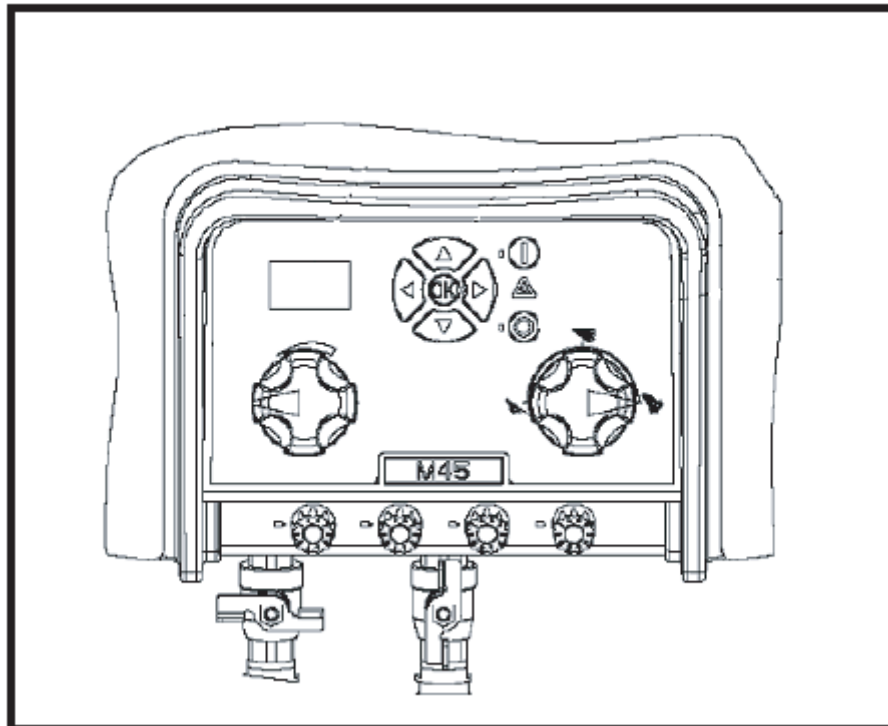




Software Manual Version 3.00
Control Panel for Advanced Single Booster Units (SB+SBHL)

Models: MP 3-4
MA 3-4
BW 4-8
BF 3-4-8



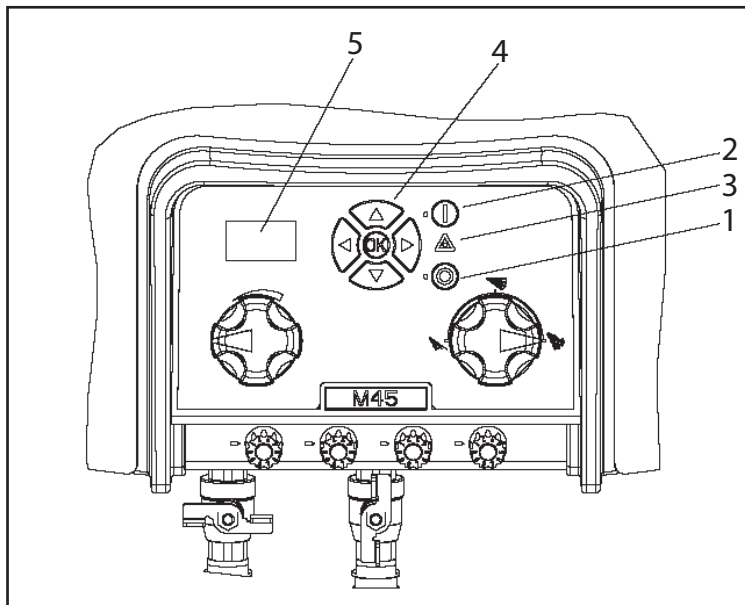
1. DESCRIPTION	3
2. DISPLAY LAYOUT	4
3. MODES	5
3.1 Power On	5
3.2 Standby	5
3.3 Run Mode	6
3.3.1 Single Booster SBHL25 and SBHL40 with high and low pressure	6
3.3.2 Single Booster – SB25 without high and low pressure	6
3.4 Power Off	7
3.5 Error Mode	7
4. CONTENT OF MAIN- AND SUBMENUS	8
5. OVERVIEW OF MAIN- AND SUB-MENUS	9
5.1 Content of the Info menu	10
5.2 Content of the Errors menu – CAUSE & REMEDY	11
5.2.1 Error List	11
5.3 Content of the Setup sub menu Settings	13
5.4 Content of Setup menu	14
5.4.1 Submenu Language & Units	16
5.4.2 Submenu Supply tank	16
5.4.3 Submenu Firmware upgrade	17
5.4.4 Submenu Reset	17
5.5 Content of Readings	18

