





1. CE DECLARATION OF CONFORMITY

The undersigned:  
**Piusi S.p.A**  
 Via Pacinotti c.m. z.l. Rangonvio  
 46029 SUZZANA - Mantova - Italy  
**DECLARES** under its own responsibility that the machine described below:  
 Description: Electronic unit for tank control  
 Model: ACCESS 85

Serial Number/ Lot Number shown on CE Plate affixed to product Year of manufacture refer to the year of production shown on the CE Plate affixed to the product.  
 In conformity with the legal provisions indicated in the directives:  
**Electromagnetic Compatibility Directive 2004/108/EC**  
**Low Voltage Directive 2006/95/CE**  
 The undersigned hereby declares that the component authority following motivated request of Piusi S.p.A. or following request sent to the email address: doc\_te@piusi.com, is authorised to compile the technical file and draw up the declaration is Otto Varini as legal representative.

*Otto Varini*  
 Otto Varini  
 Suzana 01/03/2010

2. GENERAL WARNINGS

**Important precautions**  
 To ensure operator safety and to protect the control system from potential damage, workers must be fully acquainted with this instruction manual before attempting to operate the dispensing system.

**Symbols used in the manual**  
 The following symbols will be used throughout the manual to highlight safety information and precautions of particular importance:

- ATTENTION** This symbol indicates safe working practices for operators and/or potentially exposed persons.
- WARNING** This symbol indicates that there is risk of damage to the equipment and/or its components.
- NOTE** This symbol indicates useful information.

Manual preservation

This manual should be complete and legible throughout. It should remain available to end users and specialist installation and maintenance technicians for consultation at any time.

Reproduction rights

All reproduction rights are reserved by Piusi S.p.A. The text cannot be reprinted without the written permission of Piusi S.p.A. © Piusi S.p.A.  
 THIS MANUAL IS THE PROPERTY OF PIUSI S.p.A.  
 ANY REPRODUCTION, EVEN PARTIAL, IS FORBIDDEN.

3. SAFETY INSTRUCTIONS

The following data is on the plate:

Dimensions	Length (A)	173 mm
	Depth (B)	62.3 mm
	Height (C)	117 mm
Weight		0,478 kg - 1,046 lbs.

9. TECHNICAL SPECIFICATIONS

Access85 Technical Data	230 V
Control system voltage	50 Hz / 60 Hz
Frequency	1.3 kW
Max. power	Power absorbed in stand-by mode: 3.5 W
Power absorbed in stand-by mode	1.3 kW
Max. power	Pump fuse
Pump fuse	6 A (1 RT)
Absorptions in stand-by mode (on)	8.1 A
Max. current (I <sub>max</sub> )	230 V AC input
230 V AC input	min. 10 mA / max 15 mA

Technical Data level Sensor	24 V AC
Level sensor voltage	20 mA
Max. current (I <sub>max</sub> )	IP55
Protection	IP203

10. INTENDED USE

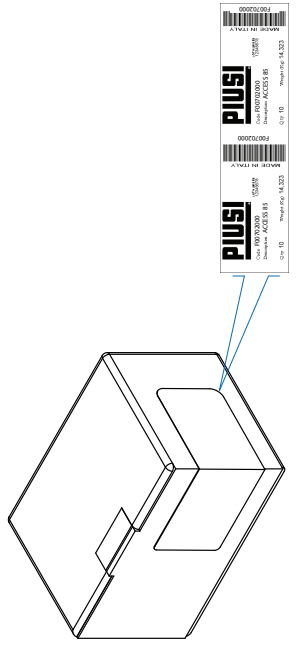
**Intended use**  
 ACCESS 85 is an electronic unit designed to control the dispensing of fuel from a tank. Each operation must only be performed by skilled personnel.  
**Main functions**  
 By means of a certain number of controls and enableings, the unit allows starting and stopping the dispensing operation, whenever certain conditions occur.  
 The main functions are:

- Access Control by means of electronic nozzle with relevant enabling (Max 85 Keys for 85 Users)
- Positioning state of the dispensing nozzle with relative enabling
- Tank Level check with relative dispensing enabling or disabling Pump start and stop by means of two START and STOP controls
- Emergency stop by means of Stop Button.

**Operating flexibility**  
 All the functions controlled by the electronics can be configured by the plant manager.

**Manager settings**  
 The manager can set:

- Dispensing enabling, after lifting the nozzle from idle position.
- Disabling of all electronic controls.



