Manual

Danfoil Injection MultiDose 2000

GPS Databoks
GPS antenne
Danfoil Joystick
PCMCIA kort
AgroNet System
Danfoil Agromaster S2
MultiDose 2000 Styrepanel
Danfoil Betjeningspanel
Hjulføler
Maskinprint
Omrører
Tanke
Rensevæsketank
Pumpe print
Væskevagt
Væske til sprøjtebom
Rengøringsmanifold
Kemikalie injection pumper
3-vejs ventil
AgroNet System
Delbredde ventil (Op til 7 stk.)
Vandtank
Flow måler
Sugefilter
Kontraventil
Manifold
3-vejs reguleringsventil
Sugelinie
Trykfilter
Væskepumpe
Retur linie

Danfoil production A/S

Index

Introduction

The following pages will cover the possible configurations for Agromaster S2 monitor and Danfoil injection MultiDose 2000.
The system makes it a simple task to spray different areas of the field. You can switch between or mix up to 6 different spray chemicals with a very precise dosage. The Agromaster S2 monitor can be used stand alone or in conjunction with a control panel.
The dosage can be directly controlled or be controlled by GPS.
Not all screen menus, here shown, are available when Agromaster S2 is used without the Multi-Dose 2000 control panel.

Controls

1. Agromaster S2 monitor

With Agromaster S2 the spraying can be controlled and supervised while running. Switching between the different menus is simply accomplished by following the instructions on the screen. Menus are divided into OPERATE, INFO, FILLING, CONFIGURATION and MANUAL.

The OPERATE menu shows the current running settings - with the possibility to adjust them.

The INFO menu is somewhat overlapped by the OPERATE menu, but supplies more detailed information about the current settings - with the possibility to adjust them.

The CONFIGURATION menu - this is where the sprayer is configured and calibrated.

The MANUAL - an electronic spraying manual with instructions for the most common spraying tasks. Cleaning instructions to be supplied.

Always follow the onscreen instructions - the functions of the soft keys may vary from menu to menu.

1.1 Soft keys, switches and screen

1. Contrast adjustment - screen light: Press the contrast key once, and keep depressed to increase the contrast. Press it twice and keep it depressed to decrease the contrast. The light is lit by the F4 key and turned off by the F3 key.
2. Function keys: F1 - F4. F3 is used to move the cursor when adjusting volumes, time etc. F4 is used to verify the input values. Follow the instructions on the screen.
3. Indicator for boom sections: Closed - open - running.
4. Menu: Next page.
5. Volume adjustment: Pressing the key initializes: Volume adjustment down. In certain menus a pop-up volume adjustment screen will appear.
6. Auto/manual: ON/OFF turns the area and litre meters on and off. Switches between auto and manual by flipping the switch upwards. The LED is lit in the auto-on position. With the switch in the auto-on position the flow is automatically controlled by speed and boom width. The flow has to be set by the operator when the switch is in the manual position.
7. Main menu/Start page: This key also works as a DELETE key since any input can be erased by pressing this key.
8. Flow ±: In auto mode, any change in the current flow, is indicated by the control LED's. Every time the switch is pressed the present flow changes ± 10 %. In manual mode, one of the control LED's blinks whenever the flow is adjusted by pressing this switch.
9. Volume adjustment: Pressing the key initializes: Volume adjustment up. In certain menus a pop-up volume adjustment screen will appear.
10. Menu: Previous screen.
11. The arrow indicates the active keys
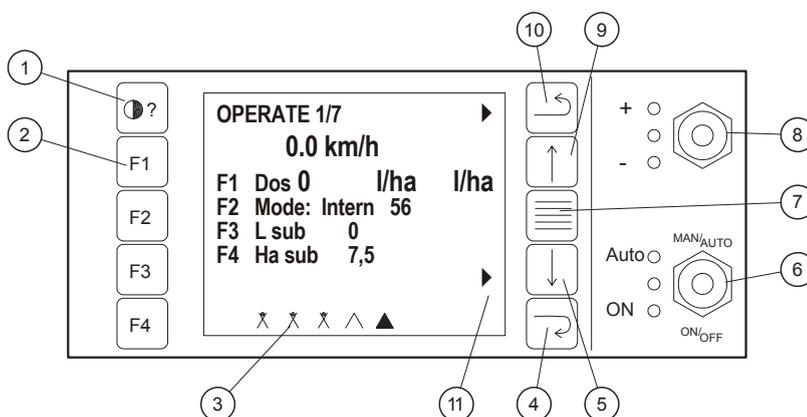
1.2 Screen menus

Main menu
The main menu consists of two pages. To switch between them, press the function key for the desired page.

Main menu 1/2

F1 Operate
F2 Info
F3 Filling
F4 Setups ▶

Main menu 2/2 ▶

F1 Manual
Dosage control ▶
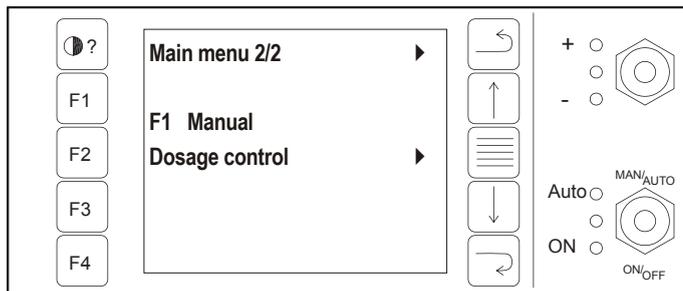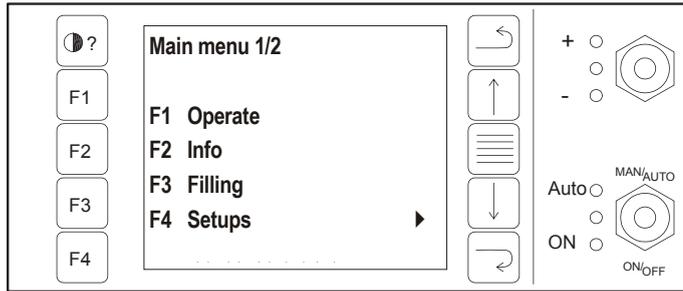
Operate menu 1/7
The operate menu has seven pages.
Press F1 for dosage.
Press F2 for intern/extern mode.
Press F3 to reset measured volume.
Press F4 to reset measured area.

OPERATE 1/7 ▶
0.0 km/h
F1 Dos 0 l/ha
F2 Mode Intern 50 l/ha
F3 L sub 0
F4 Ha sub 7.5 ▶
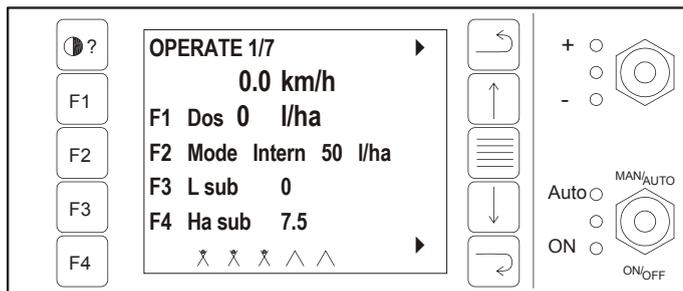
Quantity of fluid adjustment.

DOSAGE 1/2 ▶

F1 Internal dos
F2 External dos ▶
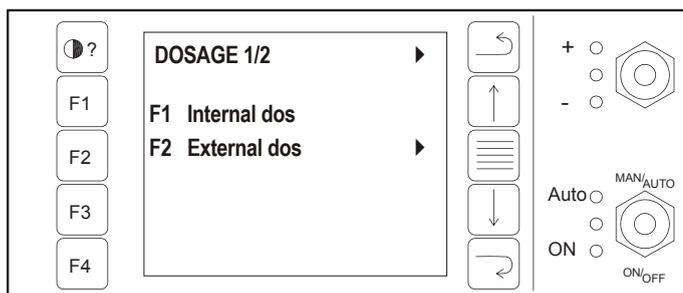
Selection of intern/extern. mode.
Internal is normal.
External is GPS

DOSAGE 2a/2 ▶

Internal dos (l/ha): 50 ▶

Set with ▶
Validate with ▶
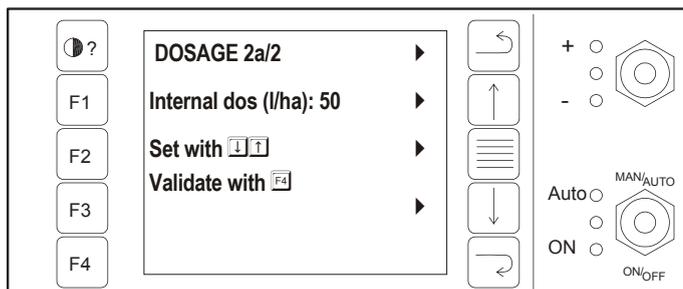
(operate. cont.)
Press F3 to reset the measured, sprayed volume: Total and subset.

```
┌─────────────────────────────────────────────────┐
│  ◐?   ┌──────────────────────────┐     ↰   + ○   │
│       │ LITRE TOT 1/1         ▶   │         ○ ◉   │
│  F1   │                          │     ↑   - ○   │
│       │                          │              │
│  F2   │ F2  Reset L tot    0  ▶  │     ≡         │
│       │                          │              │
│  F3   │                          │     ↓   Auto ○  MAN/AUTO │
│       │ F4  Reset L sub    0     │         ○  ◉  │
│  F4   │                          │     ↵  ON ○   │
│       └──────────────────────────┘        ON/OFF │
└─────────────────────────────────────────────────┘
```
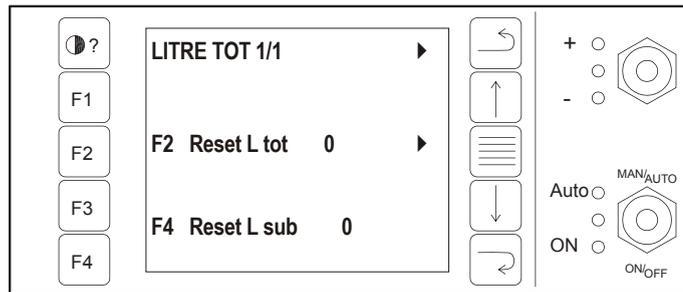
Press F4 to reset the measured area: Total and subset.

```
┌─────────────────────────────────────────────────┐
│  ◐?   ┌──────────────────────────┐     ↰   + ○   │
│       │ HA TOT 1/1           ▶   │         ○ ◉   │
│  F1   │                          │     ↑   - ○   │
│       │                          │              │
│  F2   │ F2  Reset Ha tot   10 ▶  │     ≡         │
│       │                          │              │
│  F3   │                          │     ↓   Auto ○  MAN/AUTO │
│       │ F4  Reset L sub    5     │         ○  ◉  │
│  F4   │                          │     ↵  ON ○   │
│       └──────────────────────────┘        ON/OFF │
└─────────────────────────────────────────────────┘
```
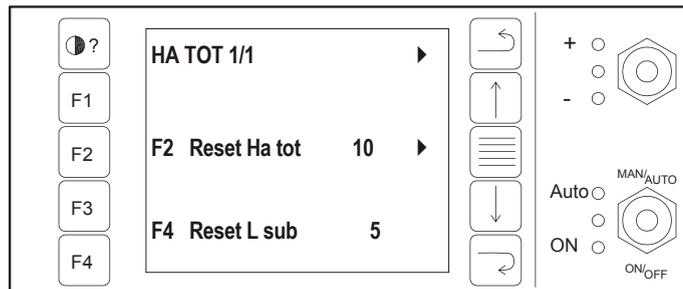
Operate menu 6/7

Press F3 to select remaining volume / remaining area adjustment.

```
┌─────────────────────────────────────────────────┐
│  ◐?   ┌──────────────────────────┐     ↰   + ○   │
│       │ OPERATE 6/7          ▶   │         ○ ◉   │
│  F1   │       0.0 km/h           │     ↑   - ○   │
│       │ F1 Dos  0  l/ha          │              │
│  F2   │ F2 Mode: Intern 50   ▶   │     ≡         │
│       │ F3 L rem 650   28   /ha  │              │
│  F3   │ F4 Ha rem  22.5          │     ↓   Auto ○  MAN/AUTO │
│       │                      ▶   │         ○  ◉  │
│  F4   │   ⋏ ⋏ ⋏ ∧ ∧            │     ↵  ON ○   │
│       └──────────────────────────┘        ON/OFF │
└─────────────────────────────────────────────────┘
```
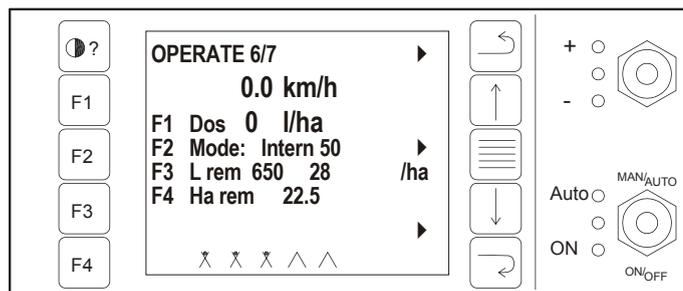
Press F2 or F4 to set value for remaining quantity and remaining area.

```
┌─────────────────────────────────────────────────┐
│  ◐?   ┌──────────────────────────┐     ↰   + ○   │
│       │ L, HA REM 1/1        ▶   │         ○ ◉   │
│  F1   │       L rem: 650         │     ↑   - ○   │
│       │                          │              │
│  F2   │ F2    Set L rem      ▶   │     ≡         │
│       │                          │              │
│  F3   │       Ha rem: 22,5       │     ↓   Auto ○  MAN/AUTO │
│       │ F4    Set Ha rem     ▶   │         ○  ◉  │
│  F4   │                          │     ↵  ON ○   │
│       └──────────────────────────┘        ON/OFF │
└─────────────────────────────────────────────────┘
```

Input of remaining quantity.

```
┌─────────────────────────────────────────────────┐
│  ◐?   ┌──────────────────────────┐     ↰   + ○   │
│       │  SET L REMAINING 1/1  ▶  │         ○ ◉   │
│  F1   │                          │     ↑   - ○   │
│       │ L rem:      650      ▶   │              │
│  F2   │                          │     ≡         │
│       │ Set with ⬇⬆         ▶   │              │
│  F3   │ Validate with F4         │     ↓   Auto ○  MAN/AUTO │
│       │                      ▶   │         ○  ◉  │
│  F4   │                          │     ↵  ON ○   │
│       └──────────────────────────┘        ON/OFF │
└─────────────────────────────────────────────────┘
```
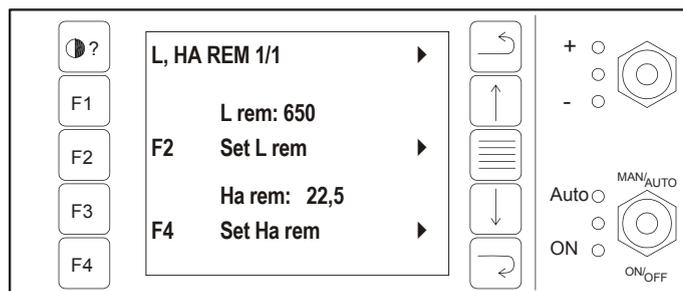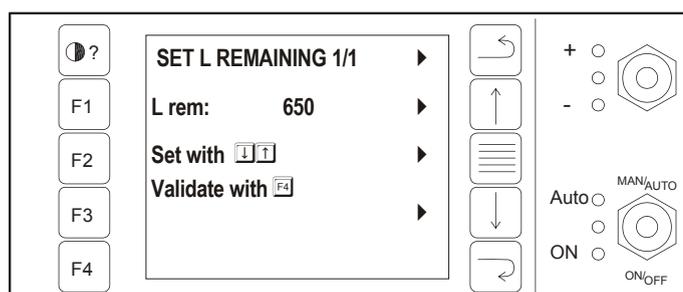
(operate. cont.)
Input of remaining area (ha).

```
  ?        SET HA REMAINING 1/1   ▶          ⤴      + ○
                                                      ○  ◎
  F1       Ha rem:          22,5   ▶           ↑    - ○
                                                      ○
  F2       Set with ↓↑              ▶          ≡
           Validate with F4         ▶
  F3                                            ↓   Auto ○   MAN/AUTO
                                                      ○  ◎
  F4                                            ↩   ON ○   ON/OFF
```
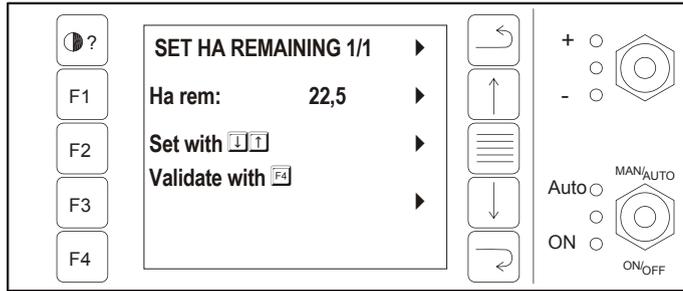
Press back twice.

Operate menu 7/7
Press F3 to reset distance (m).
Press F4 to setup wind alarm.

```
  ?        OPERATE 7/7           ▶             ⤴      + ○
                 0.0 km/h                              ○  ◎
  F1       F1  Dos  0   l/ha                    ↑    - ○
           F2  Rpm:     0  /min  *  ▶                  ○
  F2       F3  Driven (m)  0                    ≡
           F4  Wind (m/s)  0
  F3                                            ↓   Auto ○   MAN/AUTO
                                                      ○  ◎
  F4            ⼈ ⼈ ⼈ ∧ ∧                      ↩   ON ○   ON/OFF
```

*Make sure that sub menu is also set to 0, it can show 0 on
frontpage, and a differemt number on subpage

Reset of distance (m).

```
  ?        DRIVEN 1/1            ▶             ⤴      + ○
                                                      ○  ◎
  F1                                            ↑    - ○
                                                      ○
  F2       Distance (m):0         ▶             ≡
  F3                                            ↓   Auto ○   MAN/AUTO
                                                      ○  ◎
  F4       F4  Reset                            ↩   ON ○   ON/OFF
```

Setup of wind alarm.

```
  ?         WIND SPEED 1/1▶                    ⤴      + ○
                                                      ○  ◎
  F1       Alarm limit:    6,0     ▶             ↑    - ○
                                                      ○
  F2       Set with ↓↑              ▶            ≡
           Validate with F4         ▶
  F3                                             ↓   Auto ○   MAN/AUTO
                                                      ○  ◎
  F4                                             ↩   ON ○   ON/OFF
```
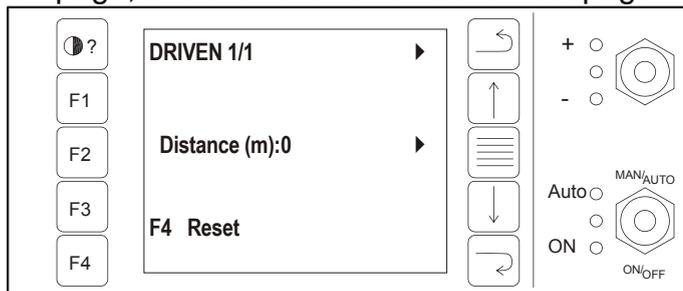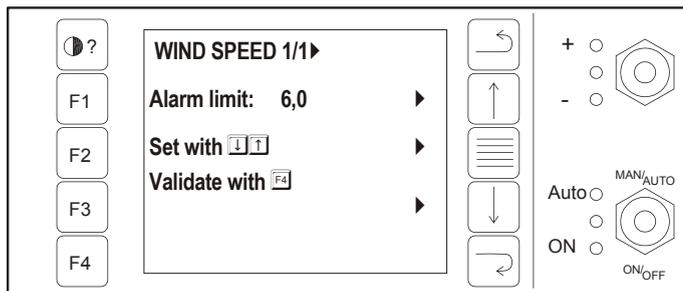
Operate menu 2/7 (injection)
The display shows current status
for km/h and sub area for pumps
1,2 and 3.
Press F1 to set pump 1.

```
  ?        OPERATE 2/7           ▶             ⤴      + ○
                0.0      km/h                          ○  ◎
  F1       0   l/ha       105,4 ha              ↑    - ○
           F1  1. 0.00  l/ha        ▶                  ○
  F2       F2  2. 0.00  l/ha                    ≡
  F3       F3  3. 0.00  l/ha                    ↓   Auto ○   MAN/AUTO
                                     ▶                ○  ◎
  F4           ⼈ ⼈ ⼈ ∧ ∧                      ↩   ON ○   ON/OFF
```
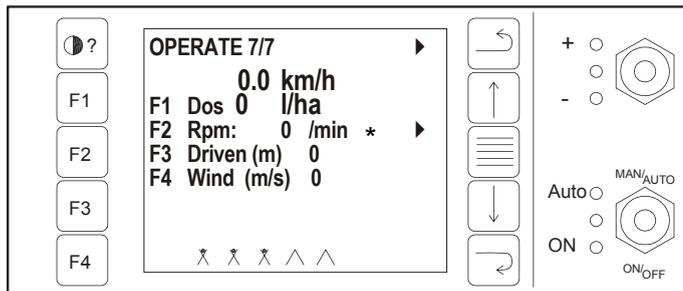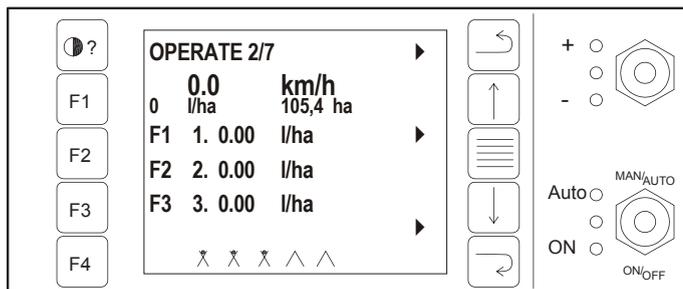
(operate. cont.)
Press F1 to switch between internal and external quantity adjustment.
Setup of pump 1 - 6 is done in the same manner.

```
 ?        SET INTERNAL DOSAGE 1/6 ▶        +  ○
             Current dossage  0.0   l/ha        ○
F1                                      ▶     -  ○
          F1  (For external dos)
F2             Set with  ⬇⬆▶
                                              Auto ○   MAN/AUTO
F3             Validate with F4                    ○
                                       ▶     ON ○
F4                                                    ON/OFF
```
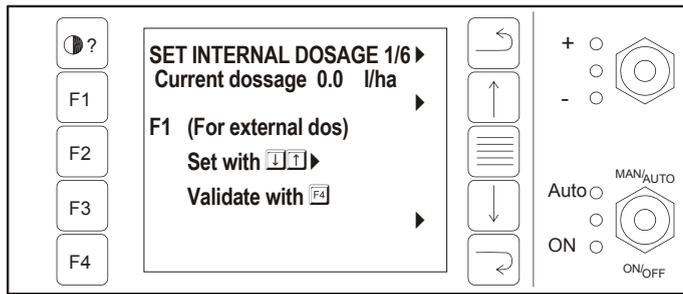
Operate menu 4/7 (injection)
Press F1 to reset volume indicator for pump 1. Total and subset.

```
 ?        OPERATE 4/7              ▶          +  ○
            0.0       km/h                      ○
F1             Total   Sub                    -  ○
          F1  1.  0.0      0.0 litre  ▶
F2        F2  2.  0.0      0.0 litre
          F3  3.  0.0      0.0 litre           Auto ○   MAN/AUTO
F3                                    ▶             ○
               ⅄  ⅄  ⅄  ∧ ∧          ON ○
F4                                                    ON/OFF
```
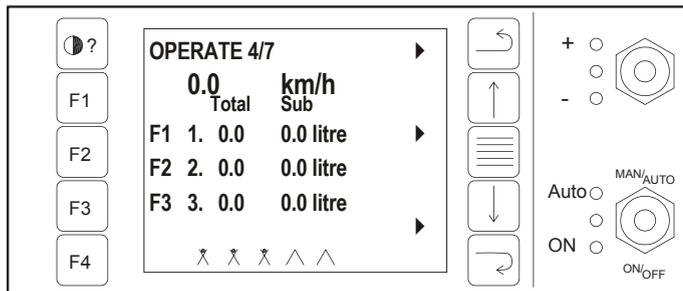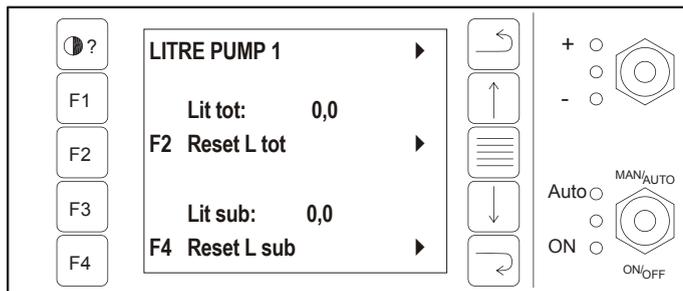
Press F2 to reset total volume (litre).
Press F4 to reset volume subset.
Resetting pumps 2 - 6 is done in the same manner.

```
 ?        LITRE PUMP 1            ▶           +  ○
                                                ○
F1           Lit tot:      0,0                -  ○
          F2  Reset L tot           ▶
F2
                                              Auto ○   MAN/AUTO
F3           Lit sub:      0,0                     ○
          F4  Reset L sub            ▶        ON ○
F4                                                    ON/OFF
```

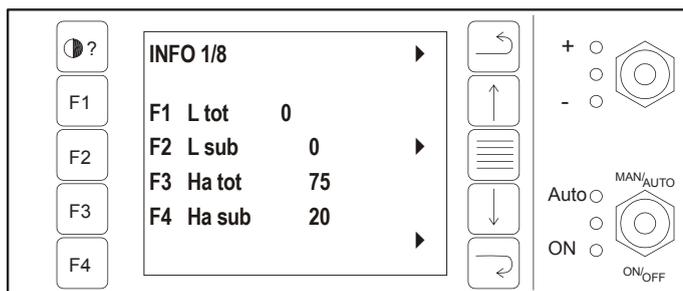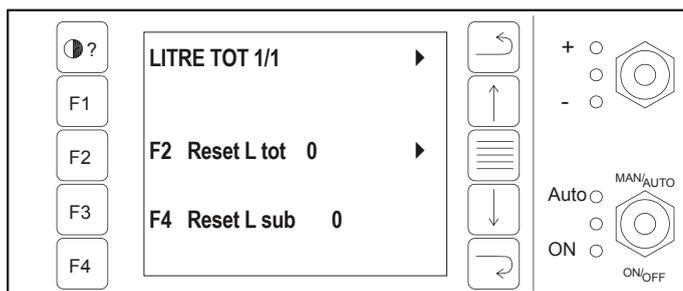## *Info menu 1/8*
Press F1 or F2 to reset litre spray liquid.
Press F3 or F4 to reset area (ha).

```
 ?        INFO 1/8               ▶            +  ○
                                                ○
F1        F1  L tot      0                    -  ○
          F2  L sub      0          ▶
F2        F3  Ha tot     75
          F4  Ha sub     20                   Auto ○   MAN/AUTO
F3                                                 ○
                                    ▶        ON ○
F4                                                    ON/OFF
```

Resetting volume/litre.

```
 ?        LITRE TOT 1/1          ▶            +  ○
                                                ○
F1                                            -  ○

F2        F2  Reset L tot   0       ▶

F3                                            Auto ○   MAN/AUTO
          F4  Reset L sub      0                   ○
                                             ON ○
F4                                                    ON/OFF
```

(info cont.)
Resetting of measured area: Total
and subset.

```
┌─────────────────────────────────────────────────────────────────┐
│  ◑?   │ HA TOT 1/1              ▶ │   ↰    │  +  ○              │
│       │                          │   ↑    │     ○   ◎          │
│  F1   │                          │        │  -  ○              │
│  F2   │ F2  Reset Ha tot        ▶ │  ☰     │                    │
│  F3   │                          │   ↓    │  Auto○    MAN/AUTO  │
│       │ F4  Reset Ha sub          │        │       ○   ◎        │
│  F4   │                          │   ↵    │  ON  ○    ON/OFF    │
└─────────────────────────────────────────────────────────────────┘
```
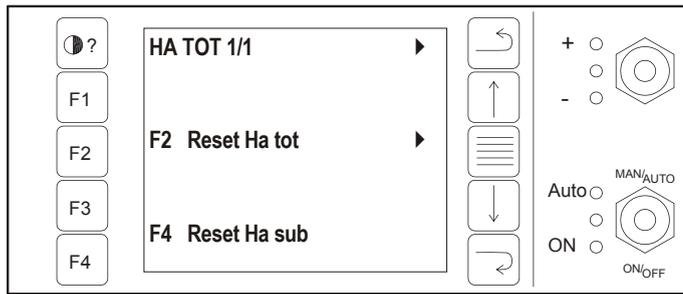
Info menu 2/8
Press F1, F2 or F3 to reset time.
Time active is actual spraying
time.
F4 is not used.

```
┌─────────────────────────────────────────────────────────────────┐
│  ◑?   │ INFO 2/8                ▶ │   ↰    │  +  ○              │
│       │                          │   ↑    │     ○   ◎          │
│  F1   │ F1  Time tot    43:00     │        │  -  ○              │
│  F2   │ F2  Time sub    43:00   ▶ │  ☰     │                    │
│  F3   │ F3  Time active  4:15     │   ↓    │  Auto○    MAN/AUTO  │
│       │ F4  Select Task         ▶ │        │       ○   ◎        │
│  F4   │                          │   ↵    │  ON  ○    ON/OFF    │
└─────────────────────────────────────────────────────────────────┘
```

Resetting of time.

```
┌─────────────────────────────────────────────────────────────────┐
│  ◑?   │ TIME 1/1                ▶ │   ↰    │  +  ○              │
│       │                          │   ↑    │     ○   ◎          │
│  F1   │     Time tot:   43:03     │        │  -  ○              │
│  F2   │ F2  Reset              ▶  │  ☰     │                    │
│       │     Time sub:   43:03     │   ↓    │                    │
│  F3   │ F3  Reset                 │        │  Auto○    MAN/AUTO  │
│       │     Time now:    4:15     │        │       ○   ◎        │
│  F4   │ F4  Reset                 │   ↵    │  ON  ○    ON/OFF    │
└─────────────────────────────────────────────────────────────────┘
```
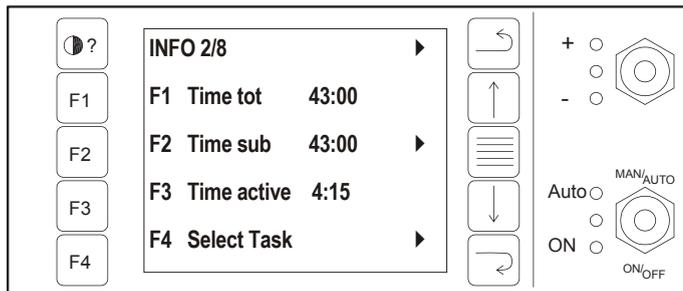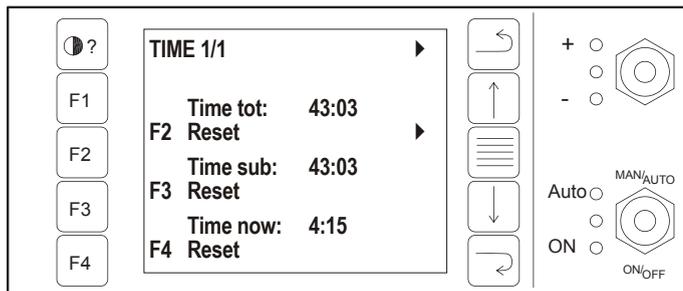
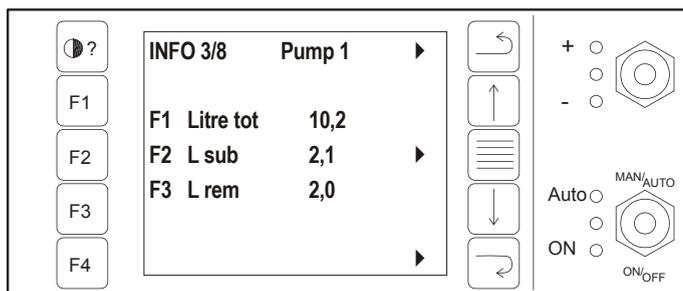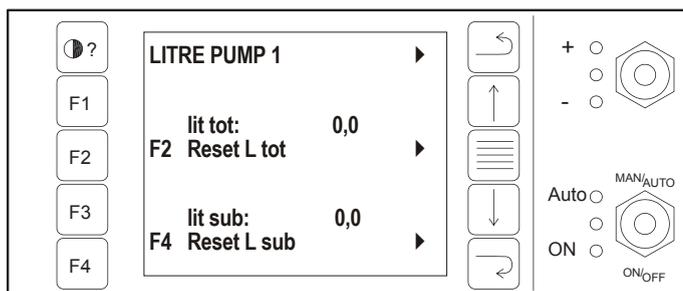### Info menu 3/8 - 8/8 (injection)
Press F1 or F2 to reset volume in-
dicator for pump 1.
Press F3 for input of remaining
volume.

```
┌─────────────────────────────────────────────────────────────────┐
│  ◑?   │ INFO 3/8      Pump 1    ▶ │   ↰    │  +  ○              │
│       │                          │   ↑    │     ○   ◎          │
│  F1   │ F1  Litre tot   10,2      │        │  -  ○              │
│  F2   │ F2  L sub        2,1    ▶ │  ☰     │                    │
│       │ F3  L rem        2,0      │   ↓    │  Auto○    MAN/AUTO  │
│  F3   │                          │        │       ○   ◎        │
│  F4   │                        ▶  │   ↵    │  ON  ○    ON/OFF    │
└─────────────────────────────────────────────────────────────────┘
```
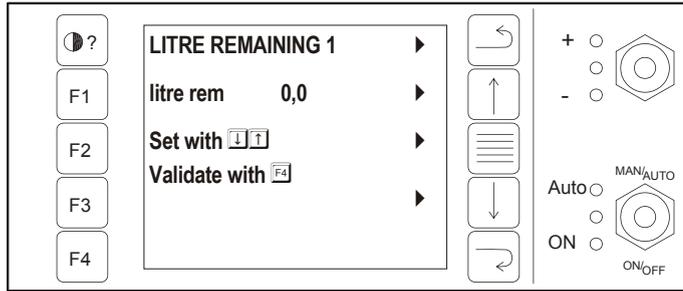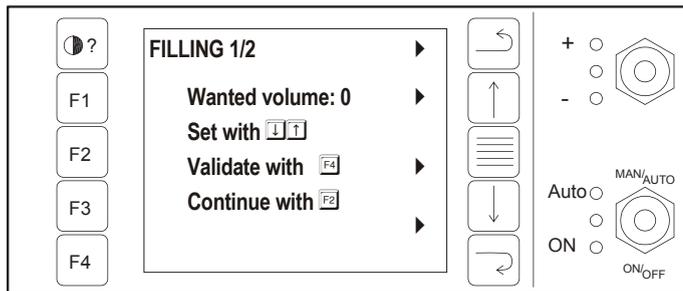
Resetting of pump 1.

```
┌─────────────────────────────────────────────────────────────────┐
│  ◑?   │ LITRE PUMP 1            ▶ │   ↰    │  +  ○              │
│       │                          │   ↑    │     ○   ◎          │
│  F1   │     lit tot:     0,0      │        │  -  ○              │
│  F2   │ F2  Reset L tot         ▶ │  ☰     │                    │
│       │                          │   ↓    │  Auto○    MAN/AUTO  │
│  F3   │     lit sub:     0,0      │        │       ○   ◎        │
│       │ F4  Reset L sub         ▶ │   ↵    │  ON  ○    ON/OFF    │
│  F4   │                          │        │                    │
└─────────────────────────────────────────────────────────────────┘
```

(info. cont.)
Input of remaining volume for
pump 1.

```
●? LITRE REMAINING 1 ▶            ↰   +
F1 litre rem    0,0   ▶              ↑  -
F2 Set with ⬇⬆  ▶                   ≡
F3 Validate with F4                  ↓   Auto ○  MAN/AUTO
F4                                   ↵   ON ○  ON/OFF
```

Filling menu 1/2
Main menu 1/2 - F3.

```
●? FILLING 1/2 ▶
F1   Wanted volume: 0 ▶
F2   Set with ⬇⬆
F3   Validate with  F4 ▶
F4   Continue with F2 ▶
```

Press F2

Filling menu 2/2

```
●? FILLING 2/2 ▶
     Wanted volume:  0
F1   Filled volume:    0
F2                 ▶
F3  Start
F4  Stop
```
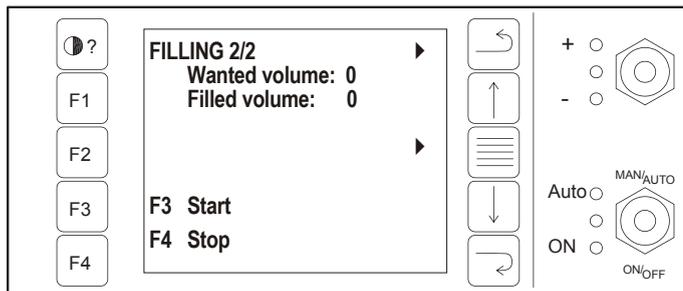
Calibration of filling meter
Main menu 1/2 - F4.
F2 Dosage factor/filling factor
F4 Dosage regulator
Press F3 for constant setting.
Press F4 for auto calibration.
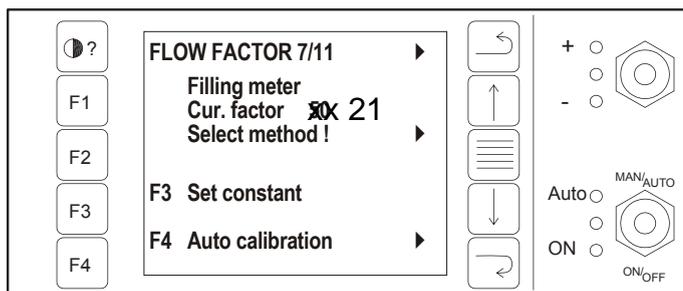
```
●? FLOW FACTOR 7/11 ▶
F1   Filling meter
     Cur. factor  x 21
     Select method ! ▶
F3  Set constant
F4  Auto calibration ▶
```

Constant setting.

```
●? FLOW FACTOR 8/11 ▶
F1   Filling meter ▶
     Cur. factor: x 21
     Set with ⬇⬆ ▶
     Validate with F4 ▶
```

Auto calibration of filling meter
Step 1.

◑ ?	**FLOW FACTOR 9/11** ▶
F1	**Filling meter** **Cur. factor: 50 x 21** **Prepare filling** ▶
F2	
F3	**Press** F4
F4	**F4 Start**

Step 2.

◑ ?	**FLOW FACTOR 10/11** ▶
F1	**Filling meter** **Cur. factor: 50 x 21**
F2	**Let a known quantity** ▶ **pass**
F3	**and press** F4
F4	**F4 Stop**

Step 3.

◑ ?	**FLOW FACTOR 11/11** ▶
F1	**Filling meter** **Cur. factor: 50 x 21** ▶
F2	**Filled quant.: 0**
F3	**Adjust quant.** ▶ **Validate with** F4 ▶
F4	
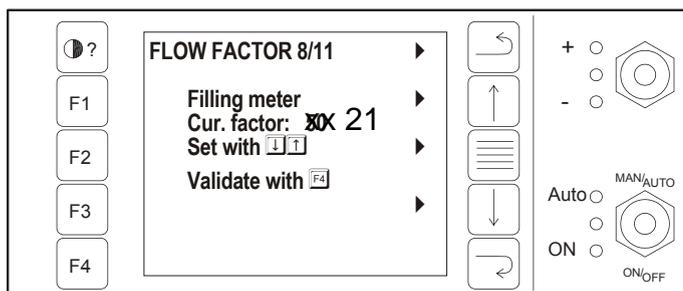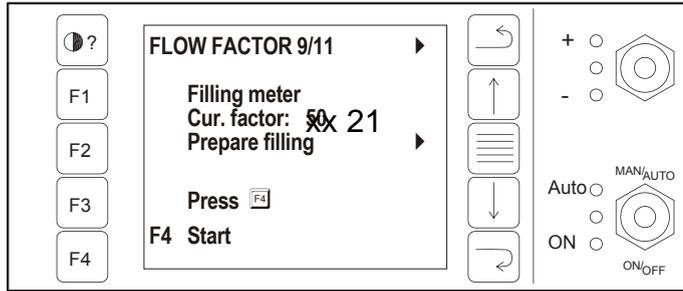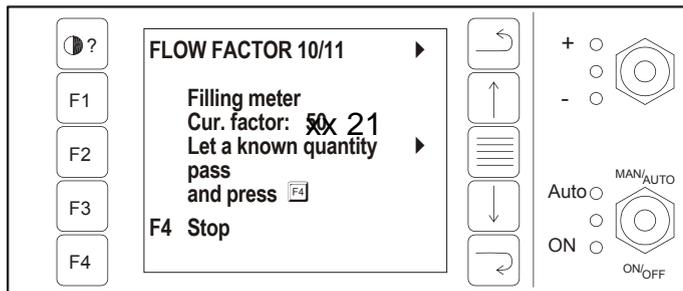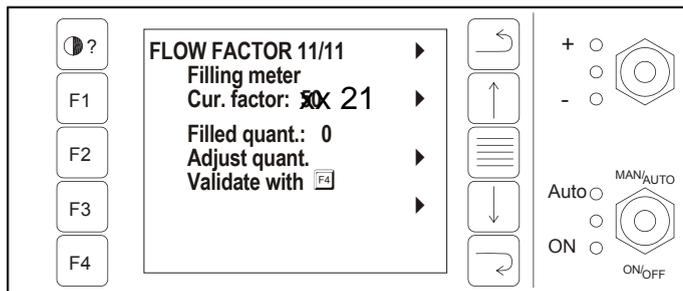
Settings 1/4
Press F4.

◑ ?	**SETTINGS 1/4** ▶
F1	**F1 Wheel factor 5950**
F2	**F2 Dosage factor: 80 79** ▶ **Filling factor: 50 x 21**
F3	**F3 Boom width: 2400**
F4	**F4 Dosage regulator** ▶

Setting of wheel factor.
Press F3 for constant setting.
Press F4 for auto calibration.

◑ ?	**WHEEL FACTOR 1/1** ▶
F1	**Cur. factor: 5950**
F2	**Can be set constant** **or by driving a** ▶ **measured distance**
F3	**F3 Set constant**
F4	**F4 Auto calibration**
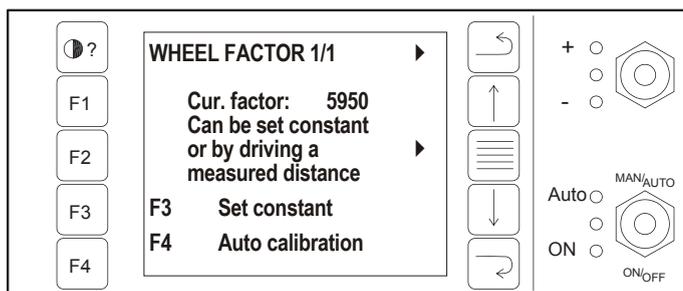
(settings menu cont.)
Calibration of constant wheel factor.

◑?	**CONST. WHEEL FACTOR 1/1**▶	↰ + ○
F1		○
	Wheel factor:5950 ▶	↑ − ○
F2		
	Set with ⬇⬆ ▶	≡
F3	**Validate with** F4	
	▶	↓ Auto ○ MAN/AUTO
F4		↵ ON ○ ON/OFF
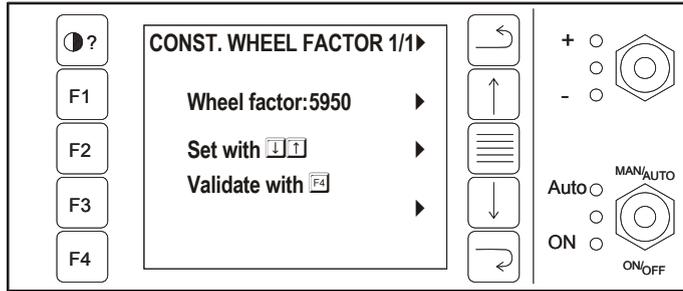
Auto calibration of wheel factor.
Step 1.

◑?	**DRIVE DISTANCE 1/3** ▶	↰ + ○
	Cur. factor: 5950	○
F1		↑ − ○
F2	**Drive to start-** ▶	≡
	point on a	
	measured distance	
F3	**Press** F4	↓ Auto ○ MAN/AUTO
F4	**F4 Start**	↵ ON ○ ON/OFF

Step 2.

◑?	**DRIVE DISTANCE 2/3** ▶	↰ + ○
F1		○
	Cur. factor: 5950	↑ − ○
F2	**Drive mess. distance** ▶	≡
	and press F4	
F3		↓ Auto ○ MAN/AUTO
F4	**F4 Stop**	↵ ON ○ ON/OFF
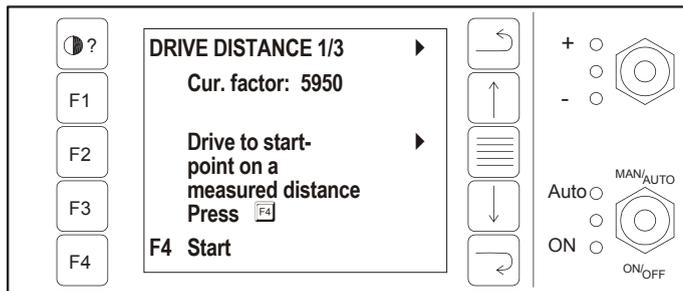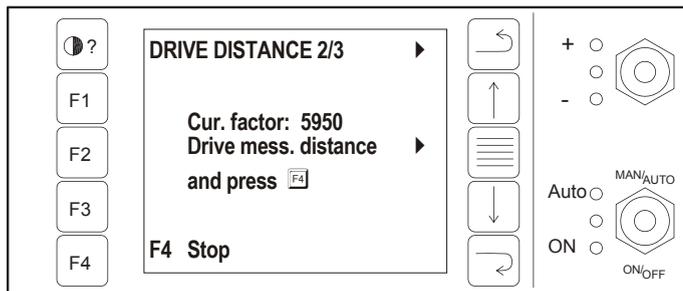
Step 3.
Enter distance (shown distance is
from previous calibration).
Return to previous screen to update.

◑?	**DRIVE DISTANCE 3/3** ▶	↰ + ○
	Cur. factor: 5950 ▶	○
F1	**Driven dist.: 0**	↑ − ○
F2	**Set distance** ▶	≡
	Validate with F4	
F3	▶	↓ Auto ○ MAN/AUTO
F4		↵ ON ○ ON/OFF
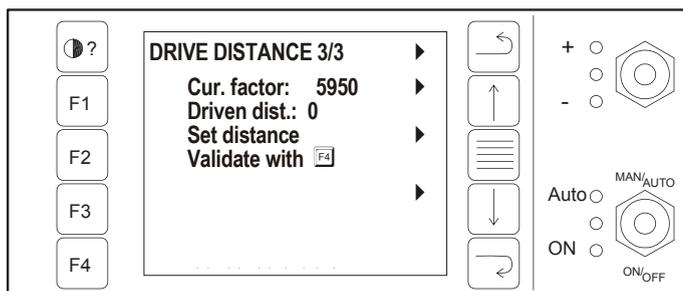
Calibration of flow factor 1/11 -
11/11.

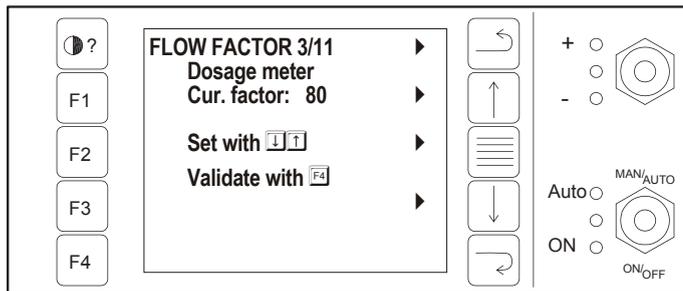|		
◑?	**FLOW FACTOR 1/11** ▶	↰ + ○
F1	**Can be set constant or**	○
	by automatic calibration.	↑ − ○
F2	**Select flow meter !** ▶	≡
F3	**F3 Dosage meter: 80 79**	↓ Auto ○ MAN/AUTO
F4	**F4 Filling meter: xx 21**	↵ ON ○ ON/OFF
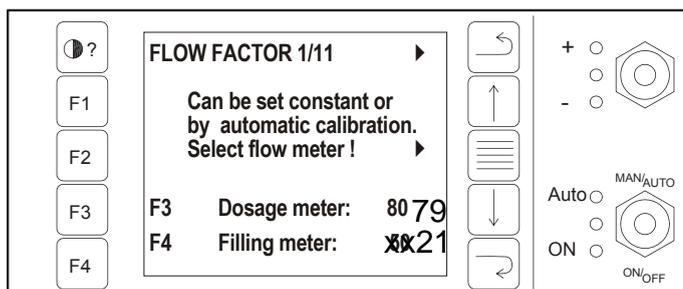
(config. menu cont.)
Calibration of filling meter.
Press F3 for constant setting.
Press F4 for manual setting.

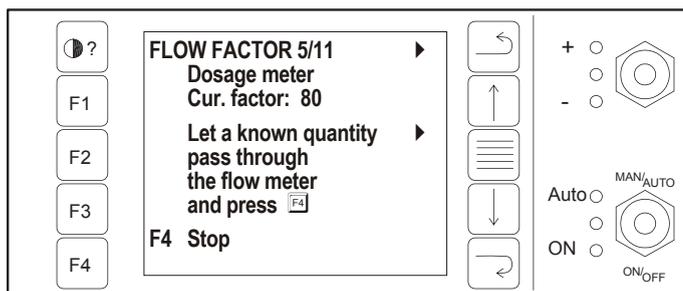|		
◑?	**FLOW FACTOR 2/11** ▶	
F1	**Dosage meter**	
F2	**Cur. factor: 80**	
	Select method ! ▶	
F3	**F3 Set constant**	Auto ○
F4	**F4 Auto calibration**	ON ○
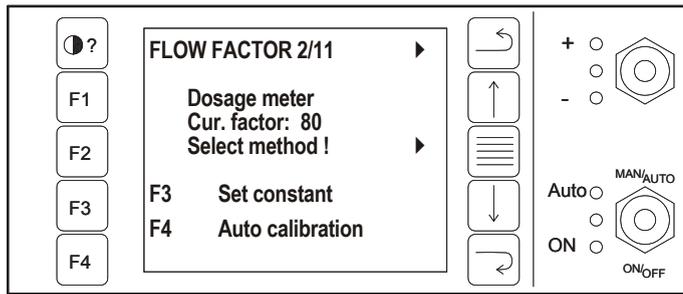
Calibration for constant setting.

◑?	**FLOW FACTOR 3/11** ▶	
F1	**Dosage meter**	
	Cur. factor: 80 ▶	
F2	**Set with** ↓↑ ▶	
F3	**Validate with** F4 ▶	Auto ○
F4		ON ○

Auto calibration of filling meter.
Step 1.

◑?	**FLOW FACTOR 4/11** ▶	
F1	**Dosage meter**	
	Cur. factor: 80	
F2	**1. Fill with water** ▶	
	2. Start pump	
F3	**3. Open main valve**	Auto ○
	4. Press F4	
F4	**F4 Start**	ON ○

Step 2.

◑?	**FLOW FACTOR 5/11** ▶	
F1	**Dosage meter**	
	Cur. factor: 80	
F2	**Let a known quantity** ▶	
	pass through	
F3	**the flow meter**	Auto ○
	and press F4	
F4	**F4 Stop**	ON ○
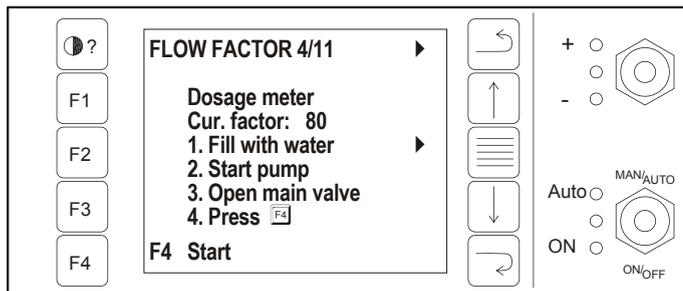
Step 3.
Enter sprayed quantity - (shown quantity is from previous calibration).

◑?	**FLOW FACTOR 6/11** ▶	
F1	**Dosage meter**	
	Cur. factor: 80 ▶	
F2	**Sprayed quantity: 2000**	
	Adjust quant. ▶	
F3	**Validate with** F4 ▶	Auto ○
F4		ON ○
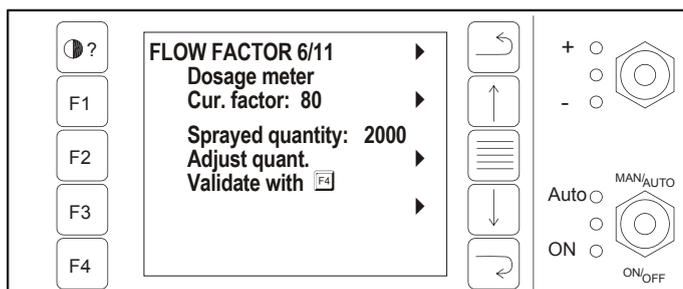
(settings menu cont.)

Settings 1/4
Press F3.
Setting of boom width .
Before work width can be set the
number of sections must be chosen
-se page 20. Choose section with F2.
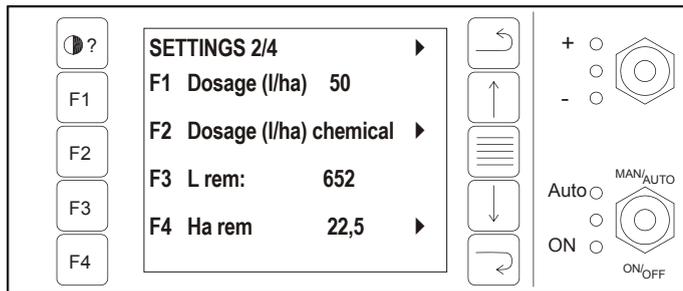Set with cursor keys and F3.
Validate with F4.

F	BOOM WIDTH 1/1 ▶
?	
F1	Boom width: 2400 ▶
F2	Act section: 400
F3	F2 Choose section ▶
F4	▶
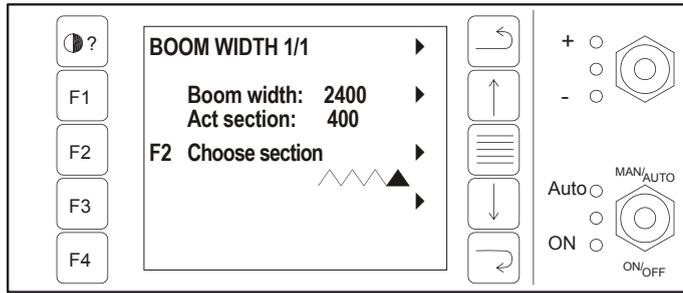
Settings 1/4
Press F4.
Calibrating regulation factor 1/1.
Set with cursor keys and F3.
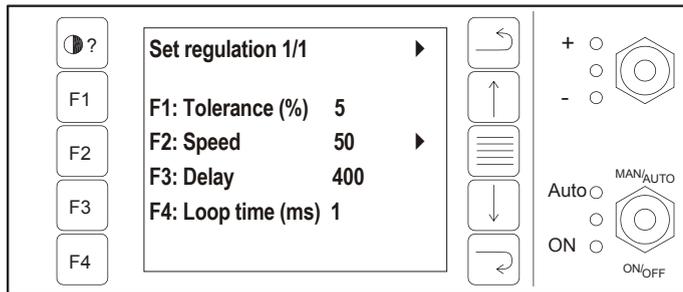
	Set regulation 1/1 ▶
?	
F1	F1: Tolerance (%) 5
F2	F2: Speed 50 ▶
F3	F3: Delay 400
F4	F4: Loop time (ms) 1

New	Old
5	3
50	100
400	300
1	2

Settings menu 2/4

	SETTINGS 2/4 ▶
?	
F1	F1 Dosage (l/ha) 50
F2	F2 Dosage (l/ha) chemical ▶
F3	F3 L rem: 652
F4	F4 Ha rem 22,5 ▶

Press F1.
Dosage (l/ha) 1/2
Internal = Standard
External = Dosage controlled by
GPS (if mounted).

	DOSAGE 1/2 ▶
?	
F1	F1 Internal dos
F2	F2 External dos ▶
F3	
F4	

Press F1.
Dosage (l/ha) 2a/2.

	DOSAGE 2a/2 ▶
?	
F1	Internal dos (l/ha)50 ▶
F2	Set with ↓↑ ▶
F3	Validate with F4 ▶
F4	
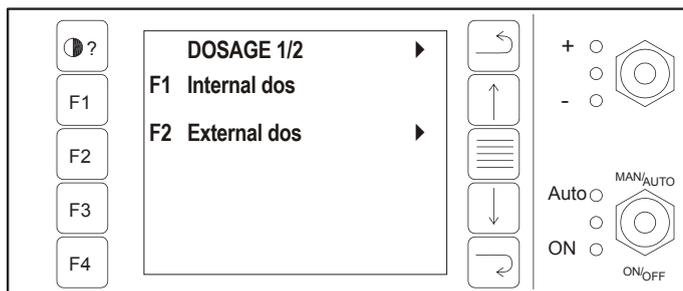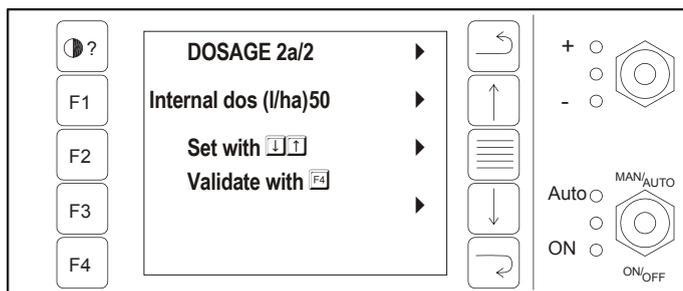
(settings menu cont.)
Press F2
Dosage (l/ha) 2b/2
(set by GPS).

◑?	**DOSAGE 2b/2** ▶
F1	**External dos (l/ha) 50** ▶
F2	**Set with** ⬇⬆ ▶
F3	**Validate with** F4 ▶
F4	
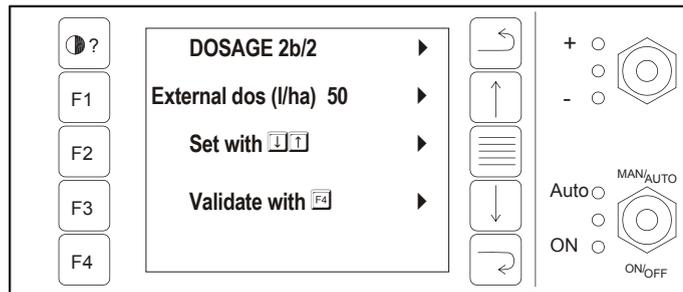
Press F2 (injection).
Dosage of chemical (l/ha) 1/2.

◑?	**SET PREPARED DOSAGE 1/2** ▶
F1	**F1 Pump 1 int. 0,00**
	Pump 1 ext. 0,00
F2	**F2 Pump 2 int. 0,00** ▶
	Pump 2 ext. 000
F3	**F3 Pump 3 int. 0,00**
	Pump 3 ext. 0,00
F4	▶

Dosage of chemical (l/ha) 2/2.

◑?	**SET PREPARED DOSAGE 2/2** ▶
F1	**F1 Pump 4 int. 0,00**
	Pump 4 ext. 0,00
F2	**F2 Pump 5 int. 0,00** ▶
	Pump 5 ext. 0,00
F3	**F3 Pump 6 int. 0,00**
	Pump 6 ext. 0,00
F4	
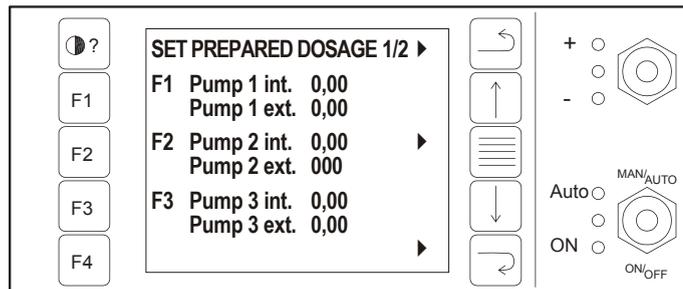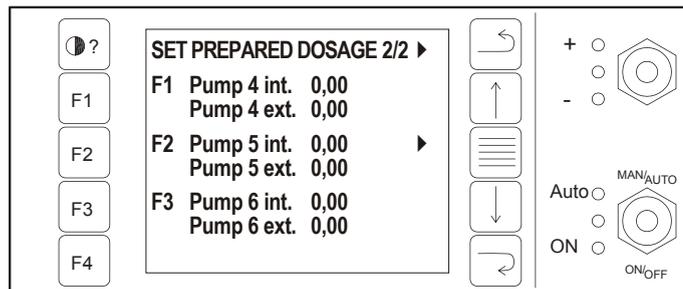
Dosage of chemical (l/ha)
1/6 - 6/6 (pump 1 - 6)
Press F1 to switch between internal and external dosage.

◑?	**SET PREPARED DOSAGE 1/6** ▶
F1	**Current dosage: 0,00 (l/ha)**
	F1 (to external dos) ▶
F2	**Set with** ⬇⬆▶
F3	**Validate with** F4
F4	▶
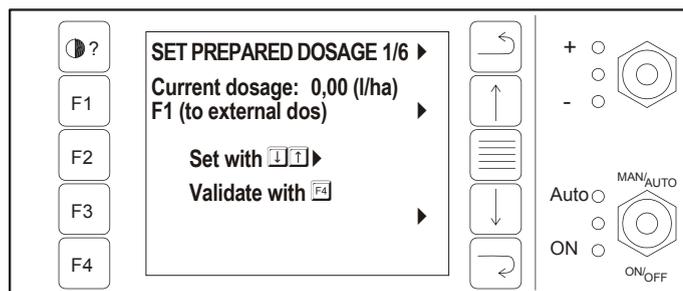
Settings 2/4
Press F3.
Setting of remaining quantity 1/1.

◑?	**SET L REMAINING 1/1** ▶
F1	**L rem: 652** ▶
F2	**Set with** ⬇⬆ ▶
F3	**Validate with** F4 ▶
F4	
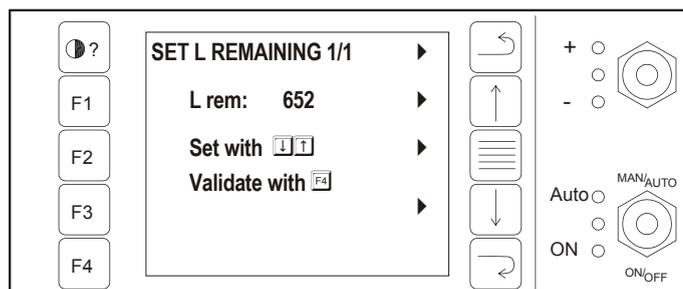
(settings menu cont.)
Press F4.
Setting of remaining area (ha) 1/1.

```
┌──────────────────────────────────────────────┐
│  ◖?   │ SET HA REMAINING 1/1    ▶ │  ↰    + ○  │
│        │                          │       ○  ◎ │
│  F1    │   Ha rem:      22,5     ▶ │  ↑    - ○  │
│        │                          │            │
│  F2    │   Set with ⬇⬆          ▶ │  ≡        │
│  F3    │   Validate with F4       │       Auto○ MAN/AUTO │
│        │                        ▶ │  ↓        ◎ │
│  F4    │                          │  ↩    ON ○  ON/OFF │
└──────────────────────────────────────────────┘
```
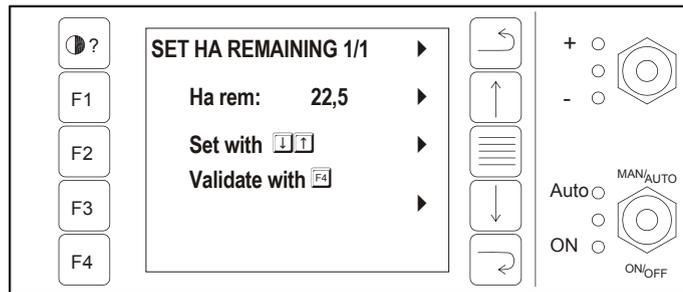
Settings menu 3/4 (injection)
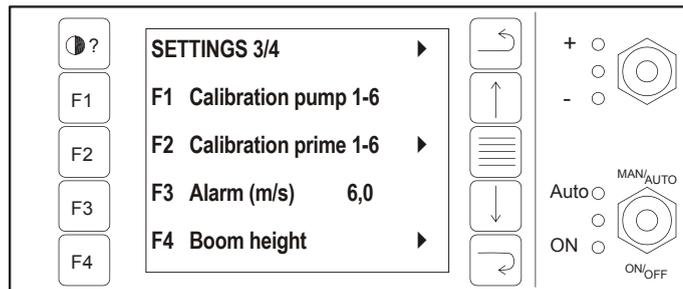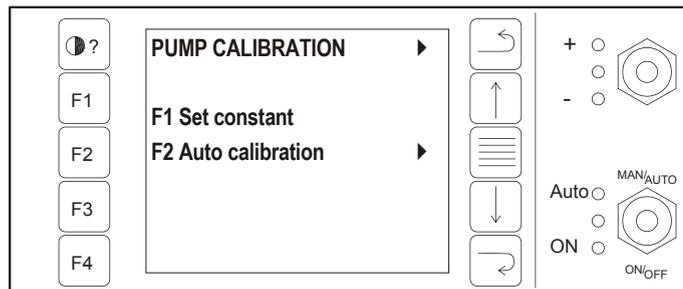
```
┌──────────────────────────────────────────────┐
│  ◖?   │ SETTINGS 3/4            ▶ │  ↰    + ○  │
│        │                          │       ○  ◎ │
│  F1    │ F1 Calibration pump 1-6  │  ↑    - ○  │
│        │                          │            │
│  F2    │ F2 Calibration prime 1-6 ▶ │  ≡       │
│  F3    │ F3 Alarm (m/s)     6,0   │   Auto○ MAN/AUTO │
│        │                          │  ↓    ◎   │
│  F4    │ F4 Boom height         ▶ │  ↩    ON ○ ON/OFF │
└──────────────────────────────────────────────┘
```

Pump calibration.

```
┌──────────────────────────────────────────────┐
│  ◖?   │ PUMP CALIBRATION       ▶ │  ↰    + ○  │
│        │                          │       ○  ◎ │
│  F1    │                          │  ↑    - ○  │
│        │ F1 Set constant          │            │
│  F2    │ F2 Auto calibration    ▶ │  ≡       │
│  F3    │                          │            │
│        │                          │  ↓  Auto○ MAN/AUTO │
│  F4    │                          │       ◎   │
│        │                          │  ↩  ON ○ ON/OFF │
└──────────────────────────────────────────────┘
```

REMEMBER: If this is not an injection sprayer all parameters should be set to 0

Manual pump calibration 1/2.
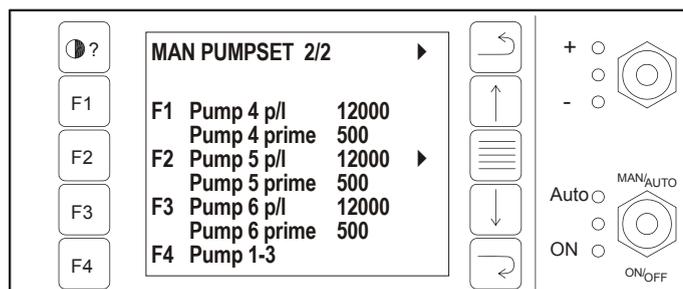Initial setting big pumps:
p/I = 8000 Prime = 500
Small pumps:
p/I = 12000 Prime = 500
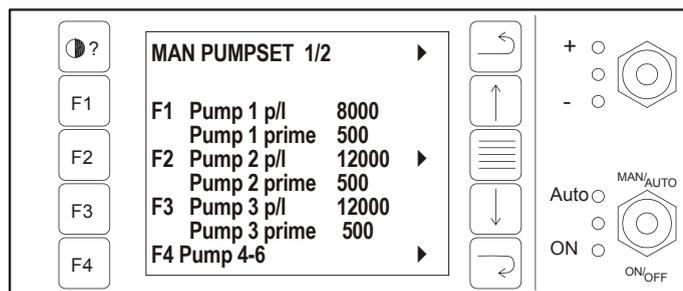
```
┌──────────────────────────────────────────────┐
│  ◖?   │ MAN PUMPSET  1/2       ▶ │  ↰    + ○  │
│        │                          │       ○  ◎ │
│  F1    │ F1 Pump 1 p/l    8000    │  ↑    - ○  │
│        │    Pump 1 prime   500    │            │
│  F2    │ F2 Pump 2 p/l   12000  ▶ │  ≡       │
│        │    Pump 2 prime   500    │            │
│  F3    │ F3 Pump 3 p/l   12000    │  ↓  Auto○ MAN/AUTO │
│        │    Pump 3 prime   500    │       ◎   │
│  F4    │ F4 Pump 4-6            ▶ │  ↩  ON ○ ON/OFF │
└──────────────────────────────────────────────┘
```

REMEMBER: If this is not an injection sprayer all parameters should be set to 0

Manual pump calibration 2/2.

```
┌──────────────────────────────────────────────┐
│  ◖?   │ MAN PUMPSET  2/2       ▶ │  ↰    + ○  │
│        │                          │       ○  ◎ │
│  F1    │ F1 Pump 4 p/l   12000    │  ↑    - ○  │
│        │    Pump 4 prime   500    │            │
│  F2    │ F2 Pump 5 p/l   12000  ▶ │  ≡       │
│        │    Pump 5 prime   500    │            │
│  F3    │ F3 Pump 6 p/l   12000    │   Auto○ MAN/AUTO │
│        │    Pump 6 prime   500    │       ◎   │
│  F4    │ F4 Pump 1-3              │  ↩  ON ○ ON/OFF │
└──────────────────────────────────────────────┘
```
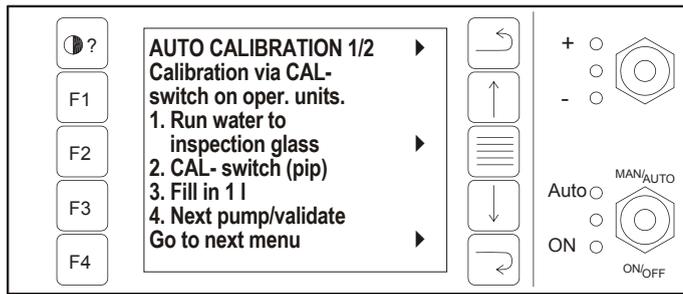
REMEMBER: If this is not an injection sprayer all parameters should be set to 0
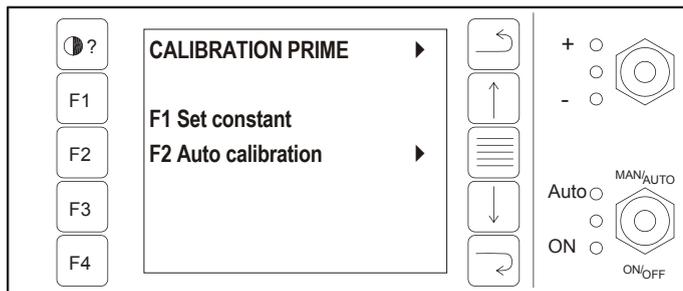
(settings menu cont.)
Automatic pump calibration 1/2.

See page 2/2 before the pump motor switch is activated.

```
┌─────────────────────────────────────────────────┐
│ ◑?   AUTO CALIBRATION 1/2    ▶      ↰    + ○      │
│      Calibration via CAL-               ○        │
│ F1   switch on oper. units.        ↑    - ○      │
│      1. Run water to                             │
│ F2      inspection glass     ▶     ≡             │
│      2. CAL- switch (pip)                         │
│ F3   3. Fill in 1 l                ↓    Auto○ MAN/AUTO │
│      4. Next pump/validate                ○      │
│ F4   Go to next menu         ▶     ↵    ON ○ ON/OFF │
└─────────────────────────────────────────────────┘
```
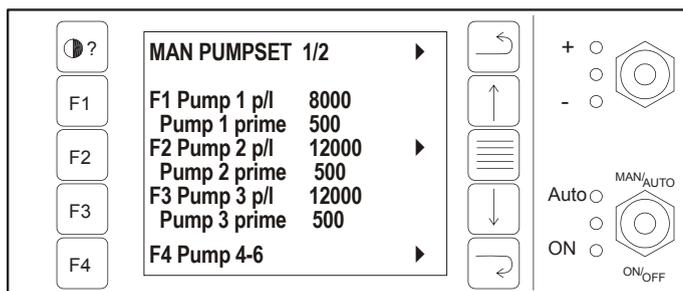
Automatic pump calibration 2/2.

```
┌─────────────────────────────────────────────────┐
│ ◑?   Calibration factors 2/2  ▶     ↰    + ○      │
│                                          ○       │
│ F1       Old    New                ↑    - ○      │
│      P1  8000    0                               │
│ F2   P2  12000   0            ▶     ≡            │
│      P3  12000   0                                │
│ F3   P4  12000   0                 ↓    Auto○ MAN/AUTO │
│      P5  12000   0                        ○      │
│      P6  12000   0                               │
│ F4       Validate with [F4]        ↵    ON ○ ON/OFF │
└─────────────────────────────────────────────────┘
```

Calibration of prime.

```
┌─────────────────────────────────────────────────┐
│ ◑?   CALIBRATION PRIME       ▶      ↰    + ○      │
│                                          ○       │
│ F1                                 ↑    - ○      │
│      F1 Set constant                             │
│ F2   F2 Auto calibration     ▶     ≡            │
│                                                  │
│ F3                                 ↓    Auto○ MAN/AUTO │
│                                           ○      │
│ F4                                 ↵    ON ○ ON/OFF │
└─────────────────────────────────────────────────┘
```

REMEMBER: If this is not an injection sprayer all parameters should be set to 0

Manual calibration of prime 1/2.

```
┌─────────────────────────────────────────────────┐
│ ◑?   MAN PUMPSET  1/2        ▶      ↰    + ○      │
│                                          ○       │
│ F1   F1 Pump 1 p/l    8000         ↑    - ○      │
│        Pump 1 prime   500                        │
│ F2   F2 Pump 2 p/l   12000    ▶     ≡           │
│        Pump 2 prime    500                       │
│ F3   F3 Pump 3 p/l   12000         ↓    Auto○ MAN/AUTO │
│        Pump 3 prime    500                ○      │
│ F4   F4 Pump 4-6             ▶     ↵    ON ○ ON/OFF │
└─────────────────────────────────────────────────┘
```

REMEMBER: If this is not an injection sprayer all parameters should be set to 0

Manual calibration of prime 2/2.

```
┌─────────────────────────────────────────────────┐
│ ◑?   MAN PUMPSET  2/2        ▶      ↰    + ○      │
│                                          ○       │
│ F1   F1 Pump 4 p/l   12000         ↑    - ○      │
│        Pump 4 prime    500                       │
│ F2   F2 Pump 5 p/l   12000    ▶     ≡           │
│        Pump 5 prime    500                       │
│ F3   F3 Pump 6 p/l   12000         ↓    Auto○ MAN/AUTO │
│        Pump 6 prime    500                ○      │
│ F4   F4 Pump 1-3             ▶     ↵    ON ○ ON/OFF │
└─────────────────────────────────────────────────┘
```
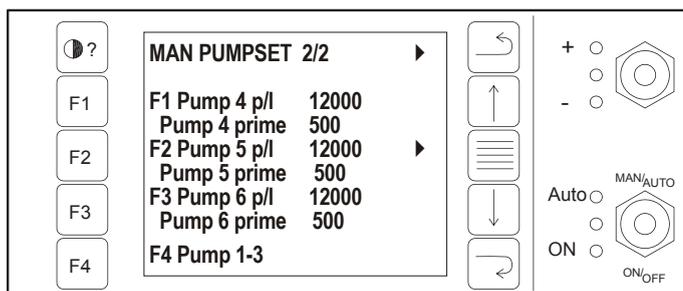
(settings menu cont.)
Automatic calibration of prime 1/2.

See page 2/2 before switch on the
pump motor is activated.

	CALIB PRIME1/2 ▶
?	**Calibration via CAL-switch on oper. units.**
F1	**1. Run water to**
F2	**2. Colour in tank ▶**
F3	**3. CAL switch (pip)** **4. Run coloured water to insp. gl.** **5. Next pump/validate** **Go to next menu ▶**
F4	

Automatic calibration of prime 2/2.

	Calibration factors prime 2/2 ▶
?	Old New
F1	P1 500 0
F2	P2 500 0 ▶ P3 500 0
F3	P4 500 0 P5 500 0
F4	P6 500 0 **Validate with** F4
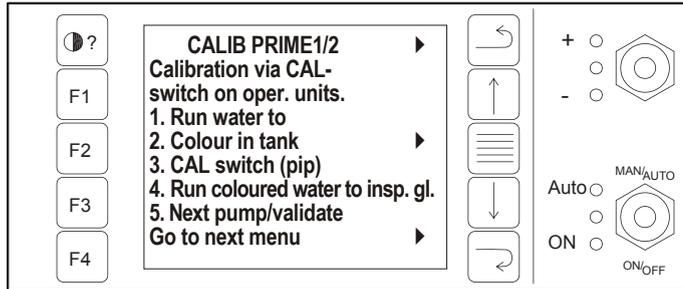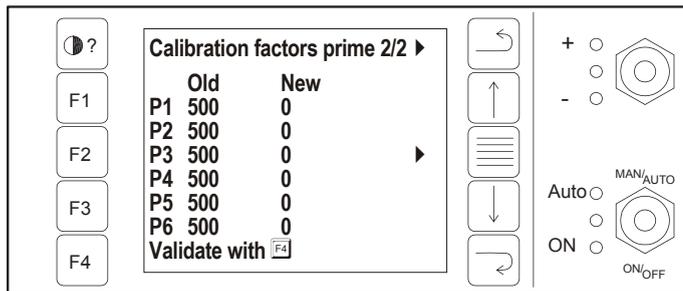
Settings menu 3/4
Main menu F4.
Wind alarm F3

	WIND SPEED 1/1 ▶
?	
F1	**Alarm limit: 6,0 ▶** **Set with** ↓↑
F2	**Validate with** F4 ▶
F3	▶
F4	
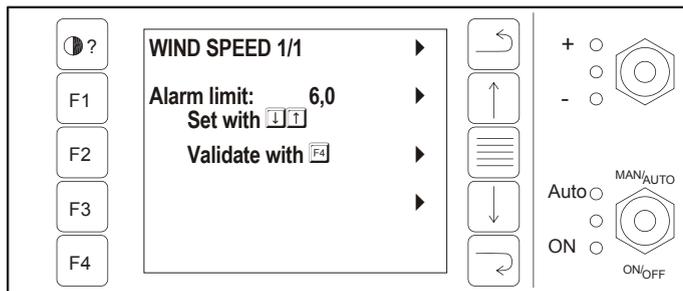
REMEMBER: If no boom sensor on sprayer all should be set to 0

Settings menu 3/4
Boom height setting F4.

	BOOM HEIGHT 1/1 ▶
?	
F1	**F1 Boom height setting**
F2	**F2 Set tilt control ▶**
F3	**F3 Set height control**
F4	**F4 Set tolerances**
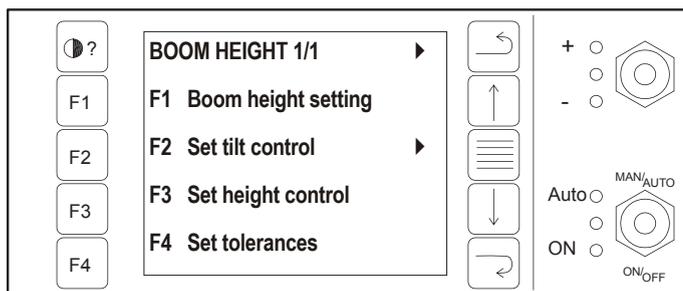
~~Not in use~~
xxxxxxxxx
Page to set after lift
*Set to 0 if no boom control

	Boom height 2/2
?	
F1	
F2	
F3	
F4	
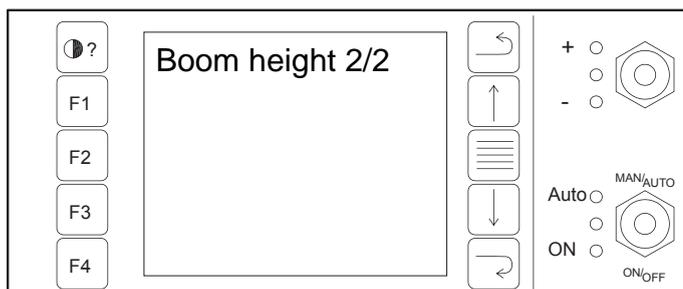
(boom height cont.)

REMEMBER: If no boom sensor on sprayer all should be set to 0

Boom height setting 1/1
F1 Boom height setting.

```
 ◐?      Boom height          ▶
         Readings:
 F1     120           124     ▶
        Set point       130
 F2        Set with ⬇⬆       ▶

 F3        Validate with F4    ▶

 F4
```
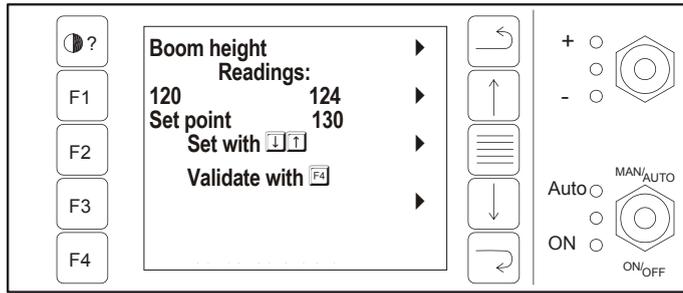
REMEMBER: If no boom sensor on sprayer all should be set to 0

F2 Tilt regulator setting.
DD= Delay from error to regula-
tion - units are 1/10 seconds.
GG= How long time the valve is
activated - units are 1/10 seconds.

```
 ◐?      Tilt control         ▶
         Set tilt regulator
 F1     DDGG, DD=delay, GG=gain ▶
                      1004
 F2        Set with ⬇⬆       ▶

 F3        Validate with F4    ▶

 F4
```
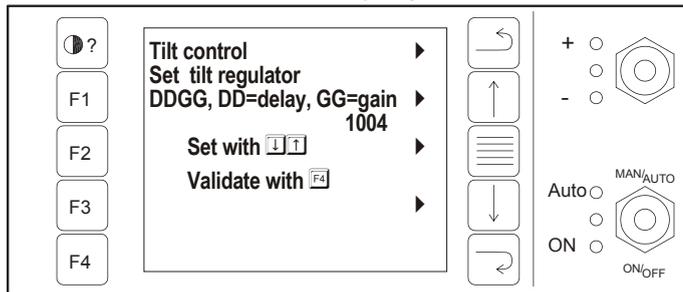
REMEMBER: If no boom sensor on sprayer all should be set to 0

F3 Height regulator setting.

```
 ◐?      Height control       ▶
         Set height regulator
 F1     DDGG, DD=delay, GG=gain ▶
                      2005
 F2        Set with ⬇⬆       ▶

 F3        Validate with F4    ▶

 F4
```
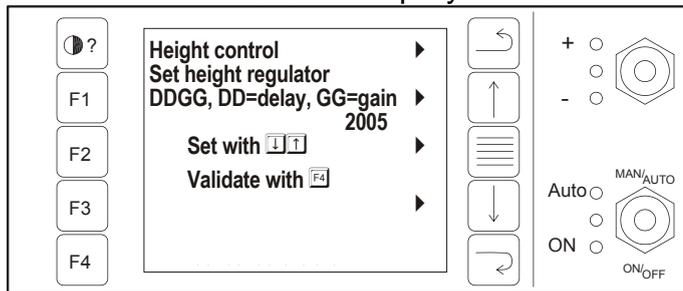
REMEMBER: If no boom sensor on sprayer all should be set to 0

F4 Tolerance
Error threshold value.

```
 ◐?      Height/tilt automatic ▶
         Set tolerance
 F1     TTHH: TT= Tilt, HH= Height ▶
                      320
 F2        Set with ⬇⬆       ▶

 F3        Validate with F4    ▶

 F4
```
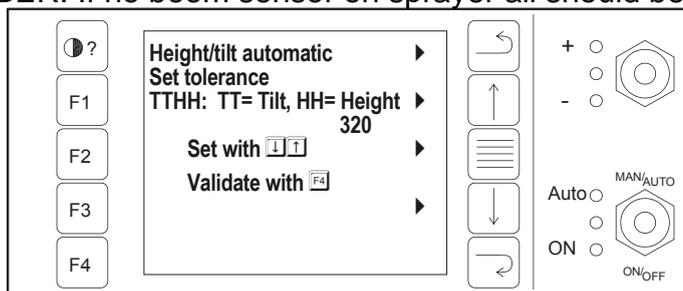
Settings menu 4/4
Press F1 for setting the number of
sections.
Press cursor key up/down.
Press F3 for number.
Press F4 to validate.

```
 ◐?                           ▶

 F1     Number sections   5    ▶

 F2                           ▶

 F3                           ▶

 F4
```
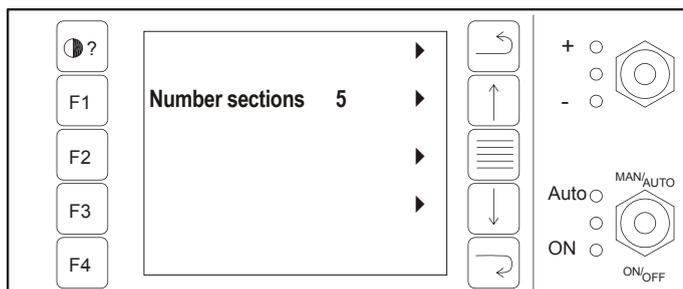
REMEMBER: If no injection on machine all should be set to 0

(settings menu cont.)
Press F2 for setting the number of pumps.
Press cursor key up/down.
Press F3 for number.
Press F4 to validate.

```
 ⬤?                          ▶
                    
 F1    Number pumps    6     ▶

 F2                          ▶

 F3                          ▶

 F4
```
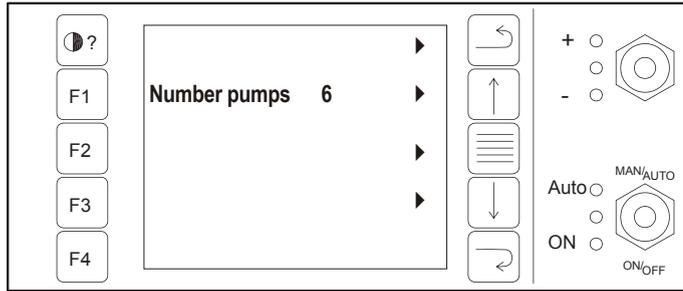
Press F3 for setting of draw bar control.
F1 Set centre position.
When the vehicle is on a straight line - set the read value.
F2 Tolerance setting.
Error threshold value.
F3 Regulation speed.
How long time the error occurs before regulation - units 1/10 sec.
F4 Sensor reading on sprayer.
Adjust manually to 500.

```
 ⬤?    DRAW BAR CONTROL 1/1  ▶

 F1    F1  Set centre position

 F2    F2  Set tolerance.     ▶

 F3    F3  Set reg. speed
       F4  Sensor reading  38
 F4
```
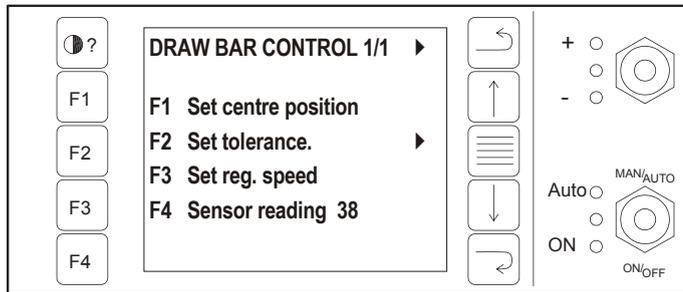
(injection)
Press F4 for setting of calibration speed.
Press cursor key up/down.
Press F3 for setting of speed.
Press F4 to validate.

```
 ⬤?                          ▶

 F1    Cal. speed    16  10   ▶

 F2                          ▶

 F3                          ▶

 F4
```
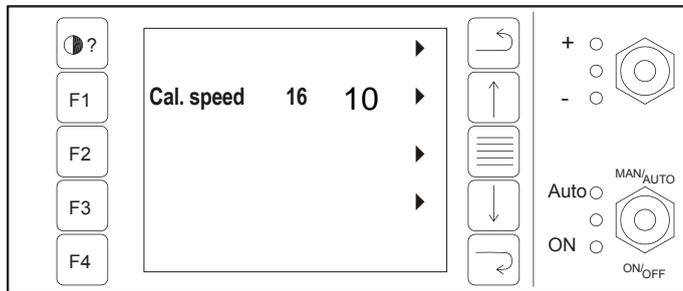
Inj.   Std.
16   10

On line manual

(Main menu 2/2)
Select between spray manual, cleaning manual and trouble shooting guide. Below, some examples from the manual.

◑?	**MANUAL 1/1** ▶	
F1	**F1 Spraying instructions**	
F2	**F2 Cleaning instructions** ▶	
F3	**F3 Trouble shooting**	
F4		
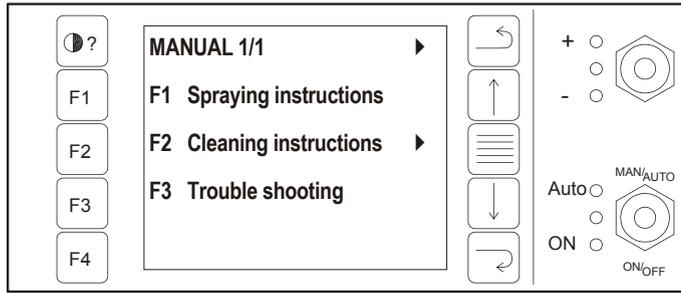
Spraying instructions

Select crop.

◑?	**Crop 1/2** ▶	
F1	**F1 Cereal**	
F2	**F2 Oil seed rape** ▶	
F3	**F3 Peas**	
F4	**F4 Beets** ▶	
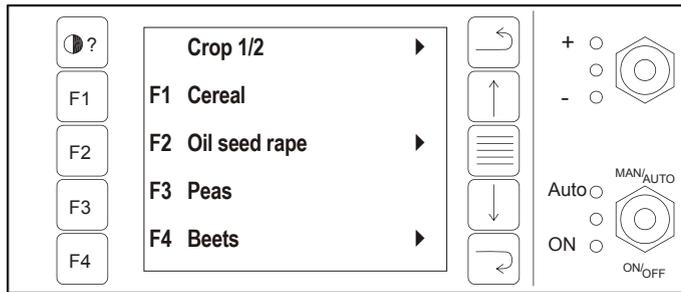
Select chemicals and stage.

◑?	**Cereal 1/2**	▶	
F1	**F1 Weed**	**Stage** **0-5**	
F2	**F2 Fungi**	**1-5**	▶
F3	**F3 Fungi**	**6-10**	
F4	**F4 Insecticide**	**6-10**	▶
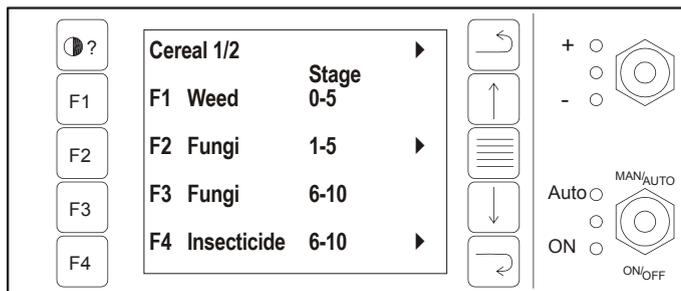
2. Danfoil injection MultiDose 2000

With MultiDose control panel it is possible to control up to 6 chemical pumps at a time. MultiDose 2000 is used in conjunction with the Agromaster S2 monitor. Data input and data display for each pump is done with the Agro monitor and the MultiDose 2000 panel.
On the control menu with MultiDose 2000 the current dosage for each pump is also shown.
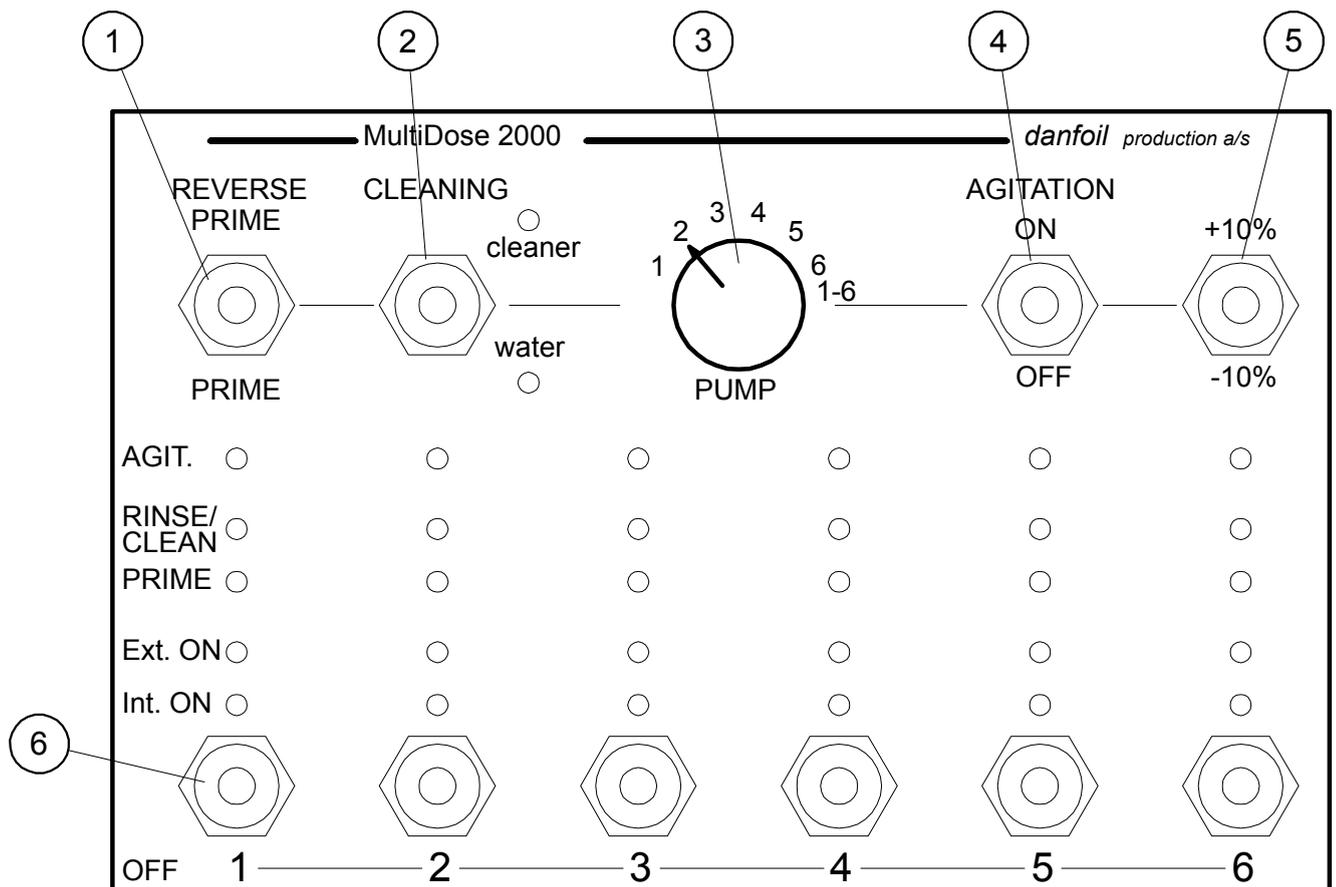
2.1 Switches and control LEDs

1. Prime/reverse prime: Before priming, open the booms to allow the liquid to escape. If the booms are closed the pressure can force the hoses to come off their connectors. Press prime to lead the chemicals to the mixing injector. Press reverse prime to lead the chemicals in the hose back to the container. The LED blinks. Completed prime is indicated by a fixed light. Priming is required before spraying starts to ensure chemicals in the first spray fluid. Completed reverse prime is indicated by the LED turned off.

2. Cleaning/soap/water: Press cleaner to clean with cleaning liquid. Press water to clean with water. LED blinks. Completed cleaning is indicated by a fixed LED.

3. Turn switch: To activate prime, cleaning, stirring and function turn the switch to select pump number. Position 0 deactivates the function. All 6 pumps can be cleaned simultaneously in position 1 - 6.

4. Agitation: Mixing of chemicals. Press ON to start the mixing. Pressing OFF stops the mixing. The LED is on during mixing.

5. ± 10%: Press +10% / -10% to increase/decrease the quantity of chemicals by 10% for each pump. Int./Ext. LED blinks. Fast blinking indicates decreased quantity. Maximal adjustment is limited to 30%. This function is only valid in internal mode.

6. Pump switch: Press OFF to turn the pump off. Press ON once to put the pump in internal mode. Press ON twice to put the pump in external mode (GPS controlled). The LED shows current setting. If the LED for Int./Ext. blinks this indicates that the 10% switch has been activated. On a non GPS- system the extern is used as a secondary indicator. This makes it possible to switch between two different chemical quantities for the same pump.

3. Danfoil control panel spraying

The control panel is used to control a number of mechanical functions on the sprayer and is shown below. The control panel's settings are registered in the Agromaster S 2 monitor that in turn adjusts the dosage to adapt to current conditions, like boom sections.

1. Boom section position, folded or extended, left outer.
2. Boom section position folded or extended, left inner
3. Boom section position, folded or extended, all.
4. Boom section position, folded or extended, right inner.
5. Boom section position, folded or extended, right outer.
6. Not in use.
7. Boom section up/down.
8. Boom tilt.
9. Foam marker Automatic: Alternates side each time the main switch is activated.
   Manual: Alternates side by pressing ON/OFF.
10. Boom rinse system.
11. Air pressure adjustment
12. Boom sections ON/OFF 5 - 7 boom sections.
13. Main switch ON/OFF.
14. Not in use.
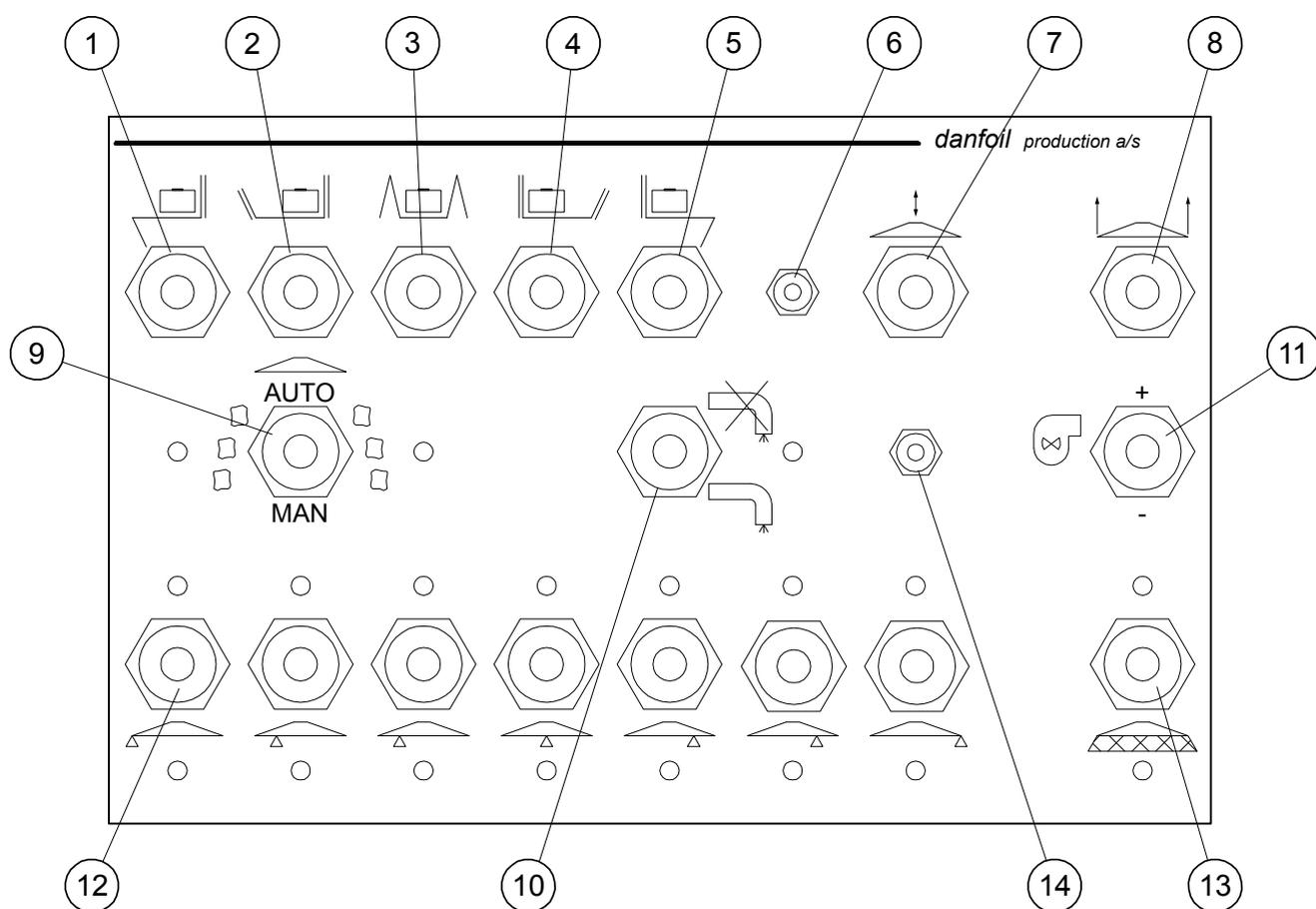
Basic set up of sprayer

Before the initial use of the sprayer a number of basic parameters need to be configured.
See section "Display menus" regarding procedures for each menu.

1. Calibration - required before initial use

1.1 Calibration - general

See the section in the general manual regarding the correct calibration.
The constant values of all functions are calculated based on known calibration numbers, e.g. the sprayer can be used with different wheel sizes on different tractors. Different chemicals with different viscosity have variable flow characteristics. It is highly recommended to write these numbers down so they can be reprogrammed when the same conditions occur. We recommend that each individual chemical is calibrated during the first year. They can thereafter be grouped according to their calibration value.
See calibration log on the last page.

1.2 Calibration of flow meter Agromaster S2

The flow meters have to be calibrated before initial use. Dosage meters can be set with a constant value or manually calibrated. Constant setting is a factor responding to a given volume of litres. If the dosage is higher than indicated on the meter, increase the factor. Decrease the factor if the dosage is smaller than shown.
Manual calibration is performed by filling the tank with water. Start the pump and open the main valve. Press F4 and let a known quantity pass through. Press F4 again to stop. Enter the passed quantity as a replacement for the shown quantity. Verify by pressing F4.
Calibration of the filling meter is performed the same way.

1.3 Coding of wheel factor Agromaster S2

The wheel factor can be entered as a constant or entered manually by driving a known distance. The wheel factor responds to 1/8 of the wheel circumference measured in mm. The diameter of the wheel in mm multiplied by 3.14 and divided by 8 will give the wheel factor. If the wheel diameter is: 1800 mm $= \dfrac{1800 \times 3{,}14}{8}$ = 707 = Number for constant setting.

If the wheel is equipped with a different number of magnets than 8 - divide by this number.
Manual setting is performed by driving a known distance (e.g. 100 m). Then follow the instructions on the display for start and stop. The wheel factor is shown together with the value for the driven distance. (shown distance is from the previous calibration). Enter the driven distance to replace the shown.

1.4 Coding of boom width Agromaster S2

The display "Boom width 1/1" shows the total boom width and the boom width of the current section (marked with a filled triangle).
The setting of the boom width starts by setting the total boom width with all sections active. Thereafter deactivate the sections one by one and set the remaining boom width. N.B. Only deactivate one section at a time during the coding of the boom width..
NOTE: The shown boom width refers to the active part of the sprayer. If one or more boom sections are inactive this sub width will be deducted from the boom width. If all boom sections are inactive the shown boom width equals 0.

1.5 Coding of regulation factor Agromaster S2

The regulation factor decides the time of reaction for the motor valve by automatic regulation. That is, if speed or boom width changes the quantity of liquid has to be changed.

1.6 Calibration of pumps 1-6 Agromaster S2 - MultiDose 2000

To secure that the right quantity of chemicals is mixed into the water the chemical pumps have to be calibrated. The pumps can be manual or automatically calibrated. Manual calibration is performed by pressing F1 under "Settings 3/4" for constant setting and thereafter adjusting the impulses until the right quantity is pumped out.

Follow the instructions on the screen for automatically calibration under "Setting 3/ 4" described below.

Important: The tractor must be started and the consistence in the containers must be uniform.

1. Remember to mount the number of hoses to be used on the containers.
   Run prime on the number of pumps to be used on MultiDose 2000.
2. Find the main menu on AgroMaster II.
   Press F4: Go to page 3/4.
   Press F1: Calibrating pumps 1-6.
   Press F2: Choose auto calibration. Advance one page.
3. Outside
   Open the calibration valves.
   The calibration switch must be set to "ON".
   Run 1 L fluid through the pumps with the manual switch.
   Put the fluid back in the container.
4. Now some new numbers will be present on the computer in the cab. Validate with F4 - once for every pump. Press main menu.
   Be aware of considerable variations.
   Big pumps max. 8500.
   Small pumps max. 15000.

If, during the calibration, a re-calibration has to be performed (due to e.g. air in the system) start from point (1) seen above. Remember to close the calibration valve after accomplished calibration.

1.7 Calibration of prime 1-6 (diluting) Agromaster S2

For the right quantity of chemical to be pumped to the mixer injector when the prime switch is pressed the prime function has to be calibrated for each individual pump.

Follow the instructions on the screen for calibration under "Configuration 3/4".

Calibration is performed with help of the current pump motor switch. The switch has two active settings: "cal" and "man. contr". With automatically calibration pop-up 2/2 should be shown on the screen before the switch on the pump motor is activated. Start by opening the calibration valve and follow the instructions: Press "man. contr." until the water reaches the mixing injector and is totally free of air bubbles. Add a dye (thoroughly mixed) into the chemical container. Switch to "cal" until a short "bib" is heard and thereafter switch to "man" until the dyed water reaches the mixing injector. The remaining pumps are calibrated the same way. Walk up to the cabin and look at pop-up 2/2 to compare the old with the new calibration factor.

Press F4 to validate.

Remember to close the calibration valve after accomplished calibration.

1.8 Setting of the anemometer

If an electronic anemometer is mounted this has to be set. Set the anemometer to the strength of e.g. 5 km/h. The tractor has to stand still during the test to avoid influence from the speed wind.

Spraying in the field

See section "screen menus" regarding setting for the different menus. When the sprayer is calibrated according to instructions on the previous page it is ready to use in the field. Regarding the setting and the controlling of the mechanical functions on the sprayer please see the manual for the sprayer. This manual only concerns the MultiDose 2000 system.

With general conditions for the sprayer fulfilled you can start the spraying according to the instructions below.

Note! The calibration of the sprayer has to be performed before you start.

1. Settings on MultiDose 2000 and Agromaster S2

1.1 Agitation, MultiDose 2000

Start the agitation of the chemical/s that is/are to be used for the current task. Set the selection knob to the container 1 - 6 that is to be agitated. Press the switch to mode ON. The LED for the agitator is activated during the agitation.

1.2 Prime MultiDose 2000

Before the priming is started the boom sections should be opened to let the liquid out. The priming should be performed (if the chemical hose has been empty) before spraying with current chemical starts. Set the selection knob to the pump 1 - 6 that is to be primed. Press the switch to mode Prime. The pump will now work the calibrated quantity of fluid to the mixing injector. The LED is blinking during the priming. When the priming is terminated the LED will shine with a constant light.

Don't press Prime during the spraying as this will mean an immediate overdose of the chemical.

1.3 Setting of wind alarm Agromaster S2

The wind alarm is set to preferred value in the control menu 3/7.

1.4 Resetting of area and fluid volume Agromaster S2

Reset the calculation functions that need to be reset before the initial spraying.
Resetting is performed in the control- and information menu.

1.5 Data input of remaining area and fluid volume Agromaster S2

This is where you set the remaining area to be driven and the quantity fluid (litre) available for the task. The monitor will show available litre liquid per hectare. Setting is performed in the control menu.

1.6 Data input of fluid volume Agromaster S2

The fluid quantity that you prefer per hectare is set in the control menu.

1.7 Data input of mode Agromaster S2 - MultiDose 2000

The preferred mode is set in the control menu 1/7. By external mode check that the correct GPS is selected. If GPS is not connected, use external mode as level 2.

1.8 Data input of chemical quantity Agromaster S2

This is where you set the quantity for each individual pump. Choose between the setting of different quantities for chemicals for internal and external dosage. Setting is performed in the control menu. If GPS is not connected the external mode has the function of level 2. This makes it possible to set two different chemical dosages for each pump.

1.9 Auto/Manual switch Agromaster S2

The switch is set on auto to let the Agromaster S2 monitor operate the set quantity automatically. This means that the quantity of the fluid changes by the changing of speed, and that the fluid flow stops if the machine stops.

When the automatically regulation is in use the LEDs blink + or - during the spraying. This is the indication of an automatic regulation. Deactivating one boom section reduces the fluid quantity. Select manual if sharing is to be operated manually.

2. Termination

2.1 Reverse prime

When the spraying is terminated the selection knob is set on the chemical that has been used and reverse prime is pressed once. The pump will now pump the chemical in the hose back to its container and the prime LED is deactivated. Open respectively calibration valve before the reverse prime is performed. In this way air will be sucked back into the chemical container and not chemical mixture.

2.2 Cleaning Instructions

To avoid blocking and/or spraying damage it is essential to clean the system thoroughly when changing chemicals or when halting spraying for more than an hour. For general cleaning instructions see section 7 of the manual, but observe the following for MultiDose 2000:

1. After completing the spraying, turn off the injection pumps on MultiDose 2000 control panel and continue to run the equipment for another 50 m to empty the system.
2. Open the calibration valves and run the injection pumps on "Reverse Prime" on the control panel.
3. Close the calibration valves again and move the couplings from the chemical container to the cleaning manifold. Increase the total liquid flow to +200 l/ha on the Agromaster S2 monitor to ensure a large flush through flow.
   If the MultiDose 2000 is equipped with the automatic cleaning program, then activate it with the control panel. Select "Cleaner" for a thorough cleaning, or select "Water" for a less thorough cleaning.
   The program "Cleaner" will automatically first rinse with water, then with detergent, and finally with water again. Optionally a system to heat the cleaning water can be mounted. If so equipped use the program "Water" before "Cleaner" to fill the system with heated water.
   If the MultiDose 2000 is not equipped with the automatic cleaning program, then move the couplings to the cleaning manifold and start the injection pumps with the control panel. First increase the dosage to the Max setting then let it rinse with a suitable amount of clean water. If detergent is required, it can be added to a clean chemical container. Switch the couplings to this container and run the current pump in "Prime" twice. Flush with plenty of clean water after the detergent.
   During the cleaning procedure the cleaning liquid is sprayed, during driving, on the recently sprayed crop.
4. It may be necessary to repeat the cleaning process if very heavy, sedimented chemicals are being used.

Troubleshooting

1. Error codes Agromaster S2

Code   Meaning
 00   No error
 02   RPM 1
 03   RPM 2
 03   Error in boom width
 04   Transferring error
 05   Dosage too low
 06   Dosage too high
 07   Strong wind
 08   Error in pump 1
 09   Error in pump 2
 10   Error in pump 3
 11   Error in pump 4
 12   Error in pump 5
 13   Error in pump 6
 14   Chemical 1 empty
 15   Chemical 2 empty
 16   Chemical 3 empty
 17   Chemical 4 empty
 18   Chemical 5 empty
 19   Chemical 6 empty
 20   Error in chemical dosage 1
 21   Error in chemical dosage 2
 22   Error in chemical dosage 3
 23   Error in chemical dosage 4
 24   Error in chemical dosage 5.
 25   Error in chemical dosage 6.
 26   Parameter error.
 27   Error in external setting point.
 28   No setting point.

All the codes are not used in all the systems.

Calibration log

Note the constant calibration numbers used under the given conditions in the log table below:

Function	Calibration	Function	Calibration
Working width		Prime pump 1	
Section widths			
GPS system			
Wheel factor		Prime pump 2	
Regulation factor			
		Prime pump 3	
Flow gauge			
		Prime pump 4	
		Prime pump 5	
		Prime pump 6	