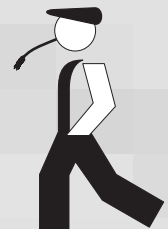


99-97-1960
(V 5.4)

Viper Climate and Production Computer

User's Manual

Production • Management • Alarms



Program Version

The product described in this manual is computer based, and most functions are realised by software. This manual corresponds to:

- Software Version CPU 5.4

It was released in May, 2006.

Product and Documentation Changes

Big Dutchman reserve the right to change this document and the product herein described without further notice. In case of doubt, please contact Big Dutchman.

Latest date of change appears from the back page.

NOTE

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IMPORTANT

NOTES CONCERNING THE ALARM SYSTEM

Where climatic control is used in livestock buildings, breakdowns, malfunctions or faulty settings may cause substantial damage and financial losses. It is therefore most important to install a separate, independent alarm system, which monitors the house concurrently with the climate computer.


According to EU-directive No. 91/629/EEC and 91/630/EEC an alarm system must be installed in any house that is mechanically ventilated.


Please note that the product liability clause of Big Dutchman's general terms and conditions of sale and delivery specifies that an alarm system must be installed.



In case of misoperation or improper use, ventilation systems can result in production loss or cause loss of lives among animals.

Big Dutchman recommend that ventilation systems should be mounted, operated and serviced only by trained staff and that a separate emergency opening unit and an alarm system be installed as well as maintained and tested at regular intervals, according to Big Dutchman's terms and conditions of sale and delivery.

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1 USER'S GUIDE

1.1 Production Functions

1.1.1 Bird Scale Data
























	1 st level		2 nd level		3 rd level	
	(electronic weighing)	 Average weight 1	419 g			
	 Average weight 2	422 g				
	 Bird scale 1 data		 Growth	35 g		
			 Coefficient of Variance	10 %		
			 Uniformity	76 %		
			 Number of weighings	516		
			 Ref. weight now	418 g		
			 Correction factor	104.0 %		
			 Disconnect from	08:00:00		
			 Disconnect to	11:00:00		
	 Bird scale 2 data		 Growth	35 g		
			 Coefficient of Variance	10 %		
			 Uniformity	76 %		
			 Number of weighings	516		
			 Ref. weight now	418 g		
			 Correction factor	104.0 %		
			 Disconnect from	08:00:00		
			 Disconnect to	11:00:00		
(manual weighing)	 Average weight 1	419 g				
	 Average weight 2	422 g				

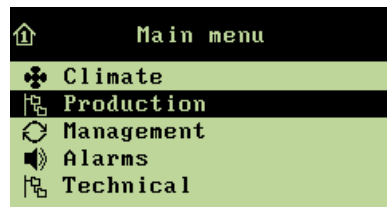
Table 1: Outline of the bird scale data menu (changeable values are highlighted in bold types)

This section is relevant only to houses where Viper has been set up for weighing animals.

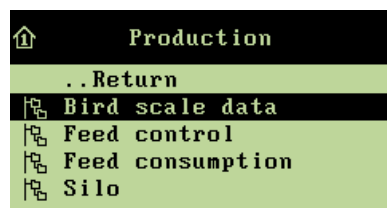
When Viper has been set up for automatic weighing of animals, the average weight, growth, relative standard deviation, uniformity and number of weighings are calculated for each animal weigher. A total number of two 5 kg, 10 kg and 30 kg animal weighers can be connected. When you choose to weigh animals manually, enter the average weight in Viper yourself.

All menu items ... in the **Bird scale data** menu can be displayed and set by

→ pressing the  menu key



→ selecting **Production**, and pressing

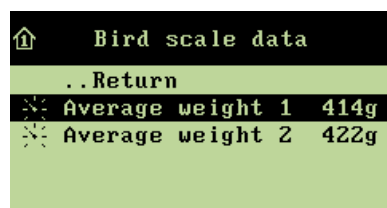


→ selecting **Bird scale data**, and pressing

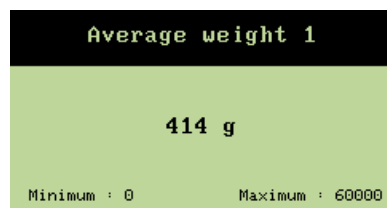
1.1.1.1 Setting and Displaying the Average Weight

Viper calculates the average weight of the animals on the basis of registrations from the animal weighers. For manual weighing of animals, enter/set the average of your weighings yourself.

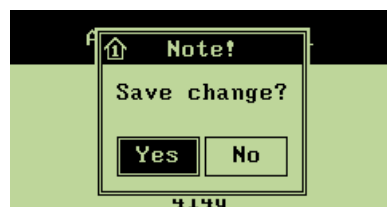
When you want to ... set the average weight in connection with manual weighing, open the **Production/Bird scale data** menu and



→ select **Average weight 1/2**, and press



→ set the average weight, and press



→ press when **Yes** is highlighted to approve the change

When you want to ... read the average weight,
open the **Production/Bird scale data** menu and

Bird scale data	
..Return	
[i] Average weight 1	414g
[i] Average weight 2	422g
[i] Bird scale 1 data	
[i] Bird scale 2 data	

→ display **Average weight 1**

1.1.1.2 Animal Weigher Data

This section is relevant only to houses where Viper has been set up for weighing animals automatically.

Viper calculates several key figures for the production in the house on the basis of the registrations from the animal weighers.

1.1.1.2.1 Growth

The **Growth** key figure indicates how much the animals have grown during the last 24 hours.

When you want to ... read **Growth**,

open the **Production/Bird scale data/Bird scale 1 data** menu and

Bird scale 1 data	
..Return	
[i] Growth	35g
[i] Coefficient of Variance	10.0%
[i] Uniformity	70.0%
[i] Number of weighings	0

→ display **Growth**

1.1.1.2.2 Relative Standard Deviation

The relative standard deviation shows the percentage of the deviation of the animal weight in relation to the average weight. The higher the standard deviation, the less uniform the animals.

When you want to ... read **Coefficient of Variance**,

open the **Production/Bird scale data/Bird scale 1 data** menu and

Bird scale 1 data	
..Return	
[i] Growth	35g
[i] Coefficient of Variance	10.0%
[i] Uniformity	70.0%
[i] Number of weighings	0

→ display **Coefficient of Variance**

1.1.1.2.3 Uniformity

Uniformity shows the percentage of animals, the weight of which is within a limit of +/-10 % of the average weight, i.e. how uniform the weight of the animals is.

When you want to ... read **Uniformity**,

open the **Production/Bird scale data/Bird scale 1 data** menu and

Bird scale 1 data	
..Return	
i Growth	35g
i Coefficient of Variance	10.0%
i Uniformity	70.0%
i Number of weighings	0

→ display **Uniformity**

1.1.1.2.4 Number of Weighings

When you want to ... read the number of weighings for the last 24 hours,

open the **Production/Bird scale data/Bird scale 1 data** menu and

Bird scale 1 data	
i Growth	35g
i Coefficient of Variance	10.0%
i Uniformity	70.0%
i Number of weighings	50
i Ref. weight now	2883g

→ display **Number of weighings**

1.1.1.2.5 Reference Weight Now

Ref. weight now shows the expected weight of the animals at the current day number.

When you want to ... read the expected weight,

open the **Production/Bird scale data/Bird scale 1 data** menu and

Bird scale 1 data	
i Ref. weight now	414g
⚡ Correction factor	104.0%
⚡ Disconnect from	23:00
⚡ Disconnect to	02:00

→ display **Ref. weight now**

1.1.1.2.6 Setting the Correction Factor

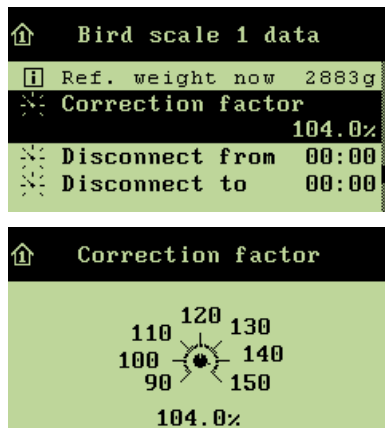
The natural behaviour of the chickens means that the heavier chickens do not step onto the chicken weigher as often as the lighter chickens. The weigher might therefore show a weight that is lower than the actual weight of the chickens. In order to compensate for this weight deviation, a **Correction factor** should be entered. By means of the correction factor Viper gradually corrects the weight, depending on the age of the animals.

When the weigher shows a weight that is lower than the settled slaughter weight, calculate the percentage deviation and enter it as the correction factor.

Example 1: Calculation of correction factor

<i>Slaughter weight:</i>	2190 g
<i>Final weight Viper:</i>	2110 g
<i>Calculation:</i>	$2190 / 2110 \times 100 \% = 103.8 \%$
<i>Correction factor</i>	$\approx 104 \%$

When you want to ... set the **Correction factor**, open the **Production/Bird scale data/Bird scale 1 data** menu and



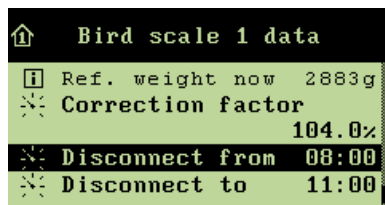
→ select **Correction factor**, and press

→ set a value, and when **Yes** is highlighted, press to save the change

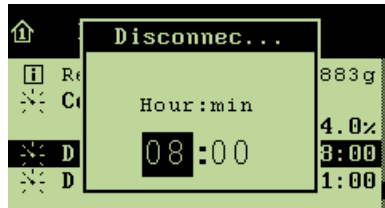
1.1.1.2.7 Setting Disconnect from/to

When feeding, the animals eat and drink a lot in a short time and their weight therefore also increases a lot. For a period after feeding, the weight of the animals is therefore “false”. In order to obtain the correct average weight of the animals, all weighings must be ignored for a given period during and after feeding. Viper will disconnect weighing for the period of time set by you. If the hour set for **Disconnect from** is the same as for **Disconnect to**, the setting will be invalid and weighing will not be disconnected. If, for example, the following settings are carried out: **Disconnect from** 23:00 and **Disconnect to** 02:00, weighing will be disconnected from one day to the next day.

When you want to ... set **Disconnect from**, open the **Production/Bird scale data/Bird scale 1 data** menu and



→ select **Disconnect from**, and press



→ set an hour, and when **Yes** is highlighted, press to save the change

Disconnect to is set in the same way.

1.1.2 Feed Control











	1 st level	2 nd level	3 rd level
	 Feed state ON OFF		
	 Feed curve	 Current day no. 17  Active program no. 2	
		 Feed program 1-8	 Day number 1  Number of starts 16  Start time 1-16 08:00  Stop time 1-16 10:00

Table 2: Outline of the feed control menu (changeable values are highlighted in bold types)

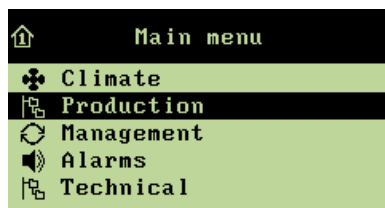
This section is relevant only to houses where Viper has been set up for feed control.

Select **Feed control** in the **Technical/Setup/Installation/Production/Feed** menu.

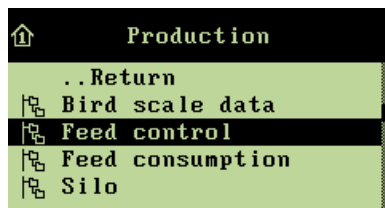
Viper controls feeding in the house by means of the **Feed control** function. You are to set the time and duration of the feeding. In the cross auger tank of the last feeding line a feed demand sensor detects whether supply of feed is required or not. When feed is required, the cross auger will fill all cross auger tanks and the feeding system will stop when the feed demand sensor is covered in feed.

All menu items ... in the **Feed control** menu can be set by

→ pressing the  menu key



→ selecting **Production**, and pressing

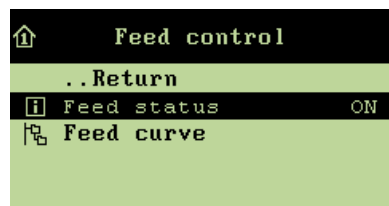


→ selecting **Feed control**, and pressing

1.1.2.1 Feed Status

You decide when feeding is to be carried out in the house. In the **Feed status** menu you can see whether Viper is feeding or not (**ON** or **OFF**).

When you want to ... read the feed status in the house, open the **Production/Feed control** menu and



→ display **Feed status**

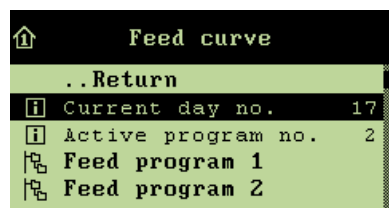
1.1.2.2 Feed Curve

Viper automatically regulates feeding in the house on the basis of the values specified by you in the **Feed curve** menu. The feed control function follows the feed curve that specifies when and for how long feeding is to be carried out at the current day number.

1.1.2.2.1 Displaying Day Number and Program Number

In the feed curve sub-menu you can display the day number and the feed program according to which Viper is feeding.

When you want to ... read the **Current day no. of Active program no.**, open the **Production/Feed control/Feed curve** menu and



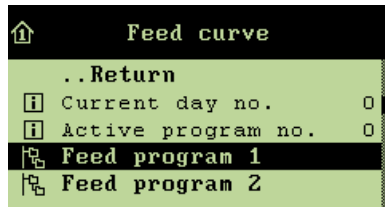
→ display the required menu item

1.1.2.2.2 Setting the Feed Program

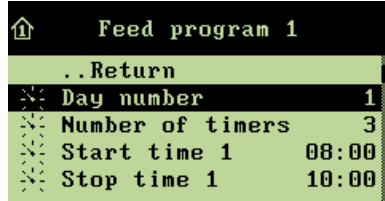
Viper's feed control works by means of a 24-hour clock with a number of feed programs. You can set up to eight feed programs on the 24-hour clock. In each feed program you can set the day number at which the program is to start and when feeding is to be based on a number of on/off times. In **Number of starts** you can set up to 16 on/off times for each day number. On/off times for each feed program are kept from one day number to the next, for example from day 1 to day 7. The feed line is turned off outside the chosen periods; however, the cross auger can still fill the cross auger tank.

On the day before day number 1 (**Day no. 0**) the feed relay is always activated; feeding has therefore been carried out before a new batch enters the house. If a start time is set to a later time than the related stop time, the setting is invalid and no feeding will be carried out. Feeding will be carried out all 24 hours if the start time is set from 00:00 to 23:59. When **Batch status** is **Empty house**, feeding is disconnected.

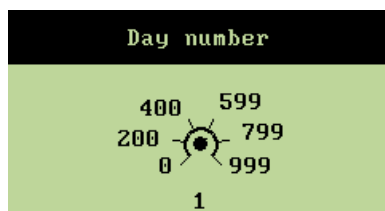
When you want to ... set the feed program,
open the **Production/Feed control/Feed curve** menu and



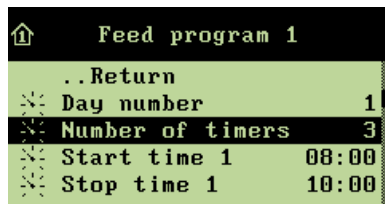
→ select **Feed program 1**, and press



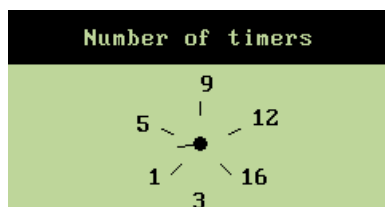
→ select **Day number**, and press



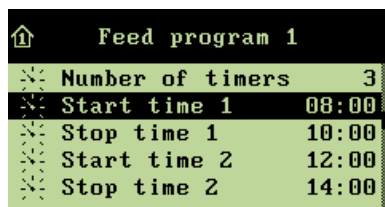
→ set the required start day, and when **Yes** is highlighted, press to approve the change



→ select **Number of starts**, and press



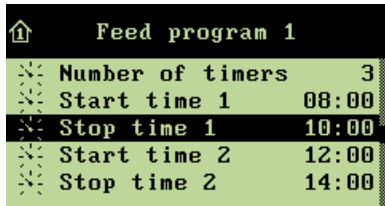
→ set the number, and when **Yes** is highlighted, press to approve the change



→ select **Start time 1**, and press



→ set a start time, and when **Yes** is highlighted, press to approve the change



→ select **Stop time 1**, and press



→ set a stop time, and when **yes** is highlighted, press to approve the change

Repeat the setting for the required number of feedings.

1.1.3 Feed Consumption




	1 st level	
	 Feed consumption today	0 kg
	 Feed consumption total	5.520 t

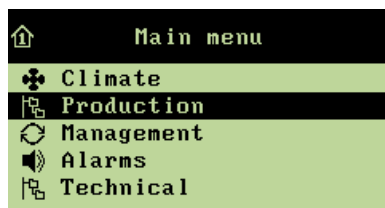
Table 3: Outline of the feed consumption menu

This section is relevant only to houses where Viper has been set up for feed control.

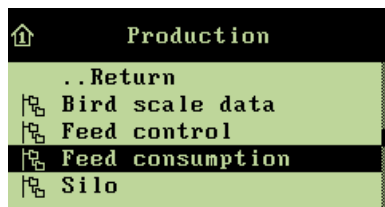
Viper controls the feed intake from one or two silos by means of the feed weighing function. Viper calculates the feed consumption based either on registrations from the tip weigher, the electronic silo weigher or by calculating the quantity of feed that is running through the silo auger when it is activated.

All menu items ... in the **Feed consumption** menu can be displayed by

→ pressing the  menu key



→ selecting **Production**, and pressing

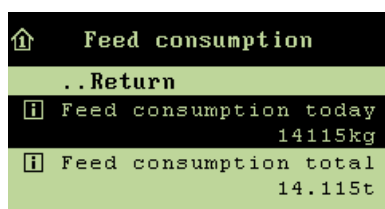


→ selecting **Feed consumption**, and pressing

1.1.3.1 Today's and Total Feed Consumption

Viper calculates the feed consumption when the silo auger is activated. The computer updates the feed consumption as the content of feed is decreasing in the silo. You can display the feed consumption for the current day number as well as total feed consumption.

When you want to ... read the feed consumption, select the **Production/Feed consumption** menu and



→ display the required menu item

1.1.4 Water




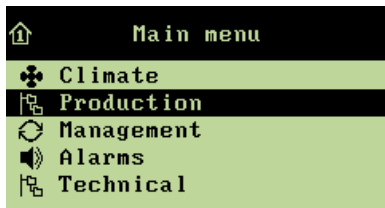
	1 st level	2 nd level
	 Water consumption	Total consumption 5 m ³ ◀ Return ▶ Today until now Day no. 15 Amount 0 l Consumption in percent 100 %
	 Water consumption	

Table 4: Outline of the water menu

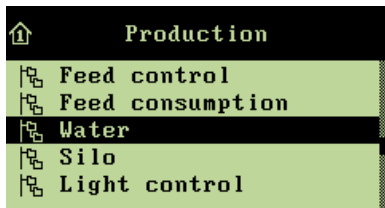
This section is relevant only to houses where water meters are installed.

All menu items ... in the **Water** menu can be displayed by

→ pressing the  menu key



→ selecting **Production**, and pressing



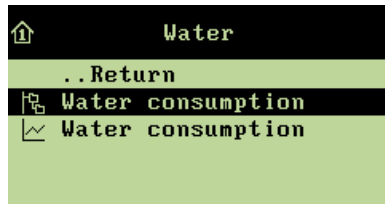
→ selecting **Water**, and pressing

1.1.4.1 Water Consumption

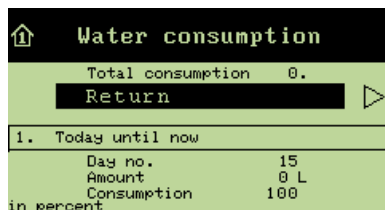
Water consumption is made up in m³ for a total overview.

In order to render sudden changes visible, the water consumption is also made up in per cent. Such changes can be used at an early stage to discover that not all things are normal in the house; an illness might for example be coming on or the supply of water might be disconnected. Under normal conditions, such percentages will increase by a couple of per cent per day as the animals grow older.

When you want to ... read the water consumption, open the **Production/Water** menu and



→ select **Water consumption**, and press

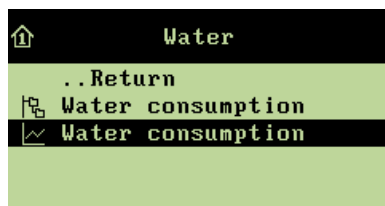


→ move the cursor forwards or backwards to read the statements day by day

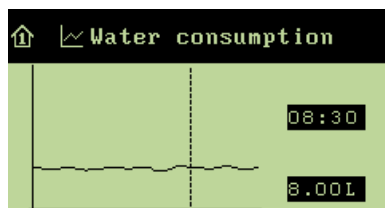
1.1.4.2 Water Consumption Curve

The curve provides you with a picture of the water consumption in the house during the last 24 hours.

