

USER MANUAL WEIGHT INDICATOR



DFWATEX2GDFxxx

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1. TURNING ON AND OFF

TO TURN ON the instrument Press the C key until the display turns on; then release.

The display shows in sequence:

XX.YY is the installed software version.

After this the instrument executes a countdown (self-check).

The indicator has an "auto zero at start-up" function: in other words it means that if at start-up a weight within +/- 10% of the capacity is detected, it will be zeroed; if the weight is not within this tolerance, with a non approved instrument the display shows the present weight after a few instants, while with an approved instrument "ZEro" is shown continuously on the display, until the weight is made to re-enter within this tolerance.

Normally the auto zero function at start-up is disabled; it may be enabled in the set-up environment (only with non approved instrument): see the **SEtuP >> ConFiG >> Param. >> Auto-0 (TECH.MAN.REF.)** parameter.

By pressing the **ZERO** key for an instant while the version is shown in the display, the indicator will show the following in this order:

08.01 in which 08 indicates the instrument type, 01 indicates the metrological software version.

XX.YY.ZZ is the installed software version.

DFW – FX is the name of the installed software.

X = H bAtCh mode

X = 1 btC.1-L / btC.-u mode

XXXXXX capacity and division of channel 1.

LEGAL o hi rES if the instrument is APPROVED or UNAPPROVED, respectively.

9.XXXXX is the g gravity value

After this the instrument executes a countdown (self-check)

NOTE: the display of the other information is described in section "DISPLAY OF METRIC DATA (inFO)".

- **TO PUT THE INSTRUMENT IN STANDBY:** keep the **C** key pressed until the message "- OFF –" appears on the display and then release the key.
- **TO RESET THE INSTRUMENT:** keep the **C** key pressed until the instrument executes the start-up procedure. It is possible to reset the instrument also in the dosage cycle.
- **TO TURN OFF** the instrument keep the **C** key pressed until the - oFF – message appears on the display; then release the key.









2. FRONT PANEL KEYS AND INDICATORS

The front panel is made up of a display with 6 25mm digits and water-proof film keyboard with 17 numerical and function keys.

If the indicator has an LCD display, while weighing various multifunction symbols indicating the functioning status will turn on (see "SYMBOLS ON THE LCD DISPLAY" section).



FIGURE 2

SCALE KEY	FUNCTION
<p>ZERO</p> 	<ul style="list-style-type: none"> - Zeros the displayed gross weight, (see section 13.1). - Cancels the negative tare value. - When entering numbers it decreases the digit to be modified. - It allows scrolling ahead inside the menu steps or in the parameters within a step.
<p>TARE</p> 	<ul style="list-style-type: none"> - If pressed for an instant it carries out the semiautomatic tare (see section 13.2.1). - If pressed at length it allows entering the manual tare from keyboard (see section 13.2.1) - Cancels the negative tare value. - In the numeric input phase it increases the digit to be modified - It allows scrolling backwards in the menu steps or in the parameters within a step.
<p>MODE</p> 	<ul style="list-style-type: none"> - Selecting a formula. - Quick entry of the TARGET. - Enter the User Menu. - In the numeric input phase it selects the digit to be modified, from left to right.
<p>PRINT</p> 	<ul style="list-style-type: none"> - In the numeric input phase, it confirms the entry made. - In the SET-UP, it allows to enter a step or to confirm a parameter within a step. - it transmits the data from the serial port dedicated to the printer.
	<ul style="list-style-type: none"> - It turns the instrument on and off. - In the numeric input phase, it quickly zeros the present value. - In the SET-UP, it allows to exit a step without confirming the change made. -Allows viewing the scale's metric information: capacity, division, minimum weigh for each configured range.
	<ul style="list-style-type: none"> - By pressing in sequence the numeric keys and F, it allows to select a formula in the database
	<ul style="list-style-type: none"> - During the numeric input phase it allows to enter the desired value.
	<ul style="list-style-type: none"> - Displays the metric parameters (see section 13.4 DISPLAY OF METRIC DATA (inFO))

3. LCD DISPLAY SYMBOLS

The LCD display has symbols which show the indicator's functioning status; you will find the description for each symbol below.

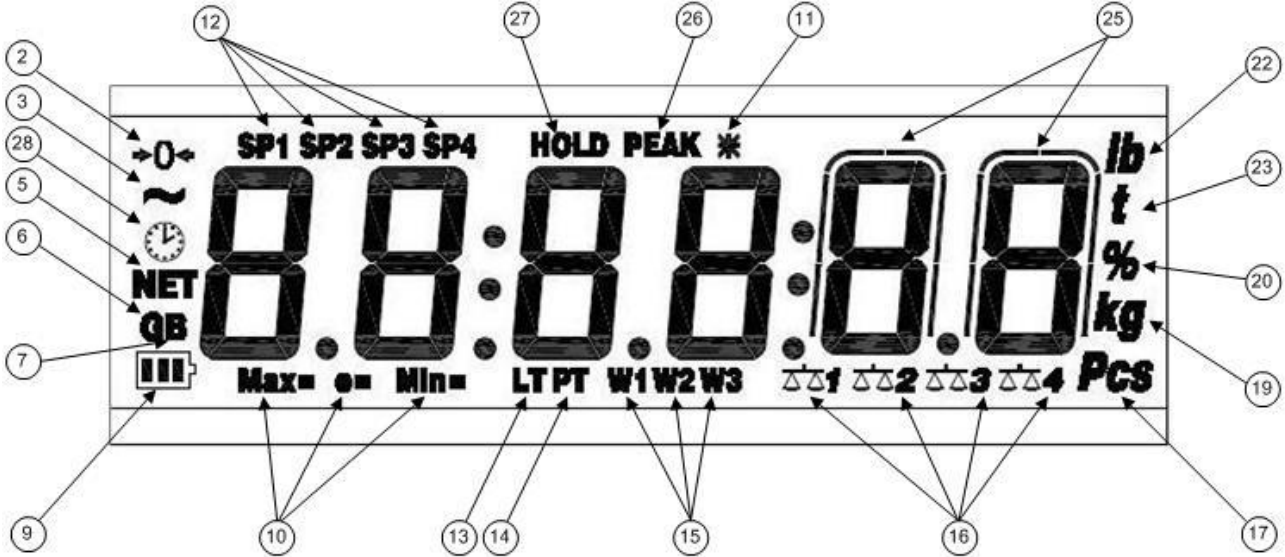
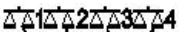
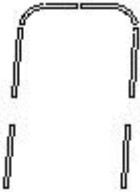



FIGURE 3 - LCD-C02 DISPLAY

NUMBER	SYMBOL	FUNCTION
(2)	→0←	Indicates that the weight detected on the weighing system is near zero, within the interval of $-1/4 \div +1/4$ of the division.
(3)	~	Indicates that the weight is unstable.
(5)	NET	Indicates that the displayed weight is a net weight.
(6)	G	Indicates that the displayed value is a gross weight, if the Italian or English language is selected in the print configuration
(7)	B	Indicates that the displayed value is a gross weight, if the German language is selected in the print configuration
(9)		Not used in this application
(10)	MAX= MIN= e=	When viewing the metric information, it identifies the indicated capacity range. When viewing the metric information, it identifies the indicated minimum weigh range. When viewing the metric information, it identifies the indicated division range
(11)	*	If not active, it enables an instant when a key is pressed. If already active, it disables an instant when a key is pressed

(12)	SP1	Indicates that the relay nr. 1 has been enabled.
	SP2	Indicates that the relay nr. 2 has been enabled.
	SP3	Indicates that the relay nr. 3 has been enabled.
	SP4	Indicates that the relay nr. 4 has been enabled.
(13)	LT	Indicates that a locked tare is enabled
(14)	PT	Indicates that a manual tare is active.
(15)	W1	Indicates that the instrument is in the first weighing range.
	W2	Indicates that the instrument is in the second weighing range.
	W3	Not used in this application
(16)		Indicates the number of the active scale
(17)	PCS	Not used in this application
(19)	kg	Indicates the unit of measure in use ("kg" for kilograms, "g" for grams).
(20)	%	Indicates that one is entering a tolerance % in respect to the target
(22)	LB	Indicates the unit of measure in use (pounds)
(23)	t	Indicates the unit of measure in use (tons).
(25)		These are displayed around the digits with higher sensitivity, when viewing the weight x 10.
(26)	PEAK	Not used in this application
(27)	HOLD	Not used in this application
(28)		Not used in this application

4. BASIC FUNCTIONS

4.1 SCALE ZEROING

Out of the dosage cycle, by pressing the **ZERO** key, it is possible to clear a gross weight value which is within $\pm 2\%$ of the capacity; after the zeroing, the display shows 0 weight and the relative pilot lights turn on.

4.2 TARE OPERATIONS

The tare operation is only possible out of the dosage cycle; it's never possible in any case in the "SINGLE-COMPONENT DOSAGE IN UNLOADING" mode.

4.2.1 SEMIAUTOMATIC TARE

By pressing the **TARE** key any weight value present on the display is tared: the display shows "tArE" for an instant and then 0 (net weight); the relative keys turn on.

NOTE: the semiautomatic tare will be acquired only if the weight is AT LEAST A DIVISION, STABLE (instability ~ led off) and VALID (in other words, the OVERLOAD condition should not be created).

4.2.2 MANUAL TARE FROM KEYBOARD

Press **TARE** for a few seconds, the display shows "- tM -" and then "000000". Enter the desired value and confirm with the **ENTER/PRINT** key. The value will be subtracted from the weight present on the plate and the relative pilot lights will turn on. **If the entered value is not a multiple of the scale's minimum division, it will be rounded off.**

4.2.3 DELETION OF A TARE

One can manually cancel the tare value in different ways:

- Press the **C** key
- Unload the scale and press the **TARE** or **ZERO** key.
- Carry out the tares in deduction, partially unloading the scale and pressing **TARE** to zero the display.
- Enter a manual tare equal to 0.

NOTE: it is possible to automatically cancel the tare value by doing the following:

4.2.4 LOCKED/UNLOCKED/DISABLED TARE

Normally, when a tare value is entered (semiautomatic or manual) by unloading the scale plate, the display shows the tare value with a negative sign (LOCKED TARE). For one's convenience it is also possible to choose that the tare value cancels itself automatically each time that the scale is unloaded (UNLOCKED TARE), or disable the tare functions.

With the UNLOCKED tare:

- **In case of SEMIAUTOMATIC TARE the net weight, before unloading the scale, may also be 0.**
- **In case of MANUAL TARE the net weight before unloading the scale must be greater than 2 divisions and stable.**

4.3 MULTI RANGE FUNCTIONING (for legal for trade approved instruments)

The **multirange functioning** allows to subdivide the scale capacity in two ranges, each which is up to 3000 divisions, improving in this way the first range division in the dual range.

For example, with a 10 kg cell platform it is possible to approve the weighing system with:

- A single range: 6 kg capacity and 2 g division (3000 div.).
- Dual range: 6 / 3 kg capacity and 2/1 g division (3000 + 3000 div.).

NOTES:

- For the approval of the weighing system in dual range the cell must have better technical features in comparison to the cell used for the approval in a single range. The multirange functioning is shown by the turning on of the relative LED which identifies the range in which one is operating; by passing to the second range, the second range division is enabled. At this point the first range division is restored **only by passing by the gross zero of the scale.**
- The selection of the range number with multirange functioning is made during the indicator's calibration (**TECH.MAN.REF.**).

4.4 DISPLAY OF METRIC DATA (inFO)

The indicator is fitted with a function named "INFO", thanks to which it is possible to view the metric data and other configuration data:

- Gravitational Acceleration Value.
- First range capacity, first range minimum weigh, first range division;
- Second range capacity, second range minimum weigh, second range division;

NOTES:

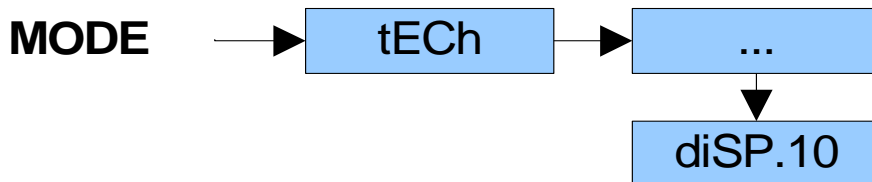
- The minimum weigh corresponds to 20 net weight divisions.
- The data of the second and third range appears only if actually configured.
- During the dosage, the function is disabled

To view the metric data:

- Press the "i" key until the display shows "inFO".
- The gravitation acceleration value will appear for an instant.
- Press the **ZERO**, **TARE**, or "i" key to scroll the following metric data:
1st range capacity ⇔ 1st range minimum weigh ⇔ 1st range Division ⇔ 2nd range Capacity ⇔ 2nd range minimum weigh ⇔ 2nd range Division.
- Press the **ENTER/PRINT** key to view only the capacity values of each range
- Press the **C** to return to the weighing status.

4.5 DISPLAY WITH SENSITIVITY X 10

Follow the procedure below in order to obtain the function of switching the weight for display with sensitivity increased 10 times:



- Press at length the **MODE** key. The display shows "teCh" ("oinL", in case of approved instrument).
- Press **ZERO** many times (to scroll forwards through the parameters) or **TARE** (to scroll backwards) to find the <<diSP.10>> parameter.
- Confirming with **ENTER/PRINT** one switches from the weight display with normal sensitivity to a sensitivity ten times greater; in fact, one will note that the last digit on the right of the display will have a sensitivity equal to the scale's division divided by 10.
- Press many times the **C** key to return to the weight display with normal sensitivity.

NOTA: In case of an APPROVED instrument the sensitivity times 10 is displayed for five seconds.

5. DEFINITION OF “PHASE”

A “Phase” is each single part that makes up the dosage. It is possible to assign one of the available relay outputs to each phase.

NOTE: the instrument’s relay outputs start from 1; as a matter of fact, output 0 serves to create an activity without linked outputs.

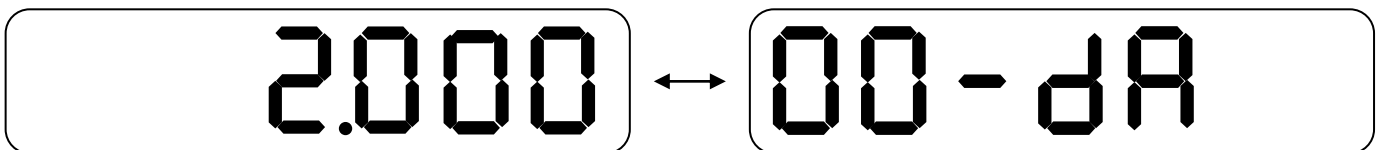
The available phases are:

- AUTOMATIC DOSAGE
- MANUAL DOSAGE
- UNLOADING
- TIMER
- PAUSE
- MANUAL WEIGHT

Each phase executes a specific function, shown in the following sections.

