

USER GUIDE for FunkiNet Dry feeding

June 2021



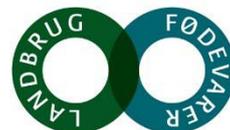
This guide describes the program sequence used in the daily operation of the system.

For further explanation regarding individual sequence, please tab **F1** for instruction and information. Help text will appear on the screen where you are.

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DANISH DESIGN | GERMAN QUALITY | GLOBAL EXPERIENCE

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Login

In order to avoid errors or malfunction of the feeding system, it's recommended to use different USER LOGIN used to operate the liquid feed system.

As a standard, the following login is created:

Users, who have all right for changes or running the dry feeding system, must use this login.

Username: *supervisor*

Password: *supervisor*

It is possible to create new users with other rights and, if required, in another language. This is done by entering FUNCTIONS in the menu bar, user, and then create new user.

It is recommended to create a user, whose only rights are to edit pen data, section data, and restart system when alarming.

Username: *user*

Password: *user*



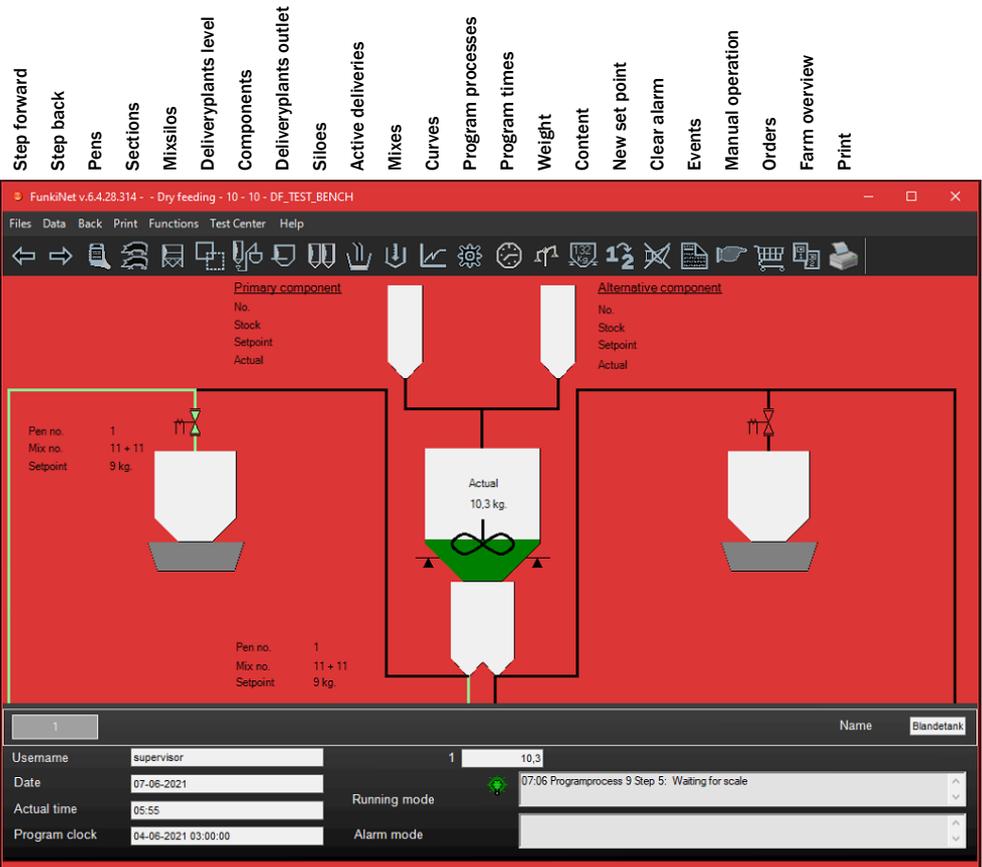
Main screen

On main menu, it's always possible to see the feeding system activity.

Toolbar at top of the screen and activity in bottom of screen cannot be moved, no matter which picture you are in. Then it is always possible to see activity and to get back to main menu.

Warning

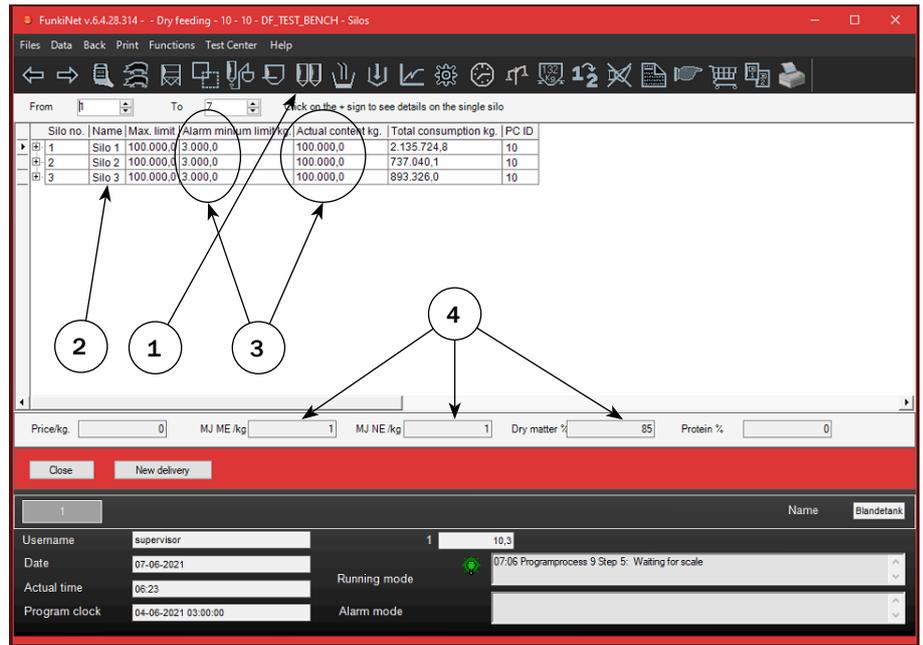
In general do not change program processes while running. It is only recommended by authorized personnel, who know all details regarding processing.



1. Silos

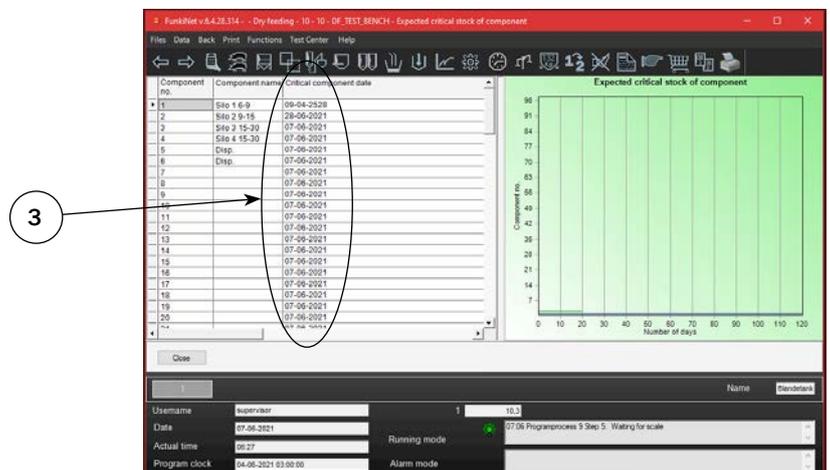
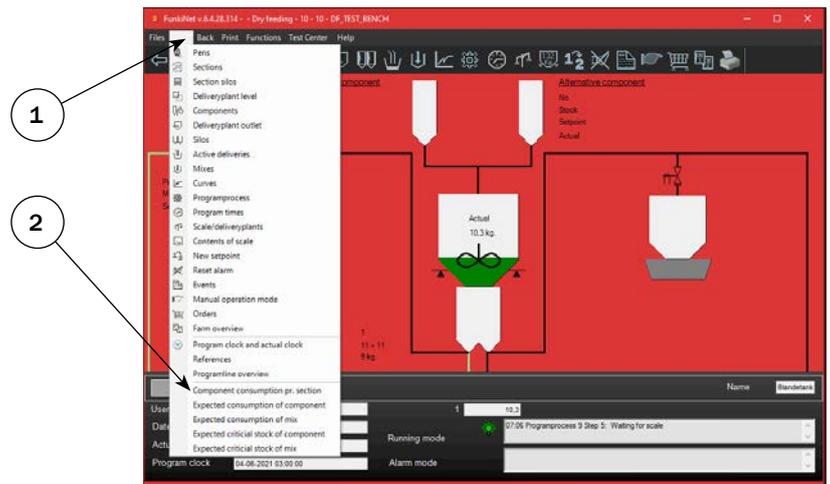
Procedure for entering silos

1. Mouse click on icon "Silos"
2. Always write the relevant name on component in column "Name"
3. If "Actual content kg" becomes lower than "Alarm minimum limit kg", a soft alarm will occur on every component connected to actual silo.
4. Make sure the analytic values of silo content is correct. It is particularly important MJ ME, MJ NE and dry matter content is correct.