When you want to ... read the water consumption for the last 24 hours, open the **Production/Water** menu and



→ select the **Water consumption** curve, and press



→ move forwards and backwards in the menu to display the exact time and figure values

→ press to return to the water menu

1.1.5 Silo












	1 st level	2 nd level	3 rd level
Time controlled/ Tip weigher	 Silo 1 state 16.482 t  Silo 2 state 16.500 t  Active silo  Silo delivery	Silo 1 Silo 2  Silo 1/2 delivery 1.500 t  Silo 1/2 delivery log	Time: 2004.11.15 10:28 Delivery: 10.345
Electronic silo weigher	 Silo 1 state 16.482 t  Silo 2 state 16.500 t  Active silo  Silo delivery	Silo 1 Silo 2  Silo 1/2 delivery log	Time: 2004.11.15 10:28 Delivery: 10.345

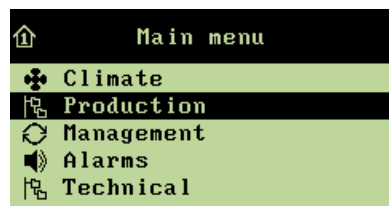
Table 5: Outline of the silo menu (changeable values are highlighted in bold types)

This section is relevant only to houses where Viper has been set up for feed control.

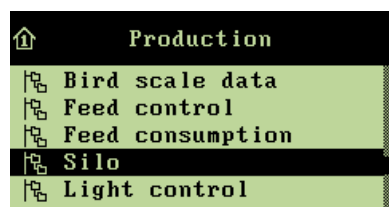
Viper controls the feed intake from one or two silos by means of the feed weighing function. Viper continuously updates the quantity of feed in the silo based either on registrations from the tip weigher, the electronic silo weigher or by calculating the quantity of feed that is running through the silo auger when it is activated. When feed is delivered, Viper updates the quantity of feed either on the basis of electronic weighing of the silo or the information entered by you.

All menu items ... in the **silO** menu can be displayed and set by

→ pressing the  menu key



→ selecting **Production**, and pressing

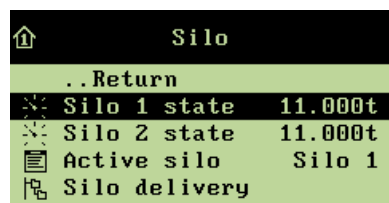


→ selecting **silO**, and pressing

1.1.5.1 Setting and Displaying the Quantity of Feed in the Silo

Viper updates the silo content on the basis of the quantity of feed delivered and the consumption of feed. In **Silo 1 / 2 state** you can see the quantity of feed in the silos. If you forget to set the quantity of feed delivered or find that the Viper silo state does not correspond to your observations, you can set the actual quantity of feed yourself by means of the tip weigher or the time-controlled feed weighing function.

When you want to ... set the silo state,
open the **Production/Silo** menu and



→ select **Silo 1 state**, and press



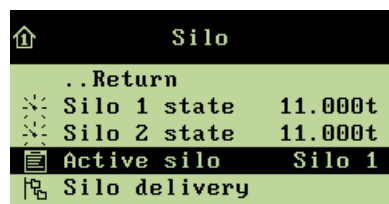
→ set the quantity, and when **Yes** is highlighted, press to approve the change

For electronic silo weighing, the quantity of feed in the silo is displayed in **Silo 1 state**.

1.1.5.2 Choice of Silo

Viper can control the feed intake from two silos. In **Active silo** you can choose the silo from which you want feed.

When you want to ... select a silo,
open the **Production/Silo** menu and



→ select **Active silo**, and press



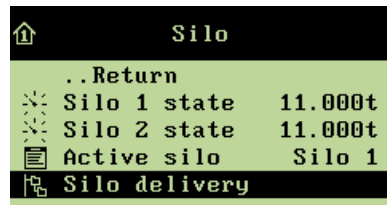
→ select the required silo, and when **Yes** is highlighted, press to approve the change

1.1.5.3 Delivery of Feed to Silo

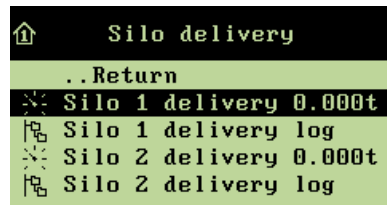
When feed weighing is either time-controlled or controlled by means of the tip weigher, you can set the delivered quantity of feed manually. For electronic silo weighing, Viper registers that the delivery of feed is working when more than 200 kg feed is delivered to the silo. When the weight of the silo content has been stable for approx. one minute, Viper will register the quantity delivered. After registration of feed delivery, Viper will update the actual quantity of feed in the silo.

1.1.5.3.1 Setting the Quantity of Feed Delivered

When you want to ... set the quantity of feed delivered, open the **Production/Silo** menu and



→ select **Silo delivery**, and press



→ select **Silo 1 delivery**, and press



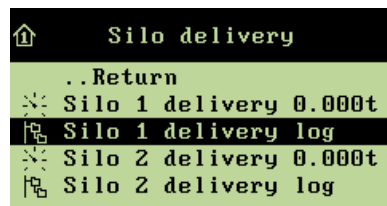
→ set the quantity, and when **Yes** is highlighted, press to approve the change

Repeat the setting for feed delivery to silo 2.

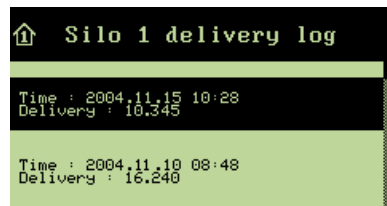
1.1.5.3.2 Delivery Log

For each feed delivery, Viper will save a delivery log containing information about the delivery date, hour and quantity. Viper will save up to 20 delivery logs for each silo.

When you want to ... read a log, open the **Production/Silo/Silo delivery** menu and



→ select **Silo 1 delivery log**, and press



→ move the cursor down the menu to display the required delivery log

Delivery log for silo 2 is displayed in the same way.

1.1.6 Light Control

	1 st level	2 nd level	3 rd level	
	Light state	ON OFF		
	Current light level	100 %		
	Light at dark	0 %		
	Light program			
		Current day no.	17	
		Active program no.	2	
		Light day 1-8		
			Day number	1
			Number of starts	16
			Start time 1-16	07:00
		Stop time 1-16	08.00	
	Light dimmer curve			
		1.-8. day start	1	
		Light dimmer level for 1.-8. day	100 %	

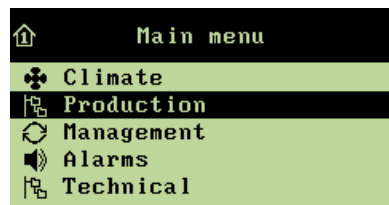
Table 6: Outline of the light control menu (changeable values are highlighted in bold types)

This section is relevant only to houses where Viper has been set up for light control.

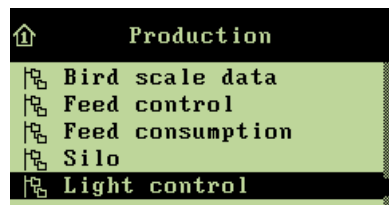
Viper controls the light in the house by means of the **Light control** function. You are to set the time, duration and intensity of the light.

All menu items ... in the **Light control** menu can be set by

→ pressing the menu key



→ selecting **Production**, and pressing

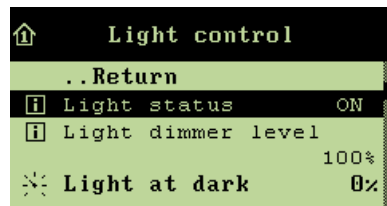


→ selecting **Light control**, and pressing

1.1.6.1 Light Status

You decide when the light is to be on in the house. In the **Light status** menu, you can see whether Viper has turned on the light in the house (**ON** or **OFF**).

When you want to ... read the status for the light in the house, open the **Production/Light control** menu and

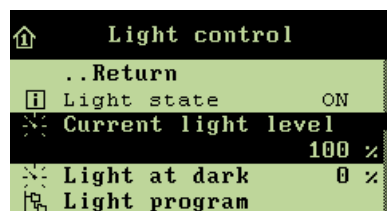


→ display **Light status**

1.1.6.2 Light Dimmer Level

When you choose to use a light dimmer to turn the light on/off and control the light level, you can see the current light intensity in the **Current light level** menu. Depending on the period set for dawn and dusk, the light intensity will increase and decrease, respectively, during the period of time in which Viper, for example, has to change the light level from night to day, e.g. from 20 % to 100 % light intensity.

When you want to ... read the current light intensity in the house, open the **Production/Light control** menu and

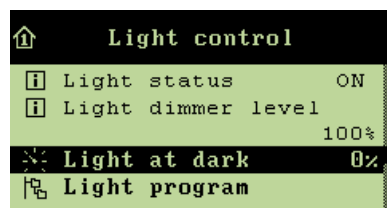


→ display **Current light level**

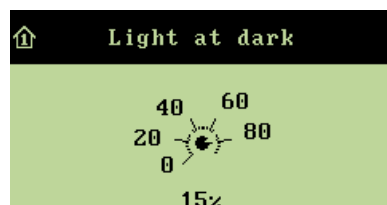
1.1.6.3 Setting Minimum Light Intensity

The **Light at dark** function makes sure that minimum light is always turned on at the level specified by you.

When you want to ... set the minimum light intensity, open the **Production/Light control** menu and



→ select **Light at dark**, and press



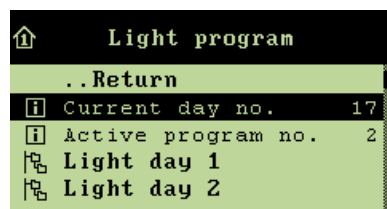
→ set a value, and when **yes** is highlighted, press to approve the change

1.1.6.4 Light Program

1.1.6.4.1 Day Number and Program Number

In the **Current day no.** and **Active program no.** menu items you can read the current day number for the batch and the program number according to which Viper is controlling the light.

When you want to ... read the day or program number, open the **Production/Light control/Light program** menu and



→ display the required menu item

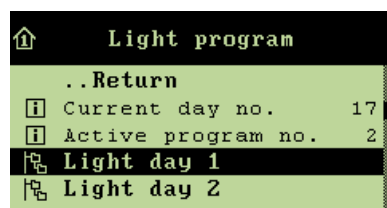
1.1.6.4.2 Light Days 1-8

Viper's light control works by means of a 24-hour clock with a number of light programs. By means of the light programs you can choose how many times the light is to be turned on/off. The on/off times for each light program can be kept from one day number to the next. You can set up to 16 on/off times for each day number.

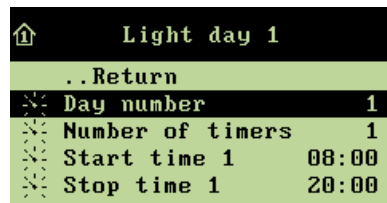
You can set up to eight light programs on the 24-hour clock. In each light program you are to set the day number at which the program is to start and the time at which the light has to turn on/off on the basis of the number of on/off times.

On the day before day number 1 (**Current day no.** 0) the light will be on all 24 hours, and the light intensity will be the same as the one chosen for **Day number 1**.

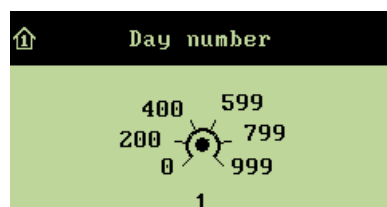
When you want to ... set the light program, open the **Production/Light control/Light program** menu and



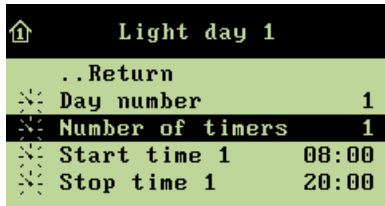
→ select the required light program **Light day 1**, and press



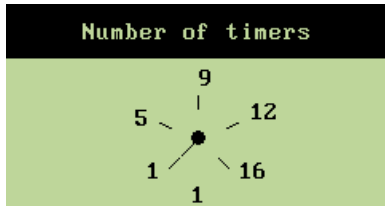
→ select **Day number**, and press



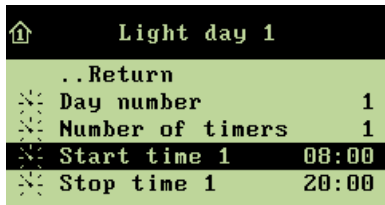
→ set the required start day, and when **Yes** is highlighted, press to approve the change



→ select **Number of timers**, and press



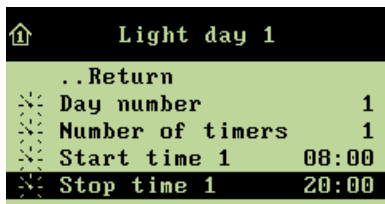
→ set the number of on/off timers, and when **Yes** is highlighted, press to approve the change



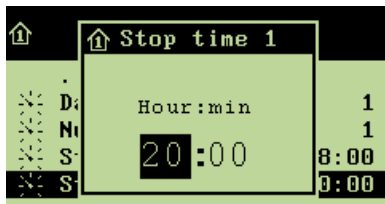
→ select **Start time 1**, and press



→ set a start time, and when **Yes** is highlighted, press to approve the change



→ select **Stop time 1**, and press



→ set a stop time, and when **Yes** is highlighted, press to approve the change

Repeat the setting for the required number of adjustments.

1.1.6.5 Light Dimmer Curve

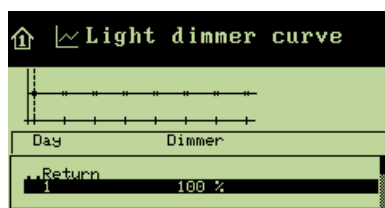
Viper automatically adjusts the light level in the house on the basis of the values specified by you in the **Light dimmer curve** menu.

When you use a light dimmer, a light period will start with "dawn" where the light for a given period will be changed from "Night" to "Day". Similarly, a light period will end with "dusk". You can set the **Time for dawn/dusk** in the **Technical/Setup/Adjustment/Light dimmer** menu.

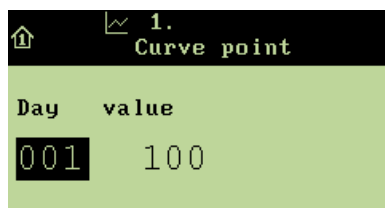
1.1.6.5.1 Setting the Light Dimmer Curve

You can set up to eight programs on the 24-hour clock for the light dimmer. In each program you are to set the day number for which the light dimmer level set is to apply.

When you want to ... set the light dimmer curve, open the **Production/Light control/Light dimmer curve** menu and



→ select **Day 1**, and press



→ set the level, and when **Yes** is highlighted, press to approve the change

Repeat the setting for the required number of adjustments.

1.1.7 24-hour Clock


















	1 st level	2 nd level	
	 24-hour clock A	 Number of active points	1
	 Start 1-10	04:00	
	 ON-time 1-10	00:30:00	
 24-hour clock B	 Number of active points	1	
	 Start 1-10	04:00	
	 ON-time 1-10	00:30:00	
 24-hour clock C	 Number of active points	1	
	 Start 1-10	04:00	
	 ON-time 1-10	00:30:00	
 24-hour clock D	 Number of active points	1	
	 Start 1-10	04:00	
	 ON-time 1-10	00:30:00	

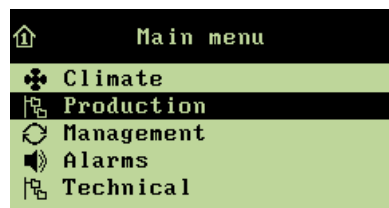
Table 7: Outline of the 24-hour clock menu (changeable values are highlighted in bold types)

1.1.7.1 Setting the 24-hour Clock

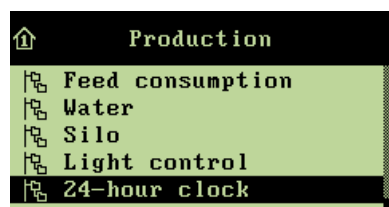
On each 24-hour clock you can set a total number of active points, a start time and an ON-time for each active point.

When you want to ... set a 24-hour clock,

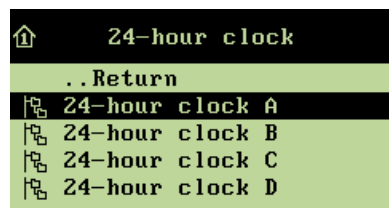
→ press the  menu key



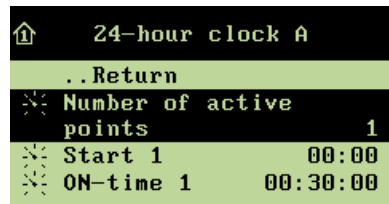
→ select **Production**, and press



→ select **24-hour clock**, and press



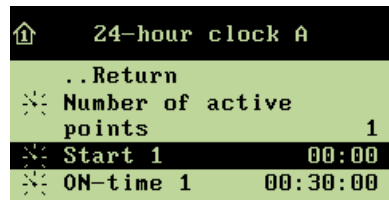
→ select the required 24-hour clock, and press



→ select **Number of active points**, and press



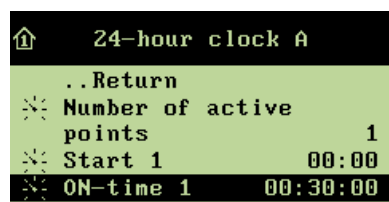
→ set the number of active points; and when **Yes** is highlighted, press to save the change



→ select **Start 1**, and press



→ set a start time; and when **Yes** is highlighted, press to save the change



→ select **ON-time 1**, and press



→ set an ON-time; and when **Yes** is highlighted, press to save the change

Repeat the setting for the required number of adjustments.

1.2 Management

1.2.1 Switch State


	1 st level																																							
	Switch state	1. OFF	2. OFF	3. OFF	4. OFF	5. OFF	6. OFF	7. OFF	8. OFF	9. OFF	10. OFF	11. OFF	12. OFF	13. OFF	14. OFF	15. OFF	16. OFF	17. OFF	18. OFF	19. OFF	20. OFF	21. OFF	22. OFF	23. OFF	24. OFF	25. OFF	26. OFF	27. OFF	28. OFF	29. OFF	30. OFF	31. OFF	32. OFF	33. OFF	34. OFF	35. OFF	36. OFF	37. OFF	38. OFF	39. OFF

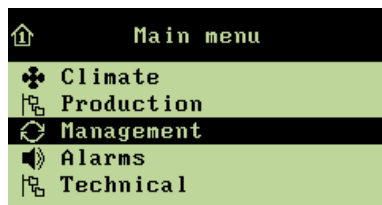
Table 8: Outline of the switch state menu

This section is relevant only to houses where Viper is set up with relays with manual override switches.

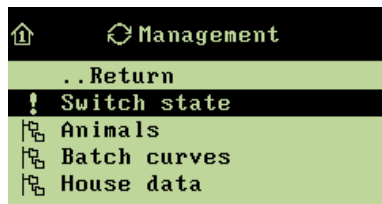
In the **Switch state** menu you can see which relays are **ON** or **OFF**. The **Switch state** menu shown on Viper depends on the number of extra strong relays installed. With Viper you can control up to 40 manual override switches.