5.1 AUTOMATIC DOSAGE (Aut.doS)

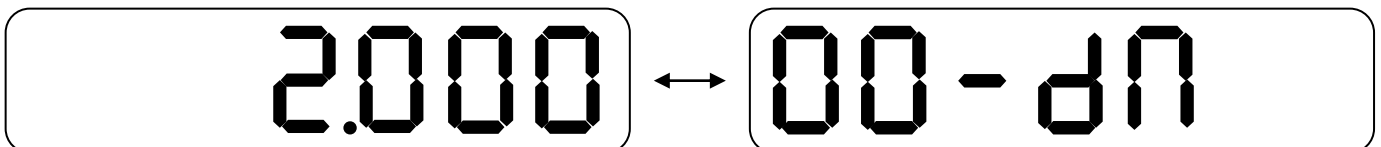
- If the dosage can start (i.e. the possible tare is present and the weight is stable), the programmed product output is enabled, along with the fast dosage output, if configured; the dosage therefore starts at the maximum speed.
- During the dosage, the weight message is alternated with the message of the type of phase under way:



- When a weight value is reached in which the SLOW WEIGHT and FLIGHT WEIGHT is missing from the TARGET, the indicator reduces the dosage speed disabling the relative output;
- When the TARGET minus the FLIGHT WEIGHT is reached, the indicator disables the programmed product output;
- The instrument waits for the fall of flying material as long as the set time and starts the test of tolerance, if enabled: if the weight of the dosed material is within the set tolerance, the instrument will pass to the following phase, otherwise a weight correction is required.

5.2 MANUAL DOSAGE (MAn.doS)

- If the dosage can start (i.e. the possible tare is present and the weight is stable), the programmed product output is enabled, along with the fast dosage output, if configured; the dosage therefore starts at the maximum speed.
- During the dosage, the weight message is alternated with the message of the type of phase under way:



- When a weight value is reached in which the SLOW WEIGHT is missing from the TARGET, the indicator reduces the dosage speed disabling the relative output;
- When the TARGET is reached, the indicator disables the programmed product output;
- The instrument waits for the operator’s assent or waits for the manual dosage end time, if configured, and starts the test of tolerance, if enabled: if the weight of the dosed material is within the set tolerance, the instrument will pass to the following phase, otherwise a weight correction is required.

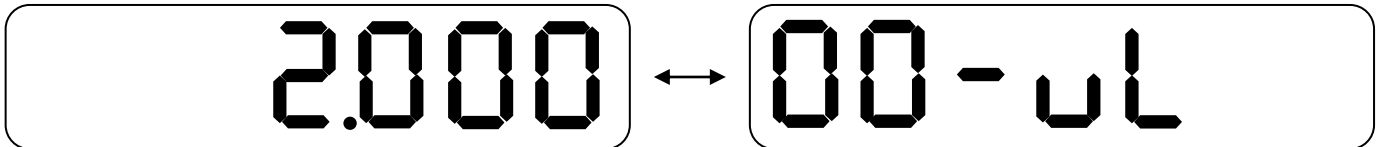
5.3 UNLOADING (unLoAd)

It is possible to execute 3 different unloading methods:

- **TOTAL UNLOADING**

This phase **allows to completely unloading the scale**; for instance, it is entered at the end of a loading formula or at the end of a partial unloading phase, so that the remaining material is unloaded.

- If the dosage can start (i.e. the weight is stable), the programmed product output is enabled, along with the fast dosage output, if configured; the dosage therefore starts at the maximum speed.
- During the dosage, the weight message is alternated with the message of the type of phase under way:



- The total unloading phase ends as soon as the weight reaches the TOTAL UNLOADING END threshold; once the UNLOADING END WAIT TIME has passed.

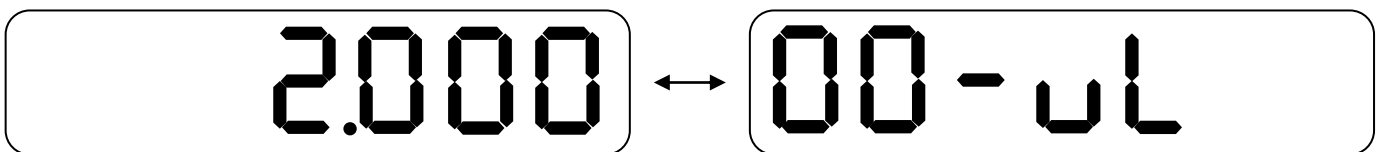
- **SPLIT UNLOADING**

This phase **allows to completely unloading the scale, splitting the dosage in various partial unloadings** which have a fixed target.

It is possible to decide how the split unloading should start: manually or automatically (through start command); each following unloading will be manually enabled, supplying a start command.

In this way the operator, for example, can change the container with each partial unloading or perform any operation.

- If the dosage can start (i.e. the weight is stable), the programmed product output is enabled, along with the fast dosage output, if configured; the dosage therefore starts at the maximum speed.
- During the dosage, the weight message is alternated with the message of the type of phase under way:



- When a weight value is reached in which the SLOW WEIGHT and FLIGHT WEIGHT is missing from the TARGET the indicator reduces the dosage speed disabling the relative output;
- When the TARGET minus the FLIGHT WEIGHT is reached, the indicator disables the programmed product output;
- The instrument waits for the fall of flying material as long as the set time and, if the instrument is enabled, starts the test of tolerance: if the weight of the dosed material is within the set tolerance, the instrument proceed with the next phase, otherwise a weight correction is required.
- The split unloading activity ends as soon as the weight reaches the TOTAL UNLOADING END + PHASE TARGET threshold: the unloading under way will be terminated, and the instrument will automatically pass to the following phase.

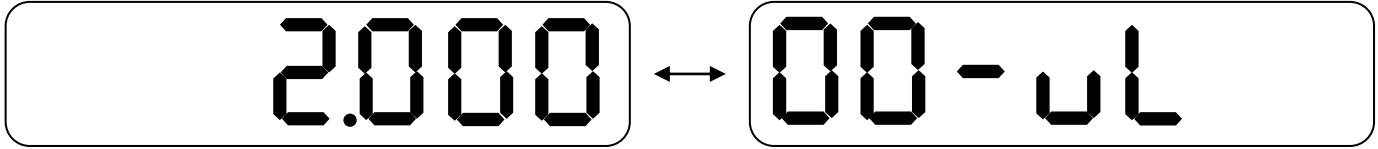
NOTA: The instrument checks, at the end of each unloading dosage, if the material is sufficient for executing a new partial unloading, otherwise it automatically passes to the following phase.

In order to obtain a total unloading and to subdivide the material in equal parts, one should enter a split unloading in the formula, followed by a total unloading activity.

• PARTIAL UNLOADING

This activity **allows to execute a single unloading of a fixed quantity of material**; therefore the instrument gives the possibility to load the silo and to unload the desired quantity from it.

- If the dosage can start (i.e. the weight is stable), the programmed product output is enable, along with the fast dosage output, if configured; the dosage therefore starts at the maximum speed
- During the dosage, the weight message is alternated with the message of the type of phase under way:



- When a weight value is reached in which the SLOW WEIGHT and FLIGHT WEIGHT is missing from the TARGET the indicator reduces the dosage speed disabling the relative output;
- When the TARGET minus the FLIGHT WEIGHT is reached, the indicator disables the programmed product output;
- The instrument waits for the fall of flying material as long as the set time and, if the instrument is enabled, starts the test of tolerance: if the weight of the dosed material is within the set tolerance, the instrument proceed with the next phase, otherwise a weight correction is required.

If the weight on the scale is lower than the TOTAL UNLOADING END + PHASE TARGET threshold, it's not possible to perform a partial unloading.

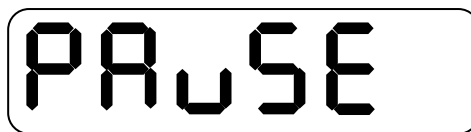
5.4 PAUSE

The pause phase consists in clearing the weight on the scale and enabling the eventual linked output; this output will be enabled at the beginning of the phase and will be disabled by a start command.

The pause phase automatically starts at the end of the previous phase, and is disabled only in the manual mode, giving a start command; the duration of this phase is therefore not programmable.

In any way, during the PAUSE phase, it is possible to pause the dosage (through IN2 input) disabling all the active outputs.

The display, during the pause phase, will show the message:



The display shows the message 'PAUSE' in a large, bold, digital font, indicating that the system is in a pause state.

5.5 TIMER

The timer phase automatically starts at the end of the previous phase, and automatically ends when the set time has passed; during this time one of the available outputs can be enabled.

It is possible to set the type of time which one wants to use, in other words **stoppable** or **not stoppable**:

- **stoppable**: the timer phase is automatically enabled and may be terminated at any time manually, by a start command. Moreover, by pressing the **C** key, it is possible to stop the timer, until the next start command.
- **not stoppable**: the timer phase is automatically enabled and automatically ends when the set time has passed. It's not possible to stop the timer before the set end.

The display, during the timer phase, will show the timer countdown:



5.6 MANUAL WEIGHT

This phase is useful when one wants to add to the dosage an amount of material having a known fixed weight, which is set when entering the activity in the database.

Therefore it may be set at the dosage end, for example, to remind the operator to add this material to the formula in hand.

The MANUAL WEIGHT phase automatically starts; the end of the phase must be terminated by a start command.

The display, during the manual weight phase, will show the weight that is still to be loaded:



In the formula report printout, the manual weight amount is not considered in the weight to be dosed, but it is calculated in the total weight dosed (see section "PHASES / FORMULAS AND TOTAL DATA PRINTING").

NOTE: for the loading phases it is possible to choose (<<Show.t.>>, **RIF.MAN.T.** step) whether to view the weight actually dosed during the phase, or whether to view the remaining weight upon reaching the **TARGET** weight.

6. DEFINITION OF “FORMULA”

A “**Formula**” is the sequence of the phases which allows to execute the desired dosage.

FORMULA 1
PHASE 1
PHASE 2
PHASE 3
PHASE 4
...

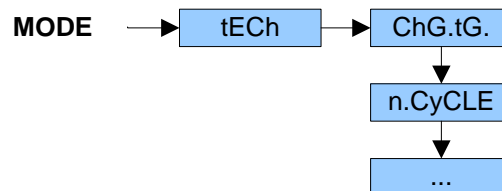
IMPORTANT: In order to execute a dosage, one must first of all identify which are the single phases that have to be carried out and enter these in the phases database; after this one must enter a formula in the formulas database, which must contain, in order, all the phases which must be carried out in order to execute the desired dosage.

The execution order of the phases depends on the order in which these are entered when programming the formula: the first entered phase will be the first executed one, etc.

6.1 SETTING THE NUMBER OF DOSAGE CYCLES

One can program a series of automatic repetitions of the dosage cycles using a formula to select. One should:

1. Out of the dosage cycle, press at length the **MODE** key. The display shows "tECh" ("oinL", in case of approved instrument).



(§) The parameter is displayed only if a formula is selected and with the WGT.FOR functioning mode

2. Scroll the steps with the **ZERO** and **TARE** key until the <<n.CyCLE>> parameter and press the **ENTER/PRINT** key.
3. Enter the number of repetitions to be executed (value which is between 1 and 999) and confirm by pressing **ENTER/PRINT**.
By setting n.CyCLE = 1, the number of repetitions becomes infinite and the passage to the following cycle is manual.
By setting n.CyCLE = 999, the number of repetitions becomes infinite and the passage to the following cycle is automatic.
4. Press the **C** key. If the number of cycle was not modified, one return in weighing mode, otherwise is asked to save the modifications ("SAVE ?"). Press **ENTER/PRINT** to confirm, **C** to exit without making modifications.

(!) 001

The number of repetitions can be modified also during the dosage cycle by pressing the **MODE** key in the Pause state (see chapter 19).

7. MULTICOMPONENT DOSAGE

Premise: one must have set << bAtCh >> in the **F.ModE >> doSAgE >> doS.tyP** step (**TECH.MAN.REF.**) of the setup environment.

In the multicomponent dosage, the instrument has two different databases:

- Phases database (up to a maximum of 16);
- Formulas database (up to a maximum of 15, each consisting of up to a maximum of 8 phases).

One can program phases and formulas also through a PC software.

The maximum dosable weight in a single dosage (for the automatic or manual loading phases) is given by (<<MAX.WGt>> - <<toL.0>>) or by (<<MAX.WGt>> - <<MAX.tAr>>), if a maximum tare values has been entered (**TECH.MAN.REF.**).