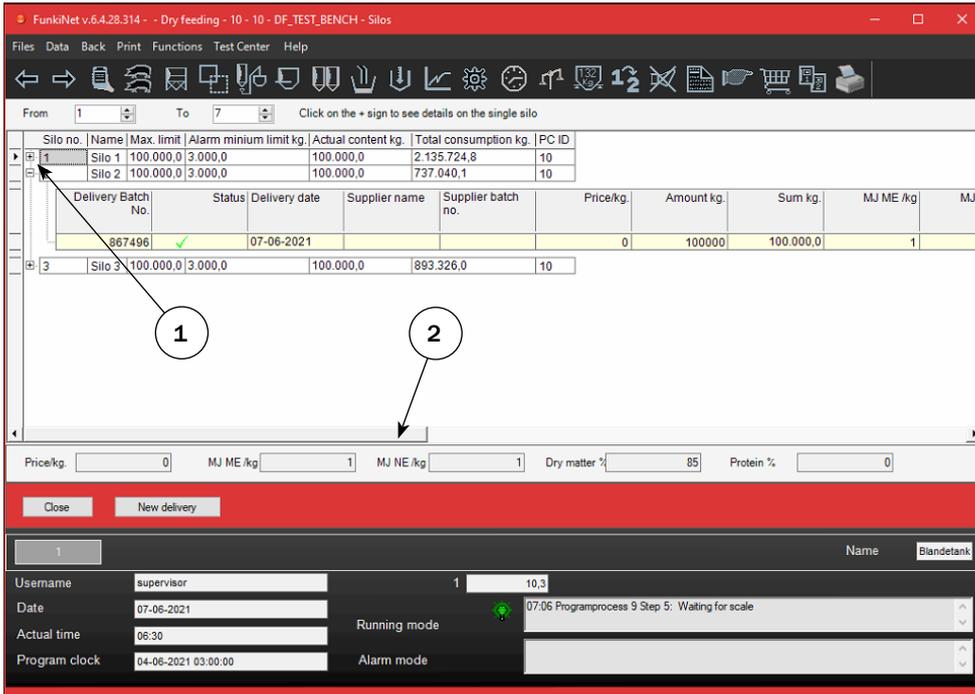


Procedure for entering component overview

1. Mouse click on "Data"
2. Choose "Component consumption pr. section".
3. Critical component date, shows date component (Silo) will be out of stock

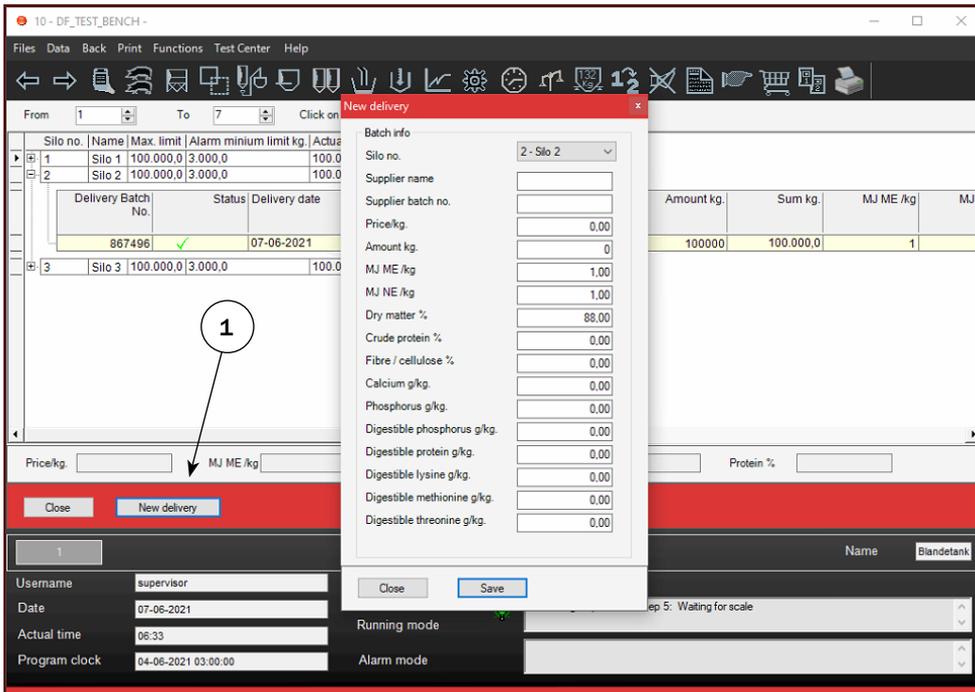


1.1 Silos continued (How to enter new delivery)



Check analysis values

1. This can be done by tapping the small +, left of the component silo number. Here it is possible to see analysis values on specific silo.
2. It is possible to see the most important values on marked component at the bottom of the page.



Enter new delivery

1. By tapping "New delivery" this window will appear. Here you select on which silo to create a delivery. When choosing silo no. old analysis values will appear. These values are possible to overwrite as well as entering Kg from new delivery.

When FunkiNet Master and Controller is installed, it is a good idea to enter supplier name and supplier batch no. It is then possible to track the different deliveries and trace which group of animals is fed from specific batch.

2. Components

From 1 To 14 Click on the + sign to see details on the single component

Component no	Name	Alternative activated	Alternative count	Intake rate kg/sek.	Minium intake rate kg.	Minium intake rate sek.	Pausetime in sec.	Preparation time sek.	Analog component speed	Trivia boundary kg.	Color	Component type	Silo no
1	Silo 1 6-9	1	0	2	2	10	5	0	0	0,001	Yellow	Grain	1
2	Silo 2 9-15	0	0	20	2	10	5	0	0	0,001	Green	Grain	2
3	Silo 3 15...	0	0	5,885	2	10	5	0	0	0,001	Orange	Grain	3
4	Silo 4 15...	0	0	5	2	10	5	0	0	0,001	Olive	Grain	4

Scale no.	Startup time in sec.	Afterflow in kg.	Max afterflow in kg.
1	0	7	60

Logic id	Preperation	Intake	Pause
12209	Not active	Active	Not active
0	Not active	Not active	Not active
0	Not active	Not active	Not active
0	Not active	Not active	Not active
0	Not active	Not active	Not active
0	Not active	Not active	Not active
0	Not active	Not active	Not active
0	Not active	Not active	Not active
0	Not active	Not active	Not active

Close

1 Name Blandetank

Username supervisor 1 10,2

Date 07-06-2021

Actual time 06:41

Program clock 04-06-2021 03:00:00

Running mode 07:06 Programprocess 9 Step 5: Waiting for scale

Alarm mode

Procedure for entering Components

1. Mouse click on icon "Components"
2. Choose which silo component is connected to
3. Mouse click on the small +, and setup up to 10 co-equipment, running in preparation, during intake or in pause time.
4. On each component, minimum intake rate is adjustable separately. "Minimum intake rate sek." is the sec. system will overlook and check, if "Intake rate kg/sec" is reached within time.
5. Pause time is very important to have. The time is used to settle scale, before calculating the afterflow or intake rate kg/sec.

Note: In the component table, it is visible if a component went to alternative (point 6). Digit 1 in column "Alternative activated" indicates if component goes directly to alternative. "Alternative count" shows how many times it did. When "Alternative count" reaches 10, it will reset automatically and retry on mixture's main component.

3. Feed mix

Mix no. 1 6-9 kg Protein adjustment % 0 Protein sick days 0 Density 1

Component no.	Name	Amount	Agitator speed, digital	Agitator speed, analog	Alternative component no.	Color	Actual calculated intake amount in kg	Actual intake amount kg	Update mixture at component empty
1	Silo 1 6-9	1000	Middle	0	2		2,86	2,891	No

Percent composition: Silo 1 6-9 100,00%

Show only components in use
 Show percent and component names
 Close

MJ ME /kg: 1,00 Price/MJ ME: 0,00 Price/kg.: 0,00
 MJ NE /kg: 1,00 Price/MJ NE: 0,00 Protein % at 85% dry matter: 0,00
 Protein %: 0,00 Dry matter %: 85,00 Total amount: 1.000,00