When you want to ... read the relays' status

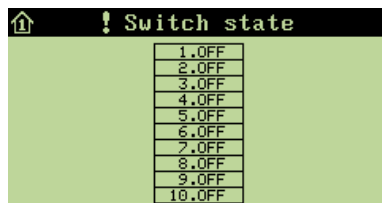
→ press the  menu key



→ select **Management**, and press


































→ select **Switch state**, and press



→ read the switch status

1.2.2 Animals

	1 st level		2 nd level	
	Animals (Mixed)		Add/remove animals	
				Dead today 25
				Dead animals
				Moved today 10
				Moved animals
				Examined today 5
				Examined animals
				Culled today 0
				Culled animals
				Extra installed today 0
				Extra installed animals
				Number of animals 29,685
				Number of dead animals 300
				Mortality 1.0 %
		History animals		
			Mortality 1.0 %	
			Dead animals 300	
			Moved animals 10	
			Examined animals 5	
			Culled animals 0	
			Extra installed animals 0	
Animals (Sexed)		Add/remove hens/cocks		Installed hens/cocks 15,000
				Dead today 25
				Dead hens/cocks
				Moved today 10
				Moved hens/cocks
				Examined today 5
				Examined hens/cocks


















	1 st level		2 nd level	
				 Culled today
			 Culled hens/cocks	
			 Extra installed today	0
			 Extra installed hens/cocks	
	 Number of animals	29,685		
	 Number of dead animals	300		
	 Mortality	1.0 %		
	 Number of hens	14,843		
	 Number of cocks	14,842		
	 History hens/cocks		 Mortality hens/cocks	1.0 %
			 Dead hens/cocks	150
			 Moved hens/cocks	10
			 Examined hens/cocks	5
			 Culled hens/cocks	0
			 Extra installed hens/cocks	0

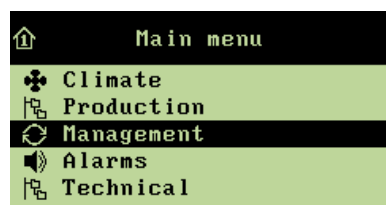
Table 9: Outline of the animals menu (changeable values are highlighted in bold types)

In the **Animals** menu, set the information about e.g. no. of animals and no. of moved animals, which together with other information form the basis for Viper’s calculations for climate regulation and production control. Enter the number of installed animals as well as the number of animals you remove from the house in the course of the batch. On the basis of these entries, Viper calculates production numbers, e.g. number of animals in the house and mortality.

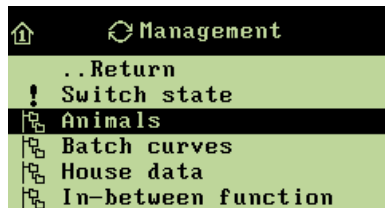
You can enter animals of both sexes as a batch or in separate sexes. Before you enter the number of animals in the house, choose whether to register the batch as **Mixed animals** or **Sexed animals** in the menu **Technical/Setup/Adjustment/1 or 2 types of animals**.

All menu items ... in the **Animals** menu can be set by

→ pressing the  menu key



→ select **Management**, and press



→ select **Animals**, and press

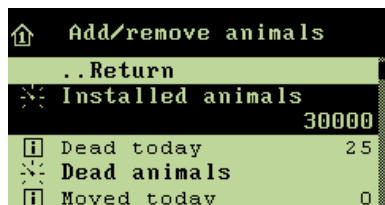
1.2.2.1 Mixed and Sexed Batches

The management menu shown in the function **Animals** depends on whether you choose mixed or sexed batches, as not all functions are shown for both batches.

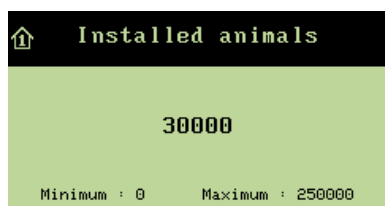
1.2.2.1.1 Entering the Number of Animals

At batch start, enter the number of animals you install in the house, so that Viper subsequently can monitor production and calculate e.g. mortality in the house. It is important that the number is correct as it is essential for the calculation of key data.

When you want to ... enter the number of animals, open the **Management/Animals/Add/remove animals** menu, and



→ select **Installed animals**, and press

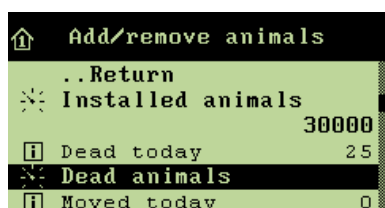


→ enter the number, and when **Yes** is highlighted, press to approve the change

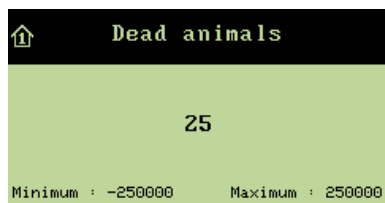
1.2.2.1.2 Entering and Reading the Number of Dead Animals

On the basis of the number of dead animals you enter, the Viper computer calculates the total number of dead animals for the current day number.

When you want to ... enter the number of dead animals, open the **Management/Animals/Add/remove animals** menu, and



→ select **Dead animals**, and press



→ enter the number, and when **Yes** is highlighted, press to approve the change

You can read the **Dead today** number in the **Management/Animals/Add/remove animals** menu.

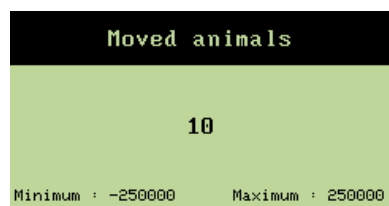
1.2.2.1.3 Entering and Reading the Number of Moved Animals

When you remove animals, e.g. for slaughter before finishing the entire batch, enter the number of moved animals. On the basis of the number of moved animals you enter, the Viper computer calculates the total number of moved animals for the current day number.

When you want to ... enter the number of moved animals, open the **Management/Animals/Add/remove animals** menu, and



→ select **Moved animals**, and press



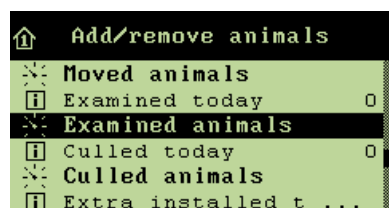
→ enter the number, and when **Yes** is highlighted, press to approve the change

You can read the **Moved today** number in the **Management/Animals/Add/remove animals** menu.

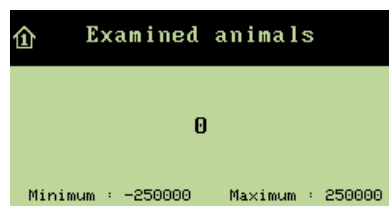
1.2.2.1.4 Entering and Reading the Number of Examined Animals

On the basis of the number of examined animals you enter, the Viper computer calculates the total number of animals removed for examination, e.g. because of control or illness, for the current day number.

When you want to ... enter the number of examined animals, open the **Management/Animals/Add/remove animals** menu, and



→ select **Examined animals**, and press



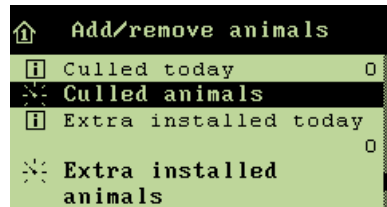
→ enter the number, and when **Yes** is highlighted, press to approve the change

You can read the **Examined today** number in the **Management/Animals/Add/remove animals** menu.

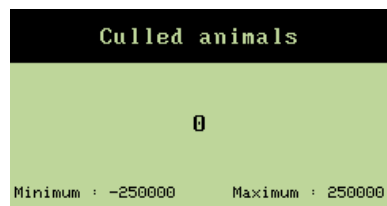
1.2.2.1.5 Entering and Reading the Number of Culled Animals

Some houses are for hens and cocks, respectively, and as the sorting is not always 100 % correct, it may be necessary to sort a few hens from the cocks and vice versa. The culled animals are either slaughtered or placed in a house with animals of their own sex. On the basis of the number of culled animals you enter, the Viper computer calculates the total number for the current day number.

When you want to ... enter the number of culled animals, open the **Management/Animals/Add/remove animals** menu, and



→ select **Culled animals**, and press



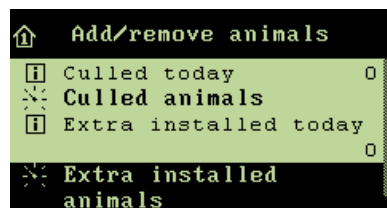
→ enter the number, and when **Yes** is highlighted, press to approve the change

You can read the **Culled today** number in the **Management/Animals/Add/remove animals** menu.

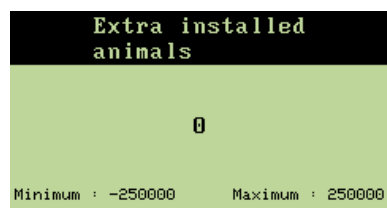
1.2.2.1.6 Entering and Reading the Number of Extra Installed Animals

When you install an extra number of animals in the house during the batch course, e.g. because of a high mortality rate, enter this. The Viper computer then calculates the total number of **Extra installed animals** for the current day number.

When you want to ... enter the number of extra installed animals, open the **Management/Animals/Add/remove animals** menu, and



→ select **Extra installed animals**, and press



→ enter the number, and when **Yes** is highlighted, press to approve the change

You can read the **Extra installed today** number in the **Management/Animals/Add/remove animals** menu.



Enter and read the numbers for **Sexed animals (hens/ cocks)** in the same way.

1.2.2.2 Number of Animals, Number of Dead Animals, Mortality, Number of Hens and Number of Cocks

On the basis of the number of installed animals, and the number of dead animals you have entered, Viper calculates the total number of animals, the number of dead animals and mortality in the house. When you choose **Sexed animals**, the number of hens and cocks is also shown.

When you want to ... read the numbers for animals, dead animals, mortality, hens or cocks, open the **Management/Animals** menu, and

Animals	
⏏ Add/remove animals	
i Number of animals	29685
i Number of dead animals	300
i Mortality	1.0%

→ read the various statements

1.2.2.3 History for Animals/Hens and Cocks

On the basis of the numbers you have entered in the course of the batch, the Viper computer calculates the mortality and the total number of dead, moved, examined, culled and extra installed animals.

When you want to ... read the history, open the **Management/Animals** menu, and

Animals	
i Number of animals	29650
i Number of dead animals	300
i Mortality	1.0%
⏏ History animals	

→ select **History animals**, **History hens** or **History cocks**, and press

History animals	
..Return	
i Mortality	1.0%
i Dead animals	300
i Moved animals	10
i Examined animals	5
i Culled animals	0

→ read the various statements

1.2.3 Batch Curves


















	1 st level	2 nd level	3 rd level
 Batch curves	 Climate	 Inside temperature  Chill curve – outside temp.  Chill curve - factor  Heater temperature  Brooding heater temperature  Humidity  Minimum ventilation  Minimum ventilation level  Maximum ventilation  Maximum ventilation level  Night setback	
	 Production	 Bird scale 1/2 curves	 Reference  Correction

Table 10: Outline of the batch curves menu (changeable values are highlighted in bold types)

This section is relevant only to houses with batch production.

Viper can automatically adjust the settings for temperature, humidity and ventilation and the function night setback. It can also show the animals' expected weight and make adjustments according to any weight deviations in relation to the animals' age. Together with other information, the curve settings form the basis for Viper's calculations for climate regulation and production control.

It generally applies to the curve functions that Viper will automatically displace the rest of a curve course in parallel when you change the settings of the curves during a batch.



In **Basic-Step**, the climate settings are adjusted in relation to the curves **Inside temperature** and **Minimum ventilation**.

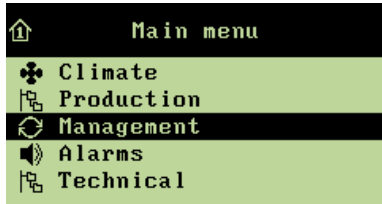
1.2.3.1 Setting Curves

Select day numbers for each of the eight curve points that cover the whole batch course. For each curve point, first set a day number and then the required value for the function. In this way, you set up a curve course, which will make Viper continuously adapt the conditions in the house to changes in the animals' requirements.

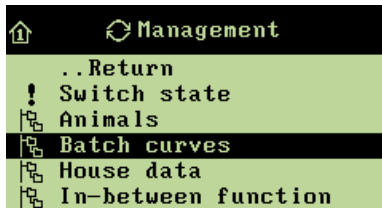
See the individual sections concerning inside temperature, heating temperature, etc. for an explanation of these functions.

When you want to ... set a curve

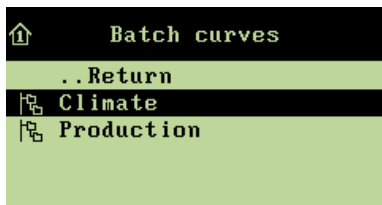
→ press the  menu key



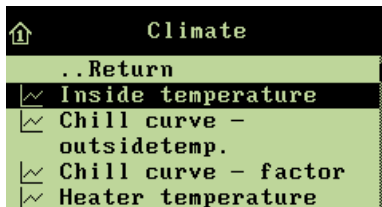
→ select **Management**, and press



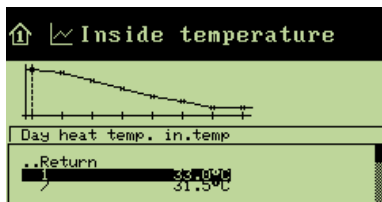
→ select **Batch curves**, and press



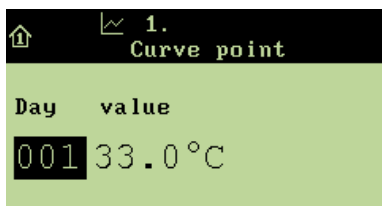
→ select **Climate** or **Production**, and press



→ select the required curve type, and press



→ select day number or value, and press



→ set day number or value, and press

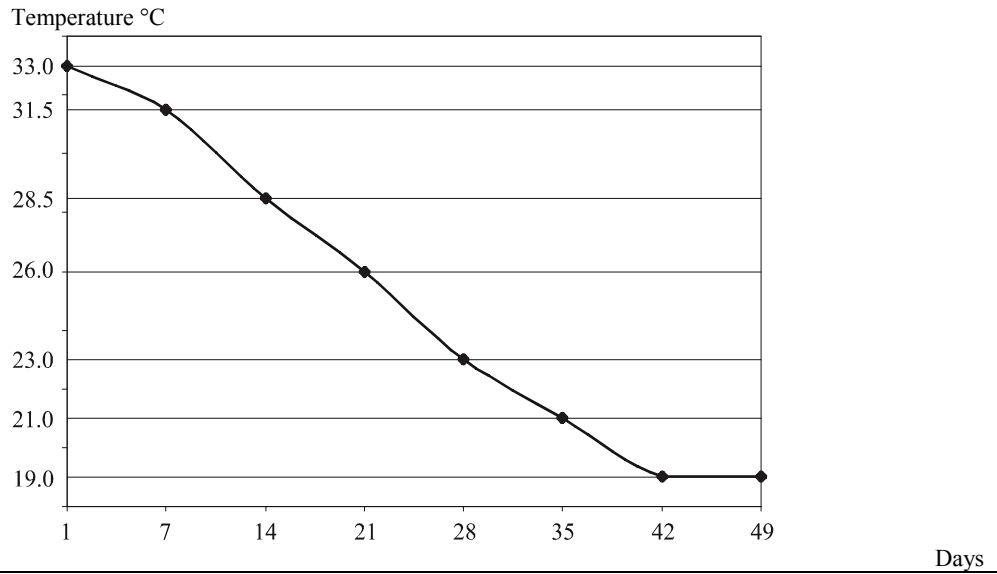
→ when **Yes** is highlighted, press to approve the change

Curves for **Production** are set in the same way.

1.2.3.1.1 Curves for Climate Control

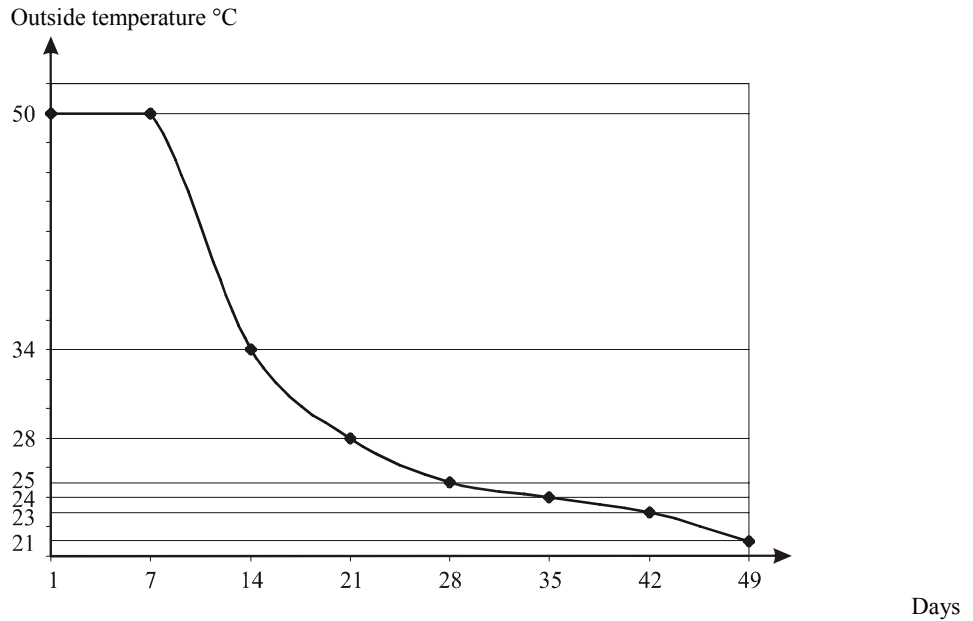
Example 2: Curve for inside temperature

Day	Inside temp.
1	33.0
7	31.5
14	28.5
21	26.0
28	23.0
35	21.0
42	19.0
49	19.0



Example 3: Chill curve – outside temperature - UltiMatic

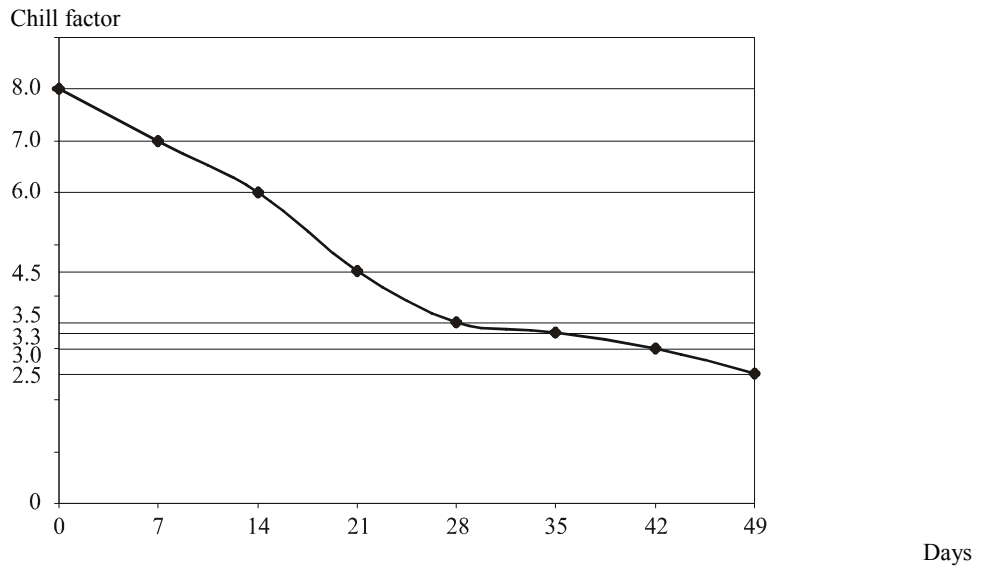
Day	Outside temp.
1	50
7	50
14	34
21	28
28	25
35	24
42	23
49	21



On the basis of the curve settings in **Chill curve – outside temp.** and the other chill curve, Viper calculates when to start the tunnel ventilation.

Example 4: Chill curve – factor - UltiMatic

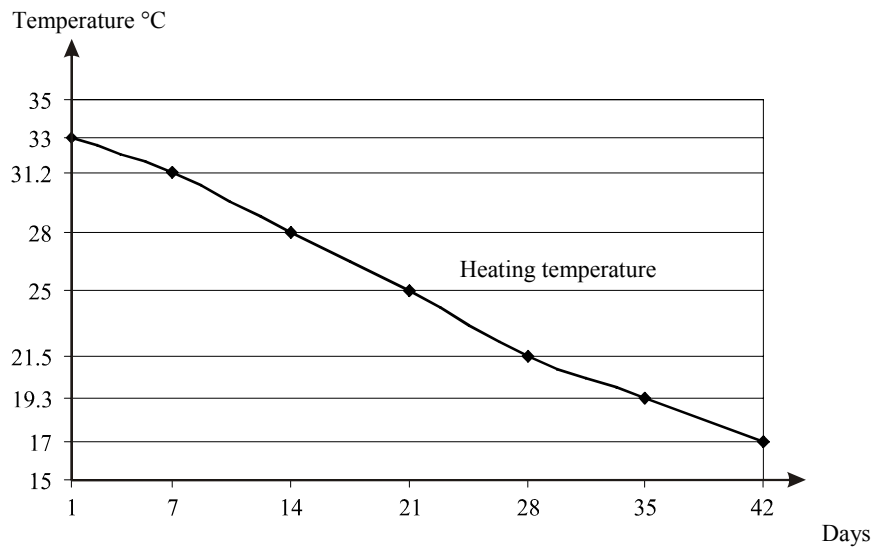
Day	Chill factor
1	8.0
7	7.0
14	6.0
21	4.5
28	3.5
35	3.3
42	3.0
49	2.5



On the basis of the curve settings in **Chill curve – factor** and the other chill curve, Viper calculates when to start the tunnel ventilation.