If there is an unload phase in the FORMULA, the maximum dosable weight is calculated in the following way:

MAX.WGT = 1000kg

MAX.TAR = 100kg

Maximum dosable weight = 1000 – 100 = 900kg

PHASE 1 = dos.aut 100kg

PHASE 2 = dos.aut 500kg

PHASE 3 = dos.aut 200kg

PHASE 4 = dos.aut 100kg

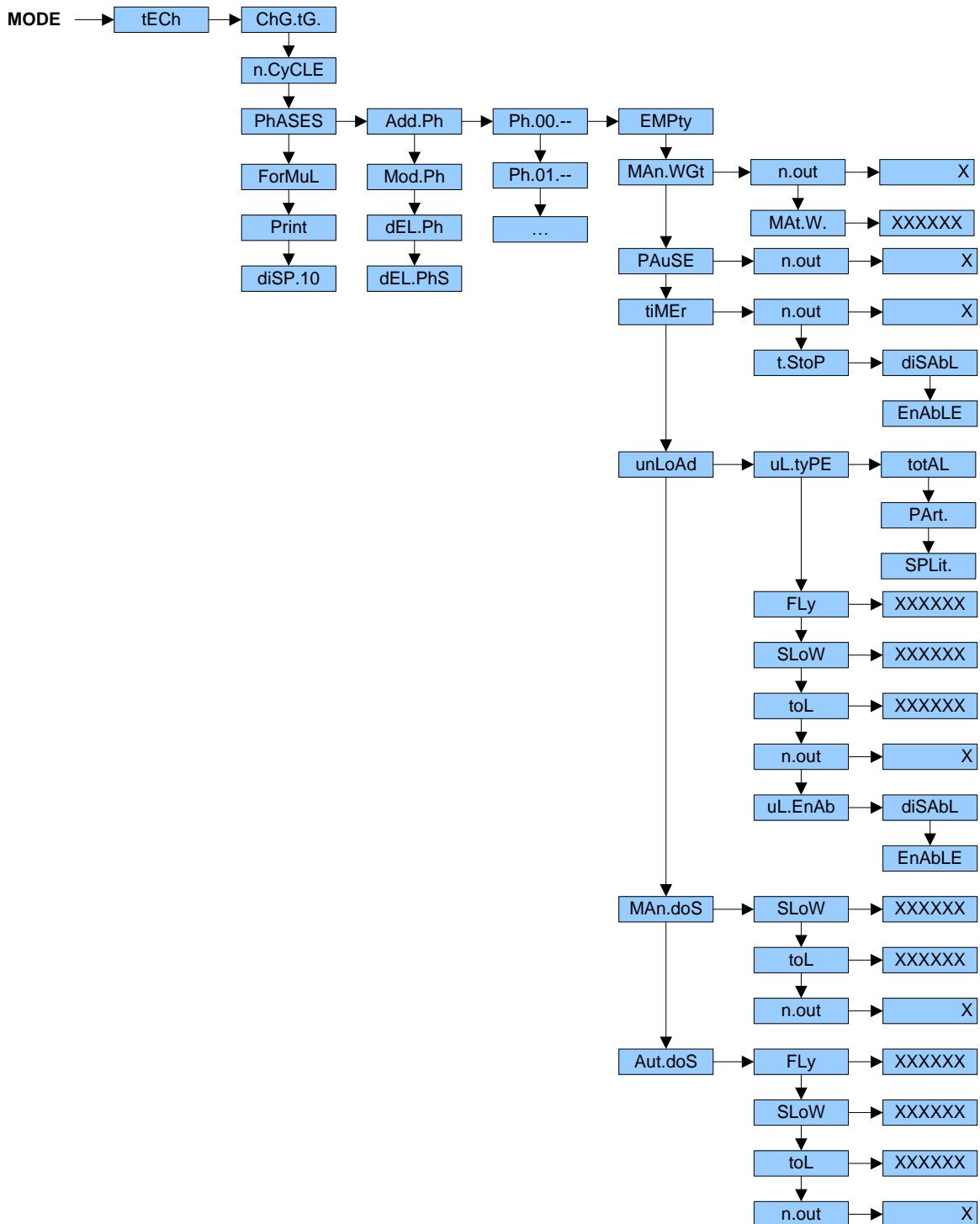
PHASE 5 = partial unload 600kg

PHASE 6 = dos.aut 500Kg

The sum of the weights is equal to: 100 + 500 + 200 + 100 – 600 + 500 = 800kg

7.1 ENTERING A PHASE IN THE DATABASE

1. Press at length the **MODE** key. The display shows "teCh" ("oinL", in case of approved instrument)



(§) The parameter is displayed only if a formula is selected and with the WGT.FOR functioning mode

2. Press the **ZERO** key or **TARE** many times to find the <<PhASES>> step. Then press the **ENTER/PRINT** key.
3. Select the <<Add.Ph>> parameter and press **ENTER/PRINT**: the instrument shows the first empty memory storage available (for instance, Ph.00.- -); press the **ENTER/PRINT** key; the selectable phase are proposed (use the **ZERO** or **TARE** keys to scroll the list):

- << Empty >>: empty memory storage (no phase associated);
- << MAn.WGt >>: manual weight;
- << PAuSE >>: dosage pause;

- << **tiMEr** >>: timer;
- << **unLoAd** >>: total, partial or split unloading;
- << **MAn.doS** >>: manual dosage;
- << **Aut.doS** >>: automatic dosage;

Select the desired one and press the **ENTER/PRINT** key;

4. Enter the characteristic parameters of the selected phase:

- << **MAn.WGt** >>: manual weight;
 - <<**n.out**>>: select the instrument's output to be linked to the phase and press **ENTER/PRINT**;
 - <<**MAt.W**>>: enter the weight of the material to be added to the formula and press **ENTER/PRINT**;
continue on step 5.

Note: during the dosage phase, the displayed weight will be moved to the left so that it can be distinguished from the other phases.

- << **PAuSE** >>: dosage pause;
 - <<**n.out**>>: select the instrument's output to be linked to the phase and press **ENTER/PRINT**;
continue on step 5.

- << **tiMEr** >>: timer
 - <<**n.out**>>: select the instrument's output to be linked to the phase and press **ENTER/PRINT**;
 - <<**t.StoP**>>: manual stop of timer phase:
 - <<**EnAbLE**>>: at any time the timer phase can be manually stopped or finished before its configured end by a start command; the indicator will pass to the next phase;
 - <<**diSAbL**>>: the timer phase automatically stops at the end of the set time;
 Select the type of manual stop using the **ENTER/PRINT** key and continue on step 5.

- << **unLoAd** >>: total, partial or split unloading;
 - <<**uL.tyPE**>>: select the unloading type, among:
 - <<**totAL**>>: total unloading;
 - <<**PArt.**>>: partial unloading;
 - <<**SPLit.**>>: split unloading.
 Press **ENTER/PRINT** to continue:
 - <<**FLy**>>: enter the flight material weight (in case of non total unloading) and press **ENTER/PRINT**;
 - <<**SLoW**>>: enter the slow material weight (in case of non total unloading), in other words the weight subtracted from the **TARGET** that define the slow dosage threshold; then press the **ENTER/PRINT** key;
(this step is available only if the double dosage speed is enabled);
 - <<**toL**>>: enter the tolerance weight (in case of non total unloading) and confirm with **ENTER/PRINT**; this weight define the tolerance range (<<**tArGET**>> ± <<**toL**>>) within that the dosage weight must falls into, at the end of the partial or split unloading;
(this step is available only if the tolerance test is enabled);
 - <<**n.out**>>: select the instrument's output to be linked to the phase and press **ENTER/PRINT**;
 - <<**uL.EnAb**>>: one can qualify the start of the unloading phase with the reception of the start command:
 - <<**EnAbLE**>>: the unloading phase starts only if the start command is received;
 - <<**diSAbL**>>: the unloading phase starts automatically at the end of previous phase;
 Select the desired type using the **ENTER/PRINT** key and continue on step 5.

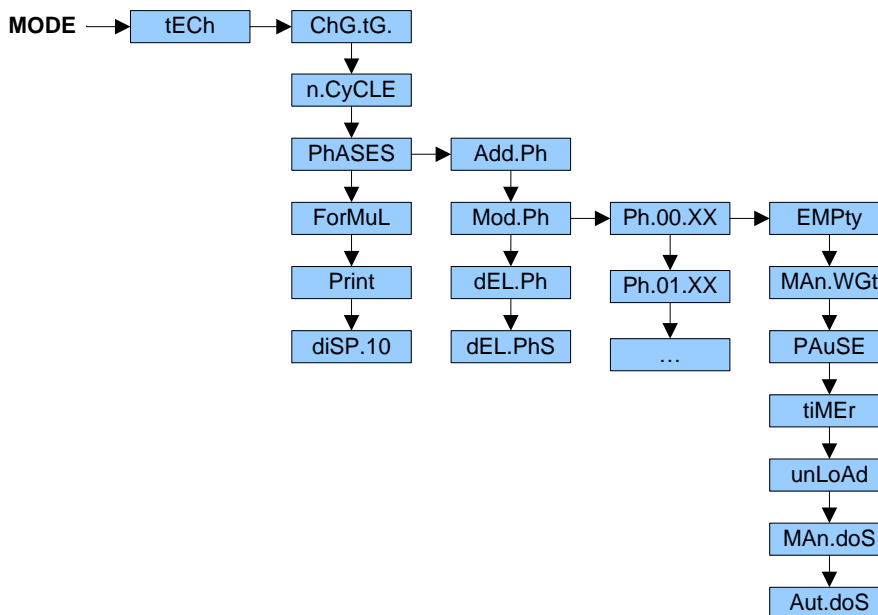
- << **MAn.doS** >>: manual dosage;
 - << **SLoW** >>: enter the slow weight, in other words the weight subtracted from the TARGET that define the slow dosage threshold and press the **ENTER/PRINT** key;
(this step is available only if the double dosage speed is enabled).
 - << **toL** >>: enter the tolerance weight and confirm with **ENTER/PRINT**; this weight define the tolerance range (<< **tArGEt** >> ± << **toL** >>) within that the dosage weight must falls into, at the end of the dosage in loading;
(this step is available only if the tolerance test is enabled);
 - << **n.out** >>: select the instrument's output to be linked to the phase and press **ENTER/PRINT**; continue on step 5.

- << **Aut.doS** >>: automatic dosage;
 - << **FLy** >>: enter the flight material weight and press **ENTER/PRINT**;
 - << **SLoW** >>: enter the slow weight, in other words the weight subtracted from the TARGET that define the slow dosage threshold and press the **ENTER/PRINT** key;
(this step is available only if the double dosage speed is enabled).
 - << **toL** >>: enter the tolerance weight and confirm with **ENTER/PRINT**; this weight define the tolerance range (<< **tArGEt** >> ± << **toL** >>) within that the dosage weight must falls into, at the end of the dosage in loading;
(this step is available only if the tolerance test is enabled);
 - << **n.out** >>: select the instrument's output to be linked to the phase and press **ENTER/PRINT**; continue on step 5.

5. At the end of phase parameter programming, press the **C** key: in order to enter a new phase, repeat the procedure from point 3.; to return to weighing, press various times the **C** key until the instrument requests the saving of the data, "SAVE?": press **ENTER/PRINT** to confirm, or **C** to exit without saving.

7.2 MODIFYING A PHASE

1. Press at length the **MODE** key:



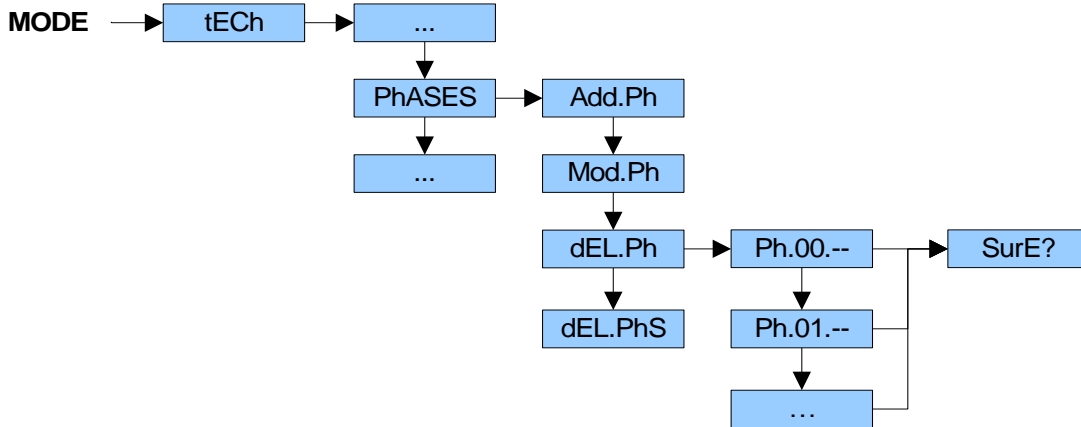
(§) The parameter is displayed only if a formula is selected and with the WGT.FOR functioning mode

2. Press the **ZERO** key or **TARE** many times to find the << **PhASES** >> parameter and press **ENTER/PRINT**: the display shows the << **Add.Ph** >> step;
3. Press the **ZERO** key or **TARE** many times to find the << **Mod.Ph** >> parameter and press **ENTER/PRINT**: the list of stored phases are proposed; use the **ZERO** or **TARE** keys to select the phase to be modified using the **ZERO** or **TARE** key and press **ENTER/PRINT**;
4. Modify the desired parameters;

- Once the operation has ended, press many times the **C** key until the instrument requests to save data, "SAVE?": press **ENTER/PRINT** to confirm, **C** to exit without making modifications.

7.3 DELETING A PHASE

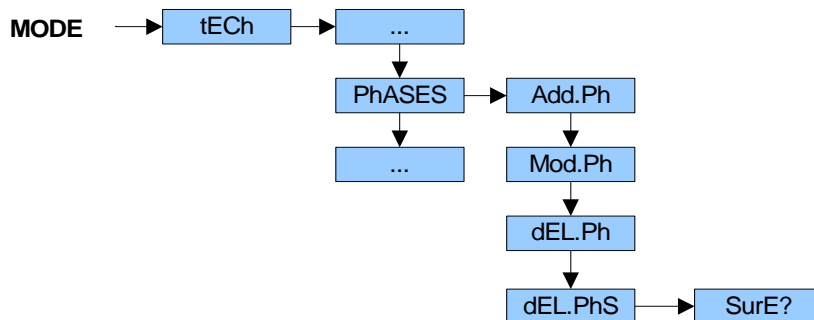
- Press at length the **MODE** key:



- Press the **ZERO** key or **TARE** many times to find the << **PhASES** >> parameter and press **ENTER/PRINT**: the display shows the << **Add.Ph**>> step;
- Press the **ZERO** key or **TARE** many times to find the << **dEL.Ph** >> parameter and press **ENTER/PRINT**: the list of stored phases are proposed; use the **ZERO** or **TARE** keys to select the phase to be deleted and press **ENTER/PRINT**; the instrument requests a confirmation, "SurE?": press **ENTER/PRINT** to confirm, **C** to exit without making modifications.
- Press many times the **C** key until the instrument requests to save data, "SAVE?": press **ENTER/PRINT** to confirm, **C** to exit without making modifications.