1. Description

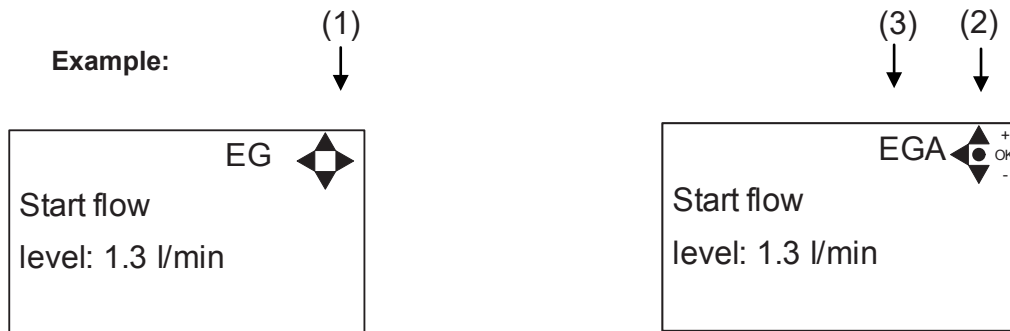
This software manual describes the operation of the control panel of the advanced Single Booster unit (SB and SBHL).

The advanced SB unit is operated via the control panel (see below illustration).

1. OFF
Button (1) switches OFF the unit.
2. ON/STANDBY
Button (2) switches ON the unit.
3. ERROR
Error light indicator (3).
4. NAVIGATION BUTTONS
The four "arrow" navigation buttons (4) are used for navigation in the display menu. Pressing the "OK" button activates the menu and confirms any activity displayed.
5. DISPLAY



2. Display layout



(1)

When switched on the display will show an arrow symbol in the top right corner equivalent to the active navigation buttons on the control board.

The arrows illustrate that it is possible to scroll up and down between the menus. Scrolling to the right makes it possible to enter a value. Set the value scrolling up (+) or down (-) to set the value higher or lower accordingly. Confirm by pressing ok.

(2)

Please be aware that any value set will only be stored if confirmed by ok.

(3)

A letter combination for easy reference in connection with service work will appear in the top right corner of the display.

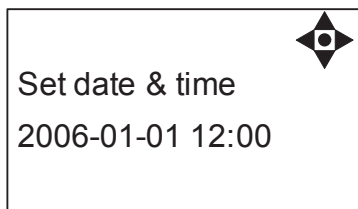
3. Modes

3.1 Power On

The very first time the unit is switched on (or main power has been off), we recommend setting date and time in the Setup menu, settings, display EP. If date and time is not set, the default time will continue to flash in the lower right corner of the display and date and time will count from the pre-set default date and time.



Set date and time using navigation buttons.



Confirm by pressing OK button.

3.2 Standby

Having once set date and time, the future start up screen display will look as one of the below. If date and time is not set the default time will flash.



Display for SB model without High- and Low pressure



Display for SBHL model with High- and Low pressure -
Select either HP or LP using arrows up & down.

3.3 Run Mode

The unit is available as a Single Booster unit with high pressure and low pressure (HP and LP) and a Single Booster unit without high pressure and low pressure.

3.3.1 Single Booster SBHL25 and SBHL40 with high and low pressure

The following screen displays will appear when the unit is in Run Mode.

HIGH
P = 0 bar
T = 0 °C



Screen display for High pressure unit in Run Mode.
Scroll down to return to STANDARD pressure.

STANDARD
P = 0 bar
T = 0 °C



Screen display STANDARD pressure.
Scroll up to choose HP and scroll down to choose LP.

LOW
P = 0 bar
T = 0 °C



Screen display for Low Pressure unit in Run Mode.
Scroll up to return to STANDARD pressure.

Please note that you will remain in HIGH or LOW pressure Run Mode until otherwise is selected. This ensures that the user is aware that he or she is no longer running STANDARD pressure.

3.3.2 Single Booster – SB25 without high and low pressure

ECOLAB
SB 12:00:00

Screen display for SB 25 Unit in Run Mode.