7. PACKAGE CONTENTS/PRE-INSPECTION

To open the cardboard packaging, use a pair of scissors or a cutter, being careful not to damage the control system or its components. Open the packaging and check that the following components provided as part of the equipment are available:

NOTE

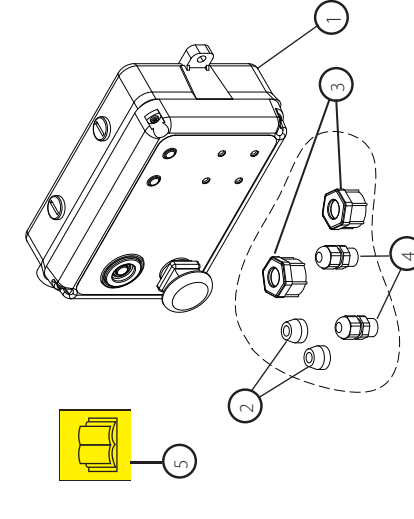
In the event that one or more of the components described below are missing from inside the package, please contact Piusi S.p.A. technical support.

ATTENTION

Check that the data on the plate correspond to the desired specifications. In the event of any anomaly, contact the supplier immediately, indicating the nature of the defects. Do not use equipment which you suspect might not be safe.

7.1. COMPONENTS

- 1 Access 85
- 2 Conical rubber
- 3 Cable clamping nut
- 4 Cable clamp
- 5 Use and configuration manual



8. MACHINE AND MANUFACTURER IDENTIFICATION

The control system comes with an identification plate; this is attached externally and contains the following information:

- type;
- lot number / Production year;
- technical data;
- use and maintenance handbook code.

**ATTENTION** Before installing, always make sure the type of dispensing system is correct and suitable for the available power supply (Voltage/Frequency)

Make sure that the plate does not deteriorate or become detached over time.

**NOTE** Should this situation arise, please contact our support department and arrange to have the damaged or missing plates sent back and replaced where necessary.

The following data is on the plate:

Dimensions	Length (A)	173 mm
	Depth (B)	62.3 mm
	Height (C)	117 mm
Weight		0,478 kg - 1,046 lbs.

ATTENTION

The manager can decide whether to install or not install an ON/OFF type level sensor on board the tank. This is useful for signalling the almost-empty-tank condition to the control system.

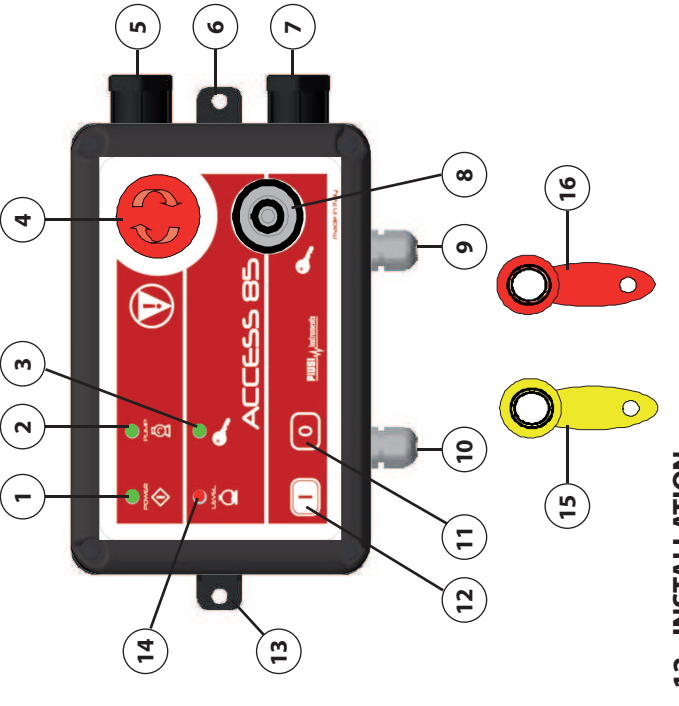
Normally open contact (closed in case of low level alarm)

11. USER INTERFACE

The control system communicates the various operating conditions by means of the 4 LEDs:

11.1. INTERFACE PART DETAIL

- 1 Green Mains Power Enabled LED
- 2 Green Indicator LED Motor/Pump ON
- 3 Green LED with miscellaneous indicators relating to the use of the electronic keys
- 4 Emergency Stop Mains Power Button
- 5 Emergency Stop Mains Power Cable
- 6 Box fastening fin
- 7 Feedthrough for Motor - Pump cable
- 8 Electronic key contact
- 9 Feedthrough for Nozzle Contact Cable
- 10 Feedthrough for Level Contact cable
- 11 STOP button for Pump Stop or reset
- 12 Emergency Stop Button
- 13 Emergency Stop Cable
- 14 Red Low Level Alarm Indicator LED
- 15 YELLOW USER key
- 16 RED key for MANAGER for accessing the user key storage phase



12. INSTALLATION

**ATTENTION** The installation operations are performed with door open and power contacts accessible. All these operations must be performed with the appliance isolated from the power mains to avoid any risk of electric shocks! All the following operations must be performed by skilled electro-technical or electronic operators

**ATTENTION** The use of accessories that are unsuitable and were not provided with the system is strictly prohibited. Piusi S.p.A. accepts no responsibility for damage to persons, property or the environment caused by failure to comply with this requirement.

**ATTENTION** The ACCESS85 control system is for professional use only

**ATTENTION** The ACCESS85 control system must be installed in a well lit place in compliance with applicable regulations.

**ATTENTION** The system must be installed in a non-dangerous area, as defined by Standard CEI 31-35/A, file 8851, referred to Standard CEI EN 60079-10-1.

**ATTENTION** The ACCESS85 control system has been designed to be used in a dry place, if installed outside, an adequate protective covering must be provided.

Below are details of the connections required for installation:

- 1 POWER INPUT 230 Vac 50 Hz (Minimum 1.5 sq mm x3)
- 2 MOTOR - PUMP POWER OUTPUT 230 Vac 50 Hz
- 3 NORMALLY OPEN NOZZLE CONTACT INPUT. If the nozzle is repositioned (closed with nozzle removed for dispensing)
- 4 LEVEL SENSOR

**EVENT 4.1.** Electronics powered at 24 Vac from board, with Triac-Output  
**EVENT 4.2.** Normally Open Clean Contact (Closed when Low level alarm tripped)

POWER IN 230 Vac



MOTOR OUTPUT



NOZZLE INPUT



LEVEL



LEVEL SENSOR DETAIL (4)

Normally open contact (closed in case of low level alarm)

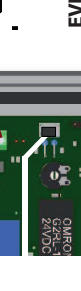
EVENT 2

Electronic-type level contact powered at 24 Vac from the ST unit itself, with AC type output

EVENT 4.1



EVENT 4.2



13. CONFIGURATION

The ACCESS85 control system can control 2 types of dispensing 'enableings' individually or at the same time:

- 1 - by means of button recognition
- 2 - by means of nozzle contact and pump start.

Basic adjustments:

- timer TMR3
- DIP switch S3

Both are read when ACCESS85 is switched on and both can be changed.

Access

- Interrupt power to ACCESS85
- Open the cover

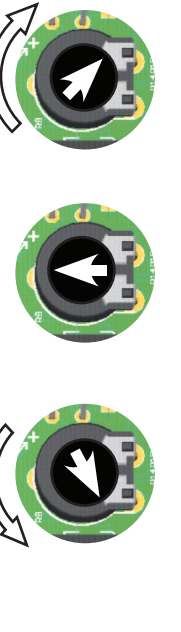
After completing adjustment, close the cover and restore power. Start the system again.

13.1. TIMER ADJUSTMENT

Vertical trimmer: factory setting: 15 minutes.  
 If the trimmer is turned to the left, the setting is reduced to a minimum of 7 seconds.  
 If the trimmer is turned to the right, the setting increases up to a maximum of 30 minutes.

**13.2. SWITCH S3 ADJUSTMENT**  
 By means of the DIP switch S3, it is possible to select the presence or absence of the Electronic Key functions. Thanks to this latter option, the dispensing pump switches on, operating the dispensing nozzle (nozzle contact closed). In this case, the nozzle contact is the only pump switch-on hardware control

Default, the 4 DIP switches are positioned on "DOWN" as shown in the illustration



POSITION 'UP'

min: 7 sec. default: 15 min. max: 30 min.

POSITION 'DOWN'

min: 7 sec. default: 15 min. max: 30 min.



**13.3.1. LINKING THE MANAGER KEY**  
 The plant manager will have an electronic key (red) at his disposal; this allows him to enter the set-up procedure where the USER keys (yellow) that enable the dispensing are stored or deleted.