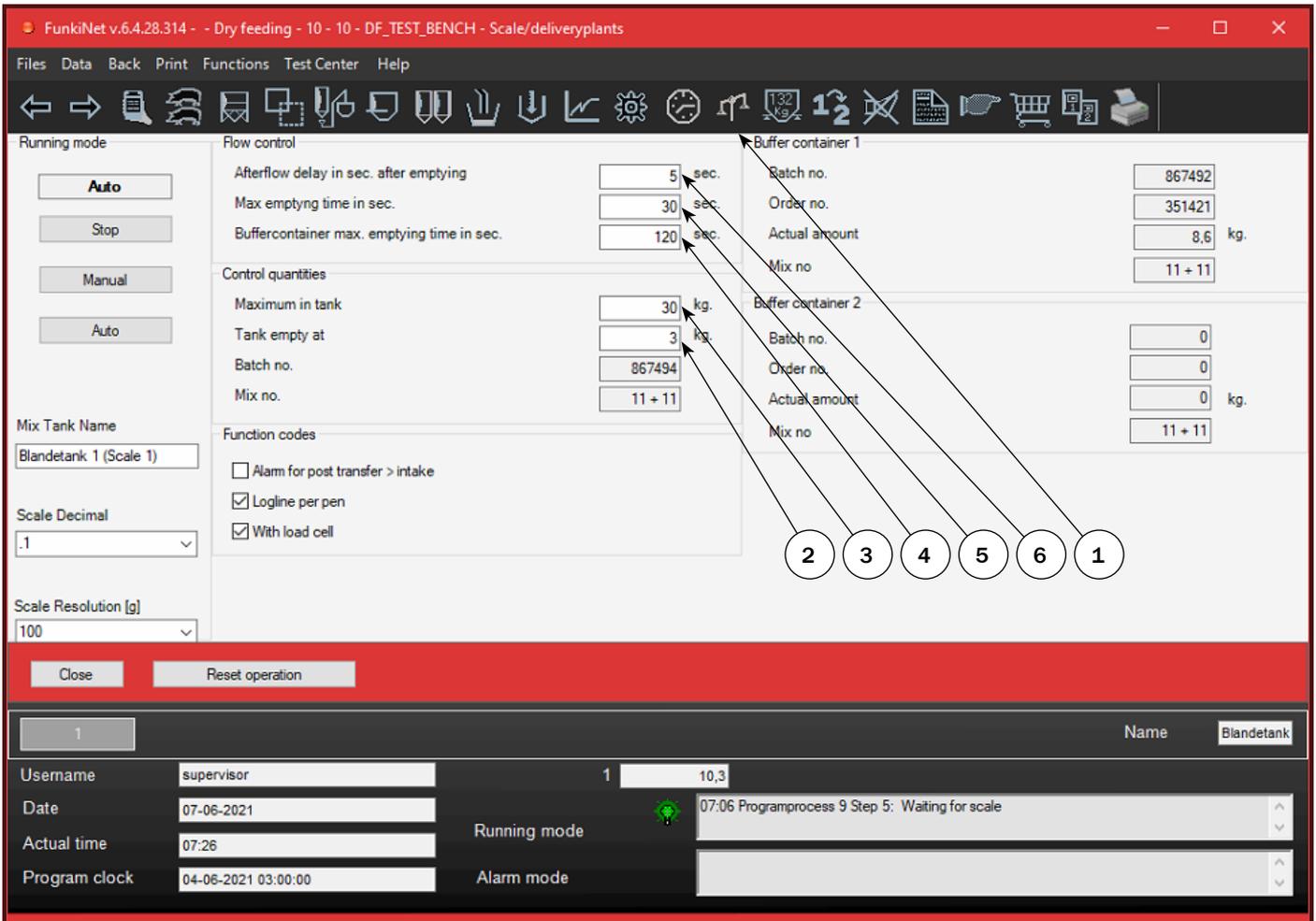
Username: supervisor 1 10,2
 Date: 07-06-2021
 Actual time: 06:58
 Program clock: 04-06-2021 03:00:00
 Running mode: 07:06 Programprocess 9 Step 5: Waiting for scale
 Alarm mode:

Procedure for entering Mixes

1. Mouse click on icon "Mixes"
2. Name of mix.
3. Enter composition in column "Amount". As example, enter dry components adding to 1000.
4. If required, enter alternative components to the individual component in the mix.
5. If a reduction of protein is required for a period, "10" is typically entered in field "Protein adjustment %" and "10" in the field "Protein sick days". (Only possible when grain and protein is add from different components.)
6. Column "Actual calculated intake amount in kg" and "Actual intake amount kg" shows latest intake volumes. These columns are reset at each calculation.
7. "Yes" in "Update mixture at component empty" will change mix if component goes to alternative. Then "Amount" will be written or added to the alternative component "Amount" column. Choice is only allowed in regular mix, not in multiphase mixtures)

Note: Feed intake order is component with lowest number first.

4. Scale



Procedure for entering Scales

1. Mouse click on icon "Scales"
2. Accepted residual quantity in mixer tank is adjustable. Normal value is 3 - 5 kg. Enter residue value in the input field "Tank empty at".
3. If scale content passes value in "Maximum in scale", system will go to hard alarm, "Tank over-filled".
4. If empty sensor in buffer container(-s) activates when dumping from scale, it will alarm if not getting an empty signal within this value after dumping. Normal value 180 - 240 sec.
5. Max emptying time in sec. This value is used when dumping from scale. If not reaching "Tank empty at" within this time, the system will alarm. Normal value is 30 sec.
6. When dumping from scale and the "Tank empty at" value reached, bottom damper will stay open in the "Afterflow delay in sec. after emptying" time. Only to make sure it empties completely! Normal value 5 sec.

Note: In the component table, it is visible if a component went to alternative (point 6). Digit 1 in column "Alternative activated" indicates if component goes directly to alternative. "Alternative count" shows how many times it did. When "Alternative count" reaches 10, it will reset automatically and retry on mixture's main component.

5. Program time (How to change feeding sequence)

Programprocess no.	Name	Starttime	End time
9	1 Fodring anlæg 1...	07:05	08:11
30	Startfiling Single...	08:11	08:13
9	1 Fodring anlæg 1...	08:19	08:36
18	Stress test on...	08:36	10:43
18	Stress test on...	10:43	13:39
30	Startfiling Single...	13:40	13:58
31	Startfiling Single...	13:58	07:32

Sequence for already executed programprocesses

01:59 03:59 05:59 07:59 09:59 11:59 13:59 15:59 17:59 19:59 21:59 23:59

Programprocess no.

Time

Close Show already executed programprocesses Show active programprocesses Show inactive programprocesses

1

Name: Blendetank 1 (Scale 1)

Username: supervisor 1 0,1

Date: 09-06-2021

Actual time: 05:28

Program clock: 08-06-2021 13:00:00

Running mode: 05:26 Programprocess 1 Step 5: Waiting for equipment. Component no. 1 await allocation

Alarm mode:

Procedure for entering Program times

1. Mouse click on icon "Program times"
2. Program clock stops when a program process is active. When a process is done, program clock will catch actual time, unless another program starttime has a time stamp before actual time.
3. Three selections are available. Executed program processes, actual start times on active processes and inactive program process.

Programprocess no.	Name	Next starttime
99	Midnight calculation	CI 00:05 00:05
9	1 Fodring anlæg 1 og anlæg 2(1-10 + 101-110)	03:00
16	Stress test on system 1	CI 04:00 04:00
18	Stress test on system 2.2	CI 05:00 07:00
30	Startfiling Single dry	CI 08:00 08:00
31	Startfiling Single dry	CI 13:00 13:00

Close Show already executed programprocesses Show active programprocesses Show inactive programprocesses

1

Name: Blendetank 1 (Scale 1)

Username: supervisor 1 9,1

Date: 09-06-2021

Actual time: 05:32

Program clock: 08-06-2021 13:00:00

Running mode: 05:31 Programprocess 1 Step 6: Waiting for scale

Alarm mode:

1. Start time decides when program processes intend to start. If you wish to change feeding order, it is possible to change start time at almost any point, unless specific program is already active.

6. Program process

Programprocess no. 15 Start time 00:00

Step no.	Name	Activity
1	No activity	
2	No activity	
3	No activity	
4	No activity	
5	No activity	
6	No activity	
7	No activity	
8	No activity	
9	No activity	
10	No activity	
11	No activity	
12	No activity	
13	No activity	
14	No activity	
15	No activity	
16	No activity	
17	No activity	
18	No activity	
19	No activity	
20	No activity	
21	No activity	
22	No activity	
23	No activity	
24	No activity	
25	No activity	

Buttons: Close, Insert programline, Delete programline, Insert programprocess, Delete programprocess. Scroll to first column when leaving table.

1 Name Blandetank 1 (Scale 1)

Username supervisor 1 9,0

Date 09-06-2021

Actual time 05:34

Program clock 08-06-2021 13:00:00

Running mode 05:34 Programprocess 1 Step 5: Pause after intake. 5 actual 3 seconds

Alarm mode

Procedure for entering Program process

1. Mouse click on icon "Program process"

FunkiNet program processes are built up as single commands, where controller is running through program steps, starting with step 1, step 2 etc., until the process gets to a no activity process line. When a specific program process reaches "No activity", program clock will start counting towards actual time. If any new process start times occur, the relevant process executes.

- FunkiNet's programs are very flexible and in principle able to execute all kinds of feeding wishes.
- It is very important to have knowledge of how to set up program processes, before changing any parameters. ACO Funki service technicians will assist and set up farm specific programs, ensuring useful programs according to specific wishes.

6.1 Program process (Dry feed loop)

2. Select program process no. you wish to edit.

3. First "Go to and do" process line skips pause lines.

Second "Go to and do" process line execute filling and in which line it starts.