3.4 Power Off



When switched off the display will only show a small dot in the top right corner.

In Power Off mode it is possible to access all menus without the pump running by pressing the OK button on the panel.

Dot is equivalent to the OK confirm button on the panel.

3.5 Error Mode



In case of an error, "ERROR" will appear on the display screen.

Press the OFF button to switch of unit.

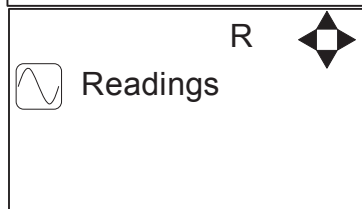
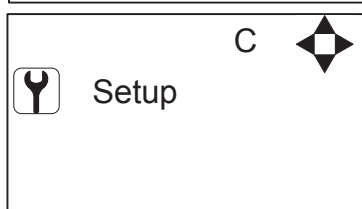
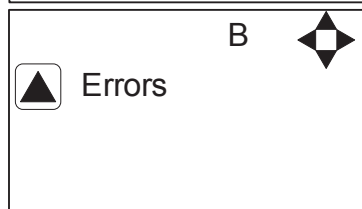
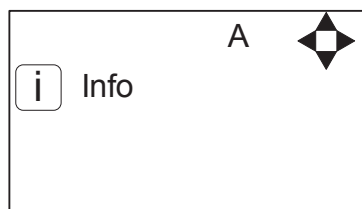
If the error remains when the unit is switched ON again, please scroll right to see current error. To see further error list and possible cause and remedy go to section 5.2.

4. Content of Main- and Submenus

The control panel contains the below main menu screen displays.

Scroll between the menus using the navigation buttons.

Each main menu contains submenus which will be described subsequently.

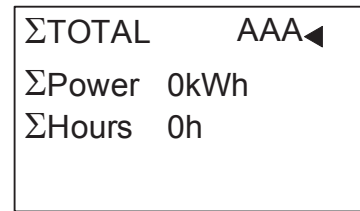
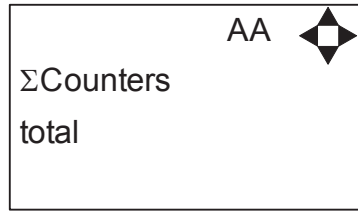
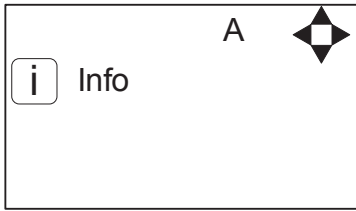


5. Overview of Main- and Sub-menus

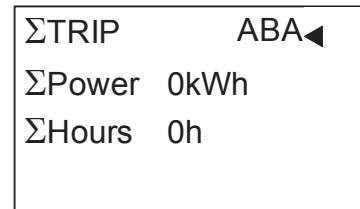
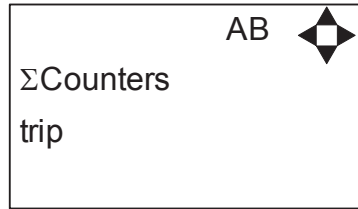
<p>1. <u>Info (A) only for display</u></p> <ul style="list-style-type: none">1 Σ Counters total (AA)2 Σ Counters trip (AB)3 Service centre (AD)4 Machine info (AE) <p>2. <u>Errors (B) only for display</u></p> <p>3. <u>Setup (C) Password protected (default password 6802)</u></p> <p>1 Password (CA)</p> <p><u>2 Settings (E)</u></p> <ul style="list-style-type: none">Post run (ED)Dry run (EE)Start flow (EG)Stop flow (EH)Back light intensity (EI)Service (EJ)Standard settings (EK)User password (EL)Auto block trig (EN)Inverter (EO)Date & Time (EP)Dry run (EQ)Standard pressure (ER)High pressure (EA)Low pressure (EB)Quick Start level (EC) <p><u>3 Languages & units (L)</u></p> <ul style="list-style-type: none">Language (FA)Units (FB) <p><u>4 Supply Tank (H)</u></p> <ul style="list-style-type: none">Tank control OFF (HA)LLA Detect Delay (HB) <p><u>5 Firmware upgrades (I)</u></p> <ul style="list-style-type: none">Display upgrade (IA)Confirm upgrade (IAA)Controller upgrade (IB)Confirm upgrade (IBA) <p>5 Resets (D)</p> <ul style="list-style-type: none">1 Reset trip counters(DA)	<p>4. <u>Readings (R) only for display</u></p> <ul style="list-style-type: none">Pump state (RA)Pump-top pres. (RB)Pump-top temp (RC)Supply pressure (RD)Supply temp. (RE)Start flow (RF)Fan speed (RG)Operating hours (RH)
--	---

