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AMI Penta

User manual Quick Guide

Content

Preface.....	3
Introduction.....	4
Home page	5
Setting up a Recipe	6
Setup a Group of valves.....	9
Start Condition.....	11
How to, manual start up a group for irrigation	12
Activity page	14
Alternate ways of performing irrigation.....	15
Manual Valve	15
Start Manual Valves.....	16
Manual valve settings.....	17
Hose irrigation	18

Preface

We recommend you to read and follow the installation manual, the technical data and this Quick Guide manual carefully, **before** the product is installed and come into use.

Please check that the product is undamaged. Possible transport damages must be notified 8 days after reception **at the latest**.

Please check that the product has been delivered with the correct voltage and frequency.

The guarantee only covers defects and damages on the product caused by manufacture faults and faults in the material. Faulty installations and wrong use of the product are therefore not covered by the guarantee. We refer to our “Terms and Conditions of Sale and Delivery” for more details.

For installation we refer to the installation manual and diagrams posterior in the manual.

In consideration of the electrical installations the product must not be installed at places exposed to dripping (condensed water) from water installations, gutters etc. The product must not be placed in direct sun light.

In some countries the installation must be carried out by skilled craftsmen only.

Due to modular construction some programs might not be included though described in the manual.

Best regards

Senmatic A/S

Introduction

Congratulations with your new fertilizer mixer, AMI Penta.

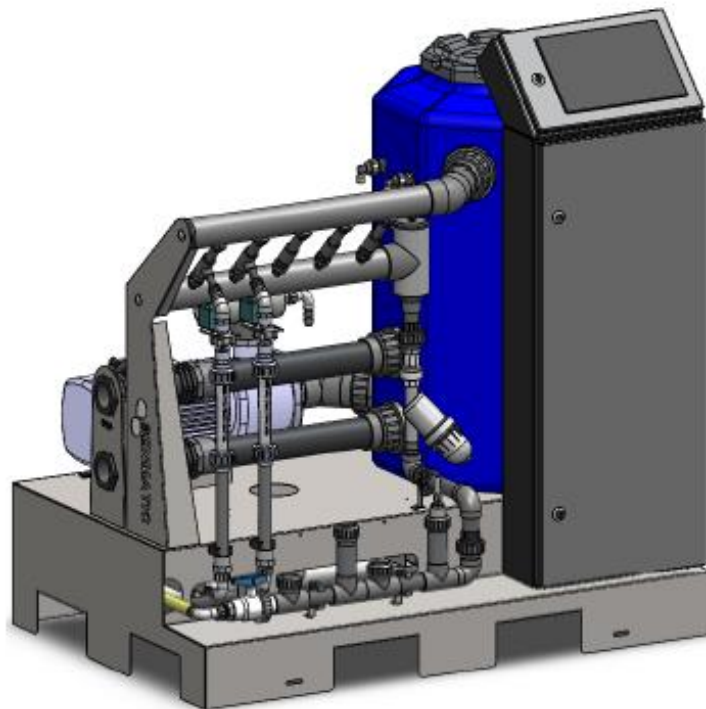
AMI Penta fertilizer mixer is used for irrigation of plants in nurseries.

AMI Penta has a control panel with touch screen.

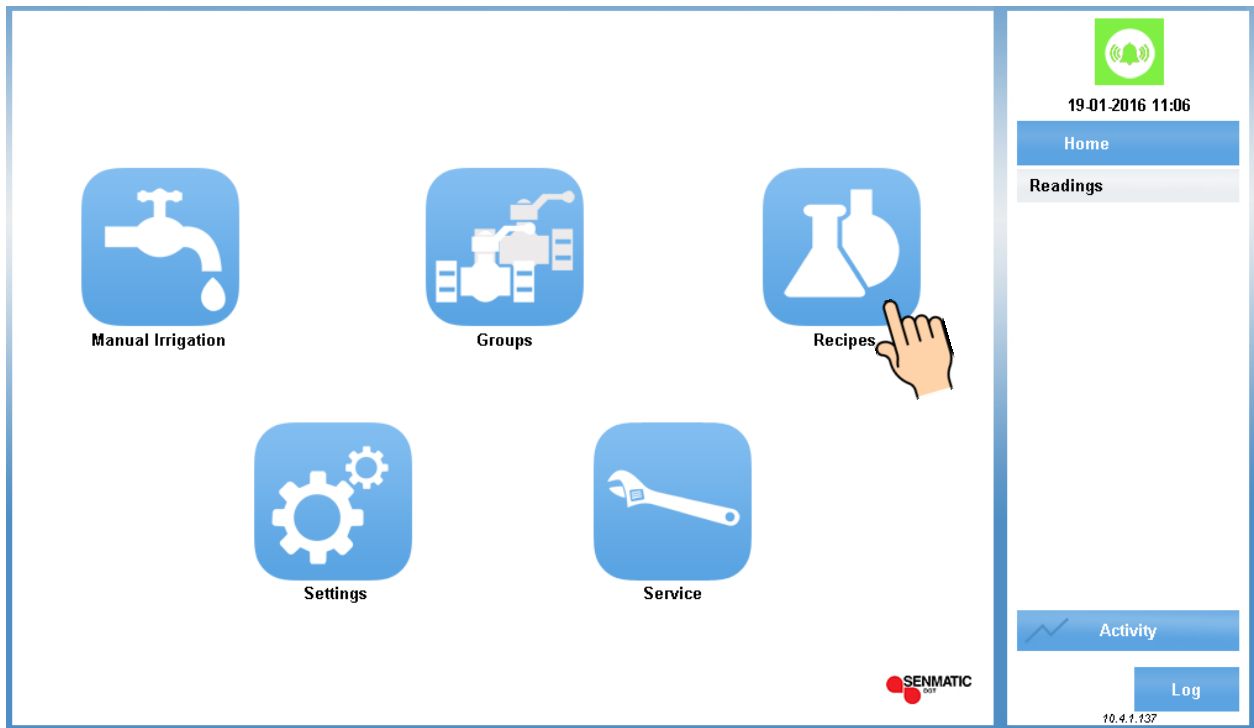
The functions are divided in menus, which give a good view of the possibilities for the optimum setting of the fertiliser mixer.

AMI Penta is built in a Standard model and can be expanded regarding software and hardware in modules according to requirements. The options are numerous.

This manual contains a short description of how to start the AMI Penta for the first time. The detailed description of all functionality can be found in the user manual.



Home page



The monitor of the AMI Penta has a touchscreen.