7.4 DELETING ALL THE PHASES

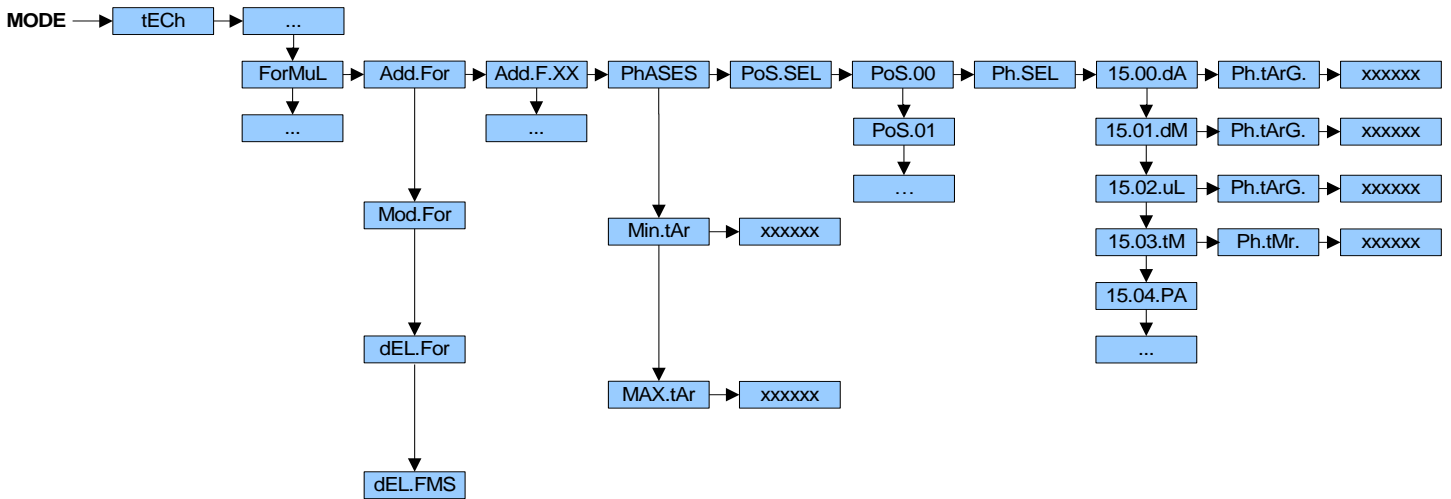
- Press at length the **MODE** key:



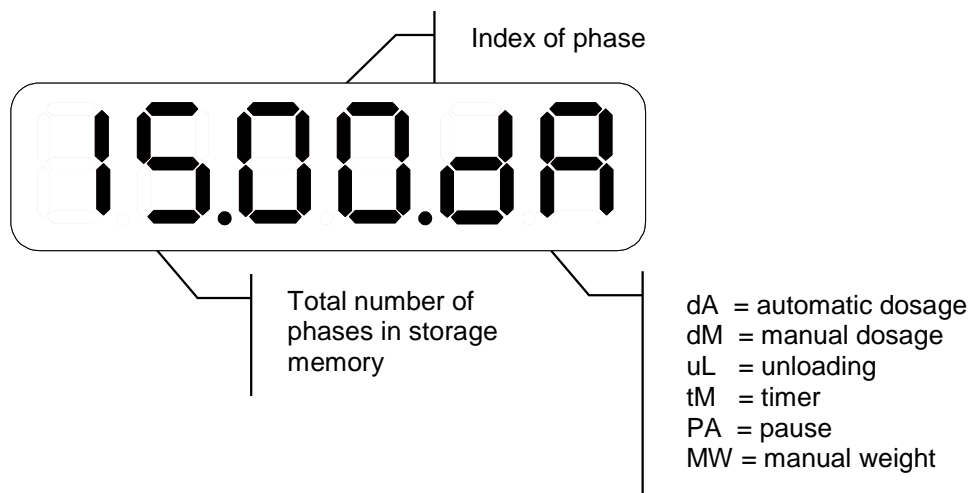
- Press the **ZERO** key or **TARE** many times to find the << **PhASES** >> parameter and press **ENTER/PRINT**: the display shows the << **Add.Ph**>> step;
- Press the **ZERO** key or **TARE** many times to find the << **dEL.PhS** >> parameter and press **ENTER/PRINT**: the instrument requests a confirmation, "SurE?": press **ENTER/PRINT** to confirm the deletion of all the phases in the database, **C** to abort.
- Press many times the **C** key until the instrument requests to save data, "SAVE?": press **ENTER/PRINT** to confirm, **C** to exit without making modifications.

ATTENTION : it is not possible to delete a phase included in a formula which is still present in the database. If one tries to do it, the instrument shows the "Err.dEL" message, and then "Ph.in.FM.". To delete the desired phase, it is necessary to first delete all the formulas that include it.

7.5 ENTERING A FORMULA IN THE DATABASE



1. Press at length the **MODE** key;
2. With the **ZERO** or **TARE** keys scroll the suggested steps up to <<ForMuL>> and press **ENTER/PRINT**;
3. Select the step <<Add.For>> and press **ENTER/PRINT**. If no formula was inserted before, the display shows "no.PhAS", otherwise the instrument shows the first empty memory storage available for the formula entry (Add.F.XX).
4. Select the step <<PhASES>> and press **ENTER/PRINT**;
5. The display shows the "Pos.SEL" message. Select the position where entering the phase (for instance, Pos.00) and press the **ENTER/PRINT** key;
NOTE: the positions increase with the increasing of the formula selected phases; so it's possible to select a new position or modify a phase already inserted.
For instance, if a phase in the position PoS.00 was inserted, the instrument is ready for the next selection in PoS.01; anyway, it's possible to choose the position 0 and modify the selection made. (See section "MODIFYING A FORMULA")
6. The display shows the "Ph.SEL" message. One can scroll the list of the inserted phases, each of which is characterized by the following abbreviation:



Select the desired phase and press the **ENTER/PRINT** key.

7. Depending on the phase type, a different parameter is required, like shown below:

dA – automatic dosage <<Ph.tArG>>: enter the dosable weight and press **ENTER/PRINT** (the value greater than the maximum dosable weight in a single dosage cannot be entered);

dM – manual dosage <<Ph.tArG>>: enter the dosable weight and press **ENTER/PRINT** (the value greater than the maximum dosable weight in a single dosage cannot be entered);

uL - unloading <<Ph.tArG>>: enter the unloading weight and press **ENTER/PRINT** (only for partial or split unloading);

tM - timer <<Ph.tMr>>: enter the timer length and press **ENTER/PRINT**;

NOTA: the **PA** (pause) e **MW** (manual weight) phases don't require any parameter entry.

8. For any phase in the formula, repeat the procedure from point 4.; once all the phases programming has been executed, press the **C** key.

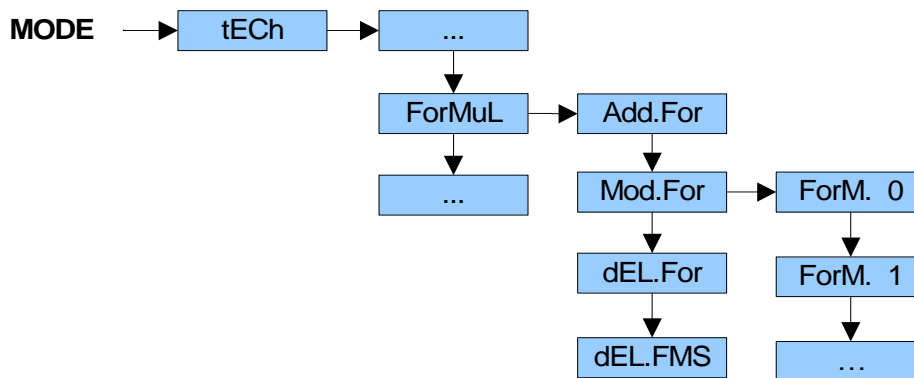
9. <<Min.tAr>> minimum tare: enter the tare minimum tare value present on the scale at the dosage start; if the weight is less than this value, the dosage cannot start.

10. <<MAX.tAr>> maximum tare: enter the maximum possible tare value present on the scale at the dosage start; if the weight exceeds this value, the dosage cannot start.

NOTE: if neither <<Min.tAr>> nor <<MAX.tAr>> are inserted, the initial weight must not exceeds the <<toL.0>> parameter (TECH.MAN.REF.).

7.6 MODIFYING A FORMULA

1. Press at length the **MODE** key:



2. Press the **ZERO** key or **TARE** many times to find <<ForMuL>> and press **ENTER/PRINT**: the display shows the <<Add.For>> step;

3. Press the **ZERO** key or **TARE** many times to find <<Mod.For>> and press **ENTER/PRINT**: the list of stored formulas are proposed; use the **ZERO** or **TARE** keys to select the formula to be modified and press **ENTER/PRINT**;

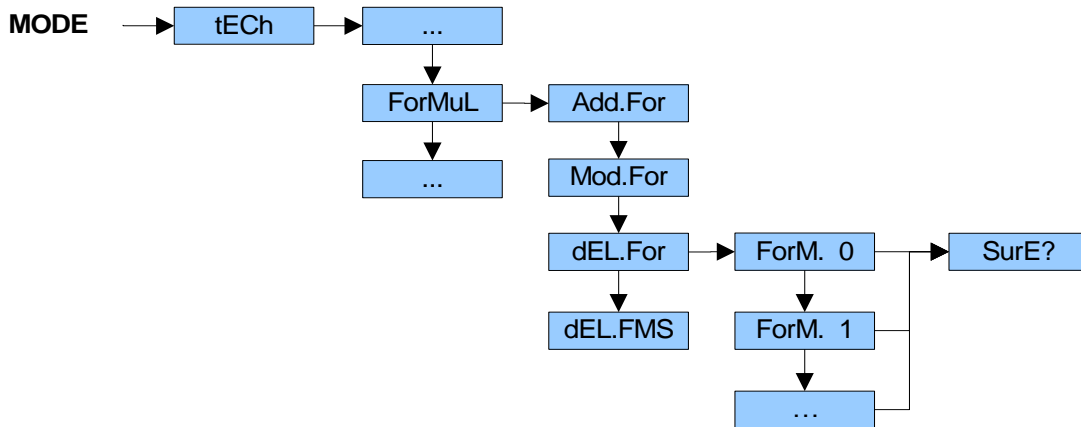
4. Select the <<PhASES>> step and press **ENTER/PRINT**;

5. Press the **ZERO** or the **TARE** key until you reach << M.Ph.Fo >> and press **ENTER/PRINT**: "Pos.SEL" is displayed. Select the position in the formula in which the phase is modified and press **ENTER/PRINT**;

6. Once the operation has ended, press many times the **C** key until the instrument requests to save data, "SAVE?": press **ENTER/PRINT** to confirm, **C** to exit without making modifications.

7.7 DELETING A FORMULA

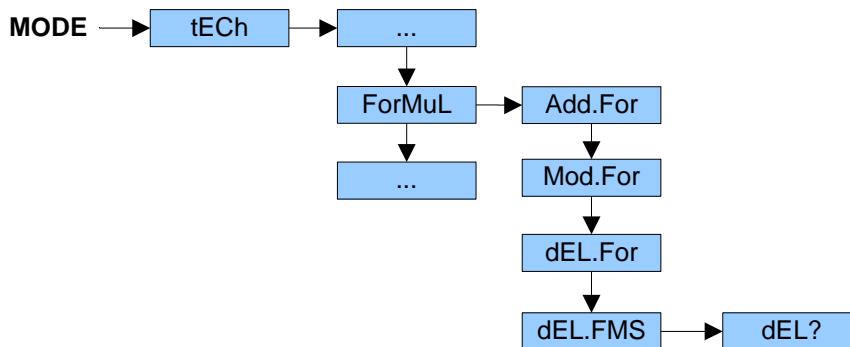
1. Press at length the **MODE** key:



2. Press the **ZERO** or **TARE** key many times to find the << **ForMuL** >> parameter and press **ENTER/PRINT**: the display shows the << **Add.For** >> step;
3. Press the **ZERO** key or **TARE** many times to find the << **dEL.For** >> parameter and press **ENTER/PRINT**: the list of stored formulas are proposed; use the **ZERO** or **TARE** keys to select the formula to be deleted and press **ENTER/PRINT**; the instrument requests a confirmation, "SurE?": press **ENTER/PRINT** to confirm, **C** to exit without making modifications;
4. Press many times the **C** key until the instrument requests to save data, "SAVE?": press **ENTER/PRINT** to confirm, **C** to exit without making modifications.

7.8 DELETING ALL THE FORMULAS

1. Press at length the **MODE** key:



2. Press the **ZERO** or **TARE** key many times to find the << **ForMuL** >> parameter and press **ENTER/PRINT**: the display shows the << **Add.For** >> step;
3. Press the **ZERO** key or **TARE** many times to find the << **dEL.FMS** >> parameter and press **ENTER/PRINT**: the instrument requests a confirmation, "dEL?": press **ENTER/PRINT** to confirm the deletion of all the formulas in the database, or **C** to abort.
4. Press many times the **C** key until the instrument requests to save data, "SAVE?": press **ENTER/PRINT** to confirm, **C** to exit without making modifications.

7.9 QUICK CHANGE TARGET PHASES

Only for WGT.FOR functioning mode, TECH.MAN.REF

Through this function one can quickly modify all targets of each activity of the selected formula, in two ways:

1) By selecting the activity to modify

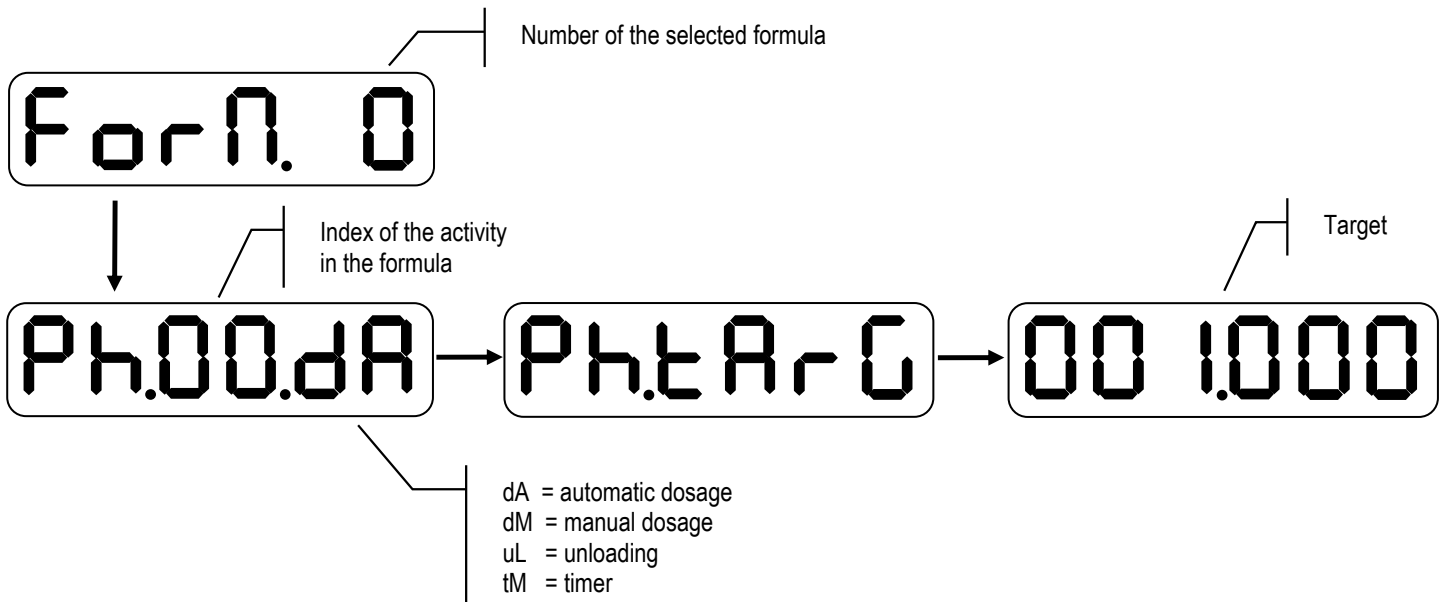
By pressing two times the **MODE** key, one can access at the menu to change quickly the activities target.