5.1 Content of the Info menu

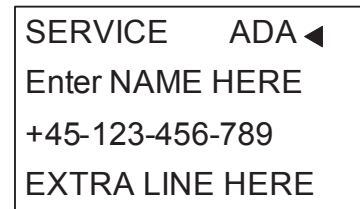
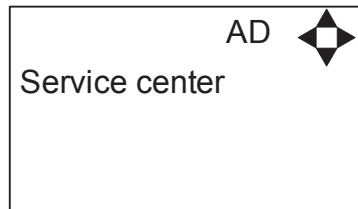
Please note that the Info menu is only for display – all data must be typed in via the setup menu!



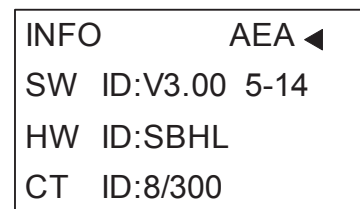
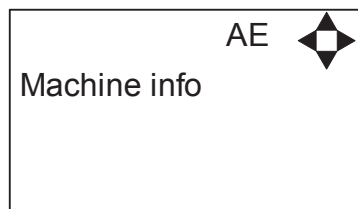
Displays accumulated consumption of power and operation hours.



Displays accumulated consumption of power and operation hours.
To reset the trip counter go to the setup menu.



Displays name and tel. no. of service technician.



This display view is only ment as an example, SW ID and CT ID shows the current SW version.



Displays Software version and Pump size, machine configuration and controller software version/ID.

5.2 Content of the Errors menu – CAUSE & REMEDY

Example of Error log screen display:






All error occurrences will be stamped with date and time.










E indicates Error number. P indicates Pump number.

↓	↓
E0\P1 BA  2006-01-01 12:00 C1 Inverter Error	E0\P1 BA  2006-01-01 12:00 C1 Inverter Error

The error log stores up to 1000 occurrences. When max. memory is reached, the errors will be deleted according to "First in" First out" principle.

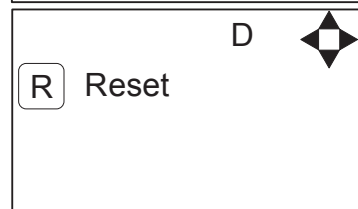
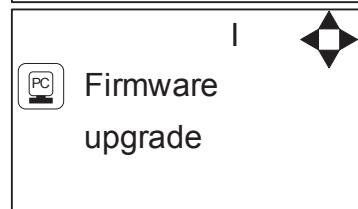
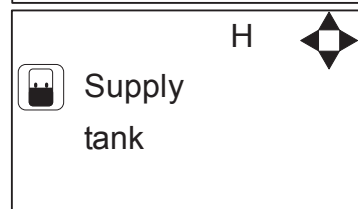
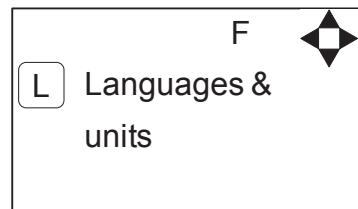
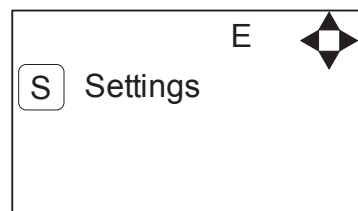
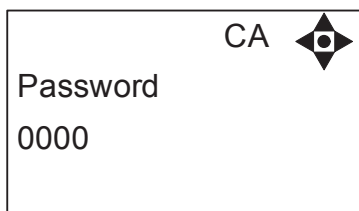
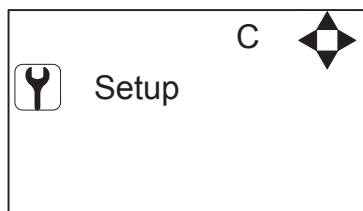
5.2.1 Error List