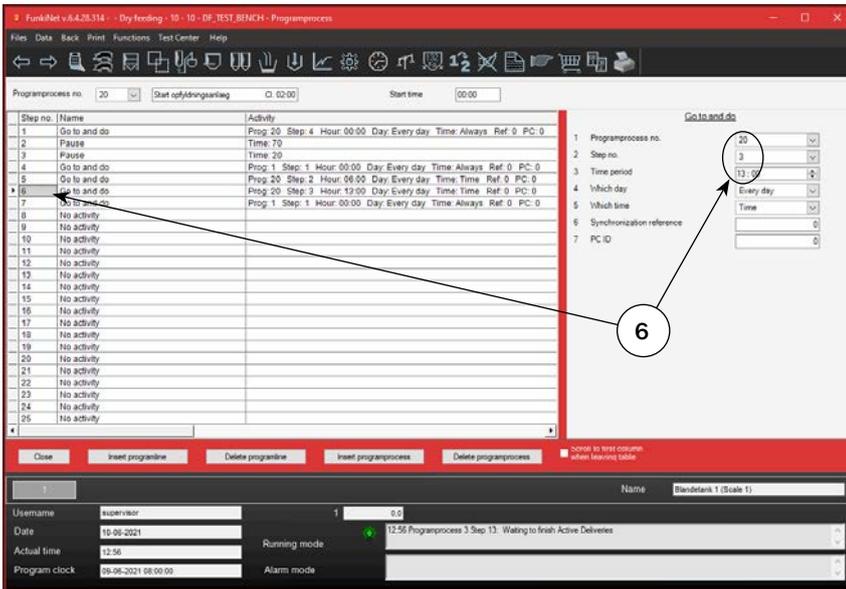
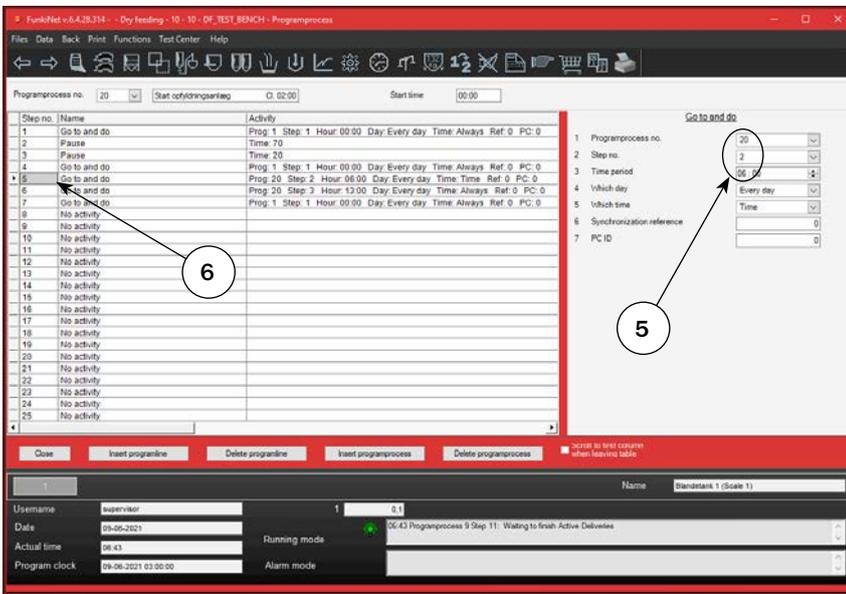
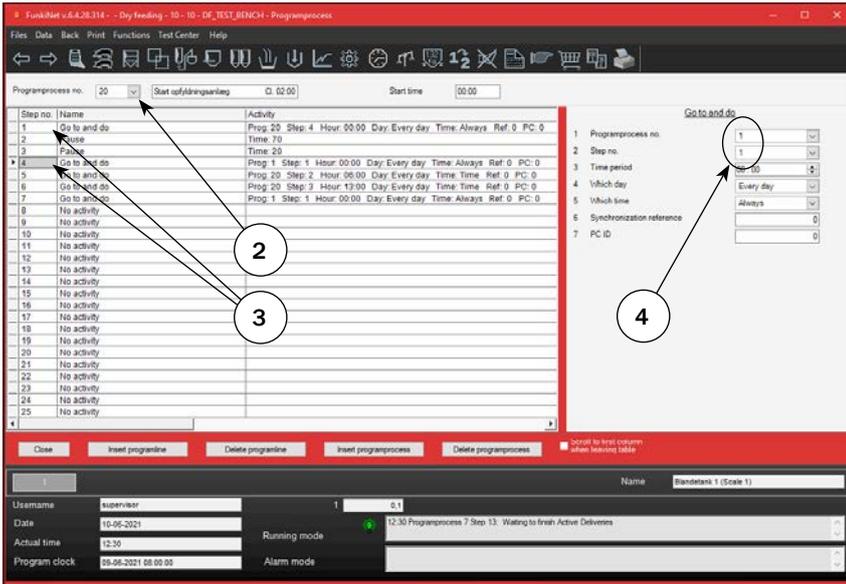
4. Chose process and step jumping to, too starts order/filling.

Process will jump to specified process to fill dispensers/hoppers, and when done return to next process line in present loop.

5. At third "Go to and do" process line, it is selected which pause line is required before morning time stamp reached. At night, it is normal to have longer pause between checking sensors, than during daytime. This is reason for 2 pause lines.

6. It is in the fourth "Go to and do" process line, possible to select when extra pause time at night, should stop, as well as when 1. Loop of the days should end.

It is necessary to have 2 or 3 loops doing same thing. Simply to get program clock running, as well as having different pause times during the day, depending on how pigs' day rhythm is.



6.2 Program process (order)

The screenshot shows the 'Programprocess' window in FunkiNet v.6.4.29.314. The window title is 'FunkiNet v.6.4.29.314 - - Dry feeding - 10 - 10 - DF_TEST_BENCH - Programprocess'. The interface includes a menu bar (Files, Data, Back, Print, Functions, TestCenter, Help) and a toolbar with various icons. Below the menu bar, there are input fields for 'Programprocess no.' (10), '1 Fodning anlæg 1 og anlæg 2', and 'Start time' (00:00). The main area is split into two panes. The left pane is a table with columns 'Step no.', 'Name', and 'Activity'. The right pane is titled 'Order mixture' and contains several configuration fields. Numbered callouts 1 through 9 are placed on the right side of the image, with arrows pointing to specific elements in the interface:

- 1: Points to the 'Order mixture' title in the configuration panel.
- 2: Points to the 'Type' dropdown menu.
- 3: Points to the 'Receiver' dropdown menu.
- 4: Points to the 'Deliveryplant no.' text input field.
- 5: Points to the 'Order status' dropdown menu.
- 6: Points to the 'Order condition' dropdown menu.
- 7: Points to the 'Order at status' dropdown menu.
- 8: Points to the 'Percent of daily delivery' text input field.
- 9: Points to the 'Intake no.' text input field.

At the bottom of the window, there are buttons for 'Close', 'Insert programline', 'Delete programline', 'Insert programprocess', and 'Delete programprocess'. Below these buttons is a status bar with a 'Name' field containing 'Blandetank 1 (Scale 1)'. At the very bottom, there is a user interface for 'supervisor' with fields for 'Date' (14-06-2021), 'Actual time' (08:16), and 'Program clock' (14-06-2021 04:00:00). A 'Running mode' indicator shows a green light and the text '08:16 Programprocess 16 Step 5: Waiting for buffer container 1'. An 'Alarm mode' field is also present.

1. Ordering is first step to execute. Dry Feed is built on ordering and later executing them. In the order step, these settings are relevant to adjust:
2. **Order status line 1.** First selection is order type. It mainly has to do with the choice made in curves used on pens.
3. **Order status line 3.** Select which "Delivery plant no." this order belongs to. (1 or 2)
4. **Order status line 5.** Select which sensor to check. Normally empty sensor!
5. **Order status line 6.** Select which status on sensor creates an order.
6. **Order status line 7.** Percent chosen is max. daily order percent. If pen value "% of max. daily quantity" becomes higher, it will not create a new order for the specific pen.
7. **Order status line 8.** Percent set is order size, unless this becomes out of pen setting range in section. (Check min/max kg per pen in sections.)
8. **Order status line 9.** Select from which pen to order.
9. **Order status line 10.** Select until which pen to order.

6.3 Program process (Check orders)

The screenshot shows the FunkiNet v.6.4.29.314 software interface. The main window is titled 'Programprocess' and contains a table of steps and a configuration panel for the 'Check order queue and goto' step. The table has columns for Step no., Name, and Activity. The configuration panel has fields for 'Check order for', 'Deliveryplant no.', 'Check for order status', 'On order goto programline', 'On empty order queue goto programline', 'Check from', and 'Check to'. Numbered callouts 10 through 15 point to specific elements in the interface:

- 10: Points to the 'Check order queue and goto' step in the table.
- 11: Points to the 'Deliveryplant no.' field in the configuration panel.
- 12: Points to the 'On order goto programline' field in the configuration panel.
- 13: Points to the 'Check from' field in the configuration panel.
- 14: Points to the 'Check to' field in the configuration panel.
- 15: Points to the 'Check order queue and goto' step in the table.