- If there is only one activity (and in the BATCH1-L / BATCH1-U functioning modes), "TARGET" is displayed for an instant and then the target of the activity; modify the value and press **ENTER/PRINT** key; press **C** key for clear.
- If there is more than one activity, "TARG.XX" is displayed, in which XX is the number of the activity of the formula. Select the activity by using the **TARE** and **ZERO** keys and press the **ENTER/PRINT** key for change the activity target; press **C** key for clear.

2) By entering one by one the targets of the activities that composing the formula

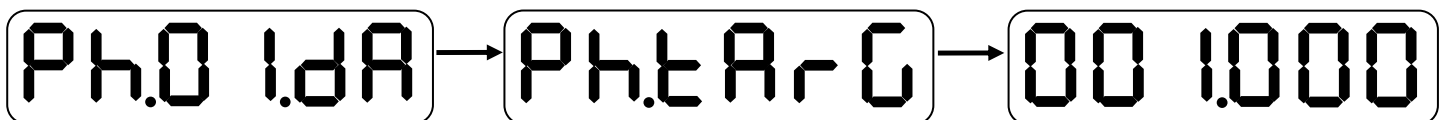
Unlike the other method described above, it's possible to automatically modify one by one the targets of the activities that composing the selected formula:

- Press at length the **MODE** key: the display shows CHG.TG.
- Press the **ENTER/PRINT** key: the display shows:



Note: the activities of PAUSE, MANUAL WEIGHT and TOTAL UNLOADING are not displayed

- Enter the target of the first activity and press **ENTER/PRINT**
- Now the display shows:



- Enter the target of the second activity and so on for all the activities.
- When all the activities are entered, press the **C** key: the instrument requests to save data, "SAVE?": press **ENTER/PRINT** to confirm, **C** to exit without making modifications.

7.10 "FORMULA TARGET" FUNCTIONING MODE

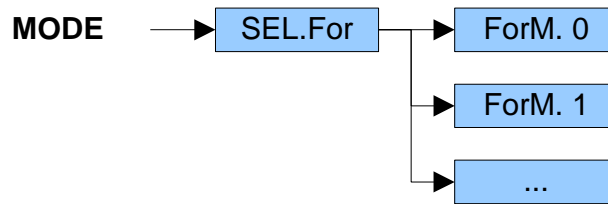
Premise: one must have set << **Wgt.For** >> in the **F.ModE** >> **doSAgE** >> **doS.PAr** >> **EXE.For** step (**TECH.MAN.REF.**) of the setup environment.

This functioning mode requires, in every dosage type, the use of instrument's formulas database; in fact, in order to dose different material quantity, it's necessary to select different formulas in the database.

The selection of a formula involves the start of the linked dosage cycle. In order to exit the dosage cycle is required to deselect the formula.

7.10.1 SELECTING A FORMULA

- Press the **MODE** key: the instrument shows either the first stored formula or the already selected formula; by using the **ZERO** or **TARE** key choose the new formula to be executed and confirm with **ENTER/PRINT**.



If the formulas database is empty, the instrument displays the "no.ForM" message.

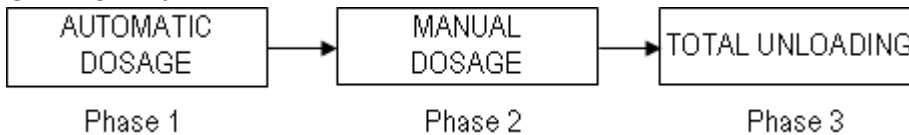
- Press in sequence the numeric key corresponding to the index of the formula in the database and the **F** key

7.10.2 DESELECTING A FORMULA

Press the **MODE** key: the instrument shows the selected formula. Press **C** to return in simple weighing mode.

7.10.3 EXAMPLE OF FORMULA AND DESCRIPTION OF EXECUTED CYCLE

FORMULA: **FORM.0**



In the suggested example, the instrument will execute an automatic dosage as first phase, and then a manual dosage, then a timer phase, and then, the total unloading of the silo.

MIN TARE	2 kg
MAX TARE	6 kg
R4	Error relay

PHASE 1 - Pos00			
AUTOMATIC DOSAGE		TARGET WEIGHT	70 kg
FLIGHT WEIGHT	7 kg		
TOLERANCE WEIGHT	2 kg		
n.out	1		

PHASE 2 - Pos01			
MANUAL DOSAGE		TARGET WEIGHT	20 kg
TOLERANCE WEIGHT	2 kg		
n.out	2		

PHASE 3 - Pos02			
TOTALE UNLOADING			
AB.START	DISABLE		
n.out	3		

In order to execute the formula one should:

- a) Select the formula.
- b) Put the initial tare on the plate, which must have a weight greater than 2 kg and less than 6 kg (the instrument display "undEr" o "oVEr" to indicate respectively to increase and decrease the weight on the plate until it falls in this range). This weight includes also any possible semiautomatic or manual tare values.

The instrument:

- c) Puts itself in WAIT START status ("W.StArt" message); the operator can give a start command (i.e. press the **ENTER/PRINT** key or activate IN1), in order to start dosage; the weight must be stable or, in any case, it must stabilise by the set time in the <<W.StArt>> parameter (**TECH.MAN.REF.**); if this is not so, the error message "Err.05" is given, and the dosage will not begin. In any case, the operator can exit the error state by a start command.
- d) Resets the tare weight present (if no semiautomatic or manual tare value was entered previously), enables relay R1 linked to Phase 1 (n.out=1) and starts to dose. Once the TARGET WEIGHT – FLIGHT WEIGHT (in other words 70 - 7 = 63 kg) is reached, the instrument disables R1 and waits for the falling of the material in flight for the set time (<<Wt.Fly>>, **TECH.MAN.REF.**).
- e) Carries out the tolerance test, if enabled (<<tSt.toL>>, **TECH.MAN.REF.**), and then:
 - will pass to the following phase if the weight is within tolerance, or
 - signals the weight out of tolerance error (showing the messages "LoW" o "hiGh" on the display, enabling the relay R4): the operator must manually adjust the dosed weight bringing it into tolerance (the display show the "oK" message) and give a start command. In this way the instrument acquires the new dosed weight and will pass to the following phase.

If the tolerance test is not enabled, after the <<Wt.Fly>> time, the instrument will pass to the following phase independently of the weight on the scale.

- f) Clears the weight, enables relay R2 linked to Phase 2 (n.out=2) and the operator starts to manually dose the material on the scale.
- g) Keeps R2 enable under the TARGET WEIGTH (in other words 20 kg), disables it if the weight exceeds this threshold.
- h) Carries out the tolerance test, if enabled (<<tSt.toL>>, **TECH.MAN.REF.**), and then:
 - shows the message "oK" if the weight is within tolerance: with a start command the instrument will pass to the following phase; or
 - signals the weight out of tolerance error (by the "LoW" or "hiGh" messages): in order to pass to the following phase it's necessary a further impulse after the "SurE?" request.

If the tolerance test is not enabled, a start command with weight upper than the TARGET WEIGHT allows to pass to the following phase; otherwise it is necessary a further impulse after the "SurE?" request

- i) Disables R2, enables relay R3 linked to Phase 3 (n.out=3) and commands the complete unloading. When the weight is lower than the <<End.unL>> threshold, the instrument waits for <<W.u.LoAd>> seconds and disables R3.
- l) Once the complete unloading is executed, continues:
 - on step d) if the number of dosage cycles set in n.Cycle is not finished; if the "tar.min" and "tar.max" parameters are set and the weight is under the "tar.min" or over "tar.max" at the dosage start, the "error" output is enabled and waits for the start command. Otherwise the dosage starts automatically.
 - on step b) if the number of dosage cycles set in n.Cycle is finished, till the formula is not deselected.

NOTA: At any time it's possible to pause or reset the dosage by pressing the **C** key or supplying an impulse by IN2 (see chapters 19 and 20).

7.11 "RECALCULATION OF WEIGHTS IN RESPECT TO TOTAL" FUNCTIONING MODE

Premise: one must have set << tot.WGt >> in the F.ModE >> doSAgE >> doS.PAr >> EXE.For step (TECH.MAN.REF.) of the setup environment.

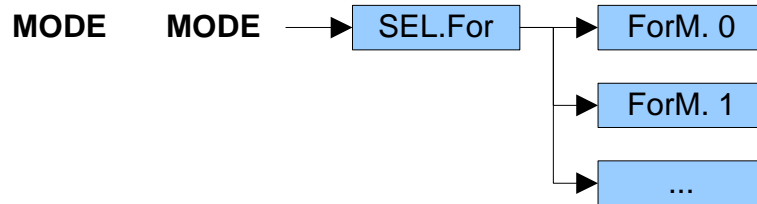
In this functioning mode one must enter a basic formula, in which each phase covers a certain percentage in respect to the target in every dosage type.

Entering the total weight which one wants to dose, the instrument automatically recalculates the target for each phase of the selected formula, on the basis of the percentage which these have in respect to the formula's target.

The selection of a formula involves the start of the linked dosage cycle. In order to exit the dosage cycle is required to deselect the formula.

7.11.1 SELECTING A FORMULA

- Press two consecutive times the **MODE** key: the instrument shows either the first stored formula or the already selected formula; by using the **ZERO** or **TARE** key choose the new formula to be executed and confirm with **ENTER/PRINT**.



If the formula database is empty, the instrument displays the "no.ForM" message.

- Press in sequence the numeric key corresponding to the index of the formula in the database and the **F** key

7.11.2 DESELECTING A FORMULA

Press two consecutive times the **MODE** key: the instrument shows the selected formula. Press **C** to return in simple weighing mode.

7.11.3 ENTERING THE TOTAL WEIGHT

After a formula selection, one can quickly enter the total weight to be dosed in the dosage cycle by pressing the **MODE** key.

The entry will be made modifying the proposed value, made up of the last total weight inserted.

By entering a zero value, the formula target in the database is taken into consideration in the dosage cycle.



7.11.4 EXAMPLE OF FORMULA AND DESCRIPTION OF EXECUTED CYCLE

FORM.0 made up of 4 activities with the following targets:

Component 1:	20kg
Component 2:	15kg
Component 3:	40kg
Component 4:	25kg

NOTA: in this operating mode it is advisable to enter, for each activity, a target equal to the percentage which that activity should have in respect to 100%.

After this, one enters the total weight which one wants to dose:

EXAMPLE: 1000kg

The instrument automatically recalculates the weight to be dosed for each activity of the selected formula, on the basis of the percentage which these have in respect to the formula's target.

Basic formula		Weight recalculation	
Component 1:	20kg	Component 1:	200kg
Component 2:	15kg	Component 2:	150kg
Component 3:	40kg	Component 3:	400kg
Component 4:	25kg	Component 4:	250kg

Also, if the dosed weight exceeds the maximum dosable weight in a single dosage, the instrument calculates the number of consecutive repetitions which it must execute in order to reach the set total.

EXAMPLE:

By examining the previous example, if the maximum dosable weight would have been equal to 800kg, the instrument would have executed 2 consecutive repetitions of the following formula:

Component 1:	100kg
Component 2:	75kg
Component 3:	200kg
Component 4:	125kg

NOTE: With various dosage cycles, the instrument executes n repetitions of the same quantity of material.

ATTENTION: The recalculation of the weights has no effect on the partial unloading single component formulas and on the single unloading activities.

8. SINGLE-COMPONENT DOSAGE IN LOADING

Premise: one must have set << btC.1-L >> in the F.ModE >> doSAgE >> doS.tyP step (TECH.MAN.REF.) of the setup environment.

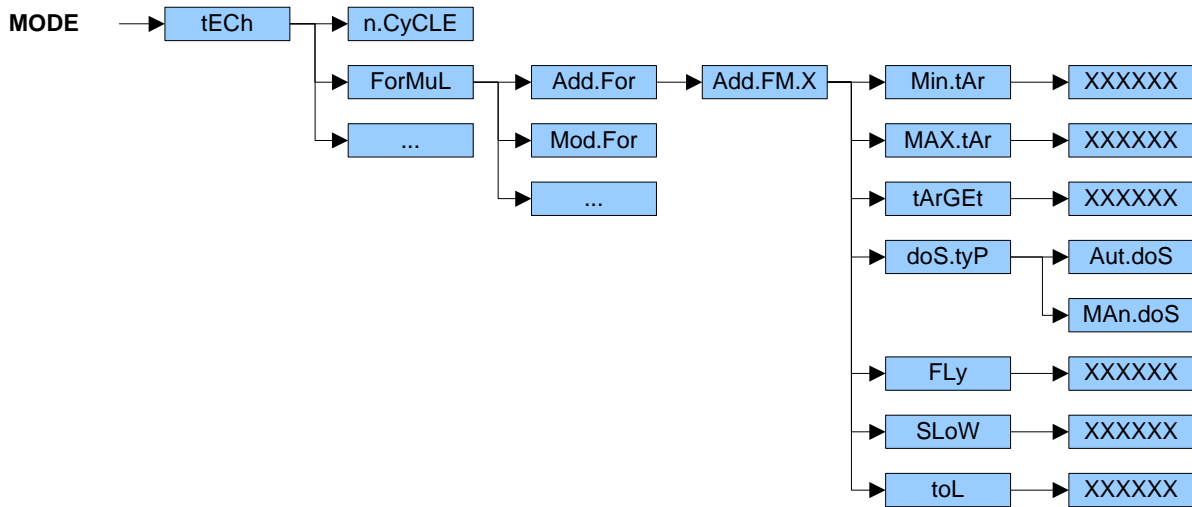
In the single-component dosage in loading, the instrument has a database of 40 formulas.

The formula consists of a single phase which may be either an automatic or manual dosage, followed by a total unloading. One can program the formulas also through a PC software.

The maximum dosable weight in a single dosage is given by (<<MAX.WGt>> - <<toL.0>>) or by (<<MAX.WGt>> - <<MAX.tAr>>), if a maximum tare values has been entered (TECH.MAN.REF.).