To link the Manager key (RED) to the control unit, the following step-by-step procedure must be followed:

**13.3.2. LINKING/DELETING THE USER KEY**  
 The manager key checks that, in order to dispense, users must have an electronic recognition key. To do this, he must operate for an election to set the DIP switch S3 as appropriate and then store the User key (yellow) to the control unit, the following step-by-step procedure must be followed:

1. Switch the control unit on
2. Apply the red Manager key (which must have already been linked) that the control unit will begin flashing
3. The key LED will begin flashing
4. Conversely, if you wish to delete a User key from the control unit memory, press STOP (0). This will open a work session that will perform the same storing or deleting operation for all keys subsequently applied.
5. Apply the User key.
6. If the reading is successful, the key LED will remain lit for 2 seconds, indicating that the User key applied has been stored or deleted. It will then resume flashing
7. If the reading is NOT successful, the key LED will flash faster for about 2 seconds before the initial flashing speed resumes

**Should this happen, you will need to apply the User key again.**  
 If you have more User keys, resume the procedure from step 6;  
 If you wish to store more User keys to store, apply the red Manager key to close the session immediately or wait 1 minute for it to automatically return to stand-by mode. The key LED will turn itself off

**The storage or deletion will take place, one key after another, at the exact moment in which the key is applied and not at the end of the session. As such, in the event of a sudden power loss, only the storing or deleting task that was being carried out at that particular time will be lost (those for previous keys will have been saved).**

**14. NORMAL OPERATION**  
 The S3 switch has four common configuration settings. The sequence of operation that the user must perform in order to begin dispensing will depend on the system's configuration as set up by the manager. The system's most common configuration settings can effectively be narrowed down to 4. Here they are listed below:

The events described below refer to optimal conditions of use, with low-level contact absent. In the event that low-level contact is present, the dispensing will stop immediately. Further dispensing will not be permitted unless forced. This procedure is described in a later section.

PROCEDURE

**EVENT 1:**  
 Electronic key PRESENT  
 Nozzle contact PRESENT

1. The operator applies his key so that the system recognises him and enables him to proceed. Upon recognition, the green key LED will light up, steadily
2. The operator fits the nozzle and this enabling allows the pump to begin dispensing. The key LED will turn itself off
3. The refuelling takes place
4. The pump will switch off due to one of the following events:  
 5.1. The operator presses the STOP button (0)  
 5.2. The maximum time set on the timer has elapsed

**EVENT 2:**  
 Electronic key PRESENT  
 Nozzle contact ABSENT

1. The operator applies his personal key so that the system recognises him and the pump switches on. The key LED will flash very briefly
2. The operator lifts the nozzle
3. The refuelling takes place
4. The pump will switch off due to one of the following events:  
 4.1. The operator presses the STOP button (0)  
 4.2. The maximum time set on the timer has elapsed

**EVENT 3:**  
 Electronic key ABSENT  
 Nozzle contact ABSENT

1. The operator lifts the nozzle
2. The operator presses the START button (1)
3. The refuelling takes place
- 4.1. The operator presses the STOP button (0)  
 4.2. The maximum time set on the timer has elapsed

**EVENT 4:**  
 Electronic exclusion ENABLED  
 Nozzle contact PRESENT

1. The refuelling takes place
2. The pump will switch off due to one of the following events:  
 3.1. The operator repositions the nozzle

**15. FORCED DISPENSING WITH LEVEL CONTACT ENABLED (LOW LEVEL IN THE TANK)**  
 When the control unit senses that there is low-level contact, further dispensing will not be permitted unless forced. In this event, a special procedure must be followed.

**NOTE**  
 When the control unit senses that there is low-level contact, further dispensing will not be permitted unless forced. In this event, a special procedure must be followed.

**PROCEDURE**  
 Press the START button for 5 seconds. The key LED will begin flashing in a particular way:  
 This will lift the block on the pump for one dispense only.  
 The following steps for a forced dispensing operation depend on the system

16. RESTORING FACTORY SETTINGS

configuration (see previous paragraph).

ATTENTION

This procedure CANNOT BE REVERSED and is used to restore the Control Unit board to the condition in which it left the factory. All information relating to any linked User or Manager keys will be deleted.