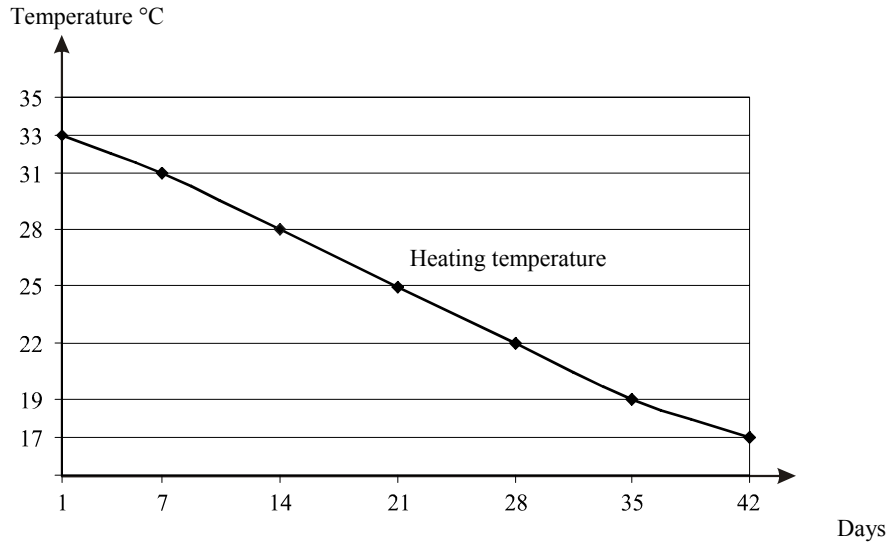
Example 5: Curve for heating temperature (UltiMatic, Flex-step)

Day	Heating temp.
1	33.0 °C
7	31.2 °C
14	28.0 °C
21	25.0 °C
28	21.5 °C
35	19.3 °C
42	17.0 °C



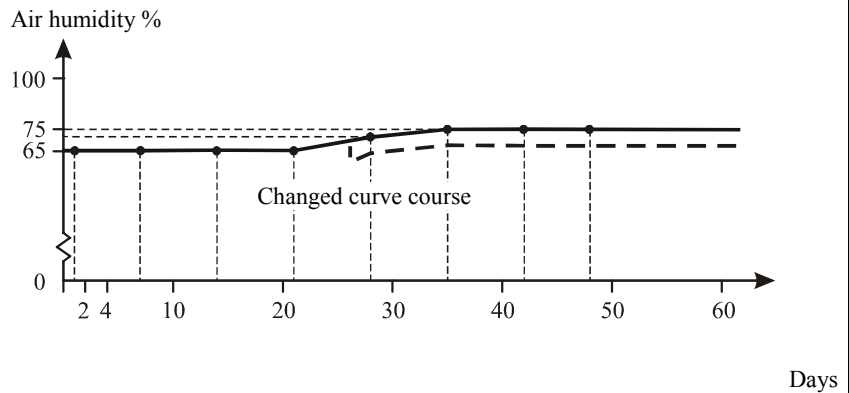
Example 6: Curve for brooding zone temperature - UltiMatic, Flex-step

Day	Heating temp.
1	33 °C
7	31 °C
14	28 °C
21	25 °C
28	22 °C
35	19 °C
42	17 °C

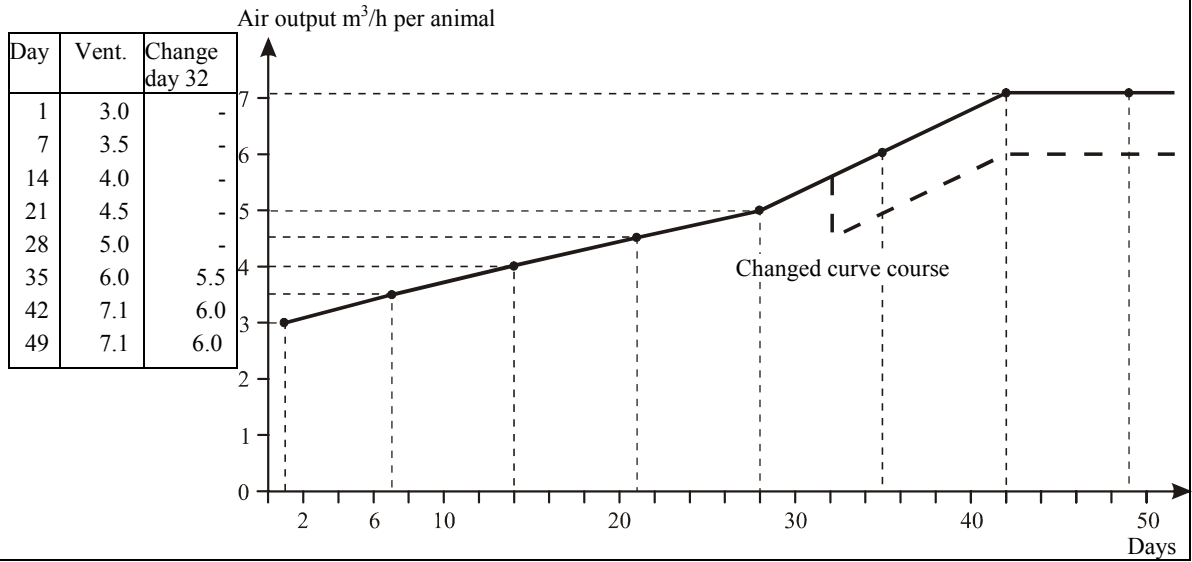


Example 7: Curve for air humidity - UltiMatic

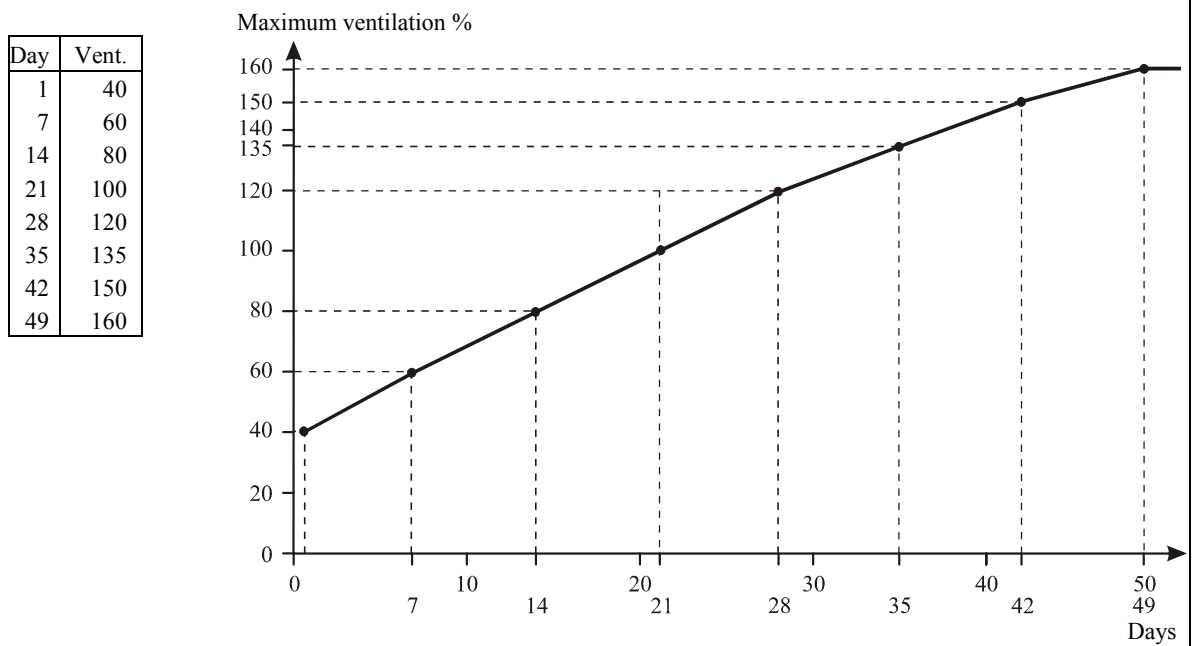
Day	Air humidity	Change day 26
1	65	-
7	65	-
14	65	-
21	65	-
28	70	65
35	75	68
42	75	70
49	75	70



Example 8: Curve for minimum ventilation - UltiMatic, Flex-step

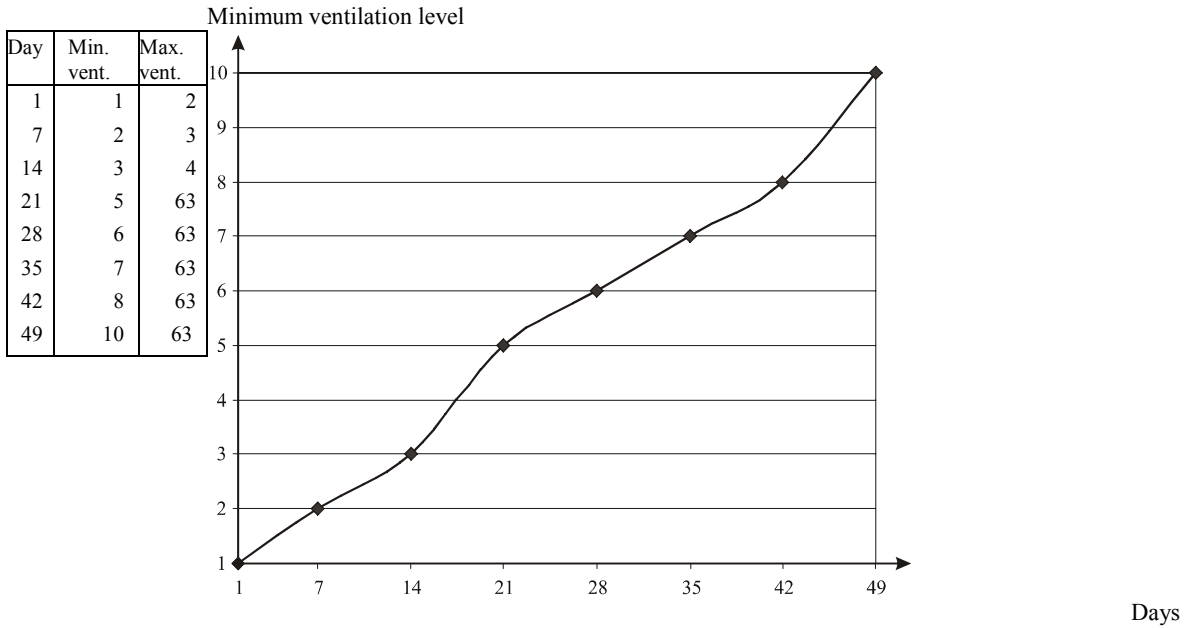


Example 9: Curve for maximum ventilation - UltiMatic



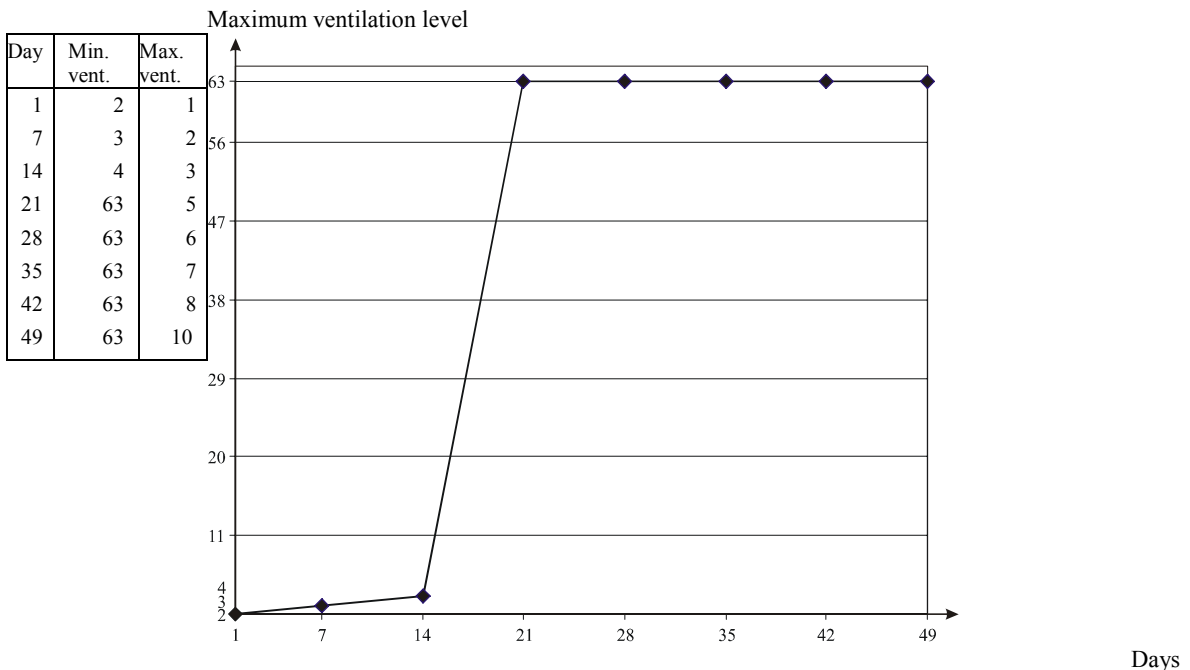
This function is only needed under special conditions. Therefore, it is overridden in the factory setting as it is set to 300 %.

Example 10: Curve for minimum ventilation level – Flex-Step



*In the curve **Minimum ventilation level** you must set a limit for the minimum ventilation level for each day number, thus the house as a minimum is supplied with an air quantity which secures an acceptable air quality.*

Example 11: Curve for maximum ventilation level – Flex-Step

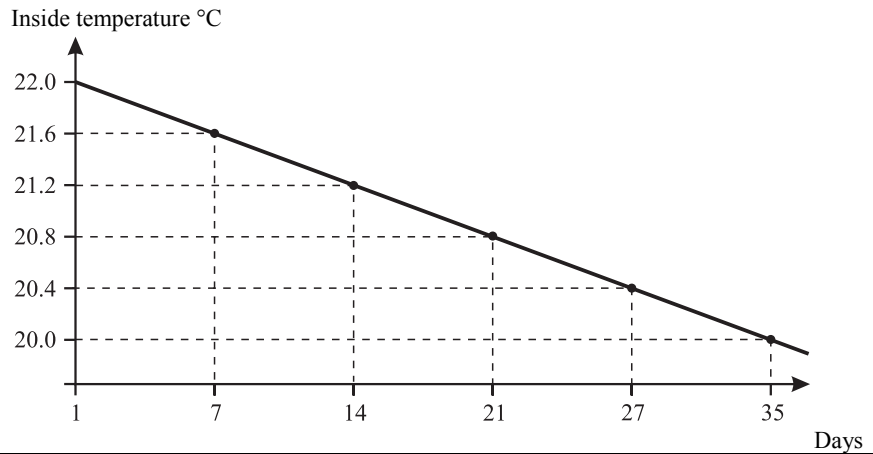


*In the curve **Maximum ventilation level** you must set a limit for the maximum ventilation level for each day number, in that way the animals will not be exposed heavier ventilation than they can stand*



Example 12: Curve for night temperature - UltiMatic

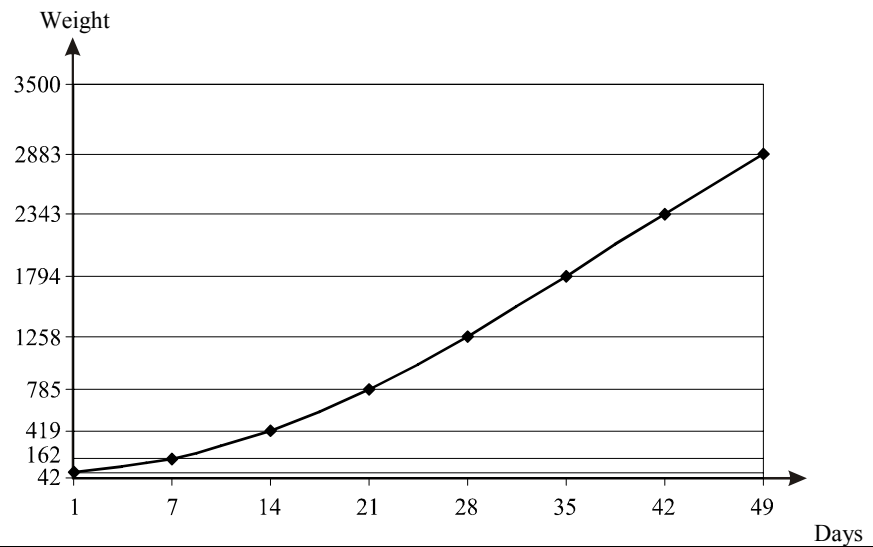
Day	Night setback
1	- 0.1
7	- 0.4
14	- 0.8
21	- 1.2
28	- 1.6
35	- 2.0



1.2.3.1.2 Curves for Production Control

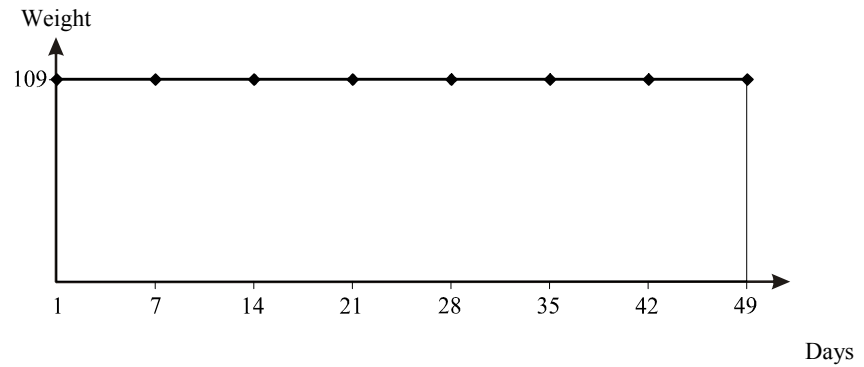
Example 13: Curve for reference weight

Day	Weight
0	42
7	162
14	419
21	785
28	1258
35	1794
42	2343
49	2883



Example 14: Curve for correction factor

Day	Weight
1	109
7	109
14	109
21	109
28	109
35	109
42	109
49	109



The Viper is supplied with a factory-set correction factor of 109 % for the entire batch course, but you can change the correction factor to match your observations during the batch course.

1.2.4 House Data








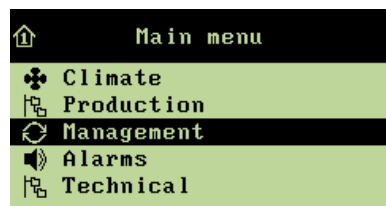
	1 st level		2 nd level	3 rd level
	House data		Batch status	Active house Empty house
		Active grow zone	Grow zone 1 Grow zone 2 Full house	
		Time	14:15:16	
		Date	2004:11:15	
		Day number	5	
		House name	House 1	

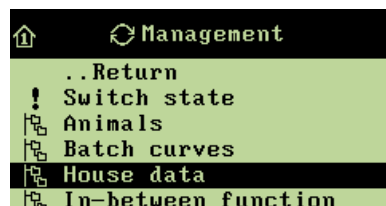
Table 11: Outline of the house data menu (changeable values are highlighted in bold types)

All menu items ... in the **House data** menu can be set by

→ pressing the  menu key



→ select **Management**, and press



→ select **House data**, and press

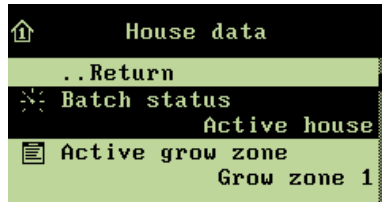
1.2.4.1 Setting Active House/Empty House

Set batch status to **Active house** the day before the animals are stocked in the house so that the computer has time to adapt the climate to the animals' requirements and feed in the house. Hereafter, day no. changes to day 0, and the computer runs according to the automatic settings for climate and production.

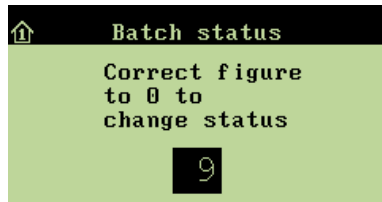
Set batch status to **Empty house** after the house has been depopulated. With an empty house, Viper will disconnect control of the house climate and control according to the settings for the in-between functions empty house and frost protection. This works as protection of the animals in case the wrong house is set to **Empty house**.

On the other hand, if you want the system to close when batch status is empty house, reset the settings in the in-between function empty house. In batch status, Viper will also reset all possible changes of curves which you have made during the previous batch course.