8.1 ENTERING A FORMULA IN THE DATABASE

1. Press at length the **MODE** key. The display shows "teCh" ("oinL", in case of approved instrument).



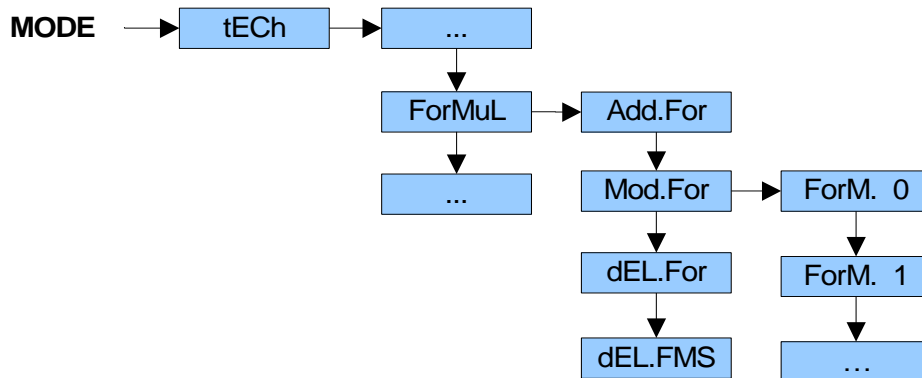
2. Press the **ZERO** or **TARE** key many times to find the <<ForMuL>> parameter and press **ENTER/PRINT**: the display shows the <<Add.For>> step;
3. Press the **ENTER/PRINT** key: the instrument shows the first empty memory storage available (for instance, "Add.F.00") and automatically allows the parameters programming:
 - <<Min.tAr>>: enter the minimum tare value and confirm with **ENTER/PRINT**; when the dosage starts, the weight on the scale must be equal or greater than this value;
 - <<MAX.tAr>>: enter the maximum tare value and confirm with **ENTER/PRINT**; when the dosage starts, the weight on the scale must be minus or equal than this value;
NOTE: if neither <<Min.tAr>> nor <<MAX.tAr>> are inserted, the initial weight mustn't exceeds the <<toL.0>> parameter (**TECH.MAN.REF.**).
 - <<tArGEt>>: enter the weight to be dosed and confirm with **ENTER/PRINT** (a value grater than the maximum dosable weight in a single dosage cannot be inserted);
 - <<doS.tyP>>: select the dosage type (automatic or manual);
 - <<FLy>>: enter the flight weight and confirm with **ENTER/PRINT**; this weight, subtracted from the <<tArGEt>> value, define the slow dosage deactivation threshold;
 - <<SLoW>>: enter the slow dosage weight and confirm with **ENTER/PRINT**; this weight, subtracted from the (<<tArGEt>> - <<FLy>>) value define the fast dosage deactivation threshold;
 - <<toL>>: enter the tolerance weight and confirm with **ENTER/PRINT**; this weight define the tolerance range (<<tArGEt>> ± <<toL>>) within that the dosage weight must falls into, at the end of the dosage in loading.

Each one of these parameters can be selected with the **ZERO** or **TARE** key, modified and confirmed with the **ENTER/PRINT** key.

4. At the end of the programming, press the **C** key: in order to enter a new formula, select the <<Add.For>> steps and repeat the procedure from point 3., otherwise press many times the **C** key until the instrument requests to save data, "SAVE?": press **ENTER/ENTER** to confirm, **C** to exit without making modifications.

8.2 MODIFYING a FORMULA

1. Press at length the **MODE** key:



2. Press the **ZERO** key or **TARE** many times to find <<ForMuL>> and press **ENTER/PRINT**: the display shows the <<Add.For>>;
3. Press the **ZERO** key or **TARE** many times to find <<Mod.For>> and press **ENTER/PRINT**: the list of storage formula are proposed; use the **ZERO** or **TARE** keys to select the formula to be modified and press **ENTER/PRINT**; the display shows "Mod.F.XX";
4. Modify the desired parameter;
5. Once the operation has ended, press many times the **C** key until the instrument requests to save data, "SAVE?": press **ENTER/ENTER** to confirm, **C** to exit without making modifications.

8.3 DELETING A FORMULA / ALL THE FORMULAS

In order to carry out this operation, see sections 16.7 and 16.8.

8.4 "FORMULA TARGET" FUNCTIONING MODE

Premise: one must have set << Wgt.For >> in the **F.ModE >> doSAgE >> doS.PAr >> EXE.For** step (**TECH.MAN.REF.**) of the setup environment.

This functioning mode requires, in every dosage type, the use of instrument's formulas database; in fact, in order to dose different material quantity, it's necessary to select different formulas in the database.

The selection of a formula involves the start of the linked dosage cycle. In order to exit the dosage cycle is required to deselect the formula (see sections 16.10.1, 16.10.2).

8.4.1 QUICK CHANGE FORMULA TARGET

In order to carry out this operation, see section 16.9 point 1)

8.4.2 EXAMPLES OF FORMULA AND DESCRIPTION OF EXECUTED CYCLE

AUTOMATIC DOSAGE

The formula with:

MIN TARE	2 kg	R1	Dosage
MAX TARE	6 kg	R2	Unload
TARGET WEIGHT	50 kg	R3	Ok.Dos
FLIGHT WEIGHT	5 kg	R4	Error
SLOW WEIGHT	5 kg		
TOLERANCE WEIGHT	2 kg		

will execute an automatic dosage of 50 kg in loading.

In order to execute the formula one should:

- a) Select the formula;
- b) Put the initial tare on the plate, which must have a weight greater than 2 kg and less than 6 kg (the instrument display "undEr" o "oVEr" to indicate respectively to increase and decrease the weight on the plate until it falls in this range). This weight includes also any possible semiautomatic or manual tare values.

The instrument:

- c) Puts itself in WAIT START status ("W.StArt" message); the operator can give a start command (i.e. press the **ENTER/PRINT** key or activate IN1), in order to start dosage; the weight must be stable or, in any case, it must stabilise by the set time in the <<W.StArt>> parameter (**TECH.MAN.REF.**); if this is not so, the error message "Err.05" is given and the output R4 is enabled: the dosage will not begin. In any case, the operator can exit the error state by a start command.
- d) Resets the tare weight present (if no semiautomatic or manual tare value was entered previously), and starts to dose at maximum speed (approximate dosage), enabling R1.
- e) Once the TARGET WEIGHT – FLIGHT WEIGHT – SLOW WEIGHT (in other words 50 - 5 - 5 = 40 kg) is reached, it slows down the dosage speed (fine dosage).

If the tapping function has been enabled (<<d.CY.on>> and <<d.CY.off>> steps, **TECH.MAN.REF.**), R1 can be enabled intermittently with the configured time periods.

- f) Once the TARGET WEIGHT – FLIGHT WEIGHT (in other words 50 - 5 = 45 kg) is reached the instrument ends the dosage activity disabling R1 and waits for the falling of the material in flight for the set time (<<Wt.Fly>>, **TECH.MAN.REF.**).
- g) Carries out the tolerance test, if enabled (<<tSt.toL>>, **TECH.MAN.REF.**), and then:
 - enables R3 if the weight is within tolerance, then commands the complete unloading of the scale (enabling R2); or:
 - signals the weight error out of tolerance (with the "LoW" or "hiGh" messages on the display; R4 is enabled): the operator must manually adjust the dosed weight bringing it into tolerance ("oK" message, R3 is enabled) and give a start command. In this way the instrument acquires the new dosed weight and commands the complete unloading (enabling R2).

If the tolerance test is not enabled, commands the complete unloading of the scale (enabling R2).

- h) Once the complete unloading is executed, continues :
 - on step d) if the number of dosage cycles set in n.Cycle is not finished;
 - on step b) if the number of dosage cycles set in n.Cycle is finished, till the formula is not deselected.

MANUAL DOSAGE

The formula with:

MIN TARE	2 kg	R1	Dosage
MAX TARE	6 kg	R2	Un.load
TARGET WEIGHT	50 kg	R3	Ok.Dos
SLOW WEIGHT	5 kg	R4	Error
TOLERANCE WEIGHT	2 kg		

will execute a manual dosage of 50 kg in loading.

In order to execute the formula one should:

- a) Select the formula;
 - b) Put the initial tare on the plate, which must have a weight greater than 2 kg and less than 6 kg (the instrument display "undEr" o "oVEr" to indicate respectively to increase and decrease the weight on the plate until it falls in this range). This weight includes also any possible semiautomatic or manual tare values.
 - c) The instrument puts itself in WAIT START status ("W.StArt" message); the operator can give a start command (i.e. press the **ENTER/PRINT** key or activate IN1), in order to start dosage; the weight must be stable or, in any case, it must stabilize by the set time in the <<W.StArt>> parameter (**TECH.MAN.REF.**); if this is not so, the error message "Err.05" is given and the output R4 is enabled: the dosage will not begin. In any case, the operator can exit the error state by a start command.
 - d) The instrument resets the present tare weight (if no semiautomatic or manual tare value was entered previously), and starts to dose at maximum speed (approximate dosage), enabling R1;
 - e) The operator starts to manually dose the material on the scale;
 - f) Once the TARGET WEIGHT – SLOW WEIGHT (in other words 50 - 5 = 45 kg) is reached, the operator will continue the dosage at minimum speed.
 - g) In the lower tolerance range (in other words, from 50 – 2 = 48 kg to 50 kg), the R1 and R3 are enabled;
 - h) Once the set TARGET WEIGHT (in other words 50 kg) is reached, the instrument disables R1 and maintains active only R3;
 - i) In the upper tolerance range (in other words, from 50 kg to 50 + 2 = 52 kg), the R3 and R4 are enabled
 - l) When the weight exceeds the upper tolerance (in other words 52 kg), the R3 is disabled
- Moreover, once the TARGET WEIGHT is reached and the tolerance test is enabled, the instrument:
- displays the "oK" message if the weight is within tolerance; the operator can finish the dosage phase by a command start; or:
 - signals the weight error out of tolerance (with the "LoW" or "hiGh" messages).
- With a start command if the weight is within tolerance, the instrument commands the complete unloading (enabling R2); if the weight is out of tolerance, it is necessary a further impulse after the "SurE?" request.
- If the tolerance test is not enabled, a start command with weight upper than the TARGET allows to pass to complete unloading; otherwise it is necessary a further impulse after the "SurE?" request
- m) Once the complete unloading is executed, the instrument continues:
 - on step d) if the number of dosage cycles set in n.Cycle is not finished;
 - on step b) if the number of dosage cycles set in n.Cycle is finished, till the formula is not deselected.

NOTE: At any time it's possible to pause or reset the dosage by pressing the **C** key or supplying an impulse by IN2 (see chapters 19 and 20).

8.5 “RECALCULATION OF WEIGHTS IN RESPECT TO TOTAL” FUNCTIONING MODE

Premise: one must have set << tot.WGt >> in the F.ModE >> doSAgE >> doS.PAr >> EXE.For step (TECH.MAN.REF.) of the setup environment.

In this mode one must enter a basic formula, then the total weight which one wants to dose (see section 16.11.3).

The selection of a formula involves the start of the linked dosage cycle. In order to exit the dosage cycle is required to deselect the formula (see sections 16.11.1, 16.11.2).

8.5.1 NUMBER OF REPETITIONS AND TARGET CORRECTION

In the single-component dosage in loading in tot.WGt mode, if one enters a target greater than the maximum dosable weight in a single dosage, the instrument calculates the number of consecutive repetitions which it must execute and the partial targets for each repetition in order to reach the total set weight.

If the weight dosed during a repetition doesn't match the partial target, the following targets will be recalculated in order to reach the set total minus the dosed weight up to this moment.

At the end of all the repetitions, if the total dosed weight is within the set tolerance, the dosage is considered correct.

8.5.2 FORMULA EXAMPLE AND DESCRIPTION OF THE EXECUTED CYCLE

AUTOMATIC DOSAGE

The formula with:

MIN TARE	2 kg
MAX TARE	6 kg
TARGET WEIGHT	50 kg
FLIGHT WEIGHT	5 kg
SLOW WEIGHT	5 kg
TOLERANCE WEIGHT	2 kg
TOLERANCE TEST ENABLED	

will execute an automatic dosage of 50 kg in loading.

In order to execute the formula one should:

- Press quickly two consecutive times the **MODE** key and select the formula.
The instrument:
 - displays "W.Start". Put the initial tare on the plate, which must have a weight greater than 2 kg and less than 6 kg (the instrument display "undEr" o "oVer" to indicate respectively to increase and decrease the weight on the plate until it falls in this range). At this moment it's possible to enter the total weight to be dosed pressing **MODE** and entering, when asked, the new TARGET formula.
 - Starts with the dosage cycle, in the way shown for automatic dosage.

NOTE : If the maximum dosable weight is equal to 80 kg, by entering a TARGET equal to 100 kg the instrument executes two consecutive repetitions of the formula with partial TARGETS of 50 kg.

If in the first repetition the dosed weight is 52 kg, the second partial target will be corrected to 48 kg.

NOTE :

- With various dosage cycles, the instrument executes n repetitions of the same quantity of material (so it resumes procedure from point b)).
- if the "tar.min" and "tar.max" parameters are set, and, after the first dosage, the weight is under the "tar.min" or over "tar.max" at the dosage start, the "error" output is enabled and waits for the start command. Otherwise the dosage starts automatically.

9. SINGLE-COMPONENT DOSAGE IN UNLOADING

Premise: one must have set << btC.1-u >> in the F.Mode >> doSAge >> doS.tyP step (TECH.MAN.REF.) of the setup environment.

In the single-component dosage in unloading, the instrument has a database of 40 formulas.
The formula consists of a single phase of partial unloading.
One can program the formulas also through a PC software.

Furthermore, during the instrument configuration, can be important to enter the silo refill beginning and end weights:

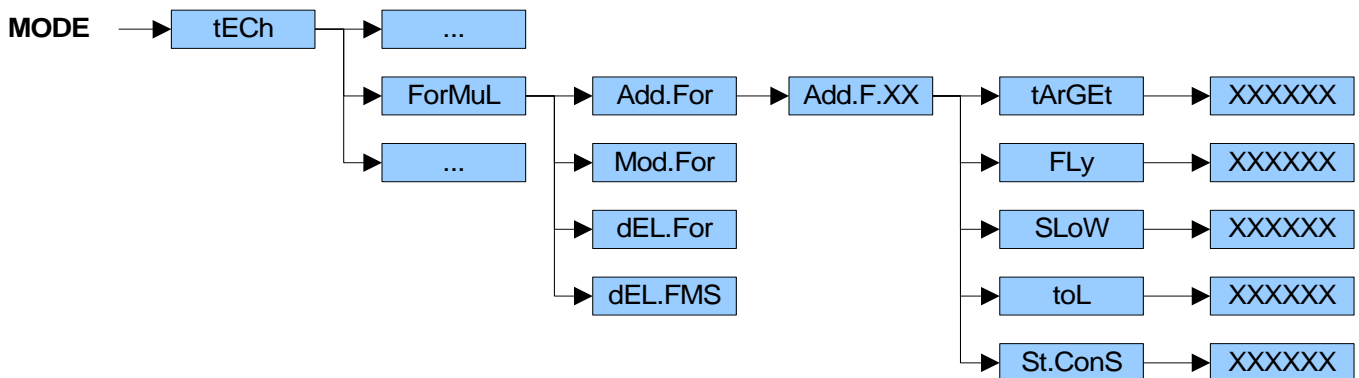
- REFILL START WEIGHT (<<ini.Ld>>, (TECH.MAN.REF.))
- REFILL END WEIGHT (<<End.Ld>>, (TECH.MAN.REF.))
- SILO REFILLING AT DOSAGE START OR AT DOSAGE END (<<FiLL.Md>> set at <<doS.Str>> or set at <<doS.End>>, (TECH.MAN.REF.))