PROCEDURE

Switch the control unit off. In order to do this, you may wish to use the emergency stop button.  
 Press the Start button (1) and keep it pressed down.  
 Switch the control unit on while keeping the Stop button (0) pressed down.  
 Release the Stop button (0) once the key LED begins to flash.  
 Press the Stop button (0) 10 times.  
 If the Stop button (0) has been pressed 10 times within 20 seconds, the internal storage of the Control Unit board will be deleted permanently; otherwise the Control Unit board will return to pending status, depending on the S3 selector setting

**ATTENTION** If there is nozzle contact, the system's operating logic requires that the nozzle be repositioned in its place when required on (Open Contact). This is because, upon ignition, the system performs a self-test for peripheral verification.

17. DEMOLITION AND DISPOSAL

**Forward**  
 If the system needs to be disposed, the parts which make it up must be delivered to companies that specialize in the recycling and disposal of industrial waste and, in particular, DISPOSAL OF OTHER PARTS:  
 Other components, such as pipes, rubber gaskets, plastic parts and wires, must be disposed of by companies specialising in the disposal of industrial waste.  
 The packaging consists of biodegradable cardboard which can be delivered to companies for normal recycling of cellulose.  
 Metal parts, whether painted or in stainless steel, can be consigned to scrap metal collectors.  
 These must be disposed of by companies that specialize in the disposal of electronic components, in accordance with the indications of directive 2002/96/CE (see text of directive below).  
 European Directive 2002/96/CE requires that all equipment marked with this symbol on the product and/or packaging not be disposed of together with non-differentiated urban waste. The symbol indicates that this product must not be disposed of together with normal household waste. It is the responsibility of the owner to dispose of these products as well as other electric or electronic equipment by means of the specific refuse collection structures indicated by the government or the local governing authorities.  
 Other components, such as pipes, rubber seals, plastic parts and wires must be disposed of by companies specialising in the disposal of industrial waste.

**Disposal of metal parts**  
 These must be disposed of by companies that specialize in the disposal of electronic components, in accordance with the indications of directive 2002/96/CE (see text of directive below).  
**Disposal of electric and electronic components**  
 European Directive 2002/96/CE requires that all equipment marked with this symbol on the product and/or packaging not be disposed of together with non-differentiated urban waste. The symbol indicates that this product must not be disposed of together with normal household waste. It is the responsibility of the owner to dispose of these products as well as other electric or electronic equipment by means of the specific refuse collection structures indicated by the government or the local governing authorities.  
 Other components, such as pipes, rubber seals, plastic parts and wires must be disposed of by companies specialising in the disposal of industrial waste.

**Disposal of miscellaneous parts**  
 These must be disposed of by companies that specialize in the disposal of electronic components, in accordance with the indications of directive 2002/96/CE (see text of directive below).  
**Disposal of electric and electronic components**  
 European Directive 2002/96/CE requires that all equipment marked with this symbol on the product and/or packaging not be disposed of together with non-differentiated urban waste. The symbol indicates that this product must not be disposed of together with normal household waste. It is the responsibility of the owner to dispose of these products as well as other electric or electronic equipment by means of the specific refuse collection structures indicated by the government or the local governing authorities.  
 Other components, such as pipes, rubber seals, plastic parts and wires must be disposed of by companies specialising in the disposal of industrial waste.

**Disposal of miscellaneous parts**  
 These must be disposed of by companies that specialize in the disposal of electronic components, in accordance with the indications of directive 2002/96/CE (see text of directive below).  
**Disposal of electric and electronic components**  
 European Directive 2002/96/CE requires that all equipment marked with this symbol on the product and/or packaging not be disposed of together with non-differentiated urban waste. The symbol indicates that this product must not be disposed of together with normal household waste. It is the responsibility of the owner to dispose of these products as well as other electric or electronic equipment by means of the specific refuse collection structures indicated by the government or the local governing authorities.  
 Other components, such as pipes, rubber seals, plastic parts and wires must be disposed of by companies specialising in the disposal of industrial waste.

**Disposal of miscellaneous parts**  
 These must be disposed of by companies that specialize in the disposal of electronic components, in accordance with the indications of directive 2002/96/CE (see text of directive below).  
**Disposal of electric and electronic components**  
 European Directive 2002/96/CE requires that all equipment marked with this symbol on the product and/or packaging not be disposed of together with non-differentiated urban waste. The symbol indicates that this product must not be disposed of together with normal household waste. It is the responsibility of the owner to dispose of these products as well as other electric or electronic equipment by means of the specific refuse collection structures indicated by the government or the local governing authorities.  
 Other components, such as pipes, rubber seals, plastic parts and wires must be disposed of by companies specialising in the disposal of industrial waste.