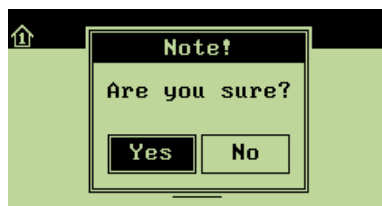
When you want to ... choose **Active house/Empty house**, open the **Management/House data** menu, and



→ Select **Batch status**, and press to choose (**Active house/Empty house**)



→ change the number to 0, and press



→ the computer needs an acknowledgement, before it sets the house to **Empty house**



→ a window will flash in the display to indicate that the house is set to **Empty house**

1.2.4.2 Setting Active Grow Zone

You need to indicate for how large a part of the house Viper is to control the climate and production. By means of curtains, the house can be split into a total of three areas, grow zones. Depending on the animals' age, 1/3, 2/3 of the house or the entire house will be used as grow zone.

Viper controls the climate and production in:

- 1/3 of the house at **Grow zone 1**
- 2/3 of the house at **Grow zone 2**
- the entire house at **Full house**

When you want to ... choose **Grow zone** or **Full house**, open the **Management/House data** menu, and



→ select **Active grow zone**, and press

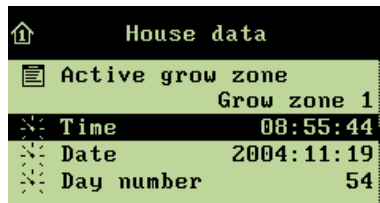


→ select zone or full house, and when **Yes** is highlighted, press to save the change

1.2.4.3 Setting the Time

A correct setting of the time is important for the sake of several control functions and the registration of alarms. The clock is not switched off in case of power failure.

When you want to ... set the clock, open the **Management/House data** menu, and



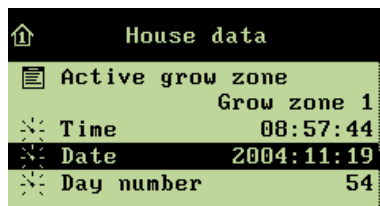
→ select **Time**, and press



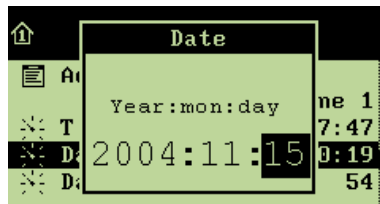
→ set the time, and when **Yes** is highlighted, press to approve the change

1.2.4.4 Setting the Date

When you want to ... set the date, open the **Management/House data** menu, and



→ select **Date**, and press

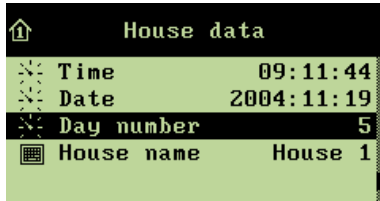


→ set the date, and when **Yes** is highlighted, press to approve the change

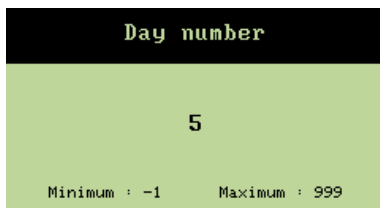
1.2.4.5 Setting the Day Number

The day number counts one up for each day that passes after the house has been set to active house.

When you want to ... set the day number, open the **Management/House data** menu, and



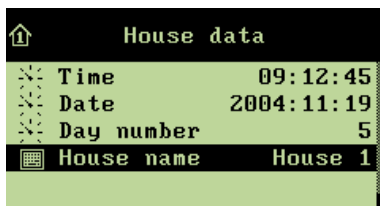
→ select **Day number**, and press



→ set the required number, and when **Yes** is highlighted, press to approve the change

1.2.4.6 Setting the House Name

When you want to ... set the house name, open the **Management/House data** menu, and



→ select **House name**, and press



→ select ← , and press to delete the current name

→ select the required letter, and press




























→ repeat for each letter in the name



→ select the black dot, and press

→ when **Yes** is highlighted, press to approve the change

1.2.5 In-between Function

	1 st level		2 nd level	
		 The house is ..	Soaking Washing Drying Empty	
Soaking			 Side inlet 0 %  Tunnel 0 %  Ventilation 0 %  Air outlet 1/2 0 %  Fan speed control 0 %  Soaking time 24:00  Cycle time 20 min.  ON-time 2 min.	
Washing			 Side inlet 20 %  Tunnel 20 %  Ventilation 30 %  Air outlet 1/2 80 %  Fan speed control 0 %  Washing time 01:00	
Drying			 Side inlet 40 %  Tunnel 40 %  Ventilation 80 %  Air outlet 1/2 80 %  Fan speed control 0 %  Heating 100 %  Drying time 06:00	
Empty house			 Side inlet 50 %  Tunnel 50 %  Ventilation 50 %  Air outlet 1/2 50 %	





	1 st level		2 nd level	
			 Fan speed control	0 %
		 Heating	0 %	
		<input type="checkbox"/> Frost protection		
		 Frost protection temperature	4.0 °C	

Table 12: Outline of the in-between function menu (changeable values are highlighted in bold types)

The Viper computer can activate the in-between functions only when **Batch status** has been set to **Empty house (Management / House Data)**.

You can choose between the in-between functions and activate them when the house is empty.

In **Empty house** batch status, the computer will disconnect all automatic temperature regulations and run according to the settings in the empty house function. Thus, the computer will be in empty house mode until you activate one of the other in-between functions, and it will return to empty house when the functions have been completed.

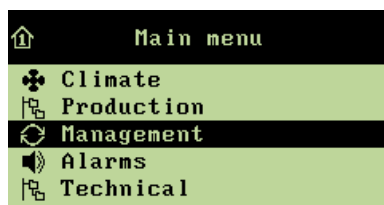
The in-between functions are designed partly to facilitate the activities, which you must carry out in the house to clean it, and partly to ensure the air change and temperature in the house while it is empty.



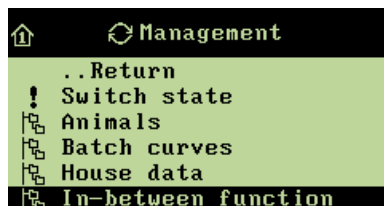
In **Basic-Step**, the functions **Air outlet 1/2** and **Fan speed control** are inactive.

All menu items ... in the **In-between function** menu can be set by

→ pressing the  menu key



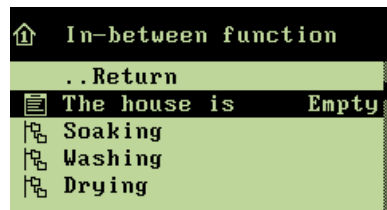
→ select **Management**, and press



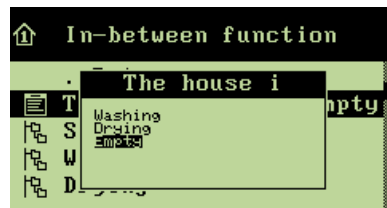
→ select **In-between function**, and press

1.2.5.1 Activating the In-between Function

When you want to ... activate an in-between function, open the **Management/In-between function** menu, and



- select **The house is**, and press
- This menu line is visible only when the house has been set to **Empty house** (in the **Management / House data / Batch status** menu)



- select one of the four functions, and press (**Soaking / Washing / Drying / Empty**)

1.2.5.2 Soaking

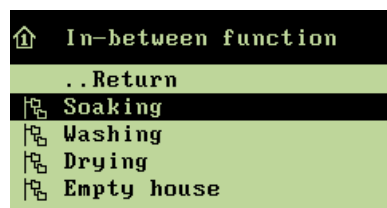
This section is relevant only to houses with spray cooling systems or soaking systems.

With the setting of soaking, the system will run according to a soaking function, which will moisten the house with water to loosen dust and dirt. This way, the amount of dust will be reduced during the subsequent cleaning making it easier to carry out.

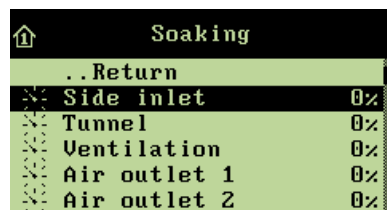
In soaking mode, you must stop ventilation to maintain the humidity in the house. Set the soaking system to run at intervals (cycle time) for a number of minutes (ON-time) during the total period (soaking time), which the soaking process is to last.

1.2.5.2.1 Setting the Soaking Function

When you want to ... activate soaking, open the **Management/In-between function** menu, and



- select **Soaking**, and press



- set a value for the individual menu items

1.2.5.3 Washing

While you wash the house manually, ventilation must run again to start the air change in the house.

1.2.5.3.1 Setting the Washing Function

When you want to ... set the house to washing,
open the **Management/In-between function** menu, and

In-between function	
..Return	
Soaking	
Washing	
Drying	
Empty house	

→ select **Washing**, and press

Washing	
..Return	
Side inlet	20%
Tunnel	20%
Ventilation	30%
Air outlet 1	80%
Air outlet 2	80%

→ set a value for the individual menu items

1.2.5.4 Drying

Drying is a combination of ventilation and heating. The more heating you supply to the house, the quicker it dries.

1.2.5.4.1 Setting the Drying Function

When you want to ... set the house to drying,
open the **Management/In-between function** menu, and

In-between function	
..Return	
Soaking	
Washing	
Drying	
Empty house	

→ select **Drying**, and press

Drying	
..Return	
Side inlet	40%
Tunnel	40%
Ventilation	80%
Air outlet 1	80%
Air outlet 2	80%

→ select a value for the individual menu items

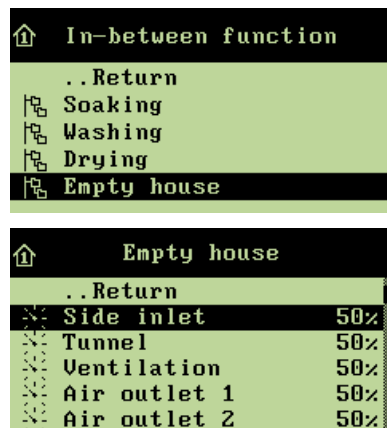
1.2.5.5 Empty House

When batch status in the management menu is empty house, the Viper computer will regulate according to the settings in **Empty house** (in the in-between function menu). This function will maintain the air change in the house by allowing the ventilation to run at a fixed percentage (50 %) of the system capacity. This is to protect the animals in case a house is set to **Empty house** by mistake.

This function also allows you to frost protect the house.

1.2.5.5.1 Setting the Empty House Function

When you want to ... set empty house, open the **Management/In-between function** menu, and



→ select **Empty house**, and press

→ set a value for the individual menu items

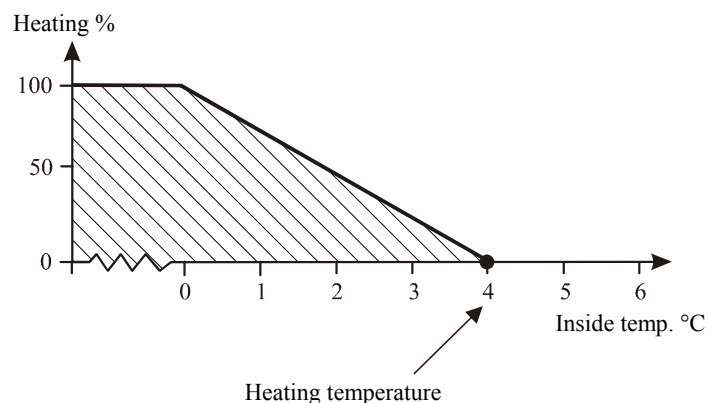
1.2.5.5.2 Frost Protection

Frost protection ensures that the inside temperature does not fall below the frost protection temperature setpoint when batch status is empty house for some time. (See the **Management/House data** menu).

For batch production, the function can also maintain an inside temperature of e.g. 20 °C between two batches. Please note that ventilation must be disconnected and the heating system connected.

Example 15: Frost protection

Temp. setpoint 4 °C
 (can vary between 0 and 40 °C)
 Heating temp. 4 °C



*When batch status is **Empty house** (**Management/House data**), and **Frost protection** has been connected, the computer will copy the temperature settings of the anti freeze temperature settings to **Temperature setpoint** and **Heating temp.***

When you want to ... connect and disconnect frost protection,
open the **Management/In-between function/Empty house** menu, and

Empty house	
Ventilation	50%
Air outlet 1	50%
Air outlet 2	50%
Fan speed control	0%
Heating	0%
<input type="checkbox"/> Frost protection	

→ select **Frost protection**, and press

When you want to ... set the frost protection temperature,
open the **Management/In-between function/Empty house** menu, and
















Empty house	
Air outlet 1	50%
Air outlet 2	50%
Fan speed control	0%
Heating	0%
<input checked="" type="checkbox"/> Frost protection	
Frost prot.temp.	4°C


















→ select **Frost prot. Temp.**, and press

Frost prot.temp.	
50 25 75 0 100 4.0°C	

→ set a temperature

1.3 Alarms

	1 st level		2 nd level	
	Active alarms	Name	Low temperature	
	Value	20.3		
	ON	04.12.10 08:53		
	ACK	04.12.10 08:53		
Previous alarms	Name	Low temperature		
	Value	20.3		
	ON	04.12.10 08:53		
	ACK	04.12.10 08:54		
	OFF	-----		
Alarm limits  Climate	 Temperature alarm	 High temperature limit	3 °C	
		<input checked="" type="checkbox"/> Low temperature alarm		
		 Low temperature limit	- 3 °C	
		 Summer temperature at 20 °C outside temp.	7 °C	
		 Summer temperature at 30 °C outside temp.	3 °C	
		 Absolute high temperature	32 °C	
		<input type="checkbox"/> Heat zone alarm		
		 Heat zone limit	3 °C	
		<input type="checkbox"/> Brooding heat zone alarm		
		 Brooding heat zone limit	3 °C	
	 Humidity alarm	<input checked="" type="checkbox"/> Abs. high humidity		
		 Abs. high hum. limit	95 %	
	 Flap alarm	<input checked="" type="checkbox"/> Error side inlet 1-6		
		<input checked="" type="checkbox"/> Error tunnel inlet 1-2		
		<input checked="" type="checkbox"/> Error air outlet 1-2		
	 Sensor alarm	<input checked="" type="checkbox"/> Error inside temperature sensor		
		<input checked="" type="checkbox"/> Error outside temperature sensor		
		 Misplaced outside sensor	5 °C	

	1 st level	2 nd level
		<ul style="list-style-type: none">  Pad sensor alarm limit 2 °C <input checked="" type="checkbox"/> Pad sensor alarm <input checked="" type="checkbox"/> Error humidity sensor  Error humidity sensor limit 5 % <input checked="" type="checkbox"/> Error pressure regulator sensor  Pressure sensor high limit 100 Pa  Pressure sensor low limit 5 Pa <input type="checkbox"/> Aux. sensor 1-4 error low  Aux. sensor 1-4 low limit 500 ppm <input type="checkbox"/> Aux. sensor 1-4 error high  Aux. sensor 1-4 high limit 5000 ppm <input checked="" type="checkbox"/> CO₂ sensor error low  CO₂ sensor low limit 500 ppm <input checked="" type="checkbox"/> CO₂ sensor error high  CO₂ sensor high limit 8500 ppm
	 Pressure control	<ul style="list-style-type: none">  Regulator alarm delay 60 s <input type="checkbox"/> Pressure high alarm  Pressure high limit 100 Pa <input type="checkbox"/> Pressure low alarm  Pressure low limit 5 Pa
	 Emergency opening	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> High temperature <input checked="" type="checkbox"/> Abs. high temperature <input type="checkbox"/> Abs. high humidity <input checked="" type="checkbox"/> Error inside temperature sensor <input checked="" type="checkbox"/> Power failure
	 Temperature controlled emergency opening	<ul style="list-style-type: none">  Emergency opening temperature 40.0 °C  Temperature setpoint 19.0 °C













	1 st level	2 nd level
 Production		<input checked="" type="checkbox"/> Warning at emergency temperature  Warning emergency temperature limit 6 °C <input checked="" type="checkbox"/> Battery alarm  Battery voltage limit 16 V <input checked="" type="checkbox"/> Power failure <input type="checkbox"/> Current battery voltage 17.1 V <input type="checkbox"/> Lowest measured battery voltage 16.4 V
	<input checked="" type="checkbox"/> Power failure	
	 Feed alarm	<input type="checkbox"/> Feed alarm active  Time before alarm 300 s <input type="checkbox"/> Auger alarm active  Time before alarm 900 s
	 Water alarm	<input checked="" type="checkbox"/> Max. water alarm  Max. water alarm limit 15 % <input checked="" type="checkbox"/> Min. water alarm  Min. water alarm limit - 10 %  Start alarm day 2  Start alarm time 15:00
<input type="checkbox"/> Alarms not maintained		
<input type="checkbox"/> Alarm test		

Table 13: Outline of the alarms menu (changeable values are highlighted in bold types)

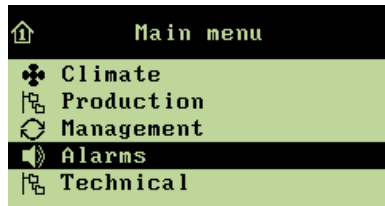
1.3.1 Active Alarms

When an alarm is generated, the Viper computer will register the type of alarm and the time for its generation. This information will be shown in a special alarm window in the display.

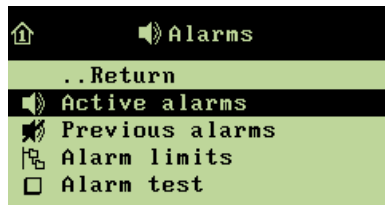
The computer will also generate an alarm signal, which you can choose to maintain. Thus the signal will continue, even if the condition that caused the alarm has stopped. You should actively disconnect the alarm signal by acknowledging the alarm (press the enter key).

When you want to... read the active alarms

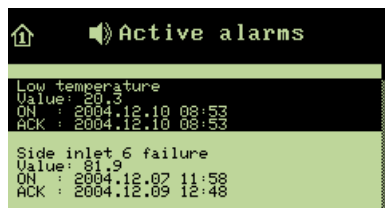
→ press the  menu key



→ select **Alarms**, and press



→ select **Active alarms**, and press



→ press to return to the alarms menu

1.3.1.1 Stop Alarm Signal

The alarm window in the display disappears, and the alarm signal stops when you acknowledge the alarm by pressing the enter key.

When you want to ... acknowledge an alarm



→ press the enter key

1.3.2 Previous Alarms

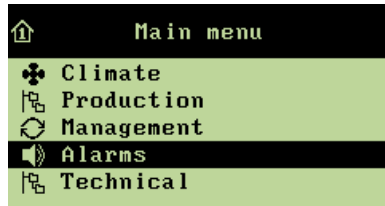
The Viper computer registers alarms including information about when they were generated and when they stopped. It often happens that several alarms succeed each other because an error in one function also affects other functions.

Thus, a flap alarm could be succeeded by a temperature alarm, as the computer cannot control the temperature correctly with a defective flap. In this way, the previous alarms enable you to follow an alarm course back in time and find the error that caused the alarms.

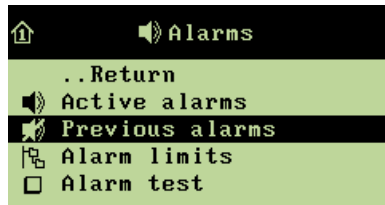
Viper saves up to 20 active and previous alarms. When the 21st alarm is generated, the computer deletes the oldest alarm from its memory.

When you want to... read the previous alarms

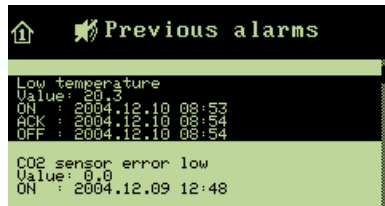
→ press the  menu key



→ select **Alarms**, and press



→ select **Previous alarms**, and press



→ press to return to the alarms menu

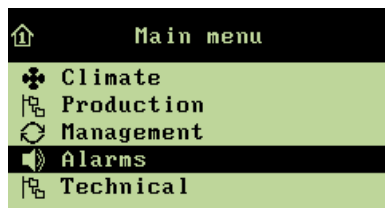
1.3.3 Alarm Limits

The Viper computer has a range of alarms, which the computer will generate if a technical error occurs or the alarm limits are exceeded. A few of the alarms are always connected, e.g. Power failure. You can connect and disconnect the others (/) and for some you can set the alarm limits.

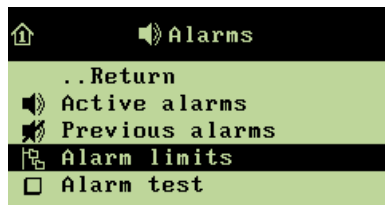
It is always the user's responsibility to ensure that the alarm settings are correct.