In case of incorrect parameter setting (for instance, <<ini.Ld>> = <<End.Ld>> = 0 leaving the default values), the "Err.13" error message is given and one will need to correct the parameter values in the setup.

The maximum dosable weight in a single dosage is given by (<<End.Ld>> - <<ini.Ld>>) (TECH.MAN.REF.).

9.1 ENTERING A FORMULA IN THE DATABASE

1. Press at length the **MODE** key. The display shows "teCh" ("oinL", in case of approved instrument).



2. Press the **ZERO** or **TARE** key many times to find the <<ForMuL>> parameter and press **ENTER/PRINT**: the display shows the <<Add.For>> step;
3. Press the **ENTER/PRINT** key: the instrument shows the first empty memory storage available (for instance, "Add.F.00") and automatically allows the parameters programming:
 - << tArGEt >>: enter the weight to be dosed and confirm with **ENTER/PRINT** (the weight cannot be greater than the maximum dosable weight in a single dosage);
 - << FLy >>: enter the flight weight and confirm with **ENTER/PRINT**; this weight, subtracted from the <<tArGEt>> value, define the slow dosage deactivation threshold;
 - << SLoW >>: enter the slow dosage weight and confirm with **ENTER/PRINT**; this weight, subtracted from the (<<tArGEt>> - <<FLy>>) value define the fast dosage deactivation threshold;
 - << toL >>: enter the tolerance weight and confirm with **ENTER/PRINT**; this weight define the tolerance range

($\ll\text{tArGEt}\gg \pm \ll\text{toL}\gg$) within that the dosage weight must falls into, at the end of the dosage in unloading.

- $\ll\text{St.ConS}\gg$: enable (W.Con) or disable (dirEct) the operator's approval between one dosage and another, with various dosage cycles.

Each one of these parameters can be selected with the **ZERO** or **TARE** key, modified and confirmed with the **ENTER/PRINT** key.

4. At the end of the programming, press the **C** key: in order to enter a new formula, select the $\ll\text{Add.For}\gg$ step and repeat the procedure from point 3., otherwise press many times the **C** key until the instrument requests to save data, "SAVE?": press **ENTER/PRINT** to confirm, **C** to exit without making modifications.

9.2 MODIFYING A FORMULA

In order to carry out this operation, see section 17.2.

9.3 DELETING A FORMULA / ALL THE FORMULAS

In order to carry out this operation, see sections 16.7 and 16.8.

9.4 "FORMULA WEIGHTS" FUNCTIONING MODE

Premise: one must have set $\ll\text{Wgt.For}\gg$ in the **F.ModE** \gg **doSAgE** \gg **doS.PAr** \gg **EXE.For** step of the setup environment (**TECH.MAN.REF.**).

This functioning mode requires, in every dosage type, the use of instrument's formulas database; in fact, in order to dose different material quantity, it's necessary to select different formulas in the database.

The selection of a formula involves the start of the linked dosage cycle. In order to exit the dosage cycle is required to deselect the formula (see sections 16.10.1, 16.10.2).

9.4.1 QUICK CHANGE FORMULA TARGET

In order to carry out this operation, see section 16.9 point 1)

9.4.2 EXAMPLES OF FORMULA AND DESCRIPTION OF EXECUTED CYCLE

The formula with:

TARGET WEIGHT	50 kg	R1	Dosage
FLIGHT WEIGHT	5 kg	R2	Un.Load
SLOW WEIGHT	5 kg	R3	Ok.Dos
TOLERANCE WEIGHT	2 kg	R4	Error
REFILL START WEIGHT	20 kg		
REFILL END WEIGHT	150 kg		
SILO REFILLING AT THE DOSAGE START			

CONSENT ENABLED

will execute a dosage of 50 kg in unloading.

In order to execute the formula one should:

- Select the formula.
The instrument:
- Puts itself in WAIT START status ("W.StArt" message); the operator can give a start command (i.e. press the **ENTER/PRINT** key or activate IN1), in order to start dosage; the weight must be stable or, in any case, it must stabilise by the set time in the **<<W.StArt>>** parameter (**TECH.MAN.REF.**); if this is not so, the error message "Err.05" is given and the output R4 is enabled: the dosage will not begin. In any case, the operator can exit the error state by a start command.
- Checks that the residual weight in the silo allows to execute a new dosage.
The weight must be greater or equal to **<<ini.Ld>>** + FORMULA TARGET (in other words 20 + 50 = 70 kg):
 - if the weight is the same or greater than this threshold, the new dosage can start.
 - if the weight is less than this threshold, the instrument commands the filling of the silo (the display shows the "FiLL" message, R1 is enabled). The refilling ends when the weight reaches the **<<End.Ld>>** threshold (in other words 150 kg).
- Starts to dose in unloading at maximum speed (approximate dosage), enabling both R1 and R2. Once reached the TARGET WEIGHT – FLIGHT WEIGHT – SLOW WEIGHT (in other words 50 - 5 - 5 = 40 kg), it slows down the dosage speed (fine dosage).
- Once reached the TARGET WEIGHT – FLIGHT WEIGHT (in other words 50 - 5 = 45 kg), the instrument ends the unloading activity and attends the falling of the flight material for the set time (**<<Wt.Fly>>**, **TECH.MAN.REF.**). If the tapping function has been enabled (**<<d.CY.on>>** and **<<d.CY.off>>** steps, **TECH.MAN.REF.**), R1 can be enabled intermittently with the configured time periods.
- Carries out the tolerance test, if enabled (**<<tSt.toL>>**, **TECH.MAN.REF.**), and then:
 - if the executed dosage is within tolerance enables R3 and shows the residual weight in the silo; then, by a command start one can continue on the next step (because **<<St.ConS>>** is set as **W.Con**, if **<<St.ConS>>** is set as **dirEct**, one can continue on the next step without pressing any key); or:
 - indicates the out of tolerance weight error (with the "LoW" or "hiGh" message on the display and the activation of R4): the operator can manually adjust the dosed weight bringing it within tolerance ("oK" message, activation of R4 and deactivation of R3) and give a start command.
- Continues :
 - on step c) if the number of dosage cycles set in n.Cycle is not finished;
 - on step b) if the number of dosage cycles set in n.Cycle is finished, till the formula is not deselected.

NOTE: By setting **<<FiLL.Md>>** at **<<doS.End>>** (**TECH.MAN.REF.**), after the possible tolerance test the instrument checks that the residual weight in the silo allows to execute a new dosage; So with the a start command the instrument continues on step d) if the number of dosage cycles is not finished, or on step b) if it's finished.

NOTE: At any time it's possible to pause or reset the dosage by pressing the **C** key or supplying an impulse by IN2 (see chapters 19 and 20).

9.5 “RECALCULATION OF WEIGHTS IN RESPECT TO TOTAL” FUNCTIONING MODE

Premise: one must have set << tot.WGt >> in the F.ModE >> doSAgE >> doS.PAr >> EXE.For step (TECH.MAN.REF.) of the setup environment.

In this mode one must enter a basic formula, then the total weight which one wants to dose (see section 16.11.3).

The selection of a formula involves the start of the linked dosage cycle. In order to exit the dosage cycle is required to deselect the formula (see sections 16.11.1, 16.11.2).

9.5.1 NUMBER OF REPETITIONS AND TARGET CORRECTION

In the single-component dosage in loading in << tot.WGt >> mode, if one enters a target greater than the maximum dosable weight in a single dosage, the instrument calculates the number of consecutive repetitions which it must execute and the partial targets for each repetition in order to reach the total set weight.

If the weight dosed during a repetition doesn't exactly match the partial target, the following targets will be recalculated in order to reach the set total minus the dosed weight up to this moment.

At the end of all the repetitions, if the total dosed weight is within the set tolerance, the dosage is considered correct.

10. PAUSE – MOMENTARY INTERRUPTION OF THE DOSAGE CYCLE

To pause the dosage press for an instant the **C** key or activate IN2: on the display the message "PAuSE" appears and all the instrument's outputs are disabled.

To exit the pause condition, give a start command (i.e. press the **ENTER/PRINT** key or activate IN1).

If during the dosage the mains voltage goes missing, when it is restored, the instrument will turn on automatically into dosage pause. Give a start command to continue with the interrupted dosage. The dosage will start again in the condition in which the instrument was in when it was turned off.

If the instrument turns off during the timer phase, when the instrument turns back on, it goes into the dosage pause status; by a start command, the timer is reset and the counting restarts from zero.

In the pause condition it is possible to change the number of foreseen dosage cycles by pressing the **MODE** key.

By inserting a value greater than the current cycle number, at the end the number of repetitions will be automatically updated.

By inserting a value lower than the current cycle number, at its end the repetitions will be immediately interrupted.

In any case the inserted value replaces the previous one starting from the next cycle.

Furthermore it is possible to turn off the instrument by pressing the **C** key at length.

11. RESET OF THE DOSAGE CYCLE

Press the **C** key or activate IN2 to pause the dosage. At this point it's possible to cancel the dosage under way:

- by an additional impulse in IN2; or:
- by pressing again the **C** key, then confirm with **ENTER/PRINT** when the "rESEt ?" message is shown on the display.

By pressing the **C** key after the "rESEt ?" message, one can exit without cancelling the dosage under way.

The gross weight on the scale plate appears on the display. The instrument puts itself in WAIT START status. If the “recalculation of weights in respect to total” functioning mode is selected, the following dosage starts from the previously reset cycle. By cancelling the dosage under way, if the material has been dose, both the production of the single formula and the general total is increased. **NOTE:** PAUSE and RESET don't work in the WAIT START condition.

12. CLEARING THE DOSAGE CYCLES

To clear the number of executed dosage cycles, press the **C** key or push on input IN2 when the dosage is waiting for the start (W.StArT). The message "0.CYC?" will appear:

- press the **ENTER/PRINT** key or push on input IN1 to clear the executed cycles;
- press the **C** key or push on input IN2 to cancel the clearing.

The number of cycles restart from 1 in the following dosage.

13. INSTRUMENT MESSAGES

13.1 ERROR MESSAGES

MESSAGE	DESCRIPTION
Er-36	During the calibration some internal negative points have been calculated: <ul style="list-style-type: none"> - the calibration point is less than the zero point. - the signal is negative (check the connections).
Er-37	Calibration error: the acquired calibration point (tP1 o tP2 o tP3) is equal to the zero point (tP0).
no CAL. Er-39	Scale needs to be calibrated, It is advisable to carry out a technical default, "dEFau" parameter, before proceeding (TECH.MAN.REF.). NOTE: press the TARE key to access the setup.
Err.00	Generic error.
Err.01	The weight on the scale exceeds the maximum weight allowed (MAX.WGt parameter, TECH.MAN.REF.).
Err.02	A higher TARGET than the maximum dosable weight in a single dosage.
Err.03	A TARGET equal to zero was inserted in a partial/split unloading.
Err.04	A weight lower than the unloading TARGET is present on the scale.
Err.05	The weight is not stable when the dosage start command is given or in any case it doesn't become stable within the time set in the W.StArT parameter, TECH.MAN.REF.
Err.06	The maximum time for the execution of the formula has passed (t.M.doS parameter, TECH.MAN.REF.).
Err.07	In a dosage in loading, a TARGET equal to zero was inserted.
Err.08	EEPROM not present or not working. (*)
Err.09	The parameters saved in the EEPROM are not present or not corrected. (*)
Err.10	The cycle data saved in the EEPROM is not present or not corrected. (*)
Err.11	The weight is in underload or in overload for at least 10 seconds.
Err.12	The inserted minimum tare value exceeds the maximum tare one.
Err.13	Error in the parameters setting.
hW-Err	HARDWARE ERROR: software not compatible with the installed hardware.

(*) One or more of these error messages can be present at the startup of the instrument, when a new functioning mode has just been selected (for instance, changing from btC.1-L to btC.1-u). In this case, the insertion of a formula in the new functioning mode can be sufficient to eliminate the error message at the next startup.

NOTE: one can exit the error status by pressing the **ENTER/PRINT** key or restoring the correct dosage conditions.

13.2 MESSAGES WHILE IN USE

MESSAGE	DESCRIPTION
ZEro	The displayed weight is cleared.
WAI	Operation in progress.
undEr	The start weight is under the foreseen minimum tare.
oVEr	The start weight is over the foreseen maximum tare.
W.StArt	- Give a start command to continue the dosage. - The instrument is ready to dose.
LoW	The dosed weight is less than the (target – tolerance) weight.
hiGh	The dosed weight is more than the (target + tolerance) weight.
FiLL	The silo must be filled till the refill end threshold (End.Ld parameter, TECH.MAN.REF).
Err.EE2	EEPROM resetting not successful.
no.F.SEL	Operation not allowed, because no formula was introduced.
no.ForM.	No formula in database.
no.PhAS.	No phase in the database.
no.F.Ph.	The phase and formula database is empty.
no.Fnct	No linked function.
Ph.FuLL	The formula is already formed by 8 phases, the maximum possible number.
Err.dEL. Ph.in.FM.	Impossible to cancel the phase because included in a formula of the database. It is necessary to first delete the related formula.
St.StAb.	The dosage can only start with a stable weight.
rd.dAtA	The instrument is reading data relative to the phase that has just concluded.
inPr	Printer configured in the energy saving mode (PWr.Prn parameter, TECH.MAN.REF).
no.0.unS	Weight not passed by net 0 or by instability.
t.StoP	The timer counting was stopped. To continue, give a start command.
ErMot	Unstable weight during the acquisition of a point during calibration.
ErPnt	During the acquisition of a calibration point a null value has been read by the converter.
PrEC.	It is displayed if one tries to calibrate a point without first having confirmed the number of calibration points.
W.S.XXX	Waiting for cycle XXX start, in case of more dosage cycle repetitions.
C.XXX	Start of n.XXX cycle, in case of more dosage cycle repetitions.
End.F.XX	End of XX number Formula.
oVr.MAX	The gross weight on the scale, summed to the formula target, exceeds the maximum weight allowed (MAX.WGt parameter, TECH.MAN.REF).
Err.Prn	It is displayed if there is an error in the communication with the printer for more than 10 seconds. After that: <ul style="list-style-type: none"> - By pressing the ENTER/PRINT key, "WAI .." is displayed and the indicator retry the printing. - By pressing the C key, "CANCEL" is displayed and the indicator cancel the printing. if the printing is cancelled for 2 times during the dosage, "no.Prn?" is displayed. After that: <ul style="list-style-type: none"> - By pressing the ENTER/PRINT key, the printer is disabled until the next restart of the instrument. - By pressing the C key, "CANCEL" is displayed and the indicator retry the printing.

