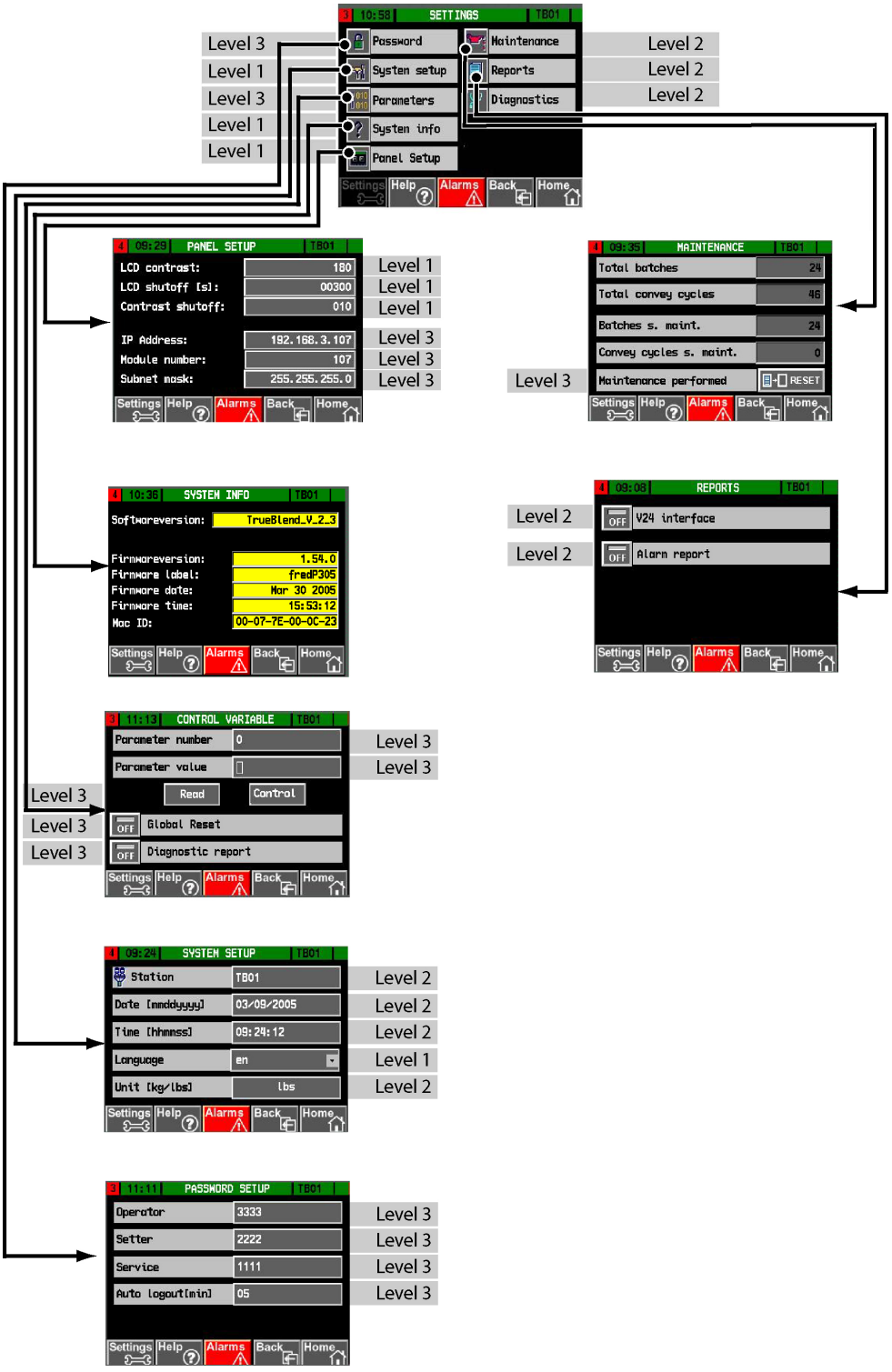
11.1.2 Menu overview/dosing unit



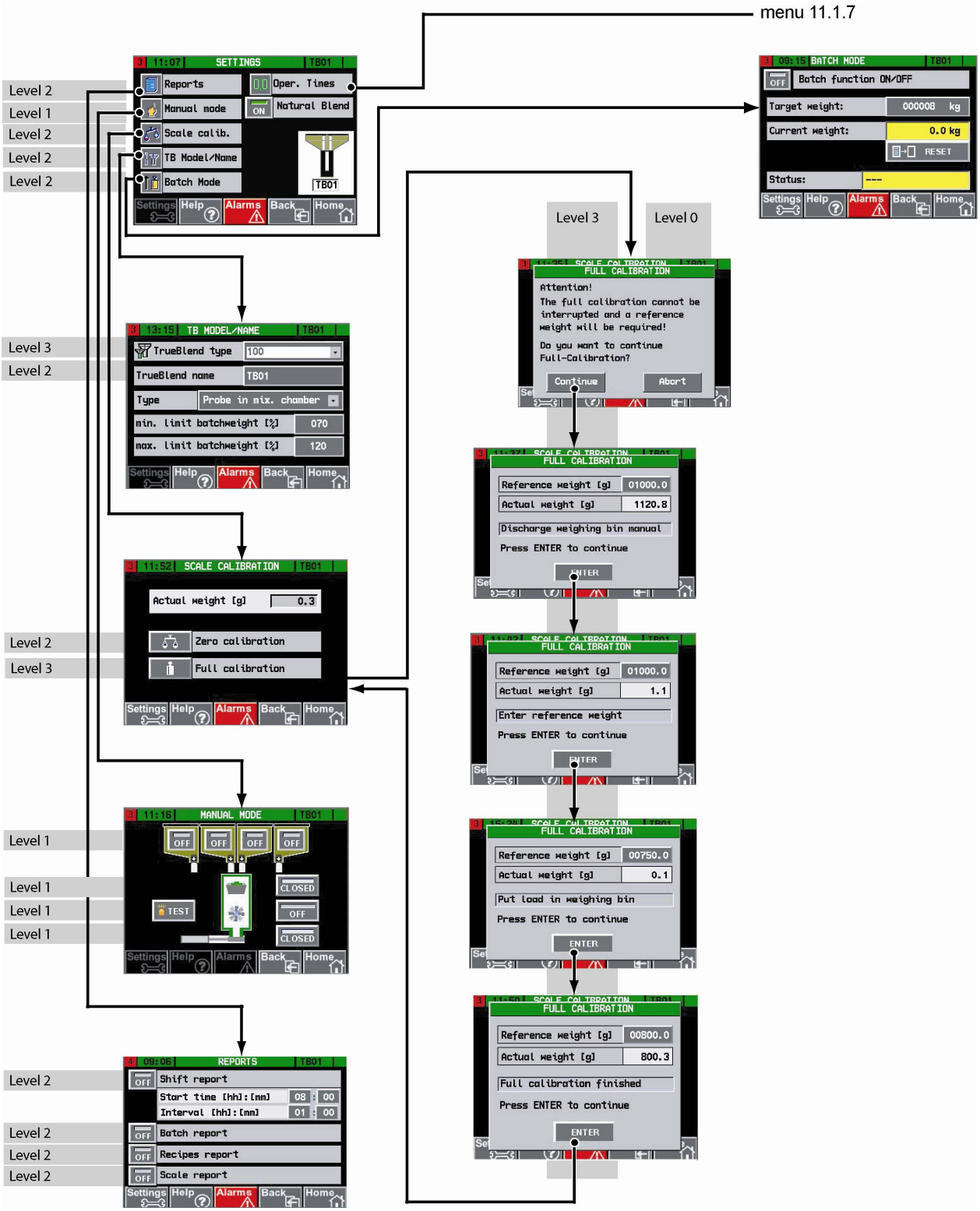
11.1.3 Menu overview/conveying



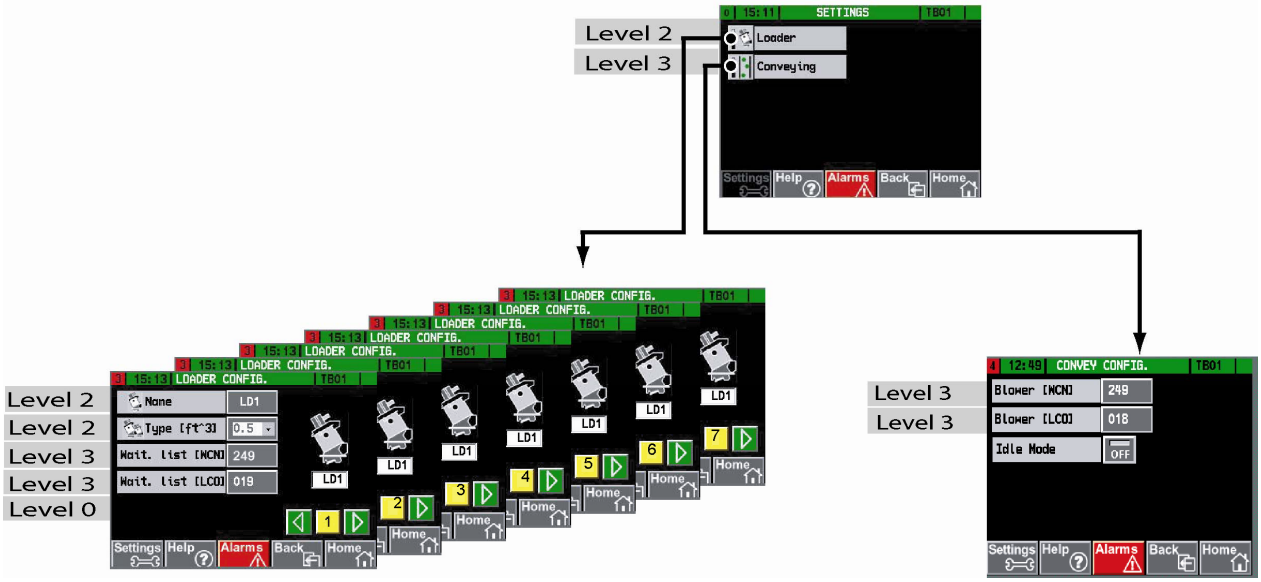
11.1.4 System settings menu



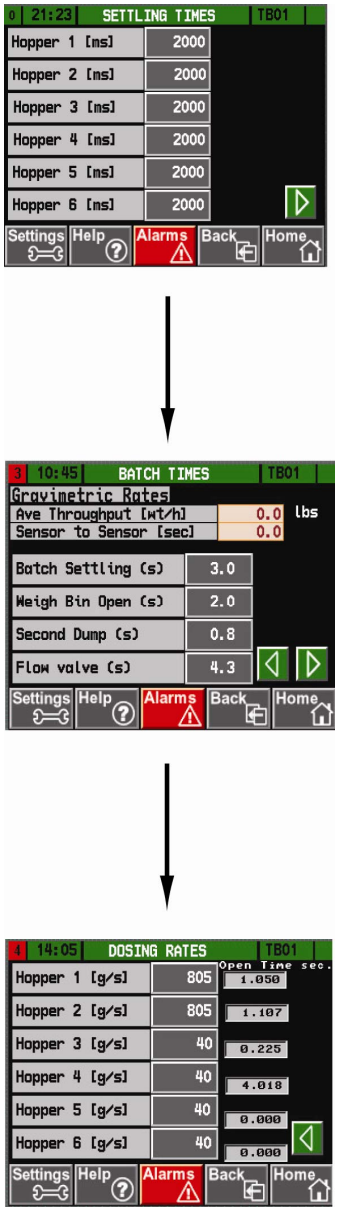
11.1.5 Unit settings menu



11.1.6 Conveyor settings menu



11.1.7 Operating time menu



12.0 Appendix: Addendum for Retrofit Blenders

12.1 Retrofit Control Blender Start up Procedures

When the TrueBlend Controller is used in retrofit replacement applications, follow the initial setup procedure below to ensure your blender will run at its optimum accuracy. This procedure sets the default dosing rates and settling times. This set up will help the blender control “home in” on the actual dosing rate quicker.

