

Automatic weighting the milk with scales (option).

Scales could be connected towards the milk analyser, which to be used for weighting the delivered milk before measuring its parameters. For using the scale the operator has to follow up the two procedures:

- Preparation for work and checking the scales
- Weighting delivered milk

Preparation for work and checking the scales

Put the scales on round and solid surface and level it, using its helical legs. Checking the scales is done by using 2 standards of weight – light and heavy, for example 5 and 50 kg, in mode:

Setup ->Accessories->Weigh Scale->Measure (this is OFF Line measuring mode). In case there is discrepancy noticed, you need to make scales calibration, as is described below.

Weighting delivered milk.

The procedure is analogous to work when entering data for the deliverer using additional keypad. The difference is that weight of milk is automatically send from the scales.

Consequence of work is as follows: switch on the analyser for normal work. Place the vessel where the milk from different deliverers will be collected, for example with 80 l volume. When the analyser is ready for work, the operator has to press “#” (Enter) on the digital keyboard. Display shows the following:

Enter Data
Del N:

Now enter the deliverer's number and press the button “#” (Enter) on the digital keyboard. Display shows the following:

Net =xx.xxx [kg]
Tare =yy.yyy[kg]
Totl =zz.zzz[kg]
0-Tare #-
OK

where:

xx.xxx – weight of the poured milk of the current deliverer.

yy.yyy – tare's weight (weight of the milk collecting vessel plus milk, collected from the previous deliverers, if there is such in the vessel)

zz.zzz – sum of Net + Tare

After the first measurement, across Net will be shown the weight of the milk collecting vessel, and Tare will show 0. Now press the button Tare, and now the scales is ready to weight the milk of the deliverer, i.e. Net shows 0. Fill the glass for sample measuring and the rest of the milk pour in the milk-collecting vessel, placed on the weighting scales. Now the value on the display across Net is changing. The operator has to wait the scales to be set at rest and press the button “#”. The display shows the following:

<p>Net =xx.xxx [kg] Tare=yy.yyy[kg] Totl=zz.zzz[kg] 0-Tare #- OK</p>

where:

xx.xxx – weight of the poured by the first deliverer milk, for example 20.00 kg.

yy.yyy – Tare's weight (milk collecting vessel)

zz.zzz – Sum of Net + Tare

After the scales are set at rest, the operator has to press the button “#”, and the display shows the following:

<p>Del N:aaaa Kg=yy.yy Are you sure? 0-No Yes-#</p>
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Now the operator has to check the data and if there is need something to be corrected to press button “0”, which returns in the main menu for entering deliverer’s number. By pressing the button “#” data is confirmed and following appears on the display:

<p style="text-align: center;">Measure:CalName</p> <p style="text-align: center;">Start:Enter or *</p>
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The operator has to place the sample holder filled with milk sample in the milk analyser and to start the measurement. The milk analyser measures the sample and shows the results as in a normal mode. On the print out 2 new lines appear:

Litres.....19.4
Kilograms.....20.00

Please, have in mind the formula for calculating liters from weight measured:

$$\text{Litres} = \text{Kilograms} / \text{Density}$$

where:

Density is measured by the analyser density of the correspondent sample.

When the next deliverer arrives, the operator has to press “#” and to start again the procedure for entering deliverer’s number and weighting. In this case weighting scales are ready for the next deliverer’s milk. This procedure is repeated for every deliverer. When the milk-collecting vessel is full, pour its content in the cooling tank. Place it back on the scales and press again the button for new tare calculation.

Control options when working with scales.

They are entered by using the Setup of the analyser. They are started using the following menu:

Setup ->Accessories->Weigh Scale:

Raw Test - test for weight scales control. Used mainly in production conditions.

Calibration – serves for scales calibration (if there is deviation noticed). For the purpose you have to have 2 standards of weight, for example 5 and 50 kg.

After starting the following is displayed:

**Weight Scale Cal
Put Low Weight
Weight =zz.z**

Using the buttons Up, Down, Enter (as it is done when calibrating the rest of the milk analyser's options) enter the weight of the lighter standard of weight, in our case 05.000. After it, on the bottom line of the display appears:

ADC=xxxx.x Set

where:

xxxx.x – calibrating data from the scales.

The operator waits for the value to be shown and presses the button below the word Set. The same procedure is repeated with the heavy standard weight, for example 50.000 kg. After the value is shown and pressing the button Set, a message for completed calibration is displayed. Scales are ready for work.

Measure – Off Line measuring mode, i.e. the analyser is used as universal scales. In this mode periodically control of the accuracy of the scales with standards of weight is needed.

On Line En/Dis – allows / forbids On Line weight scales work (automatically transferring the kilograms measured milk from the scales to the analyser, after setting the deliverer's number). If option Enable is chosen, follow the way of work described above. If not, then the operator has the possibility to enter manually liters and number of the every deliverer.