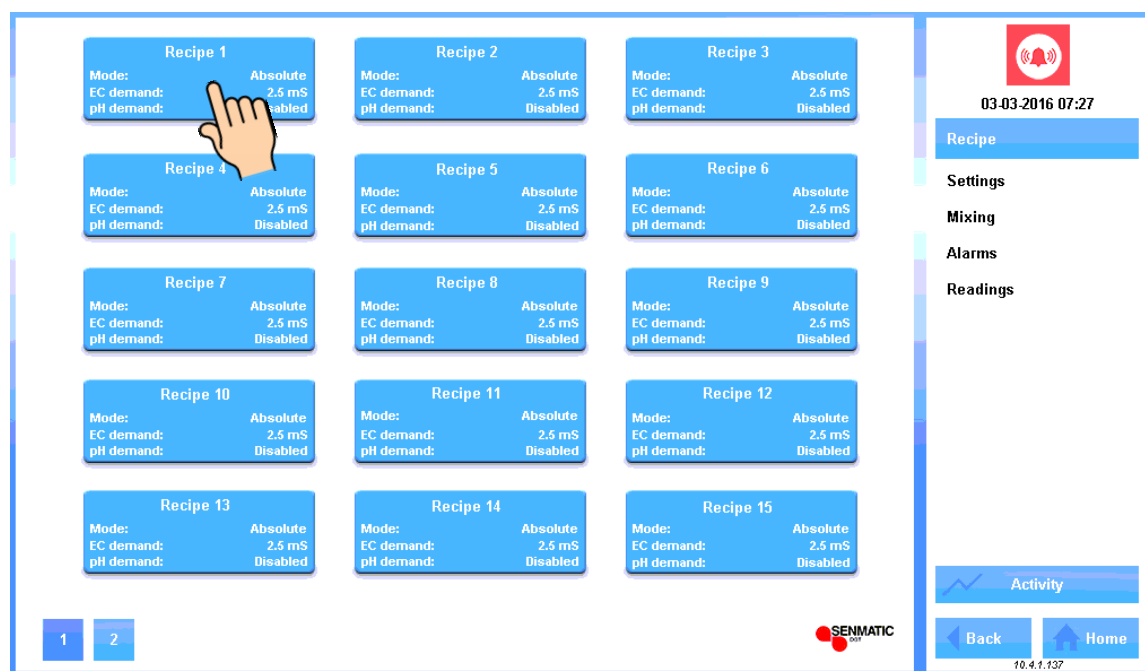
The home page consists of seven buttons.

Typical use of the AMI Penta fertilizer mixer is starting a group of time programmed valves with a recipe of different fertilizer and acidity. This Quick Guide will go through following issues:

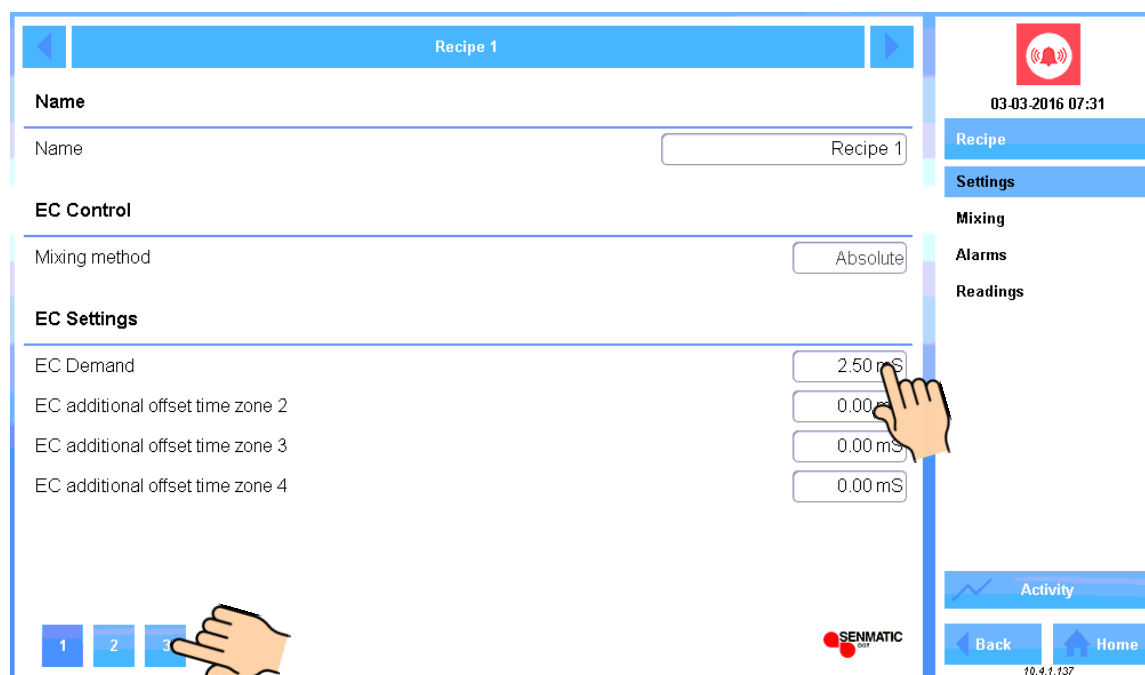
- **Setting up a Recipe**
- **Setting up a group of valves**
- **How to, manual start up a group**
- **How to follow the activity of the AMI Penta**
- **How to use, not a group, but manual valve start**
- **How to use Hose irrigation**

Setting up a Recipe

Tap the Recipe button and you will see this page:



Tap the button for Recipe 1

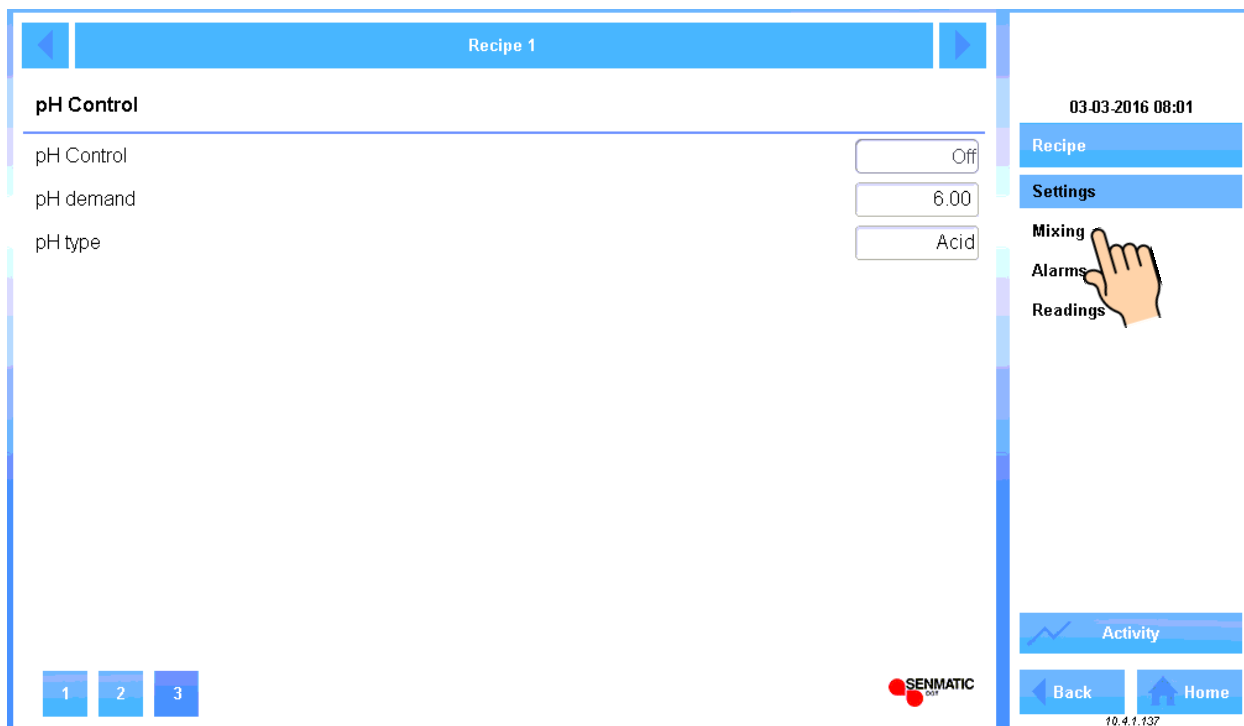


Under Recipe 1 you will find 3 pages. The buttons 1, 2 and 3, down left.


The name "Recipe 1" can be changed to whatever you want. Maybe "Tomato Recipe" sounds better.

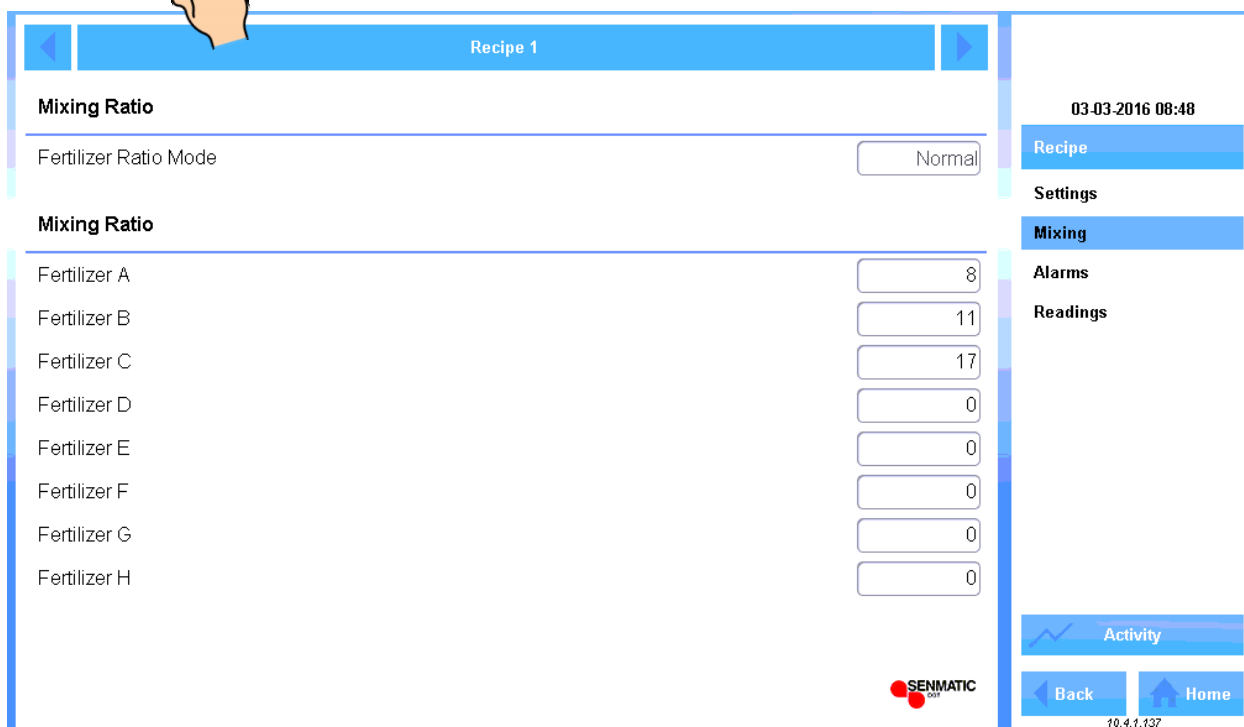
Tap the "EC Demand" and give in the needed EC value.

Tap the button "3". This page concerns pH control. Maybe you have no pH control. Then just leave it "Off"



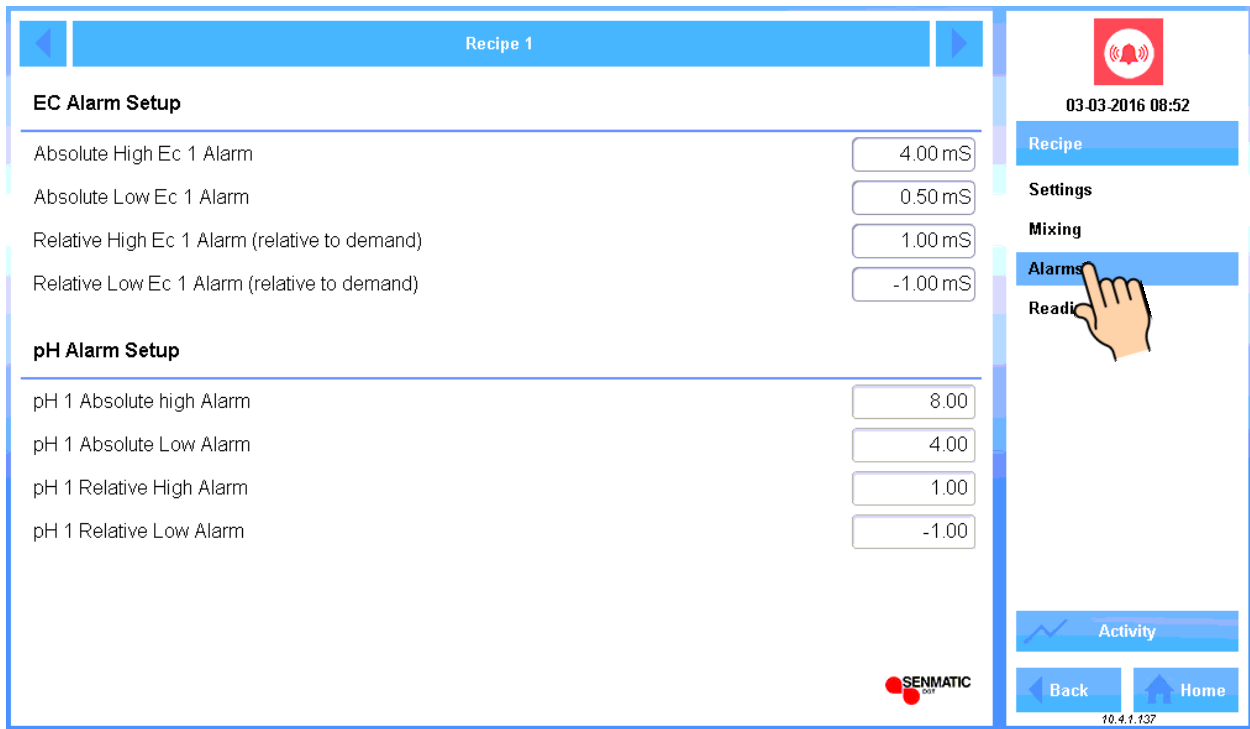
Turn on pH control if needed and set the desired pH demand. Acid is normally used for pH control, but if you use alkaline, you must change pH type.