1 Determine the valve configuration for the particular blender. This can be done simply by measuring the operating mechanisms and noting the type of mechanism.

Example: Blender XYZ

Component 1 – 3” X 6” valve
Component 2 – 3” X 6” valve
Component 3 – 2” X 3” valve
Component 4 – 2” X 3” valve
Component 5 – 2” i.d. feeder
Component 6 – 1” i.d. feeder

2 Select the proper dosing rates for the different valve configurations from the following table:

Table from Product group

Example: Blender XYZ

Component 1 – 3” X 6” valve – 4000 g/s
Component 2 – 3” X 6” valve – 4000 g/s
Component 3 – 2” X 3” valve – 850 g/s
Component 4 – 2” X 3” valve – 850 g/s
Component 5 – 2” i.d. feeder – 40 g/s
Component 6 – 1” i.d. feeder – 8 g/s

3 Enter the default flow rates into the blender control on the dosing rate screen.

4 Select the proper default settling times for the different valve configurations from the following table:

Table from Product group

Example: Blender XYZ

Component 1 – 3” X 6” valve – 1.5 s
Component 2 – 3” X 6” valve – 1.5 s
Component 3 – 2” X 3” valve – 1.5s
Component 4 – 2” X 3” valve – 1.5 s
Component 5 – 2” i.d. feeder – 5 s
Component 6 – 1” i.d. feeder – 10 s

5 Enter the default settling times into the blender control on the settling times screen.

6 Run a material calibration (see section 7.7.2) for each of the components.

7 Run the blender, making sure that all materials are present in sufficient quantities for correct operation. While running, the blender control will automatically adjust the dosing rate for optimum operation.

13.0 Appendix

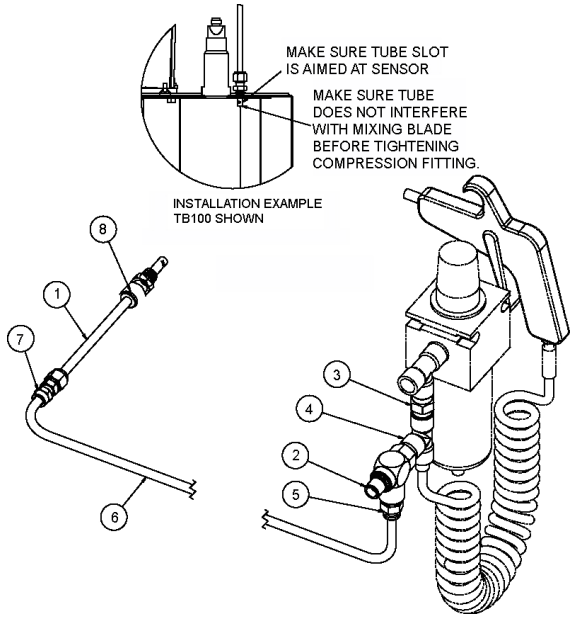
13.1 Blow off installation instruction sheet

1 Mark location of hole that will need to be drilled and tapped (see page two for your particular blender size).

2 Remove the level sensor (noting location of adjustment and sensor face), mixing chamber front plate, mixing chamber, mixer, and any wiring that is in the way of drilling the hole.

3 Drill pilot hole at indicated location.

4 Drill 11/32” hole (de-burr hole) and tap 1/8” NPT. Do not run tap fully through the chassis. Clean all shavings and fines from the chassis.



[1]
[2]
[3]
[4]
[5]
[6]
[7]
[8]

Fig. 1:

5 Install item 8 into tapped hole and tighten.

6 Slide item 1 into item 8 though the mixing chamber (this may be necessary because of welded end). Do not tighten yet.

7 Install item 7 onto end of item 1 and tighten.

8 Remove air inlet to regulator and install item 2, 3, 4, and 5 and tighten (use thread tape where needed). If the compressed air quality is poor and has contaminates in it the fitting should be installed on the outlet side of the regulator. Picture shows recommended placement of the items but they can be installed as necessary.