All menu items ... in the **Alarm limits** menu can be set by

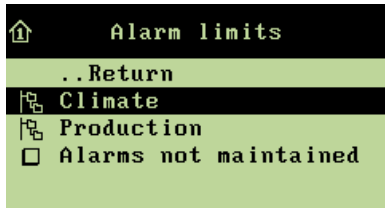
→ pressing the  menu key



→ select **Alarms**, and press



→ select **Alarm limits**, and press

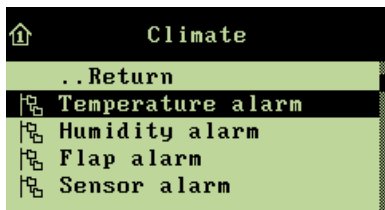


→ select alarms for either **Climate** or **Production**, and press

1.3.3.1 Alarm Limits for Climate

1.3.3.1.1 Temperature Alarms

When you want to ... set the temperature alarms, open the **Alarms/Alarm limits/Climate** menu, and

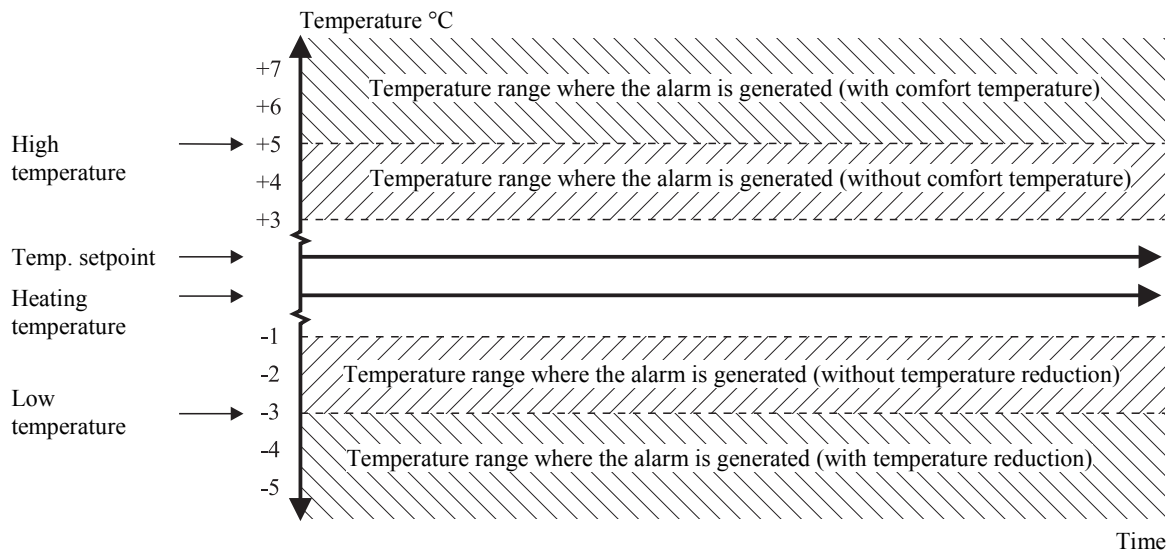


→ select **Temperature alarm**, and press to gain access to setting temperature alarms

1.3.3.1.1.1 Setting the Alarm for High Temperature

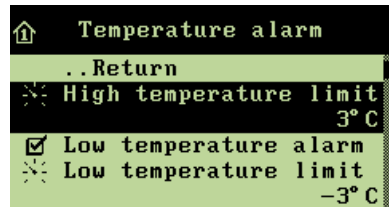
The temperature alarm for high temperature is always connected.

Example 16: Alarm high and low temperature

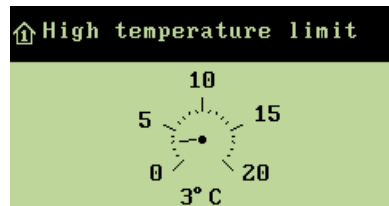


*When the Viper is set up with the functions comfort temperature or humidity control with temperature reduction, the computer will add the number of degrees (to which the comfort temperature is set) to **Temperature setpoint**, or subtract the number of degrees (to which humidity control with temperature reduction is set) from **Temperature setpoint**. A high temperature alarm will therefore be calculated in comparison with **Temperature setpoint** plus an addition for **Comfort temp.** or minus a **Reduction** for humidity control.*

When you want to ... set the alarm for high temperature, open the **Alarms/Alarm limits/Climate/Temperature alarm** menu, and



→ select **High temperature limit**, and press

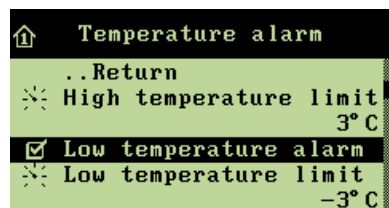


→ set a number of degrees, and when **Yes** is highlighted, press to save the change

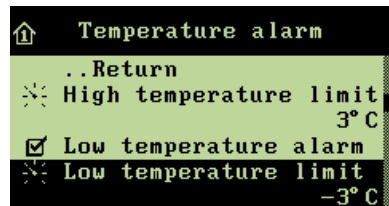
1.3.3.1.1.2 Connecting or Disconnecting and Setting the Alarm for Low Temperature

You can disconnect the function.

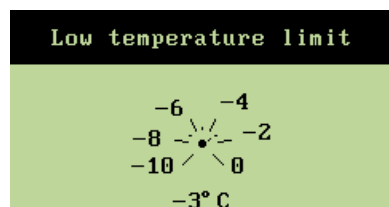
When you want to ... set the alarm for low temperature, open the **Alarms/Alarm limits/Climate/Temperature alarm** menu, and



→ select **Low temperature alarm**, and press to connect or disconnect



→ select **Low temperature limit**, and press



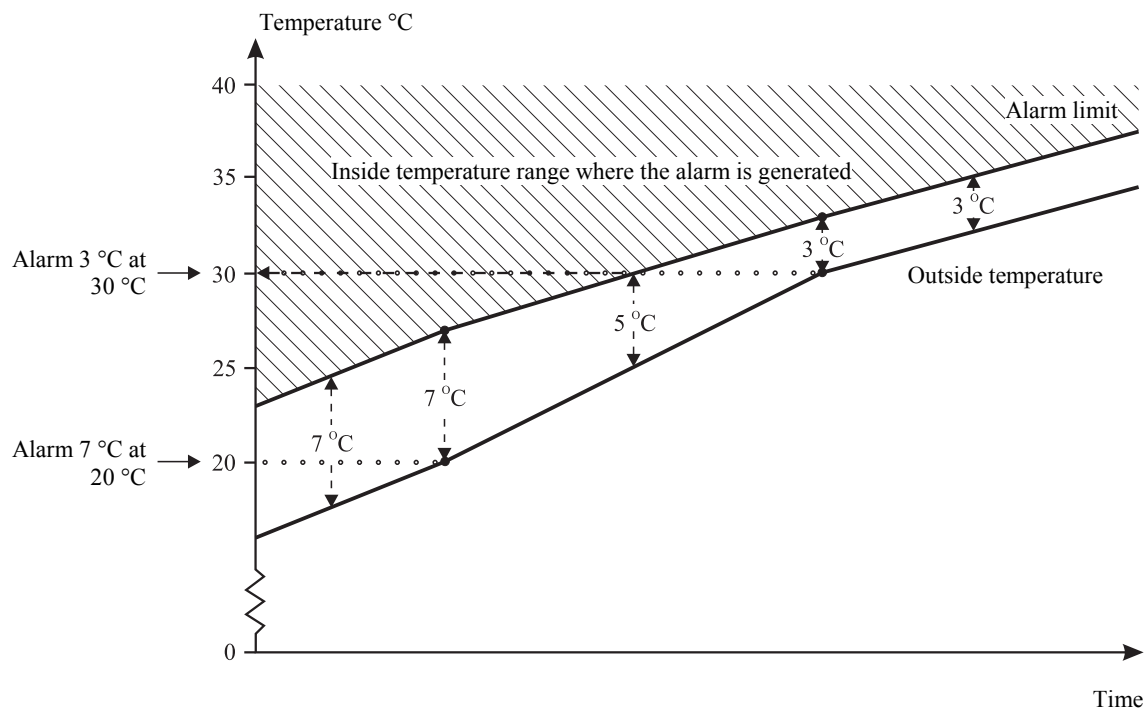
→ set a number of degrees, and when **Yes** is highlighted, press to save the change

1.3.3.1.1.3 Setting the Summer Temperature at 20 °C and 30 °C Outside

The function has a varying alarm limit, which follows the changes of high outside temperatures. When the temperature increases, the alarm limit will also increase. Thus, it delays the time when the high temperature alarm is generated.

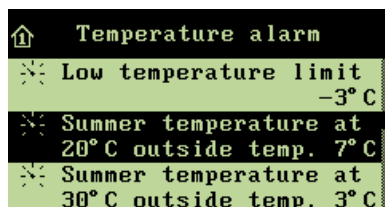
The Viper computer generates the alarm only if the inside temperature also exceeds the high temperature alarm.

Example 17: Summer temperature at 20 °C and 30 °C outside

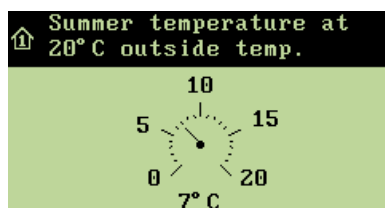


Between 20 °C and 30 °C, there is a gradual transition from 7 °C to 3 °C. At an outside temperature of e.g. 25 °C the inside temperature should thus be 5 °C higher (exceed 30 °C) before the alarm is generated.

When you want to ... set the summer alarm at X °C,
open the **Alarms/Alarm limits/Climate/Temperature alarm** menu, and



→ select **Summer temperature at 20 °C outside temp.**, and press



→ set a number of degrees, and when **Yes** is highlighted, press to save the change

Set the **Summer temperature at 30 °C outside temp.** in the same way.

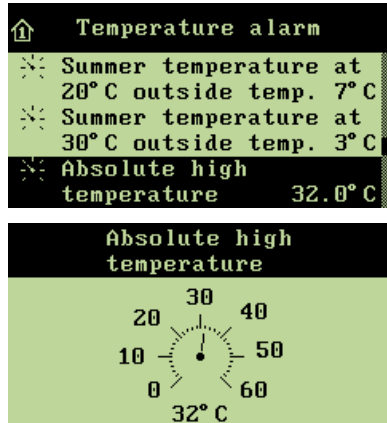


1.3.3.1.1.4 Setting the Alarm for Absolute High Temperature

The alarm for absolute high temperature is generated by the actual temperature, e.g. 32 °C. Thus, it will not, unlike the alarm for high temperature, vary according to the setting **Temperature setpoint**, nor can it be delayed by a high temperature at 20/30 °C.

The Viper computer will always generate the absolute high temperature alarm when the inside temperature exceeds this setting.

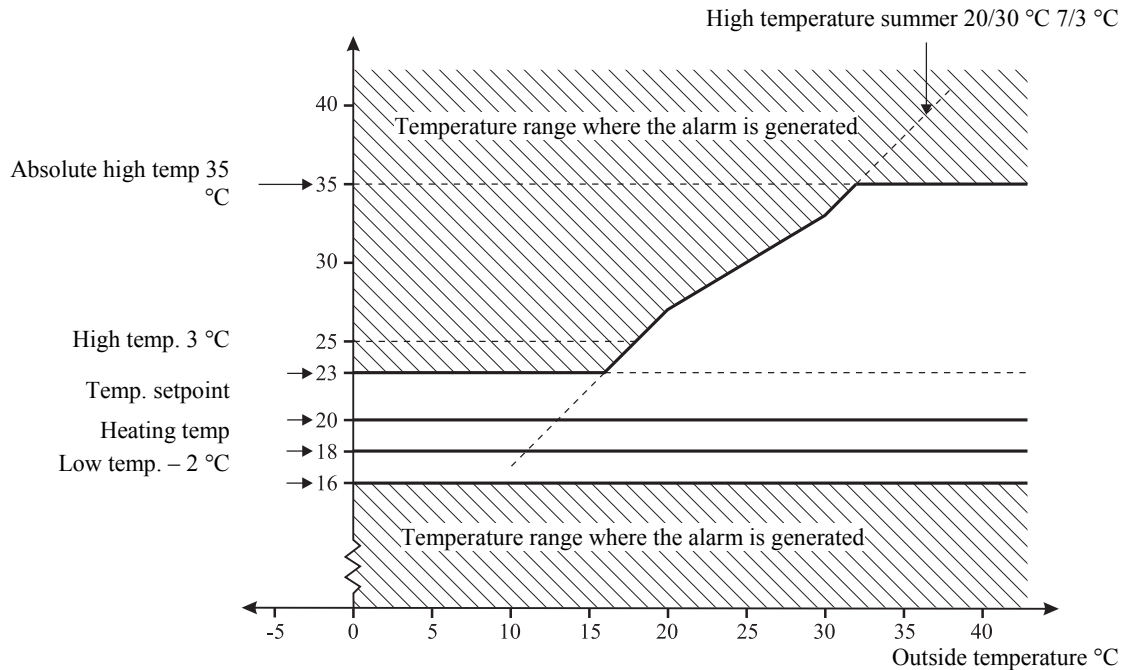
When you want to ... set the alarm for absolute high temperature, open the **Alarms/Alarm limits/Climate/Temperature alarm** menu, and



→ select **Absolute high temperature**, and press

→ set a temperature, and when **Yes** is highlighted, press to save the change

Example 18: All temperature alarms

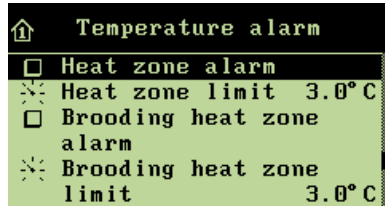


*The high temperature alarm takes the comfort temperature into account so that the alarm is not generated until the **Comfort temp.** has been added to the **Temperature setpoint**.*

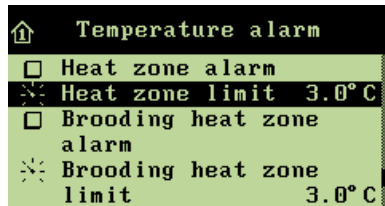
1.3.3.1.1.5 Connecting or Disconnecting and Setting the Alarm for Heat Zone

You can disconnect the function.

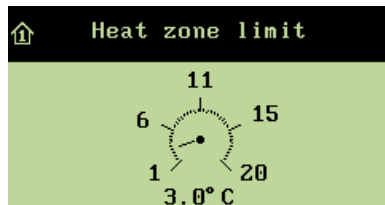
When you want to ... set the alarm for heat zone, open the **Alarms/Alarm limits/Climate/Temperature alarm** menu, and



→ select **Heat zone alarm**, and press to connect or disconnect



→ select **Heat zone limit**, and press

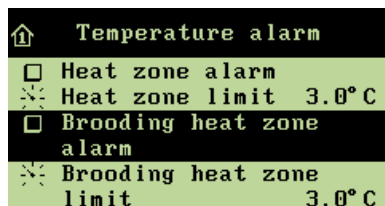


→ set a temperature, and when **Yes** is highlighted, press to save the change

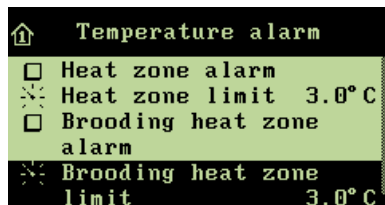
1.3.3.1.1.6 Connecting or Disconnecting and Setting the Alarm for Brooding Heat Zone

You can disconnect the function.

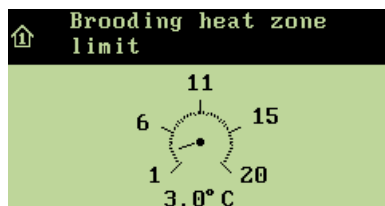
When you want to ... set the alarm for brooding heat zone, open the **Alarms/Alarm limits/Climate/Temperature alarm** menu, and



→ select **Brooding heat zone alarm**, and press to connect or disconnect



→ select **Brooding heat zone limit**, and press



→ set a temperature, and when **Yes** is highlighted, press to save the change

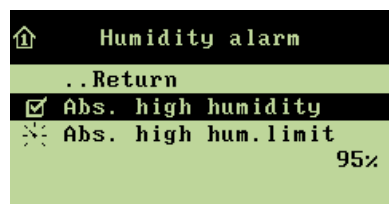
1.3.3.1.2 Humidity Alarms

1.3.3.1.2.1 Connecting or Disconnecting and Setting the Alarm for Absolute High Humidity

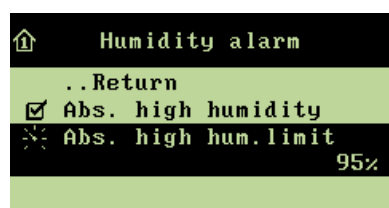
This section is not relevant to houses where Viper has been set up for **Basic-Step**.

The Viper computer generates an alarm for absolute high humidity when the house humidity exceeds the setting. This may be caused by e.g. missing ventilation or a technical sensor error.

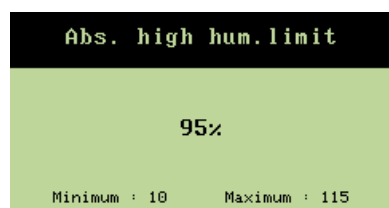
When you want to ... connect or disconnect the alarm for absolute high humidity, open the **Alarms/Alarm limits/Climate/Humidity alarm** menu, and



→ select **Abs. high humidity**, and press to connect or disconnect



→ select **Abs. high hum. limit**, and press



→ set a percentage, and when **yes** is highlighted, press to save the change

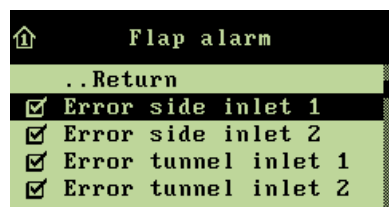
1.3.3.1.3 Flap Alarms

1.3.3.1.3.1 Connecting or Disconnecting the Alarm for Flap Opening Error

The flap alarms are technical alarms. The Viper computer generates an alarm if the actual flap opening of the air inlet or air outlet is different from the setting, which the computer calculates as correct.

You can connect or disconnect the function. Connection and disconnection works in the same way for both air inlet and air outlet. Therefore, the setting is shown only once.

When you want to ... connect or disconnect the flap alarm, open the **Alarms/Alarm limits/Climate/Flap alarm** menu, and



→ select **Error side inlet/tunnel inlet /air outlet**, and press to connect or disconnect

1.3.3.1.4 Sensor Alarms

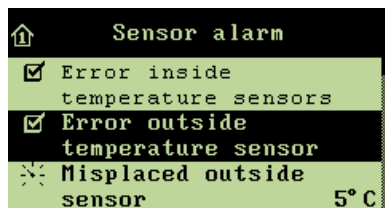
1.3.3.1.4.1 Alarm for Error inside Temperature Sensor

The Viper computer generates an alarm in case of short circuit or interruption of the inside temperature sensor. Without this sensor Viper cannot control the inside temperature and the error will, in addition to the alarm, generate an emergency control of the ventilation system, which will open 50 %. The alarm for error in the inside temperature sensor is always active.

1.3.3.1.4.2 Connecting or Disconnecting the Alarm for Error Outside Temperature Sensor

Viper generates an alarm in case of short circuit or interruption of the outside temperature sensor. You can connect or disconnect the function.

When you want to ... connect or disconnect the outside temperature sensor, open the **Alarms/Alarm limits/Climate/Sensor alarm** menu, and

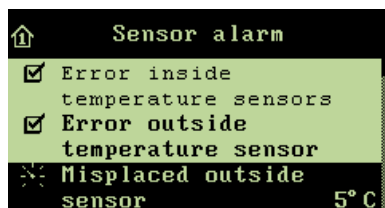


→ select **Error outside temperature sensor**, and press to connect or disconnect

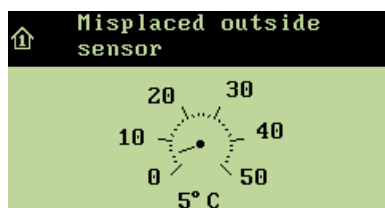
1.3.3.1.4.3 Setting the Alarm for Misplaced Outside Sensor

The alarm indicates if the sensor is exposed to solar heating and consequently shows a wrong outside temperature. Viper generates an alarm when the computer measures the inside temperature to the number of degrees below outside temperature to which the function is set (e.g. 5 °C).