	Error	Cause	Remedy
 Errors B 	E0\P1 BA  2006-01-01 12:00 C1 Inverter Error		1. Switch off the power on the service switch. Wait 180 sec. Switch on the unit again. If error still occurs, please contact your Ecolab technician.
	E1\P1 BA  2006-01-01 12:00 C2 Low Supply Pressure	1. Insufficient water supply.	1. Secure sufficient water supply pressure. 2. Check inlet filter for impurities/Rinse filter. 3. Contact your Ecolab technician.
	E2\P1 BA  2006-01-01 12:00 C3 High Water Temp.	1. Water inlet temperature is above 70°C. 2. Water consumption is too low (pump column has been overheated).	1. Lower the water temp. (max. 70°C). 2. Secure sufficient water consumption. 3. Contact Ecolab technician.

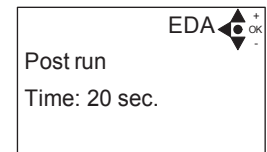
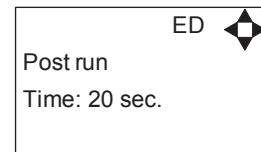
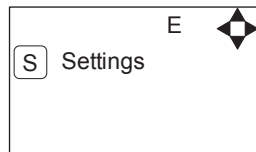
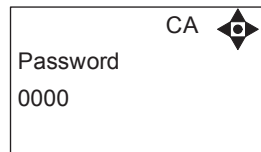
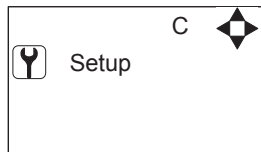
	Error	Cause	Remedy
 Errors B 	E3\P1 BA  2006-01-01 12:00 C4 High Motor Temp.	1. Insufficient cooling of motor. 2. The ambient temperature is above 40°C.	1. Secure that all air channels are open and not blocked by impurities. 2. Lower ambient temperature.
	E5\P1 BA  2006-01-01 12:00 C6 Fan Fault	1. Fan not running.	1. Contact Ecolab technician.
	E6\P1 BA  2006-01-01 12:00 C7 No Response Error	1. No communication between display and control board.	1. Contact Ecolab Technician.
	E7\P1 BA  2006-01-01 12:00 C8 Low Tank Level	1. Insufficient water supply. 2. Water supply valve not open.	1. Check correct water supply. 2. Secure sufficient air supply to valve. 3. Contact Ecolab technician.
	E8\P1 BA  2006-01-01 12:00 C9 High Tank Level	1. Water supply valve not closed.	1. Secure sufficient air supply to valve. 2. Contact Ecolab technician.
	E9\P1 BA  2006-01-01 12:00 C10 Tank Comm. Error	1. Communication failure on tank control board.	1. Contact Ecolab Technician.
	E10\P1 BA  2006-01-01 12:00 C11 Dry Run Reset	1. Insufficient water supply. Booster will return to standby mode after 20 sec. If error occurs 3 times within 20 min. Error C2 occurs.	1. Secure sufficient water supply or reduce consumption. 2. Check inlet filter for impurities/Rinse filter. 3. Contact your Ecolab technician.

5.3 Content of the Setup sub menu Settings

The Setup Main menu contains the below submenus, which will be described subsequently.

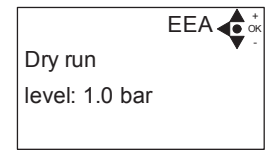
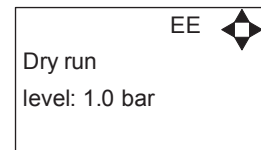


5.4 Content of Setup menu

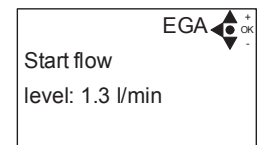
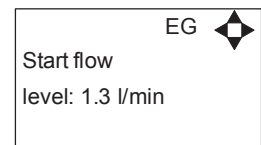


Password Note: Default user password is 6802. Enter the settings menu to change the default password. To avoid unintended access to the system the Ecolab technician can insert a blocking preventing access to the password controlled menus.

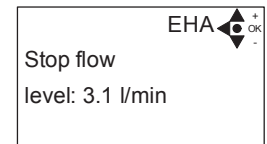
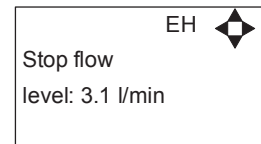
Set Post run time.