Tap “Mixing”  for setting up the ratio in between your fertilizer.



Set the needed mixing ratio between your stock solution tanks, containing the different types of fertilizer. The numbers in this example, 8, 11 and 17 means that $8+11+17 = 36 \Rightarrow 100\%$

Tap “Alarms”



Recipe 1

EC Alarm Setup

Absolute High Ec 1 Alarm	4.00 mS
Absolute Low Ec 1 Alarm	0.50 mS
Relative High Ec 1 Alarm (relative to demand)	1.00 mS
Relative Low Ec 1 Alarm (relative to demand)	-1.00 mS

pH Alarm Setup

pH 1 Absolute high Alarm	8.00
pH 1 Absolute Low Alarm	4.00
pH 1 Relative High Alarm	1.00
pH 1 Relative Low Alarm	-1.00

03-03-2016 08:52

Recipe

Settings

Mixing

Alarms

Readings

Activity

Back **Home**

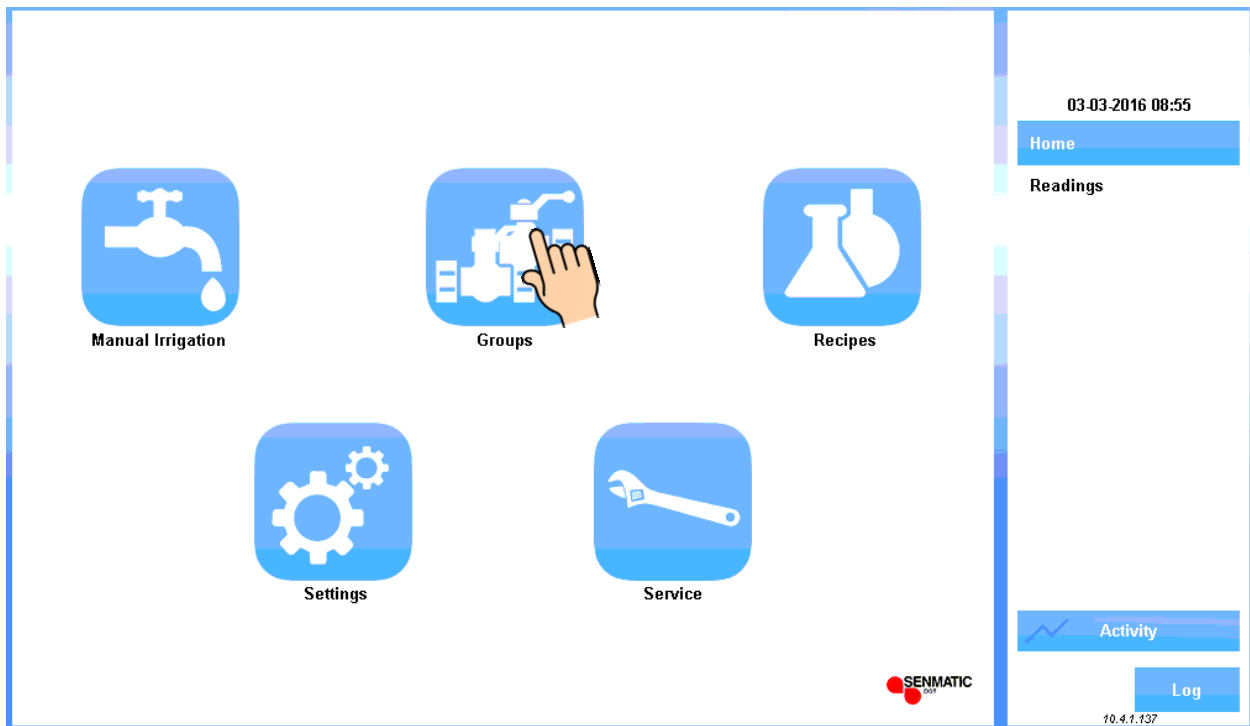
10.4.1.137

And set the relevant limits for EC and pH alarms. Relative is the distance from demand.

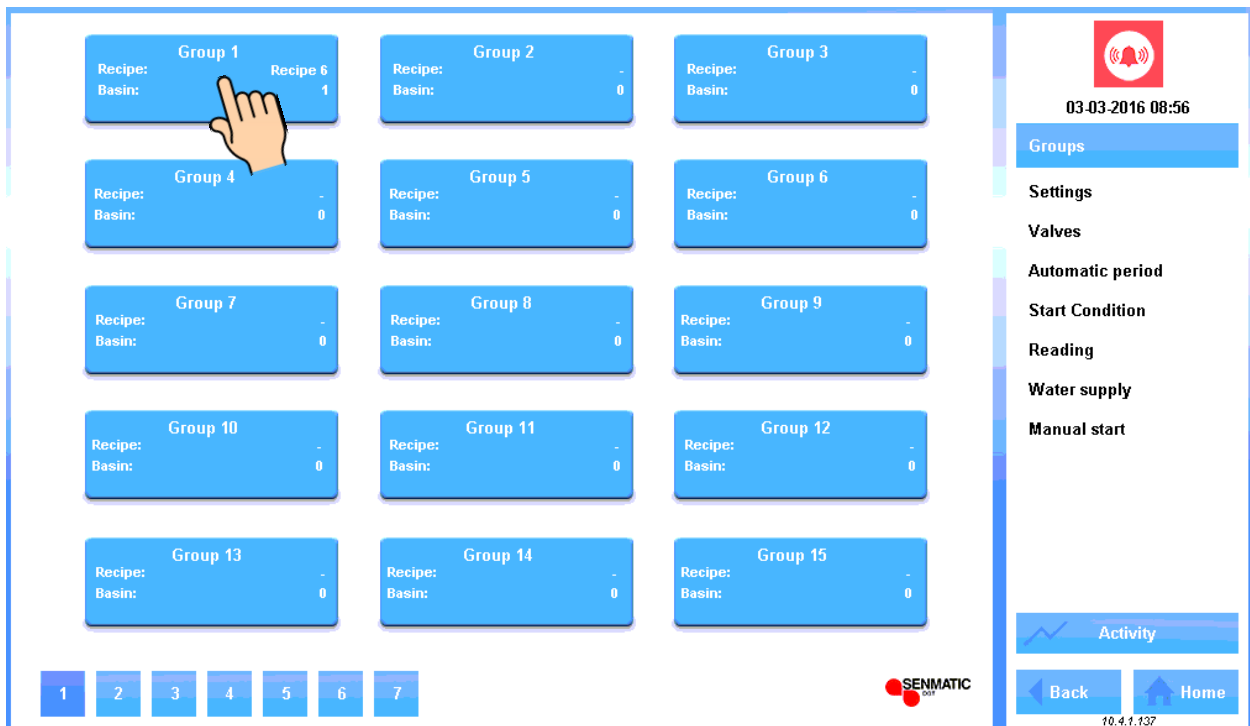
Your recipe has now been created.