When you want to ... set the alarm for misplaced outside sensor, open the **Alarms/Alarm limits/Climate/Sensor alarm** menu, and



→ select **Misplaced outside Sensor**, and press



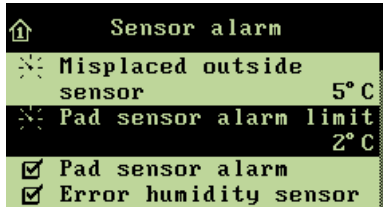
→ set a number of degrees, and when **Yes** is highlighted, press to save the change

1.3.3.1.4.4 Setting and Connecting or Disconnecting the Pad Sensor Alarm

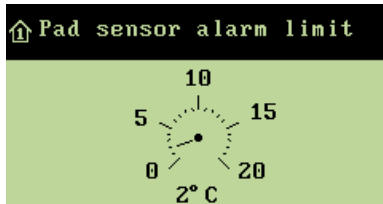
The Viper computer generates an alarm when the pad temperature exceeds the outside temperature by the number of degrees set in the **Pad sensor alarm limit**.

The alarm is active only at tunnel ventilation.

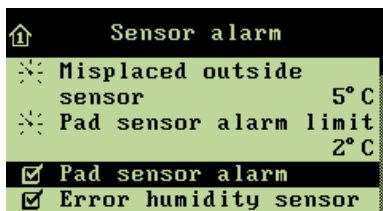
When you want to ... set the alarm for the pad sensor, open the **Alarms/Alarm limits/Climate/Sensor alarm** menu, and



→ select **Pad sensor alarm limit**, and press



→ set a number of degrees, and when **Yes** is highlighted, press to save the change

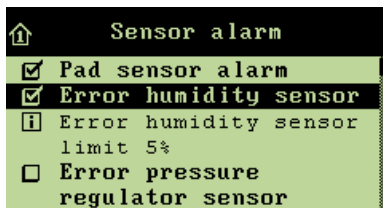


→ select **Pad sensor alarm**, and press to connect or disconnect

1.3.3.1.4.5 Connection or Disconnection of Alarm for Error Humidity Sensor

Viper computer generates an alarm when the humidity sensor is interrupted or the air humidity is below the setpoint. The alarm limit is factory preset at such a low level (5 %) that the alarm is only generated in case of actual sensor errors. You can connect or disconnect the function.

When you want to ... connect or disconnect the alarm for humidity sensor, open the **Alarms/Alarm limits/Climate/Sensor alarm**

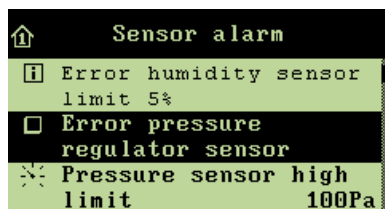


→ select **Error humidity sensor**, and press to connect or disconnect

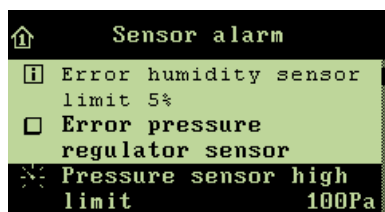
1.3.3.1.4.6 Connecting or Disconnecting and Setting the Alarm for Pressure Sensor

The Viper computer generates an alarm when the values for the pressure sensor drop below or exceed the settings for **Pressure sensor low limit/high limit**. You can connect or disconnect the function.

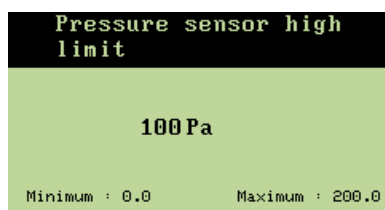
When you want to ... set the alarm for pressure sensor, open the **Alarms/Alarm limits/Climate/Sensor alarm** menu, and



→ select **Error pressure regulator sensor**, and press to connect or disconnect



→ select **Pressure sensor high limit**, and press



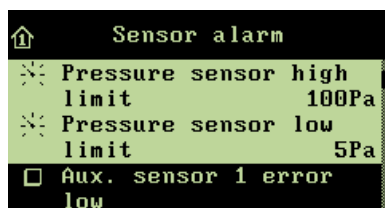
→ set a value, and when **Yes** is highlighted, press to save the change

Set the **Pressure sensor low limit** in the same way.

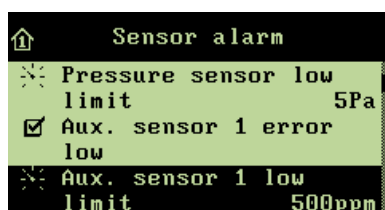
1.3.3.1.4.7 Connecting or Disconnecting and Setting the Alarm for Aux. Sensor Error

The Viper computer generates an alarm when the values of an auxiliary sensor drop below or exceed the settings. You can connect or disconnect the function.

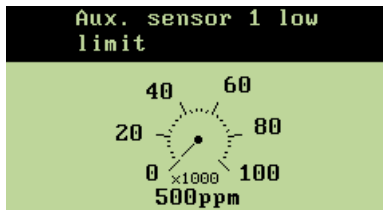
When you want to ... set the alarm for an aux. sensor, open the **Alarms/Alarm limits/Climate/Sensor alarm** menu, and



→ select **Aux. sensor 1 error low**, and press to connect or disconnect



→ select **Aux sensor 1 low limit**, and press



→ set a value, and when **yes** is highlighted, press to save the change

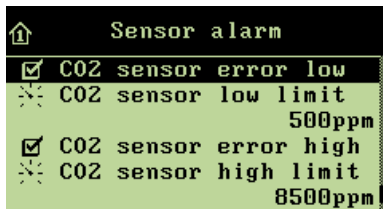
Set the **Aux. sensor 1 error high** in the same way. Repeat the setting for the installed number of auxiliary sensors.

1.3.3.1.4.8 Connecting or Disconnecting and Setting the Alarm for CO₂ Sensor Error

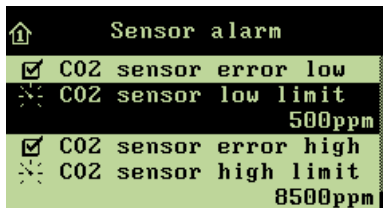
The Viper computer generates an alarm when the values for the CO₂ sensor drop below or exceed the settings. You can connect or disconnect the function.

When you want to ... connect or disconnect the alarm for the CO₂ sensor or adjust the alarm limit,

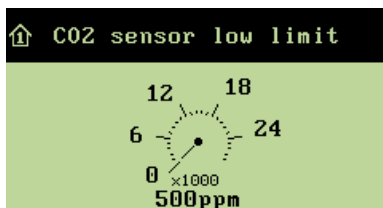
open the **Alarms/Alarm limits/Climate/Sensor alarm** menu, and



→ select **CO₂ sensor error low**, and press to connect or disconnect



→ select **CO₂ sensor low limit**, and press



→ set a value, and when **yes** is highlighted, press to save the change

Set the **CO₂ sensor high limit** in the same way.

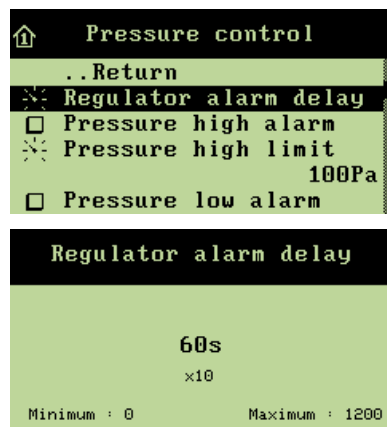


1.3.3.1.5 Pressure Control

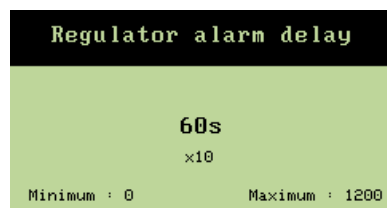
1.3.3.1.5.1 Setting the Regulator Alarm Delay

In the function **Regulator alarm delay**, you can delay the alarm signal, so that the alarm is not generated due to short changes in the house pressure level, e.g. when you open a house door.

When you want to ... set the regulator alarm delay,
open the **Alarms/Alarm limits/Climate/Pressure control** menu, and



→ select **Regulator alarm delay**, and press

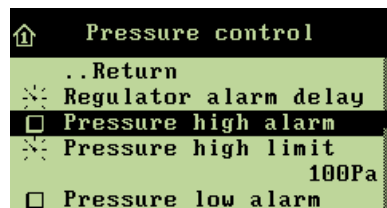


→ set the number of seconds, and when **Yes** is highlighted, press to save the change

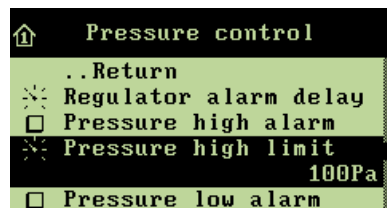
1.3.3.1.5.2 Connecting or Disconnecting and Setting the Alarm for Pressure

The Viper computer generates an alarm when the pressure in the house drops below or exceeds the settings for **Pressure low limit/high limit**. You can connect or disconnect the function.

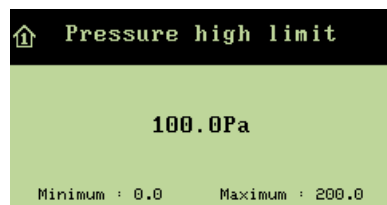
When you want to ... set the alarm for pressure sensor,
open the **Alarms/Alarm limits/Climate/Pressure control** menu, and



→ select **Pressure high alarm**, and press to connect or disconnect



→ select **Pressure high limit**, and press



→ set a value, and when **Yes** is highlighted, press to save the change

Set the **Pressure low limit** in the same way.

1.3.3.1.6 Emergency Opening

The Viper computer has emergency opening as standard function, whether an actual emergency opening is installed or not. As long as there is power, the computer will open the ventilation system 100 % in case of a relevant alarm - even when it is cold outside.

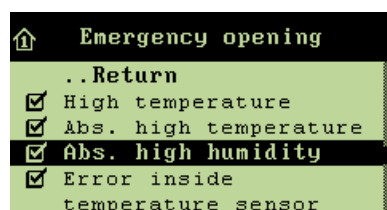
The emergency opening can be released by five types of alarm.

Emergency opening	Released by
	High temperature
	Absolute high temperature
	Error inside temperature sensor
	Power failure
	Absolute high humidity
	Always release
	Always release
	Always release
	Always release
	Connect or disconnect

Table 14: Release of emergency opening

It may be an advantage to disconnect absolute high humidity in houses that are situated in areas with very high outside air humidity, and in the event of a technical sensor error.

When you want to ... connect or disconnect emergency opening, open the **Alarms/Alarm limits/Climate/Emergency opening** menu, and



→ select **Abs. high humidity**, and press to connect or disconnect

1.3.3.1.7 Temperature Controlled Emergency Opening

This section is relevant only to houses where temperature controlled emergency opening is installed.

Temperature controlled emergency opening is released only when the inside temperature exceeds the temperature to which the emergency opening is set (**Emergency opening - temperature**). You can read the setting as an actual figure in the display. The emergency opening is also active in the event of power failure.

1.3.3.1.7.1 Setting the Emergency Opening Temperature

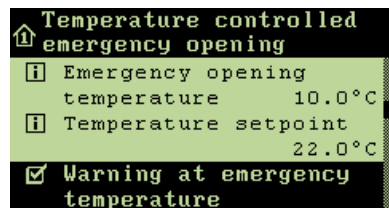
Set the temperature at which the emergency opening is to operate on the emergency opening controller unit itself, by means of the adjustment knob. The setting can be read in the display together with **Temperature Setpoint**.

1.3.3.1.7.2 Setting and Connecting or Disconnecting the Warning at Emergency Temperature

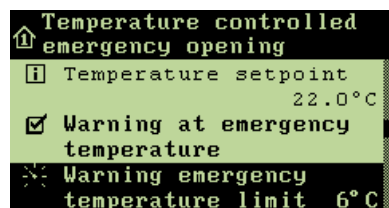
The Viper computer can give a warning, which will flash in the display if **Emergency opening - temperature** is set too high compared to **Temperature setpoint** (inside temperature). This is particularly relevant in houses with batch production and a decreasing temperature curve. Here you should continuously make a downward adjustment of **Emergency opening - temperature**. However, the too high setting may also have been caused by an error.

The warning function can be connected and disconnected. It should be set by the number of degrees that **Emergency opening - temperature** is allowed to exceed **Temperature setpoint** before the computer is to give a warning.

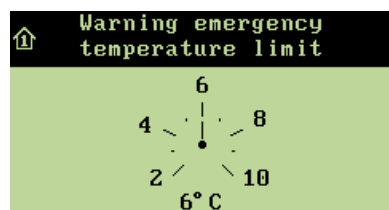
When you want to ... connect or disconnect and set the warning at emergency temperature, open the **Alarms/Alarm limits/Climate/Temperature controlled emergency opening** menu, and



→ select **Warning at emergency temperature**, and press to connect or disconnect



→ select **Warning emergency temperature limit**, and press



→ set a number of degrees, and when **Yes** is highlighted, press to save the change

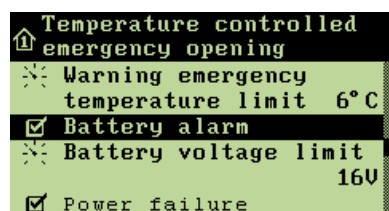
1.3.3.1.7.3 Connecting or Disconnecting the Battery Alarm and Setting the Battery Voltage

The temperature controlled emergency opening has a battery, which ensures that the emergency opening will operate in spite of power failure when the inside temperature exceeds the setting **Emergency opening - temperature**.

You can read the current and the lowest measured voltage of the battery. These readings indicate when you need to change the battery or if a technical error might be causing the battery alarm. Viper can generate an alarm when the battery, which powers the emergency opening, does not function. This function can be connected and disconnected.

When you want to ... connect or disconnect the battery alarm,

open the **Alarms/Alarm limits/Climate/Temperature controlled emergency opening** menu, and

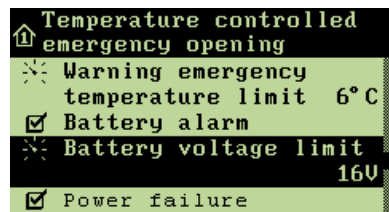


→ select **Battery alarm**, and press to connect or disconnect

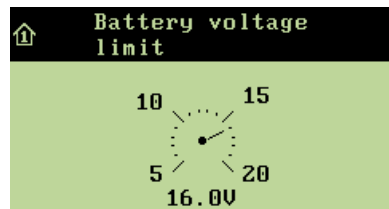


Make sure not to set the **Battery voltage limit** too low, as this will make the alarm inactive.

When you want to ... set the battery alarm, open the **Alarms/Alarm limits/Climate/Temperature controlled emergency opening** menu, and



→ select **Battery voltage limit**, and press



→ set the required voltage, and when **Yes** is highlighted, press to save the change

1.3.3.1.8 Power Failure Alarm

The Viper computer will always generate an alarm in case of power failure.

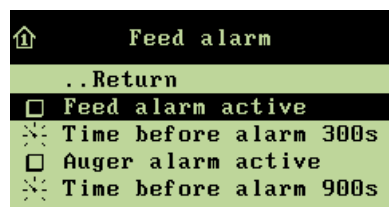
1.3.3.2 Alarm Limits for Production

1.3.3.2.1 Alarms for Feed Control

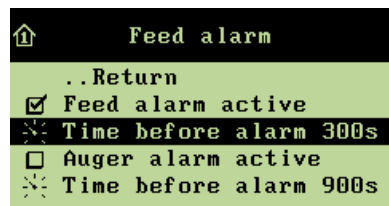
1.3.3.2.1.1 Connecting or Disconnecting and Setting the Feed Alarm

The Viper computer always generates an alarm when the computer registers that there is no feed in the silo auger at feeding before the alarm limit, **Time before alarm**. In **Time before alarm**, set the number of seconds that should pass before the alarm is generated. Viper activates the alarm and turns off the silo auger.

When you want to ... set the feed alarm, open the **Alarms/Alarm limits/Production/Feed alarm** menu, and



→ select **Feed alarm active**, and press to connect or disconnect



→ select **Time before alarm**, and press

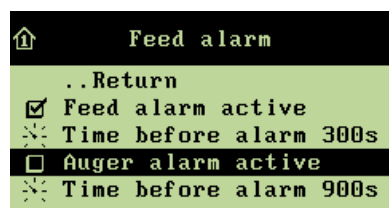


→ set the number of seconds, and when **Yes** is highlighted, press to save the change

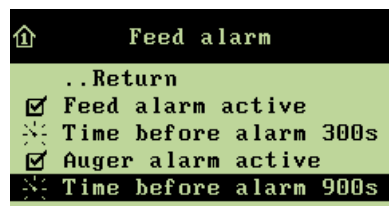
1.3.3.2.1.2 Connecting or Disconnecting and Setting the Auger Alarm

The Viper computer generates an alarm if the feed scales and the auger are still running when the feeding is completed. In **Time before alarm**, set the number of seconds that should pass before the alarm is generated. Viper activates the alarm and turns off the auger, thus avoiding a feed overflow.

When you want to ... set the auger alarm, open the **Alarms/Alarm limits/Production/Feed alarm** menu, and



→ select **Auger alarm active**, and press to connect or disconnect



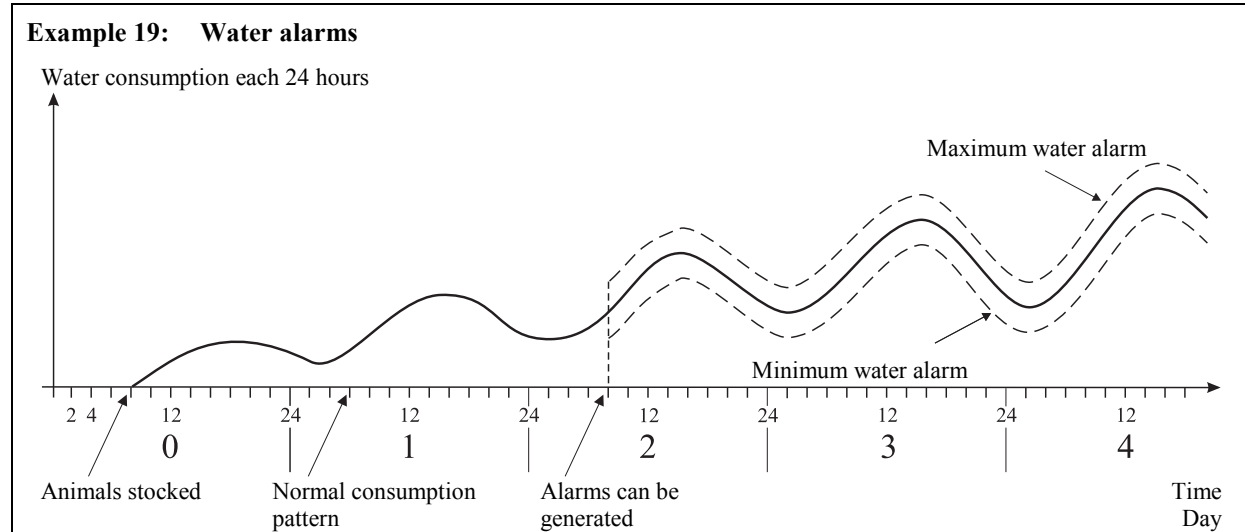
→ select **Time before alarm**, and press



→ set the number of seconds, and when **Yes** is highlighted, press to save the change

1.3.3.2.2 Water Alarms

The alarm limits for maximum and minimum water consumption is a set percentage of the normal consumption. The computer calculates this normal consumption by comparing the current 24h period with the 24h period which is two hours older. At 13.00 hours, for instance, you look at the period from 11.00 a.m. the previous day to 11.00 a.m. the current day.

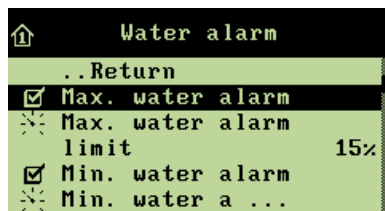


1.3.3.2.2.1 Connecting or Disconnecting and Setting the Alarm for Maximum Water Consumption

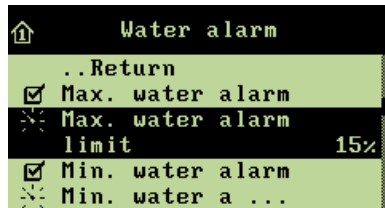
The Viper computer generates an alarm when the limit for maximum water consumption is exceeded. You can connect or disconnect the function.

When you want to ... connect or disconnect the alarm for maximum water consumption or adjust the alarm limit,

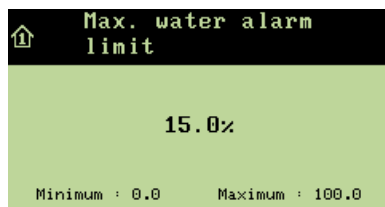
open the **Alarms/Alarm limits/Production/Water alarm** menu, and



→ select **Max. water alarm**, and press to connect or disconnect



→ select **Max. water alarm limit**, and press



→ set a percentage, and when **Yes** is highlighted, press to save the change

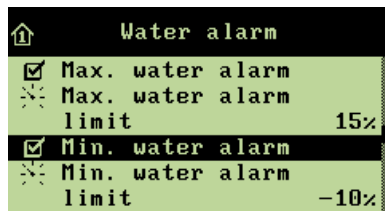


There can be many reasons for variations in the animals' water consumption, which will all generate an alarm. It may for example be caused by stocking more animals or a partial slaughtering, disease coming on in the batch or damage to a water pipe.

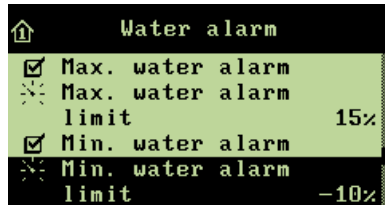
1.3.3.2.2 Setting the Alarm for Minimum Water Consumption

The Viper computer generates an alarm when the water consumption is below the limit for minimum water consumption. You can connect or disconnect the function.

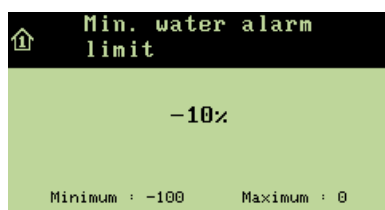
When you want to ... set the alarm for minimum water consumption, open the **Alarms/Alarm limits/Production/Water alarm** menu, and



→ select **Min. water alarm**, and press to connect or disconnect



→ select **Min. water alarm limit**, and press

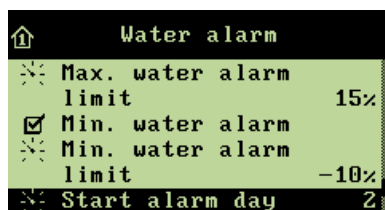


→ set a percentage, and when **Yes** is highlighted, press to save the change

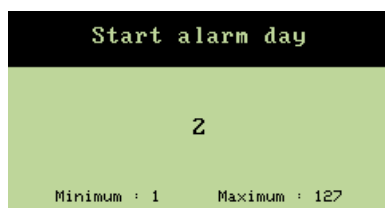
1.3.3.2.3 Setting the Start Water Alarm

Viper cannot generate the alarm until at least 26 hours after changes have been made to the number of animals. Therefore, you should indicate a time for when the water alarm is to be generated.

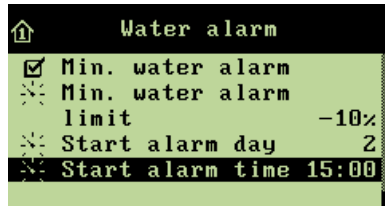
When you want to ... set the water alarm, open the **Alarms/Alarm limits/Production/Water alarm** menu, and



→ select **Start alarm day**, and press



→ set a day number, and when **Yes** is highlighted, press to save the change



→ select **Start alarm time**, and press

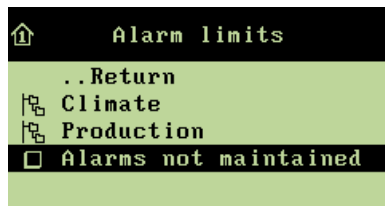


→ set the time, and when **Yes** is highlighted, press to save the change

1.3.3.3 Connecting or Disconnecting the Alarms not Maintained

Alarms not maintained means that the alarm signal will continue until you acknowledge the alarm by pressing the enter key. This applies even if the situation that generated the alarm has stopped. You can connect or disconnect the function.

When you want to ... connect or disconnect alarms not maintained, open the **Alarms/Alarm limits** menu, and



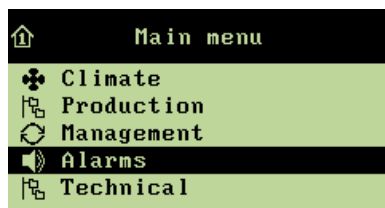
→ select **Alarms not maintained**, and press to connect or disconnect

1.3.4 Alarm Test

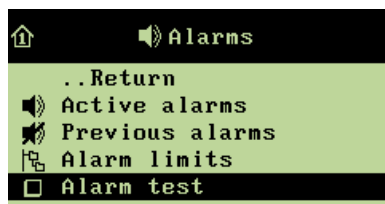
Regular testing of alarms contributes to ensuring that they actually work when needed. Therefore, you should test the alarms every week. The test should be made in all houses separately.

When you want to ... test the alarms

→ press the  menu key



→ select **Alarms**, and press



→ select **Alarm test**, and press in order to start testing



- check that the alarm lamp is flashing
- check that the alarm system works as intended
- press to end the alarm test

1.3.5 Outline of Alarm Functions

Alarm type		When the alarm is generated, it releases ...	
Climate Temperature alarm	High temperature	Alarm signal Emergency opening Temperature controlled emergency opening (only if Emergency air intake - temperature is exceeded)	
	Low temperature	Alarm signal	
	Summer temperature at 20 °C and 30 °C	Alarm signal Emergency opening	
	Absolute high temperature	Alarm signal Emergency air intake ON/OFF Emergency opening	
	Heat zone limit	Alarm signal	
	Brooding heat zone limit	Alarm signal	
	Humidity alarm	Absolute high humidity	Alarm signal Emergency opening (ON/OFF)
		Flap alarm	Error side inlet
	Error tunnel inlet		Alarm signal
	Error air outlet		Alarm signal
Sensor alarm	Error inside temperature sensor	Alarm signal The ventilation system runs 50 % Emergency opening Emergency air intake ON/OFF	
	Error outside temperature sensor	Alarm signal	
	Misplaced outside sensor	Alarm signal	
	Pad sensor	Alarm signal	
	Error humidity sensor	Alarm signal	
	Pressure sensor	Alarm signal Viper's standard settings for pressure control	
	Auxiliary sensor	Alarm signal	
	CO ₂ sensor	Alarm signal	
	Pressure control	Pressure low limit	Alarm signal
		Pressure high limit	Alarm signal

Alarm type		When the alarm is generated, it releases ...
Power failure		Alarm signal
		Emergency air intake
		Emergency opening
		Temperature controlled emergency opening (only if Emergency air intake- temperature is exceeded)
Production Feed alarm	Feed alarm	Alarm signal
		Turns off the silo auger
	Auger alarm	Alarm signal
		Turns off the auger
Water alarm	Maximum water alarm	Alarm signal (ON/OFF in setup)
		Warning in display
	Minimum water alarm	Alarm signal (ON/OFF in setup)
		Warning in display

Table 15: Outline of alarm functions

1.4 Safety

1.4.1 Access Code to Access Levels

You can limit the access to operation of Viper by means of access codes.

The functions of the computer are on three different access levels, which can be activated individually. On each level, there is access to reading and setting all settings and values, while access to changing settings requires the entry of an access code.

Therefore, you must, when setting up the computer, choose which of the three levels are to be active and thus code protected against unauthorized changes.

When you want to change a setting in a protected access level, the computer requires the entry of an access code.

When you want to ... enter an access code



- select the first digit of your access code, and press
An asterisk (*) in the black box indicates that you have selected the first digit
- repeat for the last three digits
- select the black dot, and press when OK appears to approve

See the *Technical Manual* for selection and change of access code.

1.4.2 Access Levels in Basic-Step

1.4.2.1 Functions on Access Level 1

Main menu	Menu	Submenu	Access level 1
Climate	Temperature	Inside temperature Heating Heaters Brooding heaters	Control Temperature setpoint Heater 1-6 temp. setpoint Heater 1-4 temp. setpoint
	Tunnel	Pad cooling	Start temperature Stop temperature Start temperature Stop temperature
Production	Bird scale data	Bird scale 1/2 data	Average weight 1/2 Correction factor Disconnect from
	Silo		Disconnect to Silo 1-2 state Active silo
	Light control	Silo delivery	Silo 1-2 delivery Light at dark
Alarms			Alarm test

1.4.2.2 Functions on Access Level 2

Main menu	Menu	Submenu	Access level 2
Climate	Temperature	Heating Cooling	Active Cooling temperature Stop cooling
	Tunnel		Heat allowed in tunnel Humidity limit
	Pressure control	Pad cooling	Pressure setpoint
Production	Feed control	Feed curve Feed program 1-8	Day number Number of starts Start time 1-16 Stop time 1-16
	Light control	Light program Light day 1-8 Light dimmer curve	Day number Number of starts Start time 1-16 Stop time 1-16 1.-8. day start Light dimmer level for 1.-8. day
	24-hour clock	24-hour clock A-D	Number of active points Start 1-10 ON-time 1-10
Management	Animals	Add/remove animals/hens/cocks	Installed animals Dead animals Moved animals Examined animals Culled animals Extra installed animals
	Batch curves	Climate Production Bird scale 1/2 curves	Inside temperature Minimum ventilation Reference Correction
	House data		Batch status Active grow zone Time Date Day number House name
	In-between function	Soaking Washing	Side inlet Tunnel Ventilation Soaking time Cycle time ON-time Side inlet Tunnel Ventilation Washing time
		Drying	Side inlet Tunnel Ventilation Drying time

Main menu	Menu	Submenu	Access level 2
		Empty house	Side inlet Tunnel Ventilation Frost protection Frost protection temperature
Alarms	Alarm limits Climate	Temperature alarm	High temperature limit Low temperature alarm Low temperature limit Heat zone alarm Brooding heat zone alarm Absolute high humidity limit
		Humidity alarm Flap alarm	Error side inlet 1-6 Error tunnel inlet 1-2 Error air outlet 1-2 Error outside temperature sensor Misplaced outside sensor Pad sensor alarm limit Pad sensor alarm Error pressure regulator sensor Pressure sensor high limit Pressure sensor low limit Auxiliary sensor 1-4 error low Auxiliary sensor 1-4 low limit Auxiliary sensor 1-4 error high Auxiliary sensor 1-4 high limit Regulator alarm delay Pressure high alarm Pressure high limit Pressure low alarm Pressure low limit Warning at emergency temperature Warning emergency temperature limit Battery alarm Battery voltage limit Absolute high humidity
	Sensor alarm		
	Production	Pressure control	
		Temperature controlled emergency opening	
		Emergency opening	
		Feed alarm	Feed alarm active Time before alarm Auger alarm active Time before alarm
		Water alarm	Maximum water alarm
			Maximum water alarm limit Minimum water alarm Minimum water alarm limit Start alarm day Start alarm time Alarms not maintained

1.4.2.3 Functions on Access Level 3

Main menu	Menu	Submenu	Access level 3
Alarms	Alarm limits Climate	Temperature alarm Humidity alarm	Summer temperature at 20 °C outside temperature Summer temperature at 30 °C outside temperature Absolute high temperature Heat zone limit Brooding heat zone limit Absolute high humidity

All functions in the technical menus **Setup**, **User setup** and **Service** are on access level 3.

1.4.3 Access Levels in Flex-Step

1.4.3.1 Functions on Access Level 1

Main menu	Menu	Submenu	Access level 1
Climate	Temperature	Inside temperature Heating Heaters Brooding heaters	Control Temperature setpoint Heater 1-6 temp. setpoint Heater 1-4 temp. setpoint
Production	Bird scale data Silo Light control	Bird scale 1/2 data Silo delivery	Average weight 1/2 Correction factor Disconnect from Disconnect to Silo 1-2 state Active silo Silo 1-2 delivery Light at dark
Alarms			Alarm test

1.4.3.2 Functions on Access Level 2

Main menu	Menu	Submenu	Access level 2
Climate	Temperature Ventilation Tunnel	Heating Cooling Pad cooling Pad cooling	Active Cooling temperature Stop cooling Humidity limit Start level Minimum level Maximum level Min. time at level Start level Cool temperature Humidity level
Production	Feed control Light control 24-hour clock	Feed curve Feed program 1-8 Light program Light day 1-8 Light dimmer curve 24-hour clock A-D	Day number Number of starts Start time 1-16 Stop time 1-16 Day number Number of starts Start time 1-16 Stop time 1-16 1.-8. day start Light dimmer level for 1.-8. day Number of active points Start 1-10 ON-time 1-10
Management	Animals	Add/remove animals/hens/cocks	Installed animals Dead animals Moved animals Examined animals Culled animals Extra installed animals

Main menu	Menu	Submenu	Access level 2
	Batch curves	Climate	Inside temperature Chill curve – outside temp. Chill curve – factor Heater temperature Brooding heater temperature Minimum ventilation level Maximum ventilation level
	House data	Production Bird scale 1/2 curves	Reference Correction Batch status Active grow zone Time Date Day number House name
	In-between function	Soaking	Side inlet Tunnel Ventilation Soaking time Cycle time ON-time
		Washing	Side inlet Tunnel Ventilation Washing time
		Drying	Side inlet Tunnel Ventilation Drying time
		Empty house	Side inlet Tunnel Ventilation Frost protection Frost protection temperature
Alarms	Alarm limits Climate	Temperature alarm	High temperature limit Low temperature alarm Low temperature limit Heat zone alarm Brooding heat zone alarm
		Humidity alarm Flap alarm	Absolute high humidity limit Error side inlet 1-6 Error tunnel inlet 1-2 Error air outlet 1-2
		Sensor alarm	Error outside temperature sensor Misplaced outside sensor Pad sensor alarm limit Pad sensor alarm Error pressure regulator sensor Pressure sensor high limit

Main menu	Menu	Submenu	Access level 2
		Pressure control Temperature controlled emergency opening Emergency opening	Pressure sensor low limit Auxiliary sensor 1-4 error low Auxiliary sensor 1-4 low limit Auxiliary sensor 1-4 error high Auxiliary sensor 1-4 high limit CO ₂ sensor error low CO ₂ sensor low limit CO ₂ sensor error high CO ₂ sensor high limit Regulator alarm delay Pressure high alarm Pressure high limit Pressure low alarm Pressure low limit Warning at emergency temperature Warning emergency temp. limit Battery alarm Battery voltage limit Absolute high humidity
	Production	Feed alarm Water alarm	Feed alarm active Time before alarm Auger alarm active Time before alarm Maximum water alarm Maximum water alarm limit Minimum water alarm Minimum water alarm limit Start alarm day Start alarm time Alarms not maintained

1.4.3.3 Functions on Access Level 3

Main menu	Menu	Submenu	Access level 3
Alarms	Alarm limits Climate	Temperature alarm Humidity alarm	Summer temperature at 20 °C outside temperature Summer temperature at 30 °C outside temperature Absolute high temperature Heat zone limit Brooding heat zone limit Absolute high humidity

Alle funktioner i de tekniske menuer **Opsætning**, **Brugersopsætning** og **Service** ligger på adgangsniveau 3.

1.4.4 Access Levels in UltiMatic

1.4.4.1 Functions on Access Level 1

Main menu	Menu	Submenu	Access level 1
Climate	Temperature	Inside temperature Heating Heaters Brooding heaters	Temperature setpoint Zone 1 offset Zone 2 offset Heater 1-6 temp. setpoint Heater 1-4 temp. setpoint Humidity setpoint
	Humidity Ventilation Tunnel	CO ₂ min. ventilation	Active Min. air speed Current chill factor
Production	Bird scale data	Bird scale 1/2 data	Average weight 1/2 Correction factor Disconnect from Disconnect to
	Silo		Silo 1-2 state Active silo Silo 1-2 delivery
	Light control	Silo delivery	Light at dark
Alarms			Alarm test

1.4.4.2 Functions on Access Level 2

Main menu	Menu	Submenu	Access level 2
Climate	Temperature	Heating Heaters Brooding heaters	Active Minimum heating Minimum heating activate Minimum heating activate Cooling temperature Stop cooling Night temperature Start time Stop time
		Cooling	Active Humidification setpoint
		Night setback	Min. vent. / animal Min. ventilation Max. ventilation Max. deviation Max. change
	Humidity Ventilation	Zone inlets	Max. deviation Max. change
2-zone outlets		Max. deviation Max. change Heat allowed in tunnel	
Tunnel		Pad cooling	Start speed Stop speed Humidity limit
	Pressure control		Pressure setpoint

Main menu	Menu	Submenu	Access level 2
Production	Feed control	Feed curve Feed program 1-8	Day number Number of starts Start time 1-16 Stop time 1-16
	Light control	Light program Light day 1-8	Day number Number of starts Start time 1-16 Stop time 1-16
	24-hour clock	Light dimmer curve 24-hour clock A-D	1.-8. day start Light dimmer level for 1.-8. day Number of active points Start 1-10 ON-time 1-10
Management	Animals	Add/remove animals/hens/cocks	Installed animals Dead animals Moved animals Examined animals Culled animals Extra installed animals
	Batch curves	Climate	Inside temperature Chill curve – outside temp.
	House data	Production Bird scale 1/2 curves	Chill curve – factor Heater temperature Brooding heater temperature Humidity Minimum ventilation Maximum ventilation Night setback Reference Correction Batch status Active grow zone Time Date Day number House name
	In-between function	Soaking	Side inlet Tunnel Ventilation Air outlet Fan speed control Soaking time Cycle time ON-time
		Washing	Side inlet Tunnel Ventilation Air outlet Fan speed control Washing time
		Drying	Side inlet



Main menu	Menu	Submenu	Access level 2
		Empty house	Tunnel Ventilation Air outlet Fan speed control Drying time Side inlet Tunnel Ventilation Air outlet Fan speed control Frost protection Frost protection temperature
Alarms	Alarm limits Climate	Temperature alarm	High temperature limit Low temperature alarm Low temperature limit
		Humidity alarm Flap alarm Sensor alarm Pressure control Temperature controlled emergency opening Emergency opening	Heat zone alarm Brooding heat zone alarm Absolute high humidity limit Error side inlet 1-6 Error tunnel inlet 1-2 Error air outlet 1-2 Error outside temperature sensor Misplaced outside sensor Error humidity sensor Pad sensor alarm limit Pad sensor alarm Error pressure regulator sensor Pressure sensor high limit Pressure sensor low limit Auxiliary sensor 1-4 error low Auxiliary sensor 1-4 low limit Auxiliary sensor 1-4 error high Auxiliary sensor 1-4 high limit CO ₂ sensor error low CO ₂ sensor low limit CO ₂ sensor error high CO ₂ sensor high limit Regulator alarm delay Pressure high alarm Pressure high limit Pressure low alarm Pressure low limit Warning at emergency temperature Warning emergency temperature limit Battery alarm Battery voltage limit Absolute high humidity

Main menu	Menu	Submenu	Access level 2
	Production	Feed alarm Water alarm	Feed alarm active Time before alarm Auger alarm active Time before alarm Maximum water alarm Maximum water alarm limit Minimum water alarm Minimum water alarm limit Start alarm day Start alarm time Alarms not maintained

1.4.4.3 Functions on Access Level 3

Main menu	Menu	Submenu	Access level 3
Climate	Temperature	Inside temperature	Comfort temperature Extra ventilation
	Ventilation Tunnel	CO ₂ min. ventilation Pad cooling	CO ₂ setpoint Cool temperature
Alarms	Alarm limits		
	Climate	Temperature alarm Humidity alarm	Summer temperature at 20 °C outside temperature Summer temperature at 30 °C outside temperature Absolute high temperature Heat zone limit Brooding heat zone limit Absolute high humidity

All functions in the technical menus **Setup**, **User setup** and **Service** are on access level 3.

1.5 Compact Flash Card

This section is only relevant when Compact Flash Card (CF-card) is used in the computer.

The CF-card enables the user to save a back-up of the computer setup.

When you insert an empty CF-card in the computer, you must save the current setup on this card. Big Dutchman recommend that you always save the setup when the computer is to have a new setup and when spare parts are replaced.

See the *Technical Manual* regarding saving a back-up of the setup.

A CF-card from Big Dutchman can also be used for updating the computer, partly with new program versions and partly with addition of more functions.

2 MAINTENANCE GUIDE

Viper requires no maintenance to function correctly.

The alarm system should be tested weekly.

2.1 Cleaning

Clean Viper with a firmly wrung cloth; do not use solvents. Do not expose it to water jets or high-pressure cleaning.

As for all electronic equipment it is best for Viper to be connected all the time as this will prolong its life and keep it dry and free from condensation.

2.2 Removal for Recycling

Disassemble the product into the following fractions:

- Plastic box and screwed connections
- Battery and electric components

Deliver all the parts to a recycling system. You can also return the entire instrument to Big Dutchman who will then ensure that it is reprocessed correctly in the normal recycling system.

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