exacta maxi

Automatic scale for recovery and charge

User's manual

www.wigam.com

WARNING

SAFETY PRECAUTIONS

a) **This equipment is designed for trained personnel only, who must know the refrigeration fundamentals, cooling systems, refrigerants and possible damage that pressurized equipment may cause**
b) Carefully read the instructions contained in this manual; strict observance of the procedures described is fundamental to the operator's safety, the perfect state of the unit and constant performances as declared.
c) Before performing any operation, make sure that the hoses used for connections have been previously evacuated and that they do not contain non-condensable gases.
d) Avoid skin contact; the low boiling temperature of the refrigerant (about -30°C) can cause freezing.
e) Avoid breathing refrigerant vapors.
f) It is recommended to wear suitable protections like safety glasses and gloves; contact with refrigerant may cause blindness and other personal injuries.
g) Do not operate near open flames and hot surfaces; the high temperatures decompose the refrigerant releasing toxic and caustic substances which are hazardous for the operator and the environment.
h) Always make sure that the scale is connected to a suitably protected mains supply provided with an efficient earth connection.
i) Before performing maintenance operations or when the scale will not be used for a long period of time, turn it off by disconnecting the power supply cord.
j) Before removing the scales panel in order to accede to its inner parts, disconnect the scale from the mains supply.
k) The charging and recovery operations must take place only in locations with suitable ventilation and a high number of air changes.
l) Before disconnecting the scale, make sure that the cycle has been completed and that all valves are closed in order to avoid release of refrigerant to the atmosphere.
m) Never fill any tank with liquid refrigerant to more than 75% of its maximum capacity.
n) During operations avoid release of refrigerant to the environment; this precaution is required by international environmental standards and is essential to avoid difficult leak detection in a refrigerant polluted environment.
o) The scale must always work under the operator's control.
p) Protect the unit from dripping
q) For the recovery operation, only empty and evacuated bottles must be used.
r) Do not charge the scale pan with weights heavier than 100kg.
s) The scale must be placed on a level surface.
t) In order to prevent the bottle from swaying on the pan, shield it from the wind
u) Use a manifold to connect the scale output connection to the cooling system.
v) Do not expose the display for a long period of time to direct sunlight.
w) Close the bottle valve that is connected to the scale input connection, when the scale is turned off.

1. INTRODUCTION

WIGAM electronic scale model **EXACTA MAXI/100** is a programmable instrument which, after being connected to the bottle and to the cooling system, allows to perform charges and recoveries in the pre-set quantity automatically and with accuracy.

1.1 TECHNICAL FEATURES

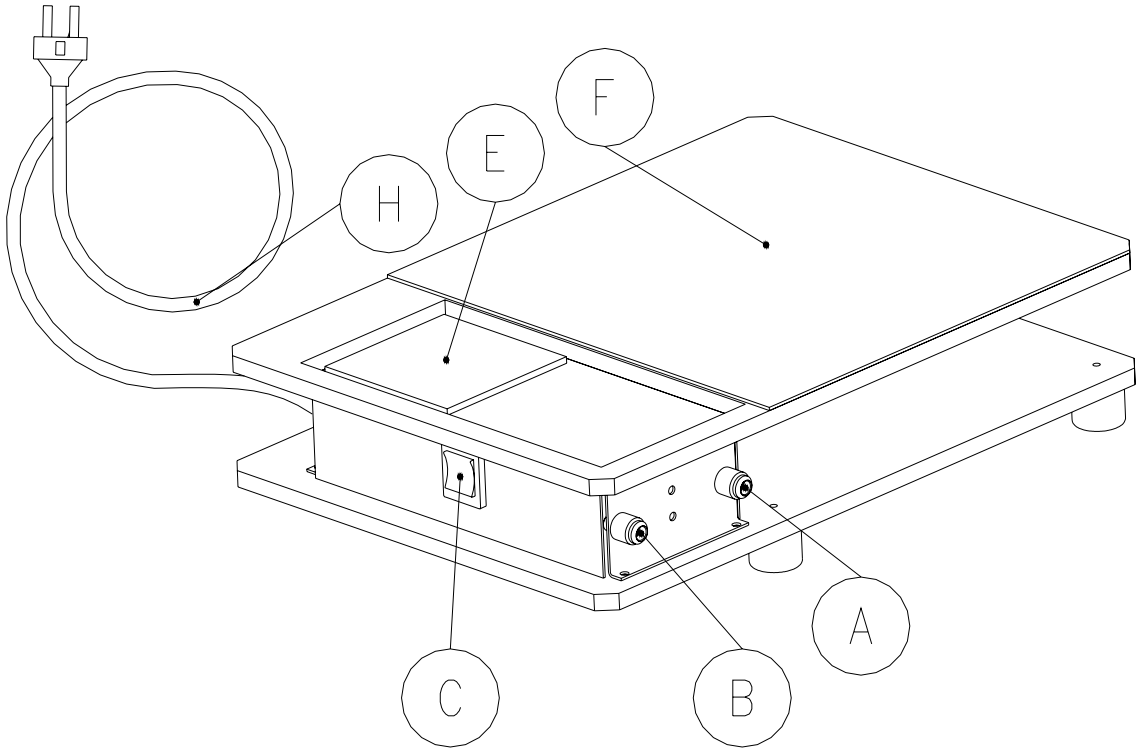
Max capacity	100 kg/f
Resolution	± 5 g/f up to 9.999 g (capacity 30 kg) ± 10 g/f (capacity 100 kg)
Precision	± 1 g/f up to 30 kg ± 10 gr/f > 30 kg
Connections	¼" SAE male
Pan dimensions	300 X 300 mm
Power supply	230/1/50-60Hz
Weight	8.5 kg.
Working temperature	0 ÷ 50° C

1.2 STANDARD EQUIPMENT

- 2 pcs adapters ¼" SAE female x 5/16" SAE male (model 404/5)

1.3 PARTS OF THE SCALE

Picture 1



A = system input connection

B = system output connection

C = power switch

E = control module

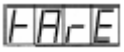
F = scale pan

H = supply cable

1.4 CONTROL MODULE

The control module is equipped with function and programming keys which allow to control the different operations

TARE FUNCTION
To perform a tare:
Press the TARA key for more than 3 seconds.
When the tare is completed, the following message will appear on the display:



CHARGE – RECOVERY FUNCTION
Press the START-STOP key to start the charging & recovery functions.
(see 1.5 System constants)
During the performing of this function, it is possible to stop it by pressing the START-STOP key (blinking Led). Press the + key to “freeze” the function. Press again the START-STOP key to re-start the charging & recovery function.

PROGRAMMING VALUES
Press the SET-PESO key to set the charging or recovery value.
The following message will appear on the display:

alternating with the set weight.
Press the + or – keys to modify the value. Press the SET-PESO key confirm.
When a value of “0”is set, the scale can only read weights.

Increases values

Decreases values

1.5 SYSTEM CONSTANTS

Press the **+** and **–** keys at the same time for more than 1 second.
The message "**C.O.S.t.**" will appear on the display.
Press the set **SET-PESO** key several times until the name of the constant you would like to change appears on the display alternating with the pre-set value.
Press the **+** an **–** keys to modify the value.
Press the **SET-PESO** key to confirm.
Press the **TARA** key to quit the programming and go back to weight.

Constants set in our factory	Constants that can be modified by the user	Constants self-defined by the module during calibration
Volo = 0.00	TYPE	TARE
Out = 1	CELL	nV.V
Filt = 0.2"	DP	

1.5.1 CONSTANT TYPE

This constant can have a value of 1 or 2; according to the value you set, the scale will work in recovery or in charge.
TYPE = 1 RECOVERY
TYPE = 2 CHARGE
After setting the value, press the TARA key to quit the constants settings and go back to the weight function.
Perform a tare by keeping the TARA key pressed for more than 3 seconds.

1.5.2 CONSTANTS TYPE DP & CELL

Scale EXACTA/100 is set in factory on DP=2 CELL=9.50 and operates with a division of 10g.

Through these constants, you can modify the division with which the scale works.

DP=0 CELL=9500
The scale works with a division of 5g up to a maximum of 9999g. **The maximum capacity of this setting is 30 kg.**

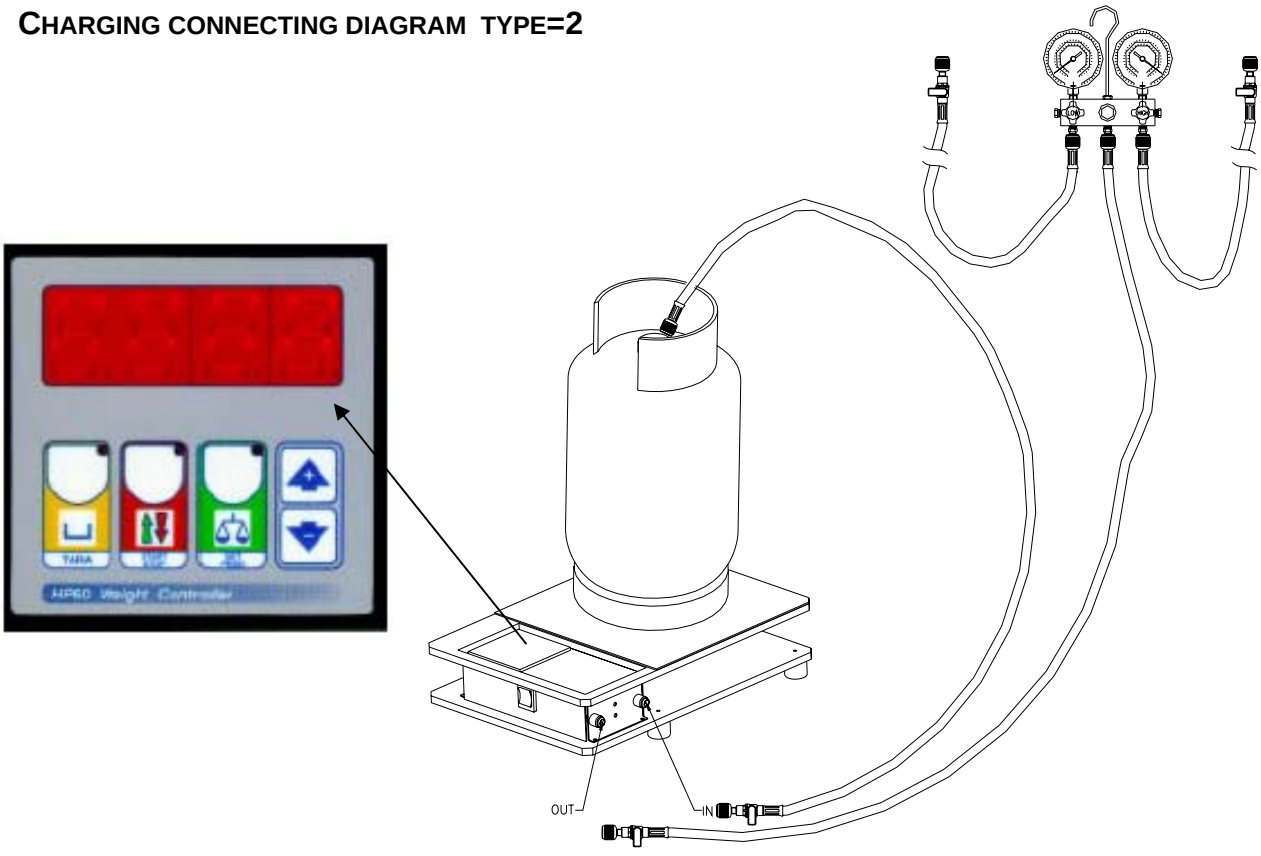
DP=2 CELL=9.50
The scale works with a division of 10g up to a maximum of 100 kg

When the desired value of both constants has been set, press the **TARA** key to go back to the weight function..
Perform a tare by keeping the **TARA** key pressed for more than 2 seconds.