Setup a Group of valves

A valve opens for the water pressure and sends water to a specified area in the greenhouse.



Tap the button “Groups”



Tap the button “Group 1”

Group 1
▶

Settings

Name	<input type="text" value="Group 1"/>
Recipe	<input type="text" value="Recipe 1"/>
Operation mode	<input type="text" value="Normal"/>
Priority	<input type="text" value="1"/>
Use Initiator	<input type="text" value="No"/>
Return compensation EC	<input type="text" value="0.00 mS"/>
Return compensation pH	<input type="text" value="0.00"/>
Number of valves in parallel	<input type="text" value="2"/>

03-03-2016 09:01

Groups

Settings

Valves

Automatic period

Start Condition

Reading

Water supply

Manual start

Activity

Back

Home

10.4.1.137

Be sure that the correct Recipe is selected. Number of valves in parallel is normally 1, but 2 or more can be opened at the same time if the capacity is sufficient. “Group 1” can be renamed. Maybe “West” is a better name.

Tap “Valves”

Group 1
▶

Group Valves

	Enabled	Valve	Valve Time
1	<input type="text" value="Yes"/>	<input type="text" value="1"/>	<input type="text" value="00:05:00"/>
2	<input type="text" value="No"/>	<input type="text" value="2"/>	<input type="text" value="00:00:15"/>
3	<input type="text" value="No"/>	<input type="text" value="3"/>	<input type="text" value="00:00:15"/>
4	<input type="text" value="No"/>	<input type="text" value="4"/>	<input type="text" value="00:00:15"/>
5	<input type="text" value="No"/>	<input type="text" value="0"/>	<input type="text" value=""/>
6	<input type="text" value="No"/>	<input type="text" value="0"/>	<input type="text" value=""/>
7	<input type="text" value="No"/>	<input type="text" value="0"/>	<input type="text" value=""/>
8	<input type="text" value="No"/>	<input type="text" value="0"/>	<input type="text" value=""/>
9	<input type="text" value="No"/>	<input type="text" value="0"/>	<input type="text" value=""/>
10	<input type="text" value="No"/>	<input type="text" value="0"/>	<input type="text" value=""/>

03-03-2016 09:18

Groups

Settings

Valves

Automatic period

Start Condition

Reading

Water supply

Manual start

Activity

Back

Home

10.4.1.137

Set here the valves to be used in the group. Each valve has its own valve time.

Now you are ready to Irrigate.

Irrigation can be started manually. Automated starts are also possible. In the list below you see the possibilities:

Start Condition

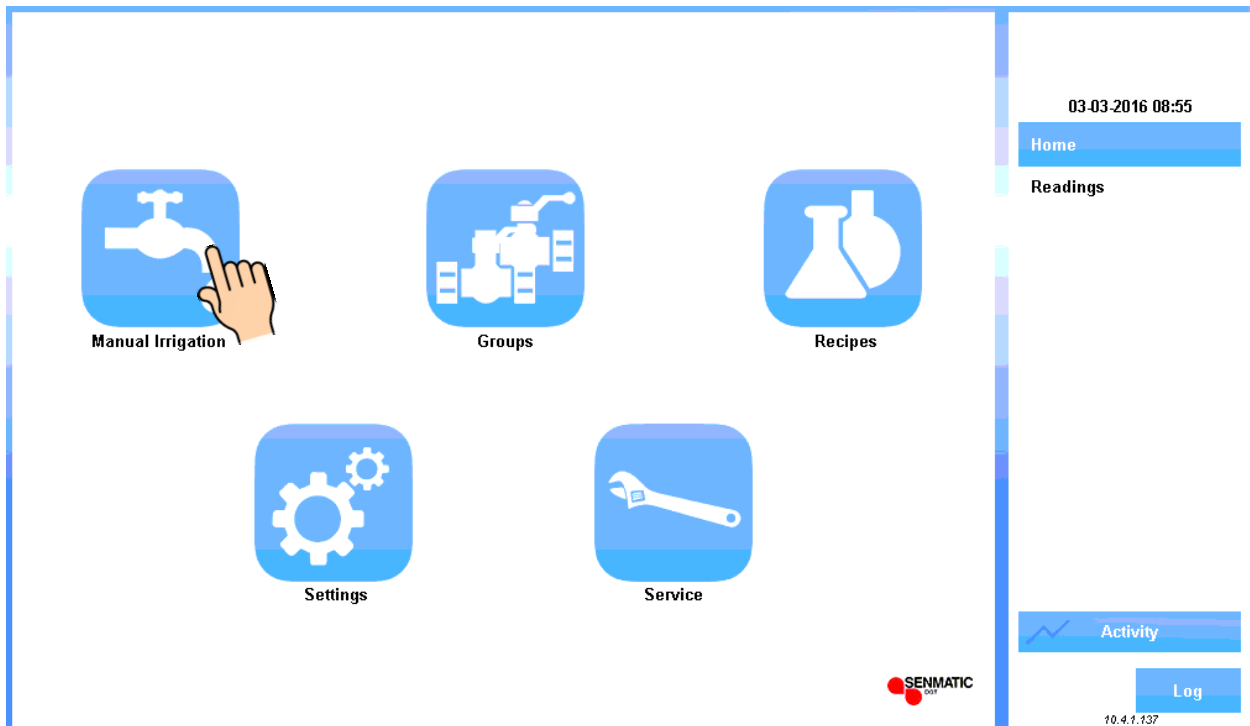
- Manual
- Week program
- 24 h program
- Interval
- Frost protection
- High temperature
- Minimum humidity
- External
- Analogue
- Sun integrator

24 h program is an example where time clock starts irrigation.

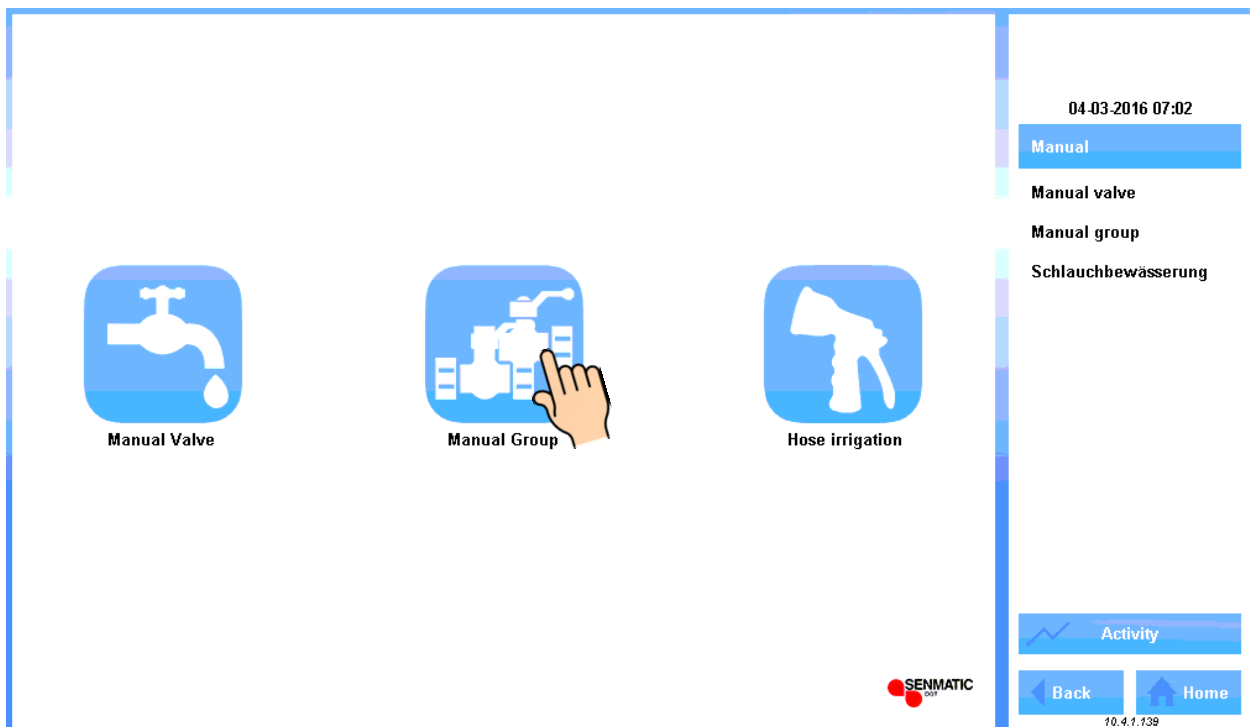
Sun integrator is an example where the sun intensity over time, starts irrigation.

The different start conditions are described in the manual for AMI Penta. Some demands added programs and hardware.

How to, manual start up a group for irrigation



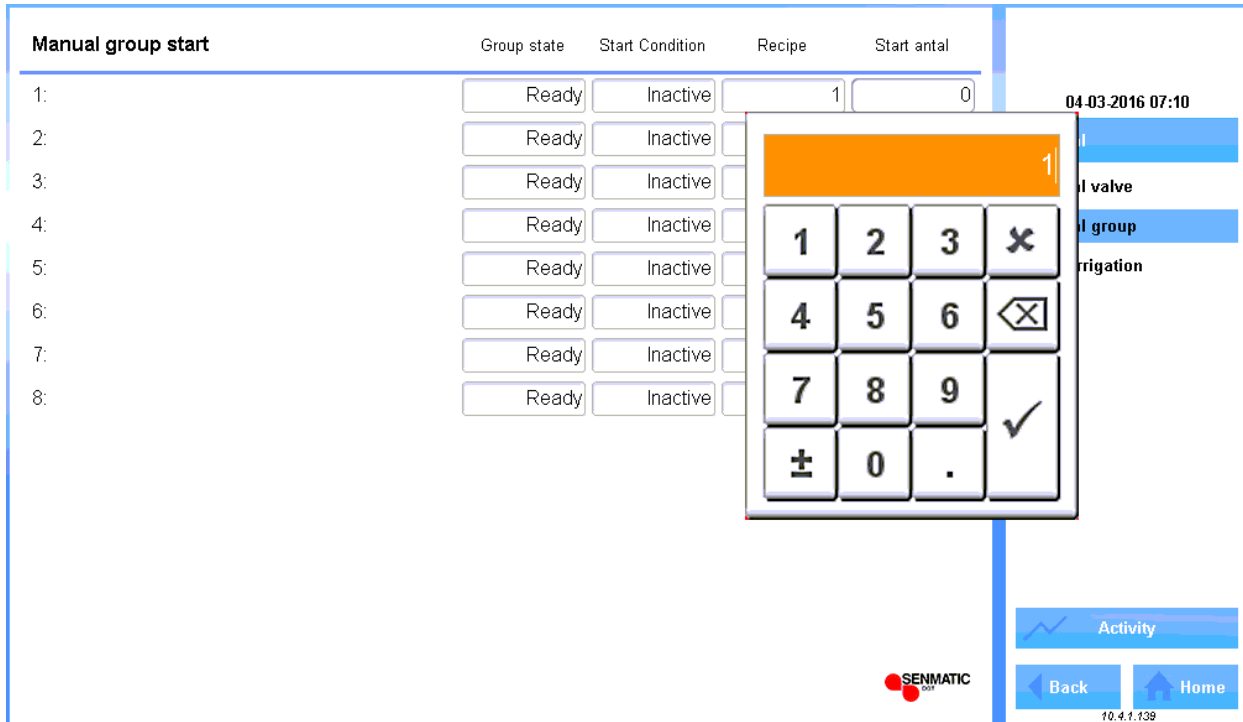
Tap the button “Manual Irrigation”



Tap the button “Manual Group”

We choose to start, for example, Group 1.

Start Group 1, 1 time, by giving in “1” under “**Start antal**” (“Number of starts”)



	Group state	Start Condition	Recipe	Start antal
1:	Ready	Inactive	1	0
2:	Ready	Inactive		
3:	Ready	Inactive		
4:	Ready	Inactive		
5:	Ready	Inactive		
6:	Ready	Inactive		
7:	Ready	Inactive		
8:	Ready	Inactive		

04.03.2016 07:10

Activity

Back Home

10.4.1.139

Be aware. AMI starts immediately ! ! !


AMI Penta will start Group 1.

Tap the button “Activity” page to follow the behavior of AMI Penta.

Activity page

Readings	EC	pH
Demand	2.50	6.00
Direct	0.00	0.00
Deviation	2.50	-6.00
Dosing Time	6.00	0.00

Readings	
Recipe	3
Group	1
pH Enabled	No
System State	Valve Active



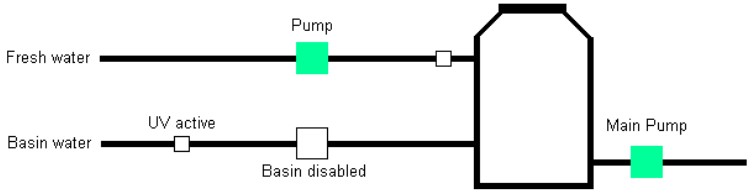
19.01.2016 11:33

Activity

Valves

4	00:00:09	00:00:15
1		00:05:00
2		00:00:15
3		00:00:15

Start Condition Manual Valve




Man. Standby

Stop current

Total stop

EC Bias: 23% Flow: 0.0 Active Delay: None

EC DC: 100% Flow Dem: 0.0 00:00:00 Mixing Mode: Absolute



Home

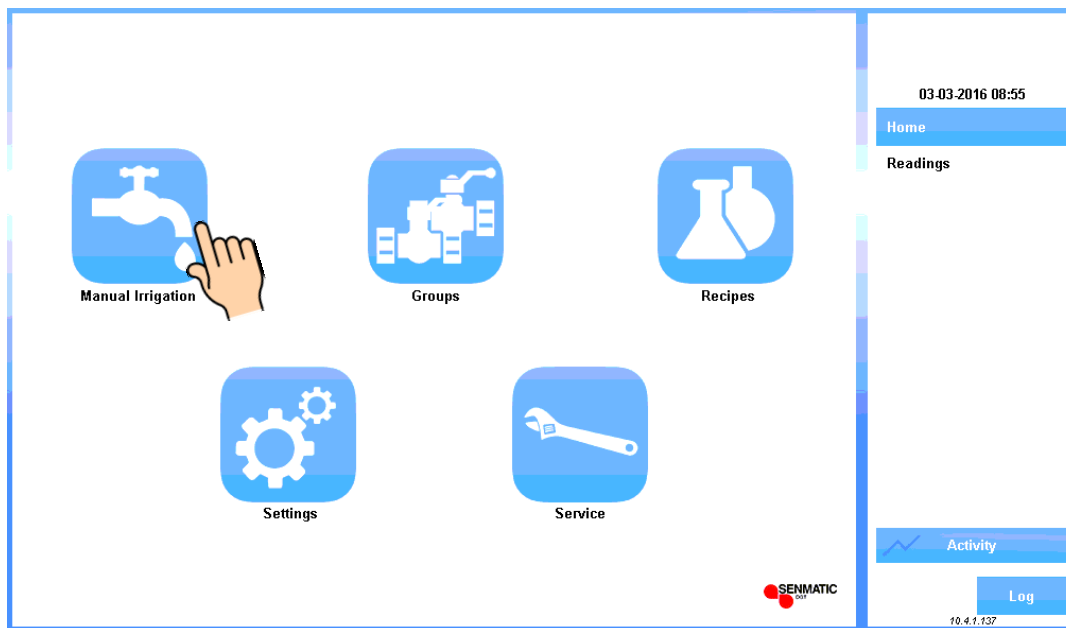
10.4.1.137

Here you can see what is happening, readings EC and pH, active recipe, group and which pumps are active.

Alternate ways of performing irrigation

- Manual Valve Start
- Hose Irrigation

Manual Valve



Tap "Manual Irrigation"



Tap the button "Manual Valve"

Valves	Valve	Group	Recipe	Time
1:	<input type="text" value="1"/>	<input type="text" value="1"/>	Recipe 1	00:50:00
2:	<input type="text" value="2"/>	<input type="text" value="1"/>	Recipe 1	01:30:00
3:	<input type="text" value="0"/>	<input type="text" value="0"/>		
4:	<input type="text" value="0"/>	<input type="text" value="0"/>		
5:	<input type="text" value="0"/>	<input type="text" value="0"/>		
6:	<input type="text" value="0"/>	<input type="text" value="0"/>		
7:	<input type="text" value="0"/>	<input type="text" value="0"/>		
8:	<input type="text" value="0"/>	<input type="text" value="0"/>		
9:	<input type="text" value="0"/>	<input type="text" value="0"/>		
10:	<input type="text" value="0"/>	<input type="text" value="0"/>		

Manual start

Manual start

1 2 3 4 5 6 7 8 9 10

04-03-2016 07:28

Manual valve

Manual valve settings

Activity

Back Home

10.4.1.139

Tap the button "Start"

Start Manual Valves

Each valve will use the properties from the selected group:

- Water supply
- Basin number
- Group pause
- Valve pause

Irrigation time for each valve is set here.

Each valve can use a certain recipe. Tap and select the wanted recipe. EC and pH from the recipe is shown.

Select recipe

Recipe 1 Mode: Absolute EC demand: 3 pH demand: Disabled	Mode: Off EC demand: 0 pH demand: Disabled	Mode: Off EC demand: 0 pH demand: Disabled
Mode: Off EC demand: 0 pH demand: Disabled	Mode: Off EC demand: 0 pH demand: Disabled	Mode: Off EC demand: 0 pH demand: Disabled
Mode: Off EC demand: 0 pH demand: Disabled	Mode: Off EC demand: 0 pH demand: Disabled	Mode: Off EC demand: 0 pH demand: Disabled
Mode: Off EC demand: 0 pH demand: Disabled	Mode: Off EC demand: 0 pH demand: Disabled	Mode: Off EC demand: 0 pH demand: Disabled
Mode: Off EC demand: 0 pH demand: Disabled	Mode: Off EC demand: 0 pH demand: Disabled	Mode: Off EC demand: 0 pH demand: Disabled

<< Prev Cancel Next >>

04-03-2016 07:30

Manual valve

Manual valve settings

Activity

Back Home

10.4.1.139

Manual valve settings

Tap "Manual valve settings"



Manual valve settings

Automatic start

Auto start time

Valve pause

Remove performed value

Manual start

Manual start

04-03-2016 07:34

Manual valve

Manual valve settings

Activity

Back Home

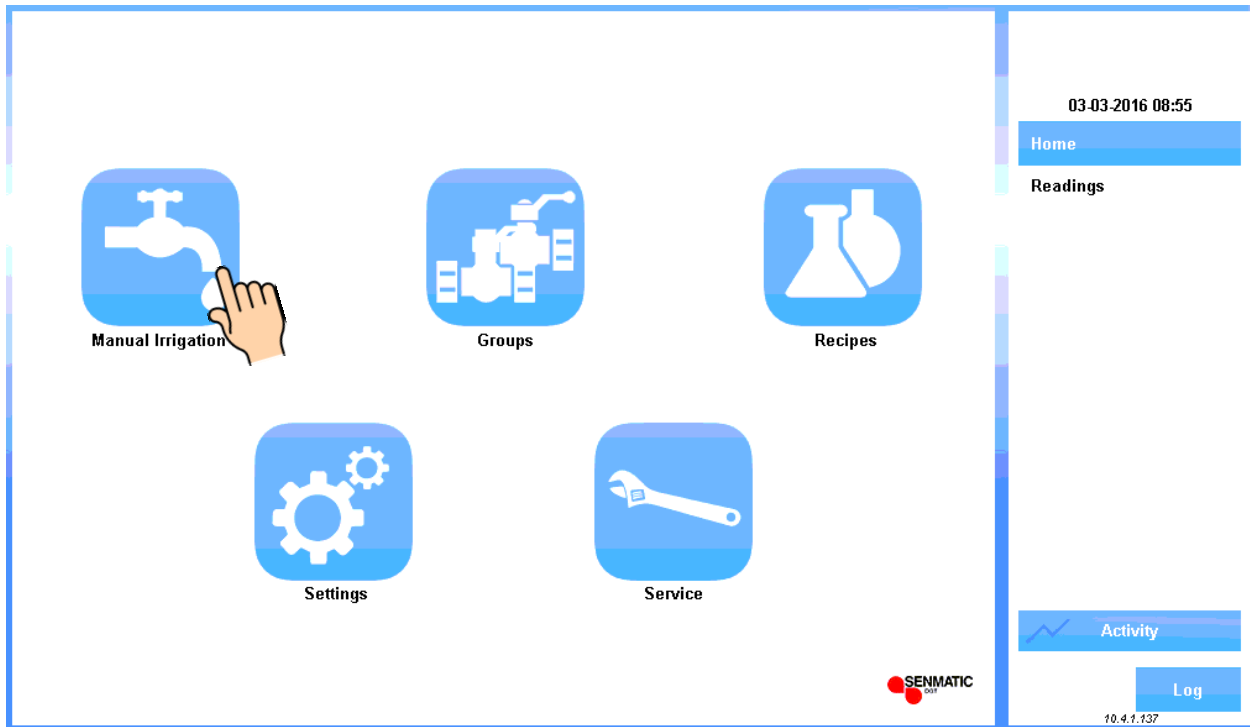
10.4.1.139

Under "Manual valve settings" you can give in a pause between the valves.

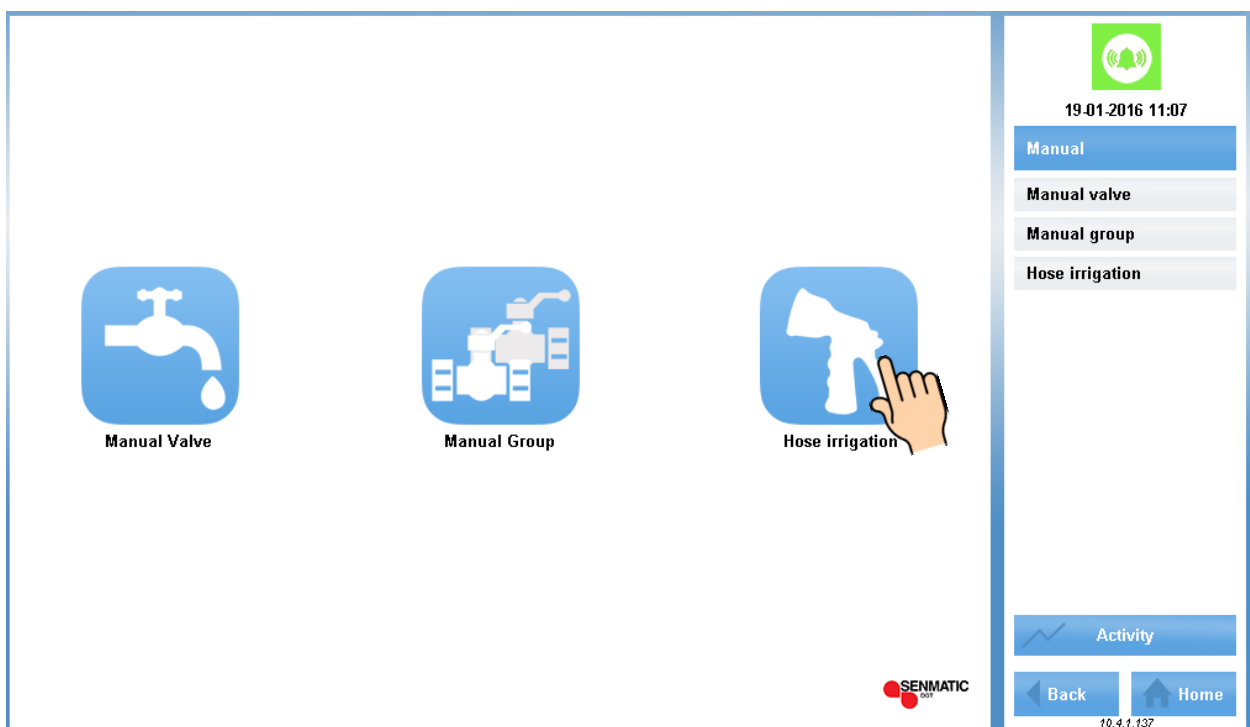
NOTE! If the same valves are to be repeated next time you use "Manual Valve Start", the set point "Remove performed **valve**" must be set on No.

Tap the "Start" button and all entered valves will irrigate from top down.



Hose irrigation




Tap the button "Manual Irrigation"




Tap the button "Hose irrigation"

Hose irrigation		
Duration hose irrigation	A	00:00:00
Recipe for hose irrigation	B	0
Pressure by hose irrigation	C	0.000 Bar
Start Hose irrigation	D	 
Hose irrigation basin control		
Basin control	E	No
Basin for hose irrigation		0
Mixing fresh and return water		No
Distance for start fresh water dosing		0.0
Hose irrigation readings		
Remaining time		00:00:00
Waiting for flow or pressure		No

[1](#)
[2](#)




 19-01-2016 11:09
[Manual](#)
[Manual valve](#)
[Manual group](#)
[Hose irrigation](#)

[Activity](#)
[Back](#) [Home](#)
10.4.1.137

By hose irrigation, the AMI Penta will start when you open the tap of the hose and stop when you close the tap.

Hose irrigation is done by tapping the “Start” **D** button. When hose irrigation is selected all other activity will stop and the mixer awaits the tap of the hose to be opened. When the tap is opened the AMI Penta will start with the specified recipe.

Note! All groups are set standby which means that hose irrigation has the highest priority.

After the hose irrigation is ended it must be stopped, otherwise the mixer will not perform any automatic or manual irrigation. Stop is done by tapping the same button as tapped for start.

If you forget to stop the hose irrigation, the duration time will stop it, when it’s timing out.

Note! This function requires that the mixer is equipped with a flow switch and pressostat to ensure that the mixer delivers water when the tap of the hose is opened.

Duration hose irrigation **A**

Adjusting the time for hose irrigation to be active.

Recipe for hose irrigation B

Selecting of the wanted recipe for hose irrigation. If a recipe has not been chosen, i.e. 0, the irrigation will be performed with fresh water.

Pressure by hose irrigation C

Adjusting the wanted pressure by hose irrigation

NOTE! Only visible when the 'Pressure Control' has been purchased and activated.

Basin by hose irrigation E

Select the wanted basin for hose irrigation.



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