9 Route item 6 between 5 and 7 and insert.

10 Re-install sensor and wiring. Adjust flow through item 2 so a small amount of air is bleeding from the opening in item 1. Adjust the insertion level and direction of item 1 so the air is blowing across the face of the sensor. Insertion depth into the chamber should be minimal as possible so tube does not contact mixer blade - tighten item 8 on item 1. The air should be adjusted so fines are cleaned from the sensor but the airflow should not blow material completely away which may cause a false empty situation.

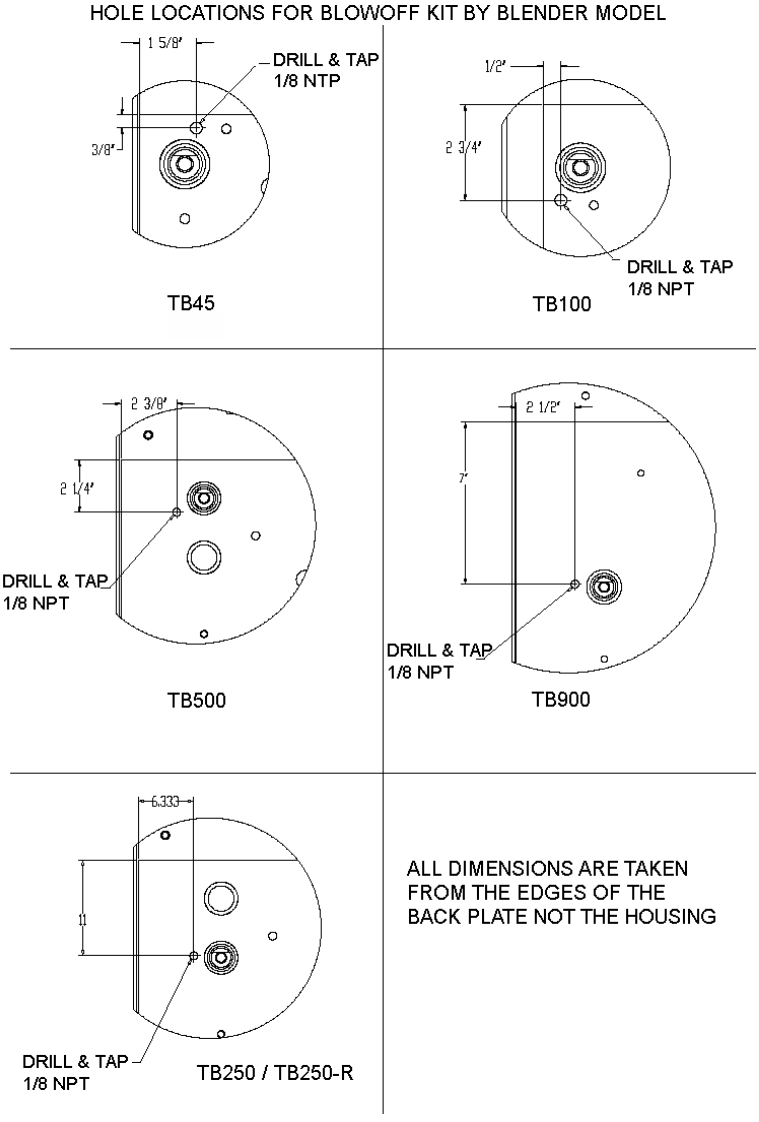


Fig. 2

PRB002/02/06

14.0 Appendix

14.1 Replacing the TrueBlend Touch Screen Control

1 Disconnect and lockout the main power supply.

2 Disconnect and remove the existing TrueBlend touch screen control.

3 Install the new control. Turn the main power on.

4 Press the HOME button. The Overview Screen will appear.

5 Press the TRUEBLEND icon. The TrueBlend Status Screen will appear.

6 Press the SETTINGS button. On the Settings Screen, press the icon beside TB Model/Name.

7 From the TrueBlend Model/Name screen select the appropriate TrueBlend Model from the drop down menu.

TrueBlend Models
45
100
250
500
900
1800-4
1800-5
1800-6
2500-4
2500-5
2500-6
3500-4
3500-5
3500-6

NOTE: The Model TB1500 was replaced with TB2500. TB3000 was replaced with the TB3500.