10. Checking order queue is second step to execute. This process line is used as priority organizer to execute in correct order:

11. **Check order queue and go to line 2.** Set which Delivery plant no. is handled in this jump.

12. **Check order queue and go to line 4.** If any orders in order queue on delivery plant selected, jump to line selected.

13. **Check order queue and go to line 5.** If no orders in order queue on delivery plant selected, jump to line selected.

14. **Check order queue and go to line 6.** Filter from which pen no. this jump includes.

15. **Check order queue and go to line 7.** Filter until which pen no. this jump includes.

6.4 Program process (Intake)

The screenshot shows the FunkiNet v.6.4.29.314 software interface. The main window is titled 'Programprocess' and contains a table of process steps and a configuration panel for the 'Mix intake' step.

Step no.	Name	Activity
1	Order mixture	Type: Multiphase Rec: Pen Plant.no.: 1 Sta: Intake Cond: Empty sensor
2	Order mixture	Type: Multiphase Rec: Pen Plant.no.: 2 Sta: Intake Cond: Empty sensor
3	Check order queue and goto	Check: Pen Plant.no: 1 Sta: Intake Order.goto: 4 Empty.goto: 6 From: 1 To: 72
4	Mix intake	Int.for: Pen Plant.no: 1 Prep.: None From: 1 To: 72
5	Move mixture	
6	Check order queue and goto	Check: Pen Plant.no: 2 Sta: Intake Order.goto: 7 Empty.goto: 9 From: 101 To: 172
7	Mix intake	Int.for: Pen Plant.no: 2 Prep.: None From: 101 To: 172
8	Move mixture	
9	Check order queue and goto	Check: Pen Plant.no: 1 Sta: Intake Order.goto: 4 Empty.goto: 10 From: 1 To: 72
10	Check order queue and goto	Check: Pen Plant.no: 2 Sta: Intake Order.goto: 7 Empty.goto: 11 From: 101 To: 172
11	Run empty	From: 0 To: 0 Time: 0 Wait to Empty: #
12	Clear order queue	
13	Return	
14	No activity	
15	No activity	
16	No activity	
17	No activity	
18	No activity	
19	No activity	
20	No activity	
21	No activity	
22	No activity	
23	No activity	
24	No activity	
25	No activity	

The 'Mix intake' configuration panel on the right includes the following fields:

- 1 Intake for: Pen
- 2 Deliveryplant no.: 1
- 3 Preparation: None
- 4 Intake interval from: 1
- 5 Intake interval to: 72

At the bottom of the window, there is a status bar with fields for Username (supervisor), Date (16-06-2021), Actual time (07:08), Program clock (16-06-2021 03:00:00), and a log of events including '07:07 Programprocess 9 Step 4: Waiting for equipment. Component no. 2 await allocation' and '07:08 Soft alarm: Switching from component 1 to alternative component 2 Status: Active'.

16. Third main process step, is the intake line. It make an intake for the next pen in order queue.

17. **Mix intake line 2.** Set which Delivery plant no. is handled in this intake.

18. **Mix intake line 4.** Filter from which pen no. intake includes.

19. **Mix intake line 5.** Filter until which pen no. intake includes.

6.5 Program process (Move mixture, run empty and return)

20. Fourth main process step, is move mixture. After intake, this process line starts counters and equipment, to ensure correct transport line is started in the correct order.

Step no	Name	Activity
1	Order mixture	Type: Multiphase Rec: Pen. Plant.no.: 1 Sta: Intake Cond: Empty sensor
2	Order mixture	Type: Multiphase Rec: Pen. Plant.no.: 2 Sta: Intake Cond: Empty sensor
3	Check order queue and goto	Check: Pen. Plant.no: 1 Sta: Intake Order goto: 4 Empty goto: 6 From: 1 To: Intfor Pen. Plant.no: 1 Prep: None From: 1 To: 72
4	Mix intake	
5	Move mixture	
6	Check order queue and goto	Check: Pen. Plant.no: 2 Sta: Intake Order goto: 7 Empty goto: 9 From: 101 Intfor Pen. Plant.no: 2 Prep: None From: 101 To: 172
7	Mix intake	
8	Move mixture	
9	Check order queue and goto	Check: Pen. Plant.no: 1 Sta: Intake Order goto: 4 Empty goto: 10 From: 1 To: 72
10	Check order queue and goto	Check: Pen. Plant.no: 2 Sta: Intake Order goto: 7 Empty goto: 11 From: 101 From: 0 To: 0 Time: 0 Wait to Empty: #
11	Run empty	
12	Clear order queue	
13	Return	
14	No activity	
15	No activity	
16	No activity	
17	No activity	
18	No activity	
19	No activity	
20	No activity	
21	No activity	
22	No activity	
23	No activity	
24	No activity	
25	No activity	

21. Fifth main process step, is run empty function. This is used as delay function, insuring portions transported in chain(-s), end before leaving process.

22. Run empty line 4. If value is "1", process waits on chain(-s) in idle.

If more Delivery plants in the setup, "Order mixture", "Check order queue and go to", "Mix intake" and "Move mixture", are done simultaneously to make feedings as efficient as possible.

Step no	Name	Activity
1	Order mixture	Type: Multiphase Rec: Pen. Plant.no.: 1 Sta: Intake Cond: Empty sensor
2	Order mixture	Type: Multiphase Rec: Pen. Plant.no.: 2 Sta: Intake Cond: Empty sensor
3	Check order queue and goto	Check: Pen. Plant.no: 1 Sta: Intake Order goto: 4 Empty goto: 6 From: 1 To: Intfor Pen. Plant.no: 1 Prep: None From: 1 To: 72
4	Mix intake	
5	Move mixture	
6	Check order queue and goto	Check: Pen. Plant.no: 2 Sta: Intake Order goto: 7 Empty goto: 9 From: 101 Intfor Pen. Plant.no: 2 Prep: None From: 101 To: 172
7	Mix intake	
8	Move mixture	
9	Check order queue and goto	Check: Pen. Plant.no: 1 Sta: Intake Order goto: 4 Empty goto: 10 From: 1 To: 72
10	Check order queue and goto	Check: Pen. Plant.no: 2 Sta: Intake Order goto: 7 Empty goto: 11 From: 101 From: 0 To: 0 Time: 0 Wait to Empty: #
11	Run empty	
12	Clear order queue	
13	Return	
14	No activity	
15	No activity	
16	No activity	
17	No activity	
18	No activity	
19	No activity	
20	No activity	
21	No activity	
22	No activity	
23	No activity	
24	No activity	
25	No activity	

23. "Return" is process line used to get back to loop handling start and pause times.

Step no	Name	Activity
1	Order mixture	Type: Multiphase Rec: Pen. Plant.no.: 1 Sta: Intake Cond: Empty sensor
2	Order mixture	Type: Multiphase Rec: Pen. Plant.no.: 2 Sta: Intake Cond: Empty sensor
3	Check order queue and goto	Check: Pen. Plant.no: 1 Sta: Intake Order goto: 4 Empty goto: 6 From: 1 To: Intfor Pen. Plant.no: 1 Prep: None From: 1 To: 72
4	Mix intake	
5	Move mixture	
6	Check order queue and goto	Check: Pen. Plant.no: 2 Sta: Intake Order goto: 7 Empty goto: 9 From: 101 Intfor Pen. Plant.no: 2 Prep: None From: 101 To: 172
7	Mix intake	
8	Move mixture	
9	Check order queue and goto	Check: Pen. Plant.no: 1 Sta: Intake Order goto: 4 Empty goto: 10 From: 1 To: 72
10	Check order queue and goto	Check: Pen. Plant.no: 2 Sta: Intake Order goto: 7 Empty goto: 11 From: 101 From: 0 To: 0 Time: 0 Wait to Empty: #
11	Run empty	
12	Clear order queue	
13	Return	
14	No activity	
15	No activity	
16	No activity	
17	No activity	
18	No activity	
19	No activity	
20	No activity	
21	No activity	
22	No activity	
23	No activity	
24	No activity	
25	No activity	

7. Essential Single dry feeding info, regarding ACO Funki's FunkiNet program

- Batches transported in circuits, are on time-based calculations. Valve distances are measured, but recalculated into time, when system is installed.
- Dosing portion from buffer container into chain stops on either sensor or an calculated distribution speed. When feeding small portions, less than necessary to activate buffer container sensor. Dosing is done according to distribution speed in system settings. If sensor is activated in buffer container, it will dose until empty, plus adjustable "free before empty time" in system settings.
- From scale, it is optional to connect two main drive units (circuits), and on each main circuit add up to 9 sub circuits. The main circuits called "Delivery plant level 1", and sub circuits called "Delivery plant level 2-10".
- There are many adjustable pause/security settings. Among others:
 - Pause before portion
 - Pause after portion
 - Pause between portions
 - Extra pause in percent of valve distance
 - Max emptying time on each buffercontainer
 - Afterflow delay on emptying scale
- Between each feeding, circuits are empty, creating less load on drive unit when starting after a pause time.
- If hard alarming on component intake, "Active deliveries" will continue until finalized. This minimizes stress on chain, while a full stop with feed in circuit places more stress on chain, after reset of alarm.