1.6 AUTOMATIC PROCEDURE FOR THE CALIBRATION OF THE LOAD CELL (DP=2 CELL=9.50)

Press the **TARA** key for more than 3 seconds: the message **0.00** will appear on the display.
Put a sample weight of at least 10 kg and of known value on the scale pan.
Press the **–** key together with the **TARA** key.
A flashing value will appear on the display.
If the value on the display does not correspond to the sample weight value, set the value of the sample weight by means of the **+** and **–** keys.
Press the **TARA** key to confirm.

CHARGING CONNECTING DIAGRAM TYPE=2



2. CHARGING FUNCTION (TYPE=2)

The scale input and output connections are ¼" SAE.
Use two adapters of 5/16" SAE supplied with the scale if you want to work with R410A.

2.1 PREPARATION

IMPORTANT

EXACTA MAXI version operates only with division of 10g (DP=2 CELL=9. 50)

a) Place the scale on a level surface
b) Connect a capillary tube to the bottle liquid phase valve on one end and to the scale input connection (IN) on the other end (end with ball valve)
c) Connect a flexible hose to the scale output connection (OUT) and to a manifold suitable for the refrigerant that you are going to use
d) Connect the scale to an appropriate power supply
e) Turn on the scale (switch C in position 1).
f) Set the system constant TYPE=2 (see 1.5 System constants)
g) Evacuate the hoses and the manifold in the following way:
   1) connect a manifold to a vacuum pump
   2) open the hoses valves (valve on the liquid side of the bottle must be closed)
   3) set a charging value (**SET-PESO**) >0 and press the **START-STOP** key to open the solenoid valve and enable the pump to evacuate the hoses up to the bottle valve
   4) close all the valves
   5) turn off the scale (switch C in position 0)

WARNING

Flexible hoses and manifold must always be evacuated before starting the charging and recovery operations

2.2 AUTOMATIC CHARGING FUNCTION

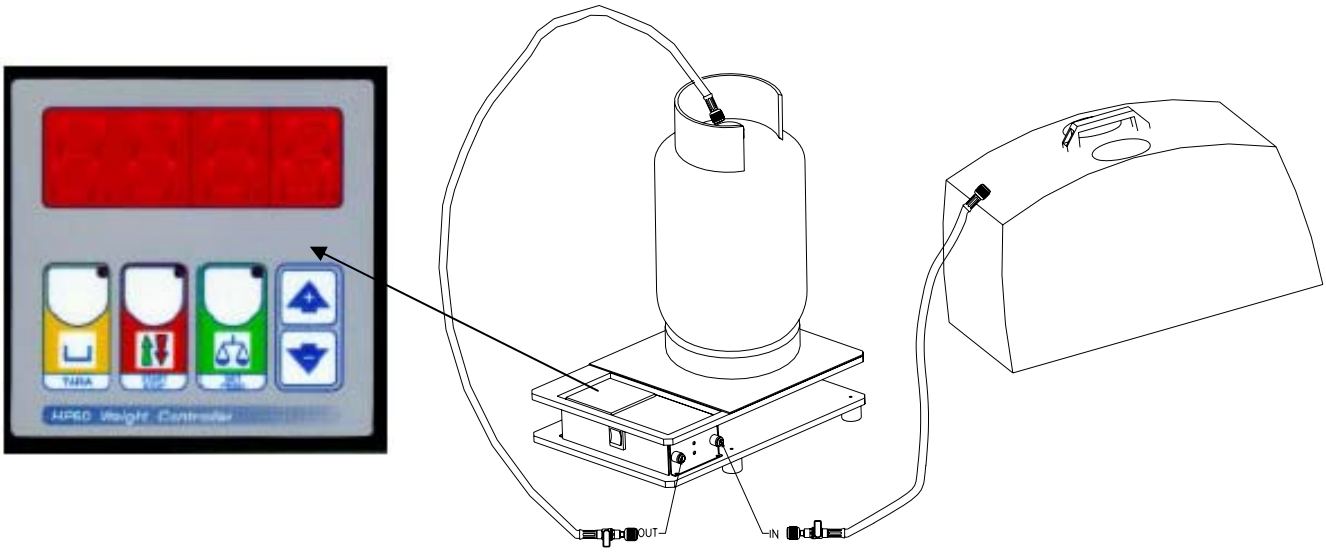
a) Connect the scale-hoses-manifold assembly to the cooling system.
b) Open the valve on the capillary tube and the valve on the bottle liquid side
c) Place the bottle at the centre of the scale pan and perform a TARE (see 1.4 Control module)
d) Set the refrigerant quantity you would like to charge by means of the **SET-PESO**, **+** and **–** keys.
e) Open the valve on the flexible hose
f) Press the **START-STOP** key to start the operation
g) Wait for the charge to stop and check on the display that the pre-set value is reached.

N.B.: During the function, charging can be temporarily stopped by pressing the **START-STOP** key.
Press the **+** key to "freeze" the function
Press again the **START-STOP** key to re-start the function
Once the charge is completed, the pre-set values will be stored, so you just have to press the **START-STOP** key to repeat the operation.

2.3 MANUAL CHARGING FUNCTION

a) Connect the scale-hoses-manifold assembly to the cooling system and turn on the scale (switch C in position 1).
b) Open the valve on the capillary tube and the valve on the bottle liquid side.
c) Place the bottle at the centre of the scale pan and perform a **TARE** (see 1.4 Control module).
d) Set a refrigerant charging quantity higher than the charge you would like to make by means of the **SET-PESO**, **+** and **–** keys (i.e.: if you want to charge 1kg of refrigerant, set a quantity of 1,5kg)
e) Press the **START-STOP** key
f) Open the valve on the flexible hose and by means of the valve on the capillary tube, perform the wanted charge
g) As soon as the display shows the wanted charging quantity (in our case 1kg), close the valve on the capillary tube.
h) Press the **START-STOP** key to stop the function.
i) Press the **+** key to "freeze" the function.

RECOVERY CONNECTING DIAGRAM TYPE=1



3. RECOVERY FUNCTION (TYPE=1)

The scale input and output connections are ¼" SAE.
Use two adapters of 5/16" SAE supplied with the scale if you want to work with R410A.

3.1 PREPARATION

IMPORTANT

EXACTA MAXI version operates only with division of 10g (DP=2 CELL=9. 50)

a) Place the scale on a level surface.
b) Connect a capillary tube to the bottle liquid phase valve on one end and to the scale output connection (OUT) on the other end (end with ball valve)
c) Connect the flexible hose to the scale input connection (IN) and to a manifold suitable for the refrigerant that you are going to use
d) Connect the scale to an appropriate power supply
e) Turn on the scale (switch C in position 1).
f) Set the system constant TYPE=1 (see 1.5 System constants).
g) Evacuate the hoses and the manifold in the following way:
    1) connect a manifold to a vacuum pump
    2) open the hoses valves (valve on the liquid side of the bottle must be closed)
    3) set a charging value (**SET-PESO**) >0 and press the **START-STOP** key to open the solenoid valve and enable the pump to evacuate the hoses up t the bottle valve
    4) close all the valves
    5) turn off the scale (switch C in position 0)

WARNING

Flexible hoses and manifold must always be evacuated before starting the charging and recovery operations

3.2 AUTOMATIC RECOVERY FUNCTION

WARNING

Do not set a recovery value higher than the 75% of the bottle maximum capacity!!
For each recovery operation, use empty and evacuated bottles, suitable for the refrigerant that you are going to use

a) Connect the scale-hoses-manifold assembly to the cooling system (switch C in position 1).
b) Open the valve on the bottle liquid side and the valve on the capillary tube
c) Place the bottle at the centre of the scale pan and perform a **TARE** (see 1.4 Control module).
d) Set the refrigerant quantity you would like to recover by means of the **SET-PESO**, **+** and **–** keys.
e) Open the valve on the flexible hose.
f) Press the **START-STOP** key.
g) Wait for the recovery to stop and check on the display the recovered refrigerant quantity.

N.B.: During the function, recovery can be temporarily stopped by pressing the **START-STOP** key.
Press the **+** key to "freeze" the function
Press again the **START-STOP** key to re-start the function
Once the recovery is completed, the pre-set values will be stored; so you just have to press the **START-STOP** key to repeat the function.