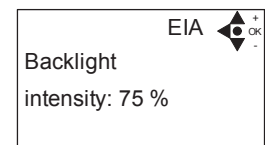
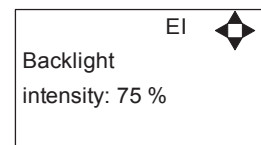
Set dry run level.



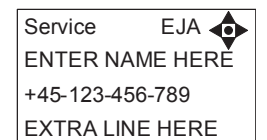
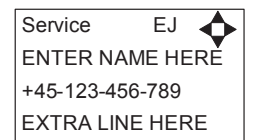
Set the level of the start flow.



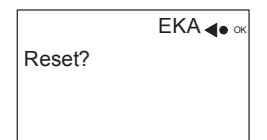
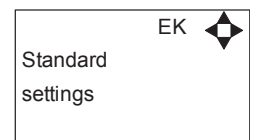
Set the level of the stop flow.



Set the backlight intensity.



Enter name and tel. no of Ecolab service technician.



Reset to standard factory settings.

S Settings E

EL
User
Password: 6802

ELA
Password
6802

Create new user password (default 6802).

EN
Autoblock trig
Level: 50 l/min

ENA
Autoblock trig
Level: 50 l/min

Set trigger level for automatic block.

EO
Inverter
power: 5500 W

EOA
Inverter
power: 5500 W

Set rated power of frequency inverter.

EP
Date & time
2006-01-01 12:00

Set date & time
2006-01-01 12:00

Set date and time.

EQ
Dry-run
Sensor: 0-4 bar

EQA
Dry-run
Sensor: 0-4 bar

Select type of dry run sensor mounted on the unit.

EQA
Dry-run
Sensor: 0-16 bar

ER
Standard
pressure: 22 bar

ERA
Standard
pressure: 22 bar

Set standard pressure.

EA
High
pressure: 22 bar

EAA
High
pressure: 22 bar

Set high pressure.

EB
Low
pressure: 12 bar

EBA
Low
pressure: 12 bar

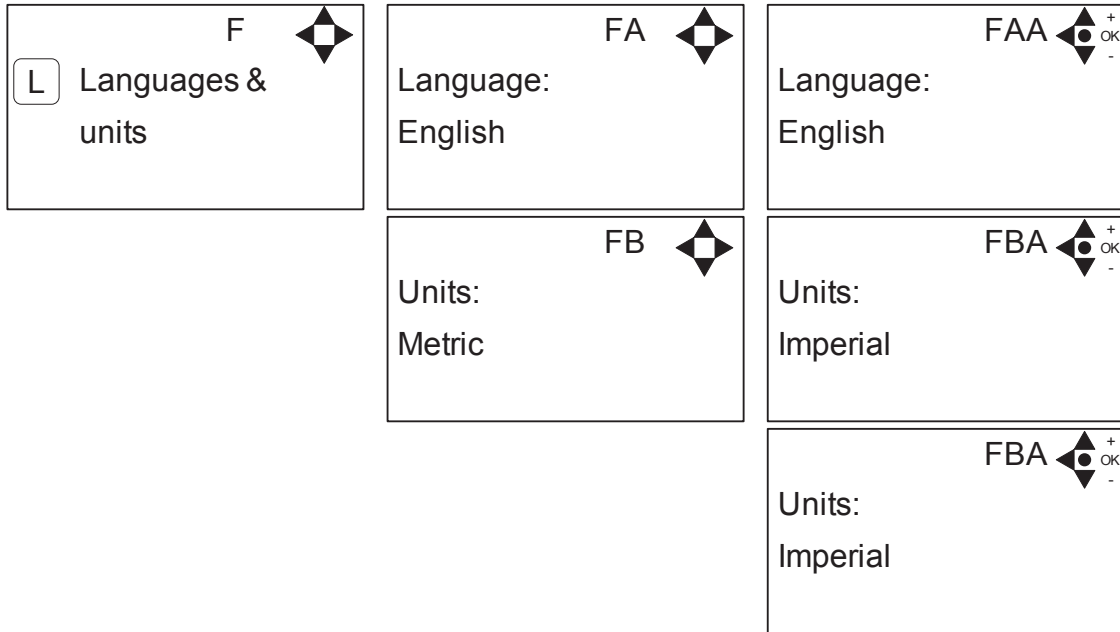
Set low pressure.

EC
Quick start
level: 10 bar/s

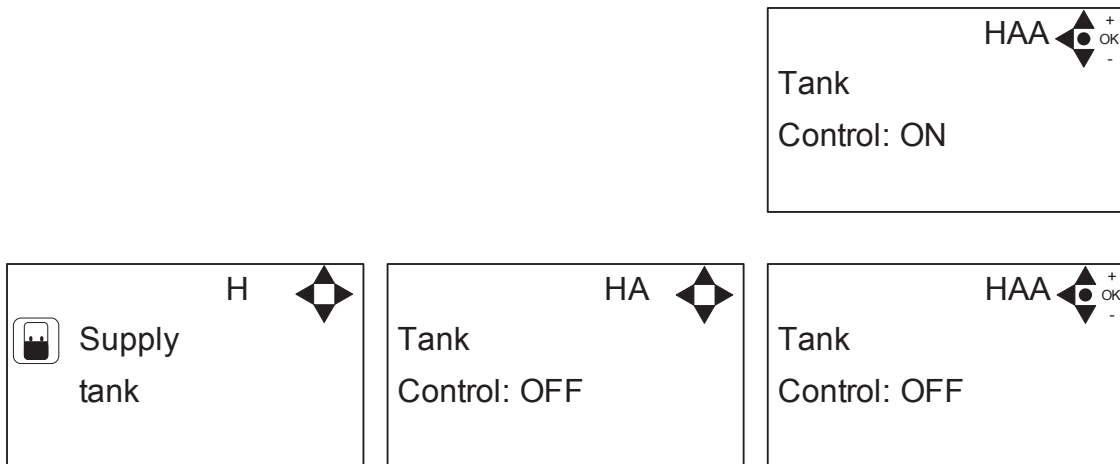
ECA
Quick start
level: 10 bar/s

Set Quick start level.

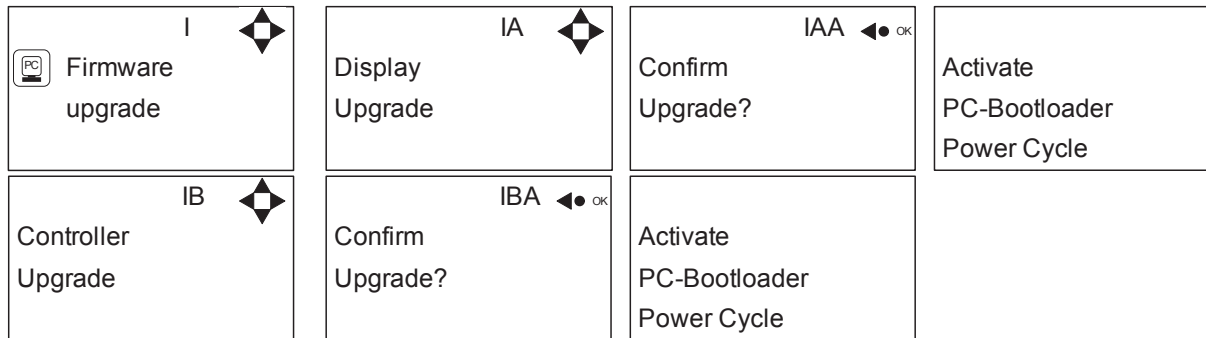
5.4.1 Submenu Language & Units



5.4.2 Submenu Supply tank

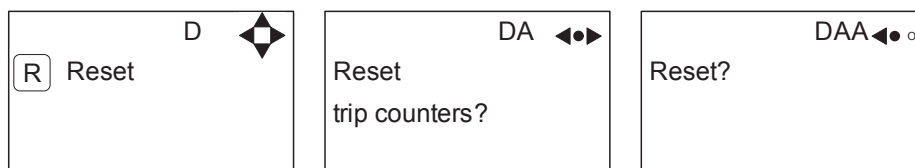


5.4.3 Submenu Firmware upgrade






*For the use of authorized Ecolab technician only.

5.4.4 Submenu Reset





5.5 Content of Readings


R 
 Readings


RA 
Pump state
NA


Output frequency of
frequency inverter.


RB 
Pump-top pres.
0 bar


RC 
Pump-top temp.
0 °C

RD 
Supply pressure
0 bar

RE 
Supply temp.
0 °C

RF 
Start flow
0 l/min

RG 
Fan speed
0 rps

RH 
Operating hours
0 hours