8. Feed curves

Procedure for entering Curves

1. Mouse click on icon "Feed curve".
2. Curve name.
3. Enter mixture number in columns feeding no. mix 1, mix 2 etc. if used in program processes intake and distribution lines.

8.1 Solid feed mix curve (Day based)

Point no.	Distno. 1 mix	Distno. 2 mix	Distno. 3 mix	Distno. 4 mix	Day	Amount per day
1	1	1	3	4	0	74
2	1	1	3	4	29	24
3	1	1	3	4	30	20
4	1	1	3	4	89	35
5	1	1	3	4	90	35
6	1	1	3	4	112	35
7	1	1	3	4	114	20
8	1	1	3	0	11	22
9	1	2	3	4	19	22
10	1	2	3	4	25	80
11	1	2	3	4	190	1
12	0	0	0	0	0	100
13	0	0	0	0	0	100
14	0	0	0	0	0	100
15	0	0	0	0	0	100
16	0	0	0	0	0	100
17	0	0	0	0	0	100
18	0	0	0	0	0	100
19	0	0	0	0	0	100
20	0	0	0	0	0	100
21	0	0	0	0	0	100

4. Check if "Unit for quantity" is correct. (Normally MJ ME).
5. Check if "Curve type" is correct. (Normally days by sows and weight by piglets and fattening pigs).

8.2 Solid feed mix curve (Weight based)

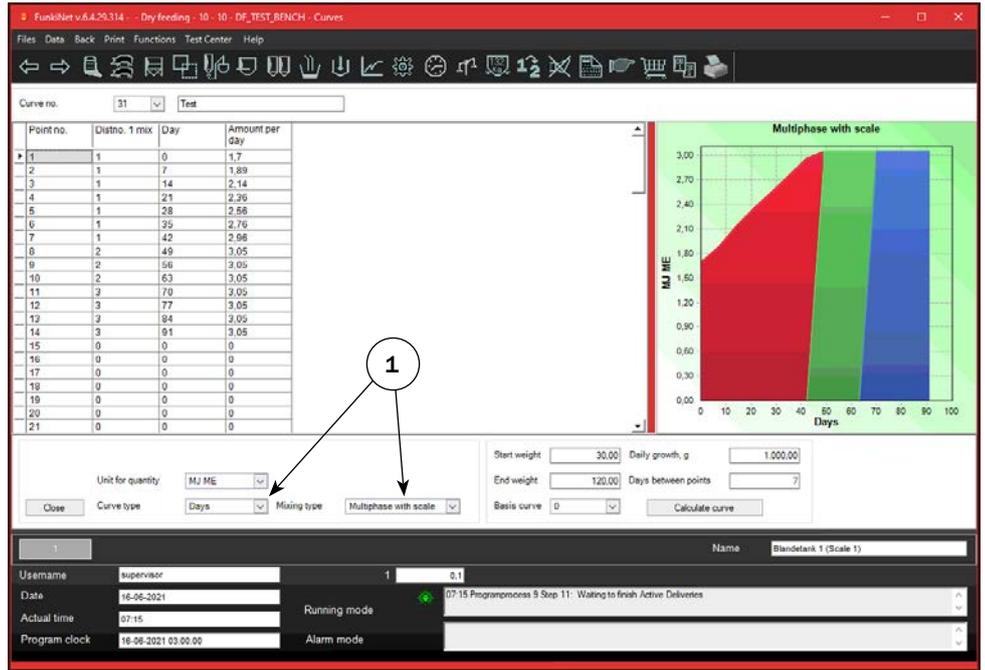
Point no.	Distno. 1 mix	Distno. 2 mix	Distno. 3 mix	Distno. 4 mix	Day	Weight	Amount per day
1	1	1	1	1	0	10	1,45
2	1	1	1	1	10	15,3	1,45
3	1	1	1	1	20	22,1	1,45
4	1	1	1	1	30	30,3	1,71
5	1	1	1	1	40	39,9	2,06
6	1	1	1	1	50	50,5	2,42
7	1	1	1	1	60	61,9	2,74
8	2	2	2	2	70	73,8	3,01
9	2	2	2	2	80	85,3	3,05
10	2	2	2	2	90	97,8	3,05
11	2	2	2	2	100	109,4	3,05
12	2	2	2	2	110	120,6	3,05
13	2	2	2	2	120	131,1	3,05
14	2	2	2	2	130	140,9	3,05
15	2	2	2	2	140	150,5	3,05
16	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0

7. Check if "Unit for quantity" is correct. (Normally MJ ME).
8. Check if "Curve type" is correct. (Normally weight by piglets and fattening pigs).
9. It is possible to adjust curves to farm specific growth data. Update your curve with current daily gain in gram" (Gompertz model).

8.3 Multiphase mix curve (Day based)

1. Works the same way as feed curve for solid mix (section 8.1), just select Multiphase mix in column mixing type.

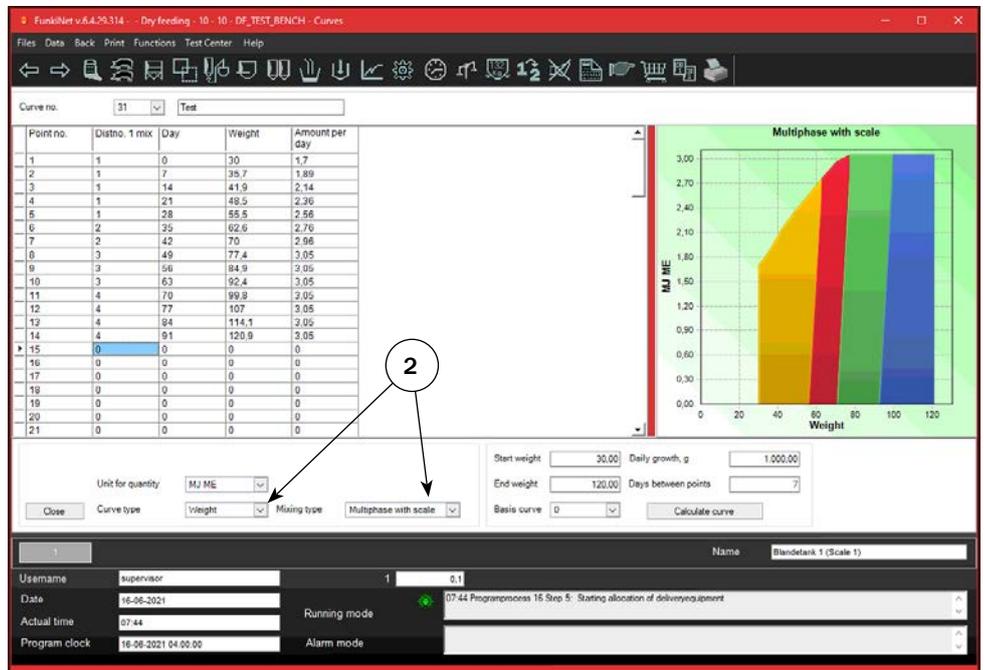
Multiphase mix means that the mix changes from one to another combination. Multiphase on a single pen is possible in FunkiNet Single Dry!



8.4 Multiphase mix curve (Weight based)

2. Works the same way as feed curve for solid mix (section 8.2), just select Multiphase mix in column mixing type.

Multiphase mix means that the mix changes from one to another combination. Multiphase on a single pen is possible in FunkiNet Single Dry!



10. Sections (Reading the consumption data for each section)

The screenshot shows the FunkiNet v.6.4.29.314 interface for 'Dry feeding - 10 - 10 - DF_TEST_BENCH - Sections'. The main area is divided into four columns:

- Summary for section:** A table with columns for various metrics and their values. The 'Kg.' row is circled with a '1', and the value '114.747,90' is circled with a '2'.
- Pen data:** A table with fields for 'Group no.', 'Days', 'Weight kg.', 'Number of sows', 'Number of pigs', 'Mix no.', 'Curve no.', 'Pen days', 'Fix amount', '% of max. daily quantity', and 'Pen status'. The 'Calculate f' button is circled with a '3', and the 'Pen status' field is circled with a '4'.
- Section settings:** Fields for 'Outlet no.', 'Return outlet no.', 'Light time', and 'Distance in discs to overflow sensor'.
- Pen settings:** Fields for 'Minimum kg. per pen', 'Max. kg. per pen', and 'Summationunit per pen' (set to 'Kg').
- Water / Temperature:** Fields for 'Current waterusage (litre)' and 'Current temperature (celsius)'.

A red bar at the bottom contains system information:

- Section: 1
- Name: Blandetank 1 (Scale 1)
- Username: supervisor
- Date: 16-06-2021
- Actual time: 08:14
- Program clock: 16-06-2021 04:00:00
- Running mode: 08:14 Programprocess 16 Step 5: Starting allocation of deliveryequipment
- Alarm mode: (empty)

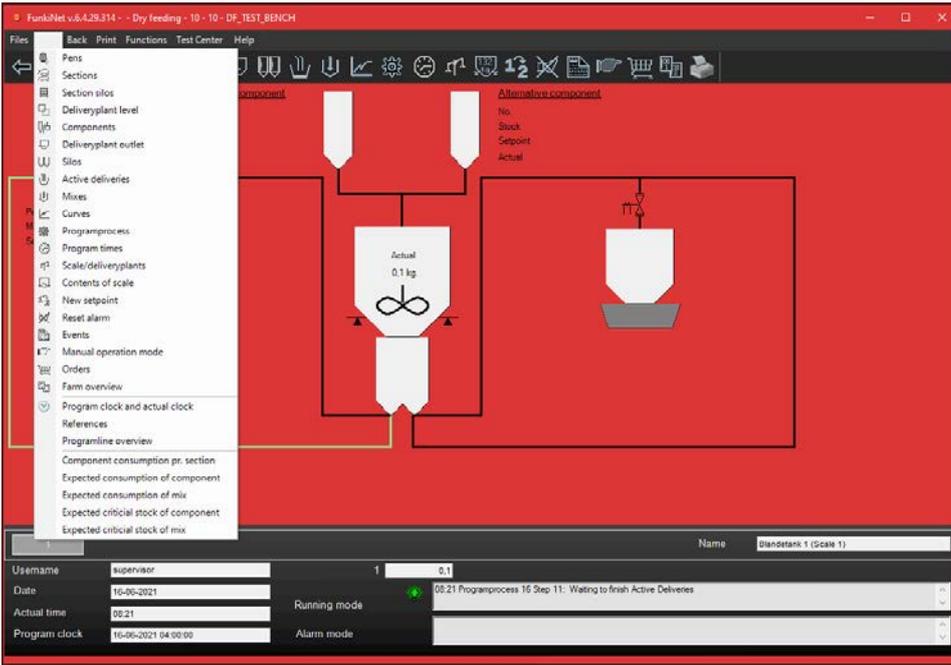
Procedure for entering Section

1. Mouse click on icon "Sections"
2. Section name
3. In section, you see a summary of feeding consumption for this section. Here it is selectable which unit is shown on pens. Summation resets manually in section and will NOT affect values on pens.
4. Changing various pen settings, ass number of pigs, curve no., mix no. etc. is possible to do on all pens in one section. The difference is that a change here reflects on all the pens in the section. It is often a great help when filling or emptying a section, as when delivering pigs to the slaughter house.

10.1 Sections (Summation of component consumption per. section)

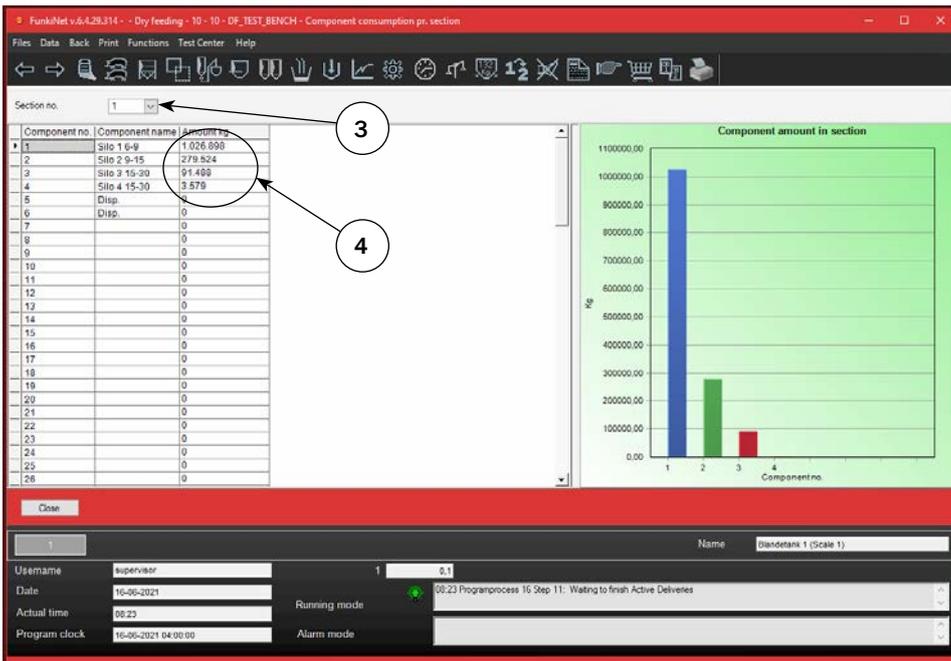
Procedure for entering component overview

1. Mouse click on "Data"
2. Chose "Component consumption pr. Section".



3. Select which section you wish to view.

4. Values shown is consumption since last reset. Reset is done manually, by entering 0 instead of shown values.



11. Pens

The daily adjustment of number of pigs and feed amounts is done at pens in following columns

2. **Days.** Here you enter day of their cycle.

3. **Weight.** Enter pigs' weight here. After entering value, weight will calculate automatically from curve specified in the pen, at every midnight calculation.

4. **No. of sows.** For pens with lactating sows possibly with piglets, enter the number of sows in this column, number of piglets, weaners or finishers are entered in column Pigs.

5. **Deviation +/-** from normal volume/sick curve. In this field enter a (+) or (-) sign. The sign determines whether the deviation must be positive or negative relative to the normal amount

6. **Deviation days** from normal volume/sick curve. In this field, enter the number of days of deviation. Entering 0 days means deviation will be either positive or negative to the normal amount.

7. **Deviation in %** from normal volume/sick curve. This number represents the percentage deviation of the normal amount. Deviation will reduce gradually as deviation days reduces.

8. **Section** in which valve is included.

9. **Curve** used for calculating intake and distribution. If value is "0" pens are fed a fixed quantity.

10. **Multiphase** mix shows how last order was combined.

11. **Distribution overview** shows distribution the last 4 days. Value shown is what selected in "Summation per pens" in "Section" data.

12. Active deliveries

Delivery plant no.	Receiver no.	Receiver type	Valve Distance [Sec]	Feed Length [Sec]	Feed Position [Sec]	Delivery plant name	Setpoint in kg.	Kg. in delivery flow	Feed Valve Status	Status	Order id
1	11	Pen	589	63	-176	Valve 1 - 72	9,0	9,1	0	1	355328
1	12	Pen	590	64	-243	Valve 1 - 72	9,0	9,0	0	1	355329
1	13	Pen	591	54	-310	Valve 1 - 72	9,0	9,0	0	1	355330
1	14	Pen	592	55	-368	Valve 1 - 72	9,0	9,0	0	1	355331
1	15	Pen	593	54	-426	Valve 1 - 72	9,0	9,0	0	1	355332
1	16	Pen	594	53	-483	Valve 1 - 72	9,0	9,0	0	1	355333
1	17	Pen	595	54	-539	Valve 1 - 72	9,0	8,9	0	1	355334
1	18	Pen	596	0	-596	Valve 1 - 72	9,0	9,3	0	1	355335
2	111	Pen	365	28	0	Valve 101 - 172	5,0	4,9	1	1	355338
2	112	Pen	366	52	-43	Valve 101 - 172	5,0	5,0	0	1	355339
2	113	Pen	368	39	-111	Valve 101 - 172	5,0	5,0	0	1	355340
2	114	Pen	369	39	-169	Valve 101 - 172	5,0	5,0	0	1	355341
2	115	Pen	371	39	-228	Valve 101 - 172	5,0	5,0	0	1	355342
2	116	Pen	372	40	-284	Valve 101 - 172	5,0	5,1	0	1	355343
2	117	Pen	374	33	-341	Valve 101 - 172	5,0	5,1	0	1	355344

Procedure for entering Active deliveries

1. Mouse click on icon "Active deliveries"

Active deliveries is an overview facility, to check where portions have reached in circuits:

2. **Delivery plant no.** shows which deliveryplant to deliver to.

3. **Receiver no.** Shows, which pen to deliver.