4. WEIGHT FUNCTION

The **EXACTA MAXI** electronic scale can also be used simply to weigh.

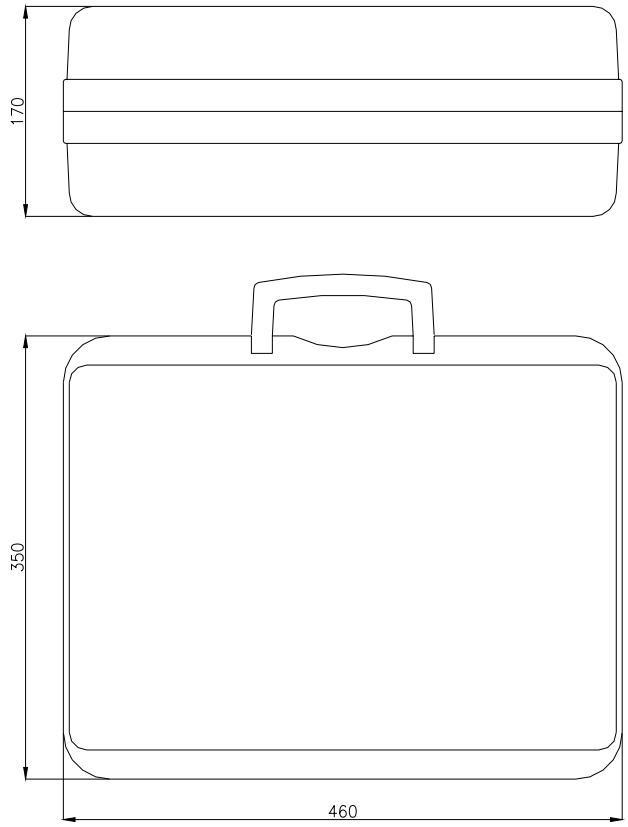
a) Connect the scale to a suitable power supply and turn it on (switch C in position 1).
b) Perform a **TARE** (see 1.4 Control module).
c) Set **SET- PESO** = 0 (see 1.4 Control module).
d) Place the object you would like to weigh on the scale pan: its weight will appear on the display

4.1 WEIGHT FUNCTION WHEN PERFORMING A TARE WITH BOTTLE ON THE SCALE

In case you make a tare with bottle on the scale:

The display shows – 9.99kg if you make a discharge lower than 10.00kg.
The display shows – 99.9kg if you make a discharge higher than 10.00kg and lower than100.00kg.
The display shows – 100kg if you make a discharge higher than 100.00kg.

5. DIMENSIONS AND WEIGHT



Dimensions

A Width 460 mm
B Length 350 mm
C Height 170 mm

Weight: 8,5 kg

6. ACCESSORIES

Model	Description
V/WSS/4-4/60Y (06027006003)	Standard flexible hose, 1500mm with ¼"SAE connections and end ball valve
WSA/4-4/56V4Y (06022020003)	Standard flexible hose, 1500mm with ¼"SAE connections and intermediate ball valve
V/WSS/5-5/60Y (06027025003)	Standard flexible hose, 1500mm with 5/16"SAE connections and end ball valve
WSA/5-5/56V4Y (06022007003)	Standard flexible hose, 1500mm with 5/16"SAE connections and intermediate ball valve
F2PF80/A6/4 (04002009)	2-way manifold with ¼"SAE connections for R22-R134a-R404A-R407C
F2PF80/A4/5 (04002007)	2-way manifold with 5/16"SAE connections for R410A
WR10K-TPED/47 (11001053)	10kg bottle with ¼"SAE connections
W2-WR10K-TPED/47 (11001062)	10 kg bottle with dual valve and ¼"SAE connections
W2-WR40K-TPED/48 (11001059)	40kg bottle with dual valve and ¼"SAE connections
RSF400/2T/CLASSE2 (14019007)	Heating belt for bottle

7. SPARE PARTS

- Control module (14025037)
- Solenoid valve with ¼"SAE connections (1 pz. 14016027 + 2 pz. 05056008)
- Switch C (15010002)
- Adapters 5/16"x1/4"SAE MF (05055048)

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