14. STANDARD PRINT EXAMPLES

14.1 WEIGHT PRINTING

If the printing was enabled and if no formula was selected, by pressing the **ENTER/PRINT** key, the instrument sends to the printer the instant weight data.

```
GROSS = 120kg  
TARE = 0kg  
NET = 120kg
```

While using the indicator, it is possible to incur into the "no.0.unS" error shown on the display; this means that the printing or the function which one wants to carry out must be re-enabled (in order to avoid casual executions).

Executing printouts through a key with **NON APPROVED** scales.

In order to print with non approved scales the following conditions must exist:

- the weight must be stable;
- the gross weight must be ≥ 0 ;
- the printout is always active (**SEtuP >> SEriAL >> CoM.Prn >> Pr.ModE** parameter, **TECH.MAN.REF.**)

Executing printouts through a key with **APPROVED** scales.

In order to be able to print with a legal for trade scale the following conditions must exist:

- the weight must be stable;
- the net weight must be \geq the minimum weight (minimum of 20 divisions).

14.2 DOSAGE DATA PRINTING

During the dosage, the instrument automatically transmits to the printer the data of each executed phase/formula, including the cycle number being executed, the formula number, the dosage type, the target to be reached, the dosed weight, the error and interrupted cycle notifications.

If the tolerance test is enabled, the result will be indicated through the printing of the * IN TOLERANCE * and * OUT OF TOLERANCE * strings (in this last case with an asterisk (*) near the incorrect dosage).

In << tot.Wgt >> mode, at the end of every cycle in which a quick entry of the target is made, the TARGET and the total DOSED is printed: the asterisk indicates a partial dosage out of tolerance; the * IN TOLERANCE * and * OUT OF TOLERANCE * strings instead indicate the result in comparison to the TARGET total.

“TARGET FORMULA” FUNCTIONING MODE

BATCH

```

*****
FORMULA      000
CYCLE REPORT 001
*****
00 AUTOM. DOSAGE
DOSE         50kg
DOSED        50kg
01 MANUAL DOSAGE
DOSE         50kg
DOSED        50kg
02 UNLOAD SPLIT
DOSE         30kg
UN. 001     30kg
UN. 002     30kg
UN. 003     30kg
03 UNLOAD TOTAL
*****
TARGET       100kg
DOSED        100kg
* IN TOLERANCE *
  
```

BTC.1-L AUTOMATIC DOSAGE IN LOADING

```

*****
FORMULA      000
CYCLE REPORT 004
*****
AUTOM. DOSAGE
DOSE         50kg
DOSED        50kg
*****
* IN TOLERANCE *
  
```

BTC.1-u DOSAGE IN UNLOADING

```

*****
FORMULA      000
CYCLE REPORT 001/002
*****
UNLOAD. DOSAGE
DOSE         50kg
DOSED        50kg
*****
* IN TOLERANCE *

*****
FORMULA      000
CYCLE REPORT 002/002
*****
UNLOAD. DOSAGE
DOSE         50kg
DOSED        50kg
*****
* IN TOLERANCE *
  
```

BTC.1-L MANUAL DOSAGE IN LOADING

```

*****
FORMULA      000
CYCLE REPORT 001/002
*****
MANUAL DOSAGE
DOSE         50kg
DOSED        50kg
*****
* IN TOLERANCE *

*****
FORMULA      000
CYCLE REPORT 002/002
*****
MANUAL DOSAGE
DOSE         50kg
DOSED        55kg *
*****
* OUT OF TOLERANCE *
  
```

“SETTING OF THE TOTAL WEIGHT” FUNCTIONING MODE

BATCH

**BTC.1-L
 AUTOMATIC DOSAGE
 IN LOADING**

**BTC.1-u
 DOSAGE
 IN UNLOADING**

```

*****
FORMULA      000
CYCLE REPORT 001
*****
00 AUTOM. DOSAGE
DOSE         20kg
DOSED        20kg
01 MANUAL DOSAGE
DOSE         15kg
DOSED        15kg
02 AUTOM. DOSAGE
DOSE         40kg
DOSED        40kg
03 MANUAL DOSAGE
DOSE         25kg
DOSED        25kg
04 UNLOAD TOTAL
*****
TARGET       100kg
DOSED        100kg
* IN TOLERANCE *

*****
FORMULA      000
CYCLE REPORT 002
*****
00 AUTOM. DOSAGE
DOSE         40kg
DOSED        40kg
01 MANUAL DOSAGE
DOSE         30kg
DOSED        30kg
02 AUTOM. DOSAGE
DOSE         80kg
DOSED        80kg
03 MANUAL DOSAGE
DOSE         50kg
DOSED        50kg
04 UNLOAD TOTAL
*****
TARGET       200kg
DOSED        200kg
* IN TOLERANCE *
  
```

```

*****
FORMULA      000
CYCLE REPORT 001/002
*****
AUTOM. DOSAGE
DOSE         90kg
DOSED        90kg
*****
AUTOM. DOSAGE
DOSE         90kg
DOSED        90kg
*****
AUTOM. DOSAGE
DOSE         90kg
DOSED        90kg
*****
TARGET       270kg
DOSED        270kg
* IN TOLERANCE *

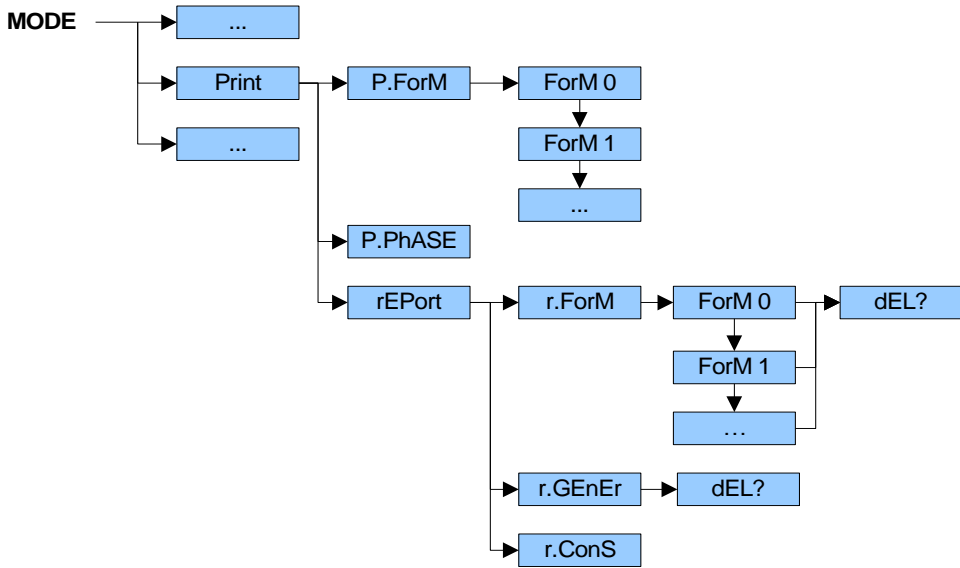
*****
FORMULA      000
CYCLE REPORT 002/002
*****
AUTOM. DOSAGE
DOSE         90kg
DOSED        93kg *
*****
AUTOM. DOSAGE
DOSE         89kg
DOSED        91kg
*****
AUTOM. DOSAGE
DOSE         86kg
DOSED        86kg
*****
TARGET       270kg
DOSED        270kg
* IN TOLERANCE *
  
```

```

*****
FORMULA      000
CYCLE REPORT 001
*****
UNLOAD. DOSAGE
DOSE         60kg
DOSED        64kg *
*****
UNLOAD. DOSAGE
DOSE         56kg
DOSED        56kg
*****
TARGET       120kg
DOSED        120kg
* IN TOLERANCE *
  
```

14.3 PHASES / FORMULAS AND TOTAL DATA PRINTING

Press at length the **MODE** key and select the << Print >> step.



<<P.ForM>> FORMULA DATA PRINTING

By pressing the **ENTER/PRINT** key one can enter the formulas database: select the formula to print using the **ZERO** or **TARE** key and confirm with **ENTER/PRINT**.

BATCH mode

```

  ****
  *** FORMULA 00 ***
  ****
  MIN.TARE          2kg
  MAX TARE          6kg
  TOT.TARGET        120kg
  ****
  PHASE IND.        0
  AUTOM. DOSAGE
  FLY               5kg
  TOLERANCE         2kg
  OUTPUT            1
  TARGET            70kg
  ****
  PHASE IND.        1
  MANUAL DOSAGE
  TOLERANCE         2kg
  OUTPUT            2
  TARGET            50kg
  ****
  PHASE IND.        2
  TIMER
  OUTPUT            3
  TIMER STOPDISABLED
  DURATION          5.00s
  ****
  PHASE IND.        3
  PAUSE
  OUTPUT            4
  ****
  PHASE IND.        4
  UNLOAD.DOSAGE
  UNLOAD TOTAL
  OUTPUT            1
  START            DISABLED
  TARGET            0kg
  ****
  
```

BTC.1-L mode

```

  ****
  *** FORMULA 00 ***
  ****
  AUTOM. DOSAGE
  MIN.TARE          2kg
  MAX TARE          6kg
  TARGET            50kg
  FLY               5kg
  SLOW              5kg
  TOLERANCE         2kg
  ****
  
```

BTC.1-u mode

```

  ****
  *** FORMULA 00 ***
  ****
  TARGET            50kg
  FLY               5kg
  SLOW              5kg
  TOLERANCE         2kg
  DIRECT            DISABLED
  ****
  
```

<<P.PhASE>> PHASES IN THE DATABASE DATA PRINTING (only for multicomponent dosage (BATCH mode))

By pressing the ENTER/PRINT key the instrument prints all the phases in the memory storage:

```

////////////////////////////////////
*****
PHASE IND.          0
AUTOM. DOSAGE
FLY                 5kg
TOLERANCE           2kg
OUTPUT              1
*****
PHASE IND.          1
MANUAL DOSAGE
TOLERANCE           2kg
OUTPUT              2
*****
PHASE IND.          2
TIMER
OUTPUT              3
TIMER STOPDISABLED
*****
PHASE IND.          3
PAUSE
OUTPUT              4
*****
PHASE IND.          4
UNLOAD.DOSAGE
UNLOAD TOTAL
OUTPUT              1
START              DISABLED
////////////////////////////////////

```

<<r.ForM>> PRODUCTION FORMULA PRINTING

BATCH mode

```

////////////////////////////////////
*****
FORMULA PRODUCTION 0
TOT. DOSE           1185kg
DOSED TOT.          1184kg
IN TOLER.           1184kg
OUT OF TOL          0kg
CYCLES TOT          10
CYCLES OK           10
CYCLES KO           0
*****

```

BTC.1-L mode

```

////////////////////////////////////
*****
FORMULA PRODUCTION 0
TOT. DOSE           150kg
DOSED TOT.          150kg
IN TOLER.           150kg
OUT OF TOL          0kg
CYCLES TOT          3
CYCLES OK           3
CYCLES KO           0
*****

```

BTC.1-u mode

```

////////////////////////////////////
*****
FORMULA PRODUCTION 0
TOT. DOSE           150kg
DOSED TOT.          150kg
IN TOLER.           150kg
OUT OF TOL          0kg
CYCLES TOT          3
CYCLES OK           3
CYCLES KO           0
*****

```

At the end of printing the instrument requests to cancel the formula production; on the display is shown the "dEL?" message; press **ENTER/PRINT** to confirm, any other key to exit without making modifications.
The data is always valid (therefore they can be printed) till the end of the next dosage.

<<r.GEnEr>> GENERAL TOTAL PRINTING

By pressing the **ENTER/PRINT** key the instrument prints the general total, i.e. the sum of all the dosed weight by the formulas implemented up to that moment, as from the last deletion of this total:

BATCH mode

```

*****
GENERAL TOTAL
TOT. DOSE      1185kg
DOSED TOT.    1184kg
IN TOLER.     1184kg
OUT OF TOL    0kg
CYCLES TOT    10
CYCLES OK     10
CYCLES KO     0
*****
  
```

BTC.1-L mode

```

*****
GENERAL TOTAL
TOT. DOSE      150kg
DOSED TOT.    150kg
IN TOLER.     150kg
OUT OF TOL    0kg
CYCLES TOT    3
CYCLES OK     3
CYCLES KO     0
*****
  
```

BTC.1-u mode

```

*****
GENERAL TOTAL
TOT. DOSE      150kg
DOSED TOT.    150kg
IN TOLER.     150kg
OUT OF TOL    0kg
CYCLES TOT    3
CYCLES OK     3
CYCLES KO     0
*****
  
```

At the end of printing the instrument requests to cancel the general total; on the display is shown the "dEL?" message; press **ENTER/PRINT** to confirm, any other key to exit without making modifications. The data is always valid (therefore they can be printed) till the end of the next dosage.

<<r.ConS>> CONSUMPTIONS PRINTING

BATCH mode

```

*****
FORMULAS PRODUCTION
*****
FORMULA        0
CYCLES TOT    10
DOSED TOT.    1184kg
*****
  
```

BTC.1-L mode

```

*****
FORMULAS PRODUCTION
*****
FORMULA        0
CYCLES TOT     3
DOSED TOT.    150kg
*****
  
```

BTC.1-u mode

```

*****
FORMULAS PRODUCTION
*****
FORMULA        0
CYCLES TOT     3
DOSED TOT.    150kg
*****
  
```

NOTES:

- The weights of interrupted dosages are also included in the totals.
- If one tries to print a report without associated data, the message "EMPTY REPORT" is printed.

WARRANTY

The TWO YEAR warranty period begins on the day the instrument is delivered. It includes spare parts and labour repair at no charge if the INSTRUMENT IS RETURNED prepaid to the DEALER'S PLACE OF BUSINESS. Warranty covers all defects NOT attributable to the Customer (such as improper use) and NOT caused during transport.

If on site service is requested (or necessary), for any reason, where the instrument is used, the Customer will pay for all of the service technician's costs: travel time and expenses plus room and board (if any).

the Customer pays for the transport costs (both ways), if the instrument is shipped to DEALER or manufacturer for repair.

The WARRANTY is VOIDED if any of the following occurs: repairs or attempted repairs are made by unauthorised personnel, connected to equipment installed by others, or is incorrectly connected to the power supply, or instrument has defects or damage due to carelessness or failure to follow the guidelines in this instruction manual.

This warranty DOES NOT provide for any compensation for losses or damages incurred by the Customer due to complete or partial failure of instruments, even during the warranty period.

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