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Instruction Manual

Scale SC 100



Read manual before use!



Observe all safety information!



Keep manual for future use!

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1 About this instruction manual

- This instruction manual is part of the product.
- ▶ Read this manual before using the product.
 - ▶ Keep this manual during the entire service life of the product and always have it readily available for reference.
 - ▶ Always hand this manual over to future owners or users of the product.

1.1 Warning Terms

WARNING TERM The type and source of danger is shown here.



- ▶ Precautions to take in order to avoid the danger are shown here.

There are three different levels of warning:

Warning term	Meaning
DANGER	Imminent danger! Failure to observe the information will result in death or serious injuries.
WARNING	Possible imminent danger! Failure to observe the information may result in death or serious injuries.
CAUTION	Dangerous situation! Failure to observe the information may result in minor or serious injuries as well as damage to property.

1.2 Explanation of symbols and typeface

Symbol	Meaning
1.	Activity consisting of several steps
•	Bulleted list
Text	Indication on a display
Highlighting	Highlighting



1.3 Liability information

The manufacturer shall not be liable in any direct or consequential damage resulting from failure to observe the technical instructions, guidelines and recommendations.

The manufacturer or the sales company shall not be liable for costs or damages incurred by the user or by third parties in the use or application of this device, in particular in case of improper use of the device, misuse or malfunction of the connection, malfunction of the device or of connected devices. The manufacturer or the sales company shall not be liable for damage resulting from any use other than the use explicitly stated in this instruction manual.

The manufacturer shall not be liable for misprints.

2 Safety

2.1 Intended use

The scale SC 100 is exclusively suitable for maintenance and service work on refrigeration systems and heat pumps.

Any use other than the application explicitly permitted in this instruction manual is not permitted. The measurement results must not be used for commercial purposes. Use within the scope of EU Directive 2014/31/EU Chapter 1, Article 1, scope a) - f) is not permitted.

2.2 Incorrect use

The SC 100 scale must never be used in the following cases:

- Hazardous area (Ex)
If the device is operated in hazardous areas, sparks may cause deflagrations, fires or explosions.
- For diagnostic measurements in the medical field.

2.3 Safe handling

CAUTION



Improper handling

- ▶ Do not touch live parts with the instrument or sensors.
- ▶ Protect the product against impact
- ▶ Use the product only indoor
- ▶ Insulate the product from moisture

Failure to follow these instructions may result in property damage.

2.1 Qualification of personnel

The product may only be installed, commissioned, operated, maintained, shut down and disposed of by qualified, specially trained personnel.

Electrical work may only be carried out by qualified electricians in accordance with local and national regulations.

2.2 Calibration

The scale SC 100 must be calibrated annually by a recognized, relevant authority.

2.3 Modifications to the product

Changes or modifications made to the product by unauthorized persons may lead to malfunctions and are prohibited for safety reasons.

2.4 Usage of spare parts and accessories

Usage of unsuitable spare parts and accessories may cause damage to the product.

- ▶ Use only the manufacturer's genuine spare parts and accessories of the manufacturer.



3 Technical Data

3.1 Measurement parameters

Value	Unit
Weight	kg, oz, lbs

3.2 Technical specifications

Parameter	Value
General Specifications	
Dimensions housing (H x W x D)	74 x 271 x 271 mm
Weight	3.3 kg
Material housing	Aluminum alloy
Protection type	IP 40 EN 60529
Display	LCD display
Battery	5 x AAA alkaline batteries
Temperature range	
Operation	-10 °C to +40 °C
Storage	-15 °C to +50 °C
Air pressure range	
Ambient	500 hPa to +2000 hPa
Humidity range	
Ambient	0 % rH to 75 % rH, no condensation
Weight measurement	
Measuring range	0 ... 100 kg
Accuracy	±0.5% RDG ±10g
Resolution	0.005 kg

3.3 Approvals, tests and conformities

The conformity of the product with the requirements of the EU directives is confirmed by the CE mark on the housing.

4 Product description

The SC 100 is a HVAC Refrigeration Charging Scale with Charging Valve is designed to weigh refrigerant up to 100kg with.



1	CHARGE	Press to set charging value
2	ZERO	Press to zero the reading
3	UNIT	Press to switch between kb, oz and lb
4	RECOVERY	Press to set recovery value
5	LAMP	Press to turn on the blue backlight. It will be automatically off after 10 seconds. Hold the button for 3 seconds until the buzzer beeps once, the backlight will be always on; press this button again to turn it off
6	SHIFT	No function, reserved for further developments
7	RUN/STOP	Press to close or open the charging valve immediately
8	REPEAT	Press to repeat the last charging or recovery command
9	HOLD	Press to lock current weight
.	POWER	When charging or recovery is not in progress, press this button to turn on the scale; hold it for 3 seconds to turn off the scale
	 ENTER	Press to confirm settings. After setting the charging/recovery value, press this button to enter charging/recovery status. If the value is incorrect, press and hold the button for 3 seconds to exit settings. During charging/recovery process, press this button to stop the process and enter weighing status



5 Commissioning

5.1 Battery

The SC 100 is supplied with 5 x AAA alkaline batteries.

5.1.1 Inserting / changing batteries

WARNING**Risk of electric shock**

- Serious risk of injury to the user and/or destruction of the instrument. There is a risk of damage if the batteries are replaced with ones that are the wrong type.

Failure to follow these precautions can result in death, serious injury, or property damage.

The instrument is switched off.

1. Unscrew the screw to open the battery compartment.
2. Open the battery compartment (on the back of the instrument) via the snap lock.
3. Insert or replace batteries (5 x AAA alkaline batteries). Observe the polarity!
4. Close the battery compartment.

INFO

- When not in use for a long period: Take out the batteries.
-



- To protect the environment, batteries must not be disposed of with unsorted municipal waste (household waste). Take old batteries to a collection point or retailer.

6 Operation

6.1 Weighing

1. Take out the refrigerant scale from the carrying case and place the platform on hard and flat floor.
2. Take out the remote from the back of the scale.
3. Press POWER button on the remote to turn it on. Wait until the self-test finishes and buzzer beeps.
4. Press UNIT button to switch units between kg, oz and lb.

5. Press ZERO button to zero the reading.
6. Place the refrigerant cylinder in the center of the platform and zero it again. Now charge or recover the refrigerant, then the screen will only display the weight of the charged or recovered refrigerant.
7. Press HOLD button to lock the current weight, which will remain unchanged.

6.2 Charging / Recovering Refrigerant

1. Connect the aviation plug female connector of the charging valve to the male connector of the platform according to their notch position.



2. Connect the refrigerant hose according to the arrow direction on the charging valve housing.
3. Charge: Connect the scale and the charging valve like described in below connection diagram:



4. Press CHARGE button to enter the charging interface, set the charging value by using the number buttons; then press the ENTER button to confirm and the charging valve will be open. When it reaches the set charging value, it will close automatically and alert with beep sound; Press any button to exit alarm at this moment.

INFO

- ▶ If the value is set incorrectly, press and hold ENTER button to exit current status and repeat the operation above.
- ▶ If the weight is less than -0.2 kg, it means an error occurs during the charging process, then the charging valve will close automatically, OPEN icon will be off and the recovery process ends. The scale enters the normal weighing status.

5. Recover: Connect the scale and the charging valve like described in below connection diagram:



6. Press RECOVERY button to enter the recovery interface, set the required recovery value by using the number buttons; then press button to confirm and the charging valve will be open. When it reaches the set recovery value, it will close automatically and alert with beep sound; Press any button to exit alarm at this moment.

INFO

- ▶ If the value is set incorrectly, press and hold button to exit current status and repeat the operation above.
- ▶ If the weight is 0.2 kg greater than the set recovery value, it means an error occurs during recovery, then the charging valve will close automatically, OPEN icon will be off and the recovery process ends. The scale enters the normal weighing status.

7. After completing a charging/recovery process, simply press REPEAT button to repeat the last charging /recovery operation without re-setting the value again.
8. Press RUN/STOP button to open or close the charging valve immediately.

INFO

► The operation above is based on measurement unit kg.

6.3

Overload Detection

If the weight of refrigerant tank exceeds the scale's maximum capacity (100kg), the LCD will display FULL, the buzzer will beep and the red status indicator will flash to indicate the alarm.

6.4

Battery Indication

When the battery voltage is extremely low, the battery indicator icon will blink and the LCD may display unstably. Please replace the batteries in time so that you can use the scale normally.

6.5

Other Functions

1. Self-test within 2 seconds after power-on.

2. Tare function applies to full weighing range.

INFO

► Auto OFF: The scale will be automatically off if the weight remains unchanged for 10 minutes.

7

Maintaining the product

An annual inspection of the SC 100 by an authorized service center is recommended.

When	Activity
Annual	► Checking, calibration and cleaning

8

Troubleshooting

Repair work may only be performed by qualified, specially trained staff.

9

Shutting down and disposal

► To protect the environment, this device must **not** be disposed of together with the normal household waste. Dispose of the device according to the local conditions and directives.



This device consists of materials that can be reused by recycling firms. The electronic inserts can be easily separated and the device consists of recyclable materials.

If you do not have the opportunity to dispose of the used device in accordance with environmental regulations, please contact us for possibilities to return it.

10 Warranty

The manufacturer's warranty for this product is 12 months after the date of purchase. This warranty shall be good in all countries in which this device is sold by the manufacturer or its authorized dealers.

11 Copyright

The manufacturer retains the copyright to this manual. This manual may not be reprinted, translated, copied in part or in whole without prior written consent.

We reserve the right to technical modifications with reference to the specifications and illustrations in this manual.

12 Customer satisfaction

Customer satisfaction is our prime objective. Please get in touch with us if you have any questions, suggestions or problems concerning your product.

13 Addresses

The addresses of our worldwide representations and offices can be found on the Internet at www.systronik.com







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