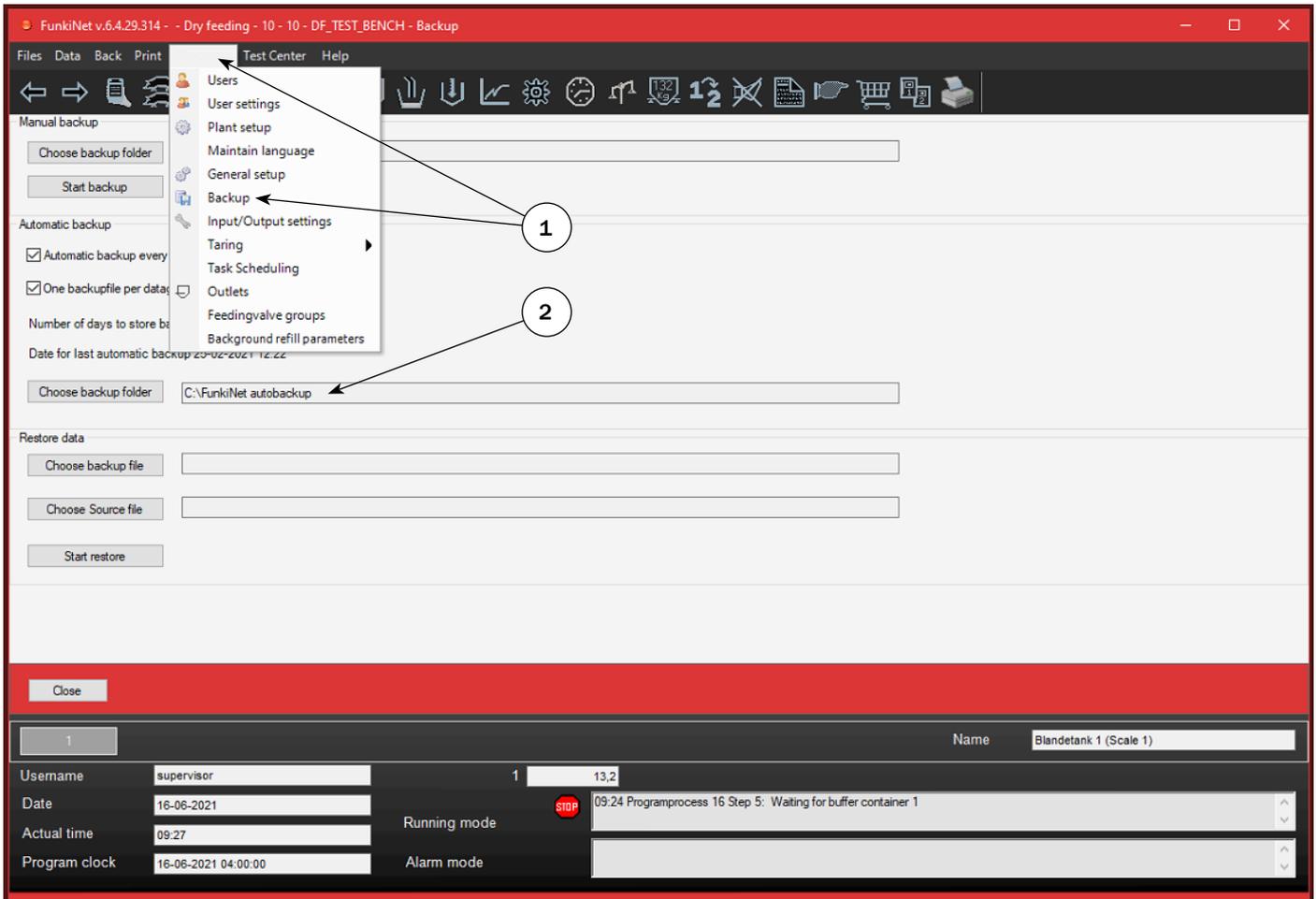
4. **Valve distance [sec].** When order taken and dump into buffercontainer, active delivery starts, and valve distance show.

5. **Feed length [sec].** After registering delivery start, feed length will increase, as long as portion is dosed out of buffer container.

6. **Feed position [sec].** This count down from feed placed in buffer container, until it reach the pen. It shows the front end of a portion.

7. **Feed position [sec].** When value reach "0" sec. **Feed valve status** changes from "0" to "1" and target valve at pen open. From this point **Feed length [sec]** starts counting down until "0", and when reaching "0" valve will close, and specific delivery will no longer show in the overview.

13. Backup



It is very important to ensure, a backup is done in a safe media daily. When starting a new facility, service engineer will ensure that system backup is set automatically.

Note:

It is farmer's responsibility to make a safe backup once a day.

1. To verify that system is set up properly, go to "Functions" in menu bar and select "Backup". The page above will appear on your screen.
2. Ensure that backup folder is pointing towards a safe drive - normally external USB memory stick. There will always be 2 pcs. USB connector delivered per controller. Change USB stick once a week and restore in case of breakdown. Must never be older than one week.

In the column "Number of days the backup data is stored" it is possible to determine how many days back you want to save a backup file.

14. Events (Logfile)

The screenshot displays the 'Events' window in FunkiNet. The event list includes the following data:

Event no.	Username	SMS number	Time	Group	Scale no.	Actual kg	Programprocess no.	Step no.	Description
7312088			15-06-2021 - 18:24	Manual operation	0	0	0	0	Operationmode changed from Stop to Auto
7312086	supervisor		15-06-2021 - 18:22	Manual operation	0	0	0	0	Operation reset
7312085	supervisor		15-06-2021 - 18:22	Manual operation	0	0	0	0	Soft alarm reset
7312080			15-06-2021 - 18:15	Manual operation	0	0	0	0	Operationmode changed from Stop to Auto
7312079			15-06-2021 - 18:15	Manual operation	0	0	0	0	Operationmode changed from Auto to Stop
7312078			15-06-2021 - 18:14	Manual operation	0	0	0	0	Operationmode changed from Stop to Auto
7312076	supervisor		15-06-2021 - 18:13	Manual operation	0	0	0	0	Operation reset
7312075			15-06-2021 - 17:04	Manual operation	0	0	0	0	Operationmode changed from Auto to Stop
7312074			15-06-2021 - 17:04	Manual operation	0	0	0	0	Operationmode changed from Stop to Auto
7312073			15-06-2021 - 14:57	Manual operation	0	0	0	0	Operationmode changed from Auto to Stop
7312069	supervisor		15-06-2021 - 14:55	Manual operation	0	0	0	0	Operationmode changed from Stop to Auto
7312068	supervisor		15-06-2021 - 14:55	Manual operation	0	0	0	0	Operationmode changed from Auto to Stop
7312046	supervisor		15-06-2021 - 14:51	Manual operation	0	0	0	0	Hard alarm reset
7312045			15-06-2021 - 14:51	Hard alarm	0	0	1	6	Max scale emptying time exceeded on deliveryplant no. 1
7312044	supervisor		15-06-2021 - 14:51	Manual operation	0	0	0	0	Hard alarm reset
7312043			15-06-2021 - 14:51	Hard alarm	0	0	1	6	Max scale emptying time exceeded on deliveryplant no. 1
7312042	supervisor		15-06-2021 - 14:50	Manual operation	0	0	0	0	Hard alarm reset
7312041			15-06-2021 - 14:50	Hard alarm	0	0	1	6	Max scale emptying time exceeded on deliveryplant no. 1
7312040	supervisor		15-06-2021 - 14:50	Manual operation	0	0	0	0	Hard alarm reset
7312039			15-06-2021 - 14:49	Hard alarm	0	0	1	6	Max scale emptying time exceeded on deliveryplant no. 1
7311808	supervisor		15-06-2021 - 14:45	Manual operation	0	0	0	0	Soft alarm reset
7311768			15-06-2021 - 14:44	Manual operation	0	0	0	0	Operationmode changed from Stop to Auto
7311766	supervisor		15-06-2021 - 14:44	Manual operation	0	0	0	0	Operation reset

Procedure for entering Events

1. Mouse click on icon "Events"

In the event log, it is possible to view the last 5 days events. Less days to view will increase creation time.

2. Select date, and list will appear on screen.

3. Choose how many days you wish to view. (Less days is faster to create)

4. In example above it is hard alarm and manual changes that is listed.

5. User who has made parameter changes is shown in the column "Username".

By clicking on the name line for a particular column, the events will be sorted automatically, numerically or alphabetically. In this way, you see the list of different alarms for a period.

15. Maintenance

General maintenance on daily basis are:

A. Cleaning tanks/scales inside:

- a. Set program to "STOP" mode.
- b. Turn of security switch on mixer motor(-s).
- c. Check scale, if any parts are loose or need adjustment.
- d. Clean surface inside and outside
- e. Check transition tissue between augers, mixer and scale.
- f. Turn on security switch on mixer motor(-s).
- g. Set program to "Auto" mode.

B. Compressed air:

- a. Drain water separator(-s).
- b. Drain water on compressed air pressure tank.

General maintenance on monthly basis:

A. Check scales accuracy at minimum level:

- a. When no activity on FunkiNet program, set program to "STOP" mode.
- b. Read scale value on scale when inactive.
- c. Place a known weight (recommended 25 kg) above one load cell, and check if scale reading increases with the known weight.
- d. Repeat this procedure on all load cells.

B. Check scales accuracy at maximum level:

- a. Set FunkiNet program to "STOP" mode in any process where scale is close to maximum content.
- b. Read scale value on scale when inactive.
- c. Place a known weight (recommended 25 kg) above one load cell, and check if scale reading increases with the known weight.
- d. Repeat this procedure on all load cells.

If any values vary more than acceptable, tare scale!