8 Exit the screen

The controls are designed to be compatible with previous product releases. The model and wiring revision will determine if additional changes are necessary before operating your new control.

1 Press the HOME button. The Overview Screen will appear.

2 Press the SETTINGS button. The Settings Screen will appear.

NOTE: You can find the wiring revision on a white sticker located inside of the electrical panel.

3 Press the ? button beside the words System Information. The System Information Screen will appear. Pre-Rev. E the button is defaulted to OFF.

The following conditions will determine if you need to turn the button ON.

TB45 Pre-Rev.E wiring	TB100 Pre-Rev.E wiring	TB250 Pre-Rev.E wiring	TB500 Pre-Rev.E wiring	TB900 Pre-Rev.E wiring	TB1500 All Revisions	TB3000 All Revisions	All other models and conditions
On	On	On	On	On	On	On	Off

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We're Here to Help

Conair has made the largest investment in customer support in the plastics industry. Our service experts are available to help with any problem you might have installing and operating your equipment. Your Conair sales representative also can help analyze the nature of your problem, assuring that it did not result from misapplication or improper use.

Additional manuals and prints for your Conair equipment may be ordered through the Customer Service or Parts Department for a nominal fee, or visit the product section of the Conair website www.conairgroup.com

How to Contact Customer Service

To contact Customer Service personnel, call:

NOTE: Normal operating hours are 8:00 AM – 5:00 PM. After hours emergency service is available at the same phone number.

From outside the United States, Call: 814-437-6861

You can commission Conair service personnel to provide on-site service by contacting the Customer Service Department. Standard rates include a daily rate, with a one –day minimum plus expenses.

Before You Call...

If you do have a problem, please complete the following checklist before calling Conair:

- ❒ Make sure you have all model, serial and parts list numbers for your particular equipment. Service personnel will need this information to assist you.
- ❒ Make sure power is supplied to the equipment.
- ❒ Make sure that all connectors and wires within and between control systems and related components have been installed correctly.
- ❒ Check the troubleshooting guide of this manual for a solution.
- ❒ Thoroughly examine the instruction manual(s) for associated equipment, especially controls. Each manual may have its own troubleshooting guide to help you.
- ❒ Check that the equipment has been operated as described in this manual.
- ❒ Check accompanying schematic drawings for information on special considerations.

Equipment Guarantee

Conair guarantees the machinery and equipment on this order, for a period as defined in the quotation from date of shipment, against defects in material and workmanship under the normal use and service for which it was recommended (except for parts that are typically replaced after normal usage, such as filters, liner plates, etc.). Conair's guarantee is limited to replacing, at our option, the part or parts determined by us to be defective after examination. The customer assumes the cost of transportation of the part or parts to and from the factory.

Performance Warranty

Conair warrants that this equipment will perform at or above the ratings stated in specific quotations covering the equipment or as detailed in engineering specifications, provided the equipment is applied, installed, operated and maintained in the recommended manner as outlined in our quotation or specifications.
Should performance not meet warranted levels, Conair at its discretion will exercise one of the following options:

- Inspect the equipment and perform alterations or adjustments to satisfy performance claims. (Charges for such inspections and corrections will be waived unless failure to meet warranty is due to misapplication, improper installation, poor maintenance practices or improper operation.)
- Replace the original equipment with other Conair equipment that will meet original performance claims at no extra cost to the customer.
- Refund the invoiced cost to the customer. Credit is subject to prior notice by the customer at which time a Return Goods Authorization Number (RGA) will be issued by Conair's Service Department. Returned equipment must be well crated and in proper operating condition, including all parts. Returns must be prepaid. Purchaser must notify Conair in writing of any claim and provide a customer receipt and other evidence that a claim is being made.

Warranty Limitations

Except for the Equipment Guarantee and Performance Warranty stated above, Conair disclaims all other warranties with respect to the equipment, express or implied, arising by operation of law, course of dealing, usage of trade or otherwise, including but not limited to the implied warranties of merchantability and fitness for a particular purpose.