**Disposal of miscellaneous parts**  
 These must be disposed of by companies that specialize in the disposal of electronic components, in accordance with the indications of directive 2002/96/CE (see text of directive below).  
**Disposal of electric and electronic components**  
 European Directive 2002/96/CE requires that all equipment marked with this symbol on the product and/or packaging not be disposed of together with non-differentiated urban waste. The symbol indicates that this product must not be disposed of together with normal household waste. It is the responsibility of the owner to dispose of these products as well as other electric or electronic equipment by means of the specific refuse collection structures indicated by the government or the local governing authorities.  
 Other components, such as pipes, rubber seals, plastic parts and wires must be disposed of by companies specialising in the disposal of industrial waste.

**Disposal of miscellaneous parts**  
 These must be disposed of by companies that specialize in the disposal of electronic components, in accordance with the indications of directive 2002/96/CE (see text of directive below).  
**Disposal of electric and electronic components**  
 European Directive 2002/96/CE requires that all equipment marked with this symbol on the product and/or packaging not be disposed of together with non-differentiated urban waste. The symbol indicates that this product must not be disposed of together with normal household waste. It is the responsibility of the owner to dispose of these products as well as other electric or electronic equipment by means of the specific refuse collection structures indicated by the government or the local governing authorities.  
 Other components, such as pipes, rubber seals, plastic parts and wires must be disposed of by companies specialising in the disposal of industrial waste.

**Disposal of miscellaneous parts**  
 These must be disposed of by companies that specialize in the disposal of electronic components, in accordance with the indications of directive 2002/96/CE (see text of directive below).  
**Disposal of electric and electronic components**  
 European Directive 2002/96/CE requires that all equipment marked with this symbol on the product and/or packaging not be disposed of together with non-differentiated urban waste. The symbol indicates that this product must not be disposed of together with normal household waste. It is the responsibility of the owner to dispose of these products as well as other electric or electronic equipment by means of the specific refuse collection structures indicated by the government or the local governing authorities.  
 Other components, such as pipes, rubber seals, plastic parts and wires must be disposed of by companies specialising in the disposal of industrial waste.

**Disposal of miscellaneous parts**  
 These must be disposed of by companies that specialize in the disposal of electronic components, in accordance with the indications of directive 2002/96/CE (see text of directive below).  
**Disposal of electric and electronic components**  
 European Directive 2002/96/CE requires that all equipment marked with this symbol on the product and/or packaging not be disposed of together with non-differentiated urban waste. The symbol indicates that this product must not be disposed of together with normal household waste. It is the responsibility of the owner to dispose of these products as well as other electric or electronic equipment by means of the specific refuse collection structures indicated by the government or the local governing authorities.  
 Other components, such as pipes, rubber seals, plastic parts and wires must be disposed of by companies specialising in the disposal of industrial waste.

**Disposal of miscellaneous parts**  
 These must be disposed of by companies that specialize in the disposal of electronic components, in accordance with the indications of directive 2002/96/CE (see text of directive below).  
**Disposal of electric and electronic components**  
 European Directive 2002/96/CE requires that all equipment marked with this symbol on the product and/or packaging not be disposed of together with non-differentiated urban waste. The symbol indicates that this product must not be disposed of together with normal household waste. It is the responsibility of the owner to dispose of these products as well as other electric or electronic equipment by means of the specific refuse collection structures indicated by the government or the local governing authorities.  
 Other components, such as pipes, rubber seals, plastic parts and wires must be disposed of by companies specialising in the disposal of industrial waste.

**Disposal of miscellaneous parts**  
 These must be disposed of by companies that specialize in the disposal of electronic components, in accordance with the indications of directive 2002/96/CE (see text of directive below).  
**Disposal of electric and electronic components**  
 European Directive 2002/96/CE requires that all equipment marked with this symbol on the product and/or packaging not be disposed of together with non-differentiated urban waste. The symbol indicates that this product must not be disposed of together with normal household waste. It is the responsibility of the owner to dispose of these products as well as other electric or electronic equipment by means of the specific refuse collection structures indicated by the government or the local governing authorities.  
 Other components, such as pipes, rubber seals, plastic parts and wires must be disposed of by companies specialising in the disposal of industrial waste.

**Disposal of miscellaneous parts**  
 These must be disposed of by companies that specialize in the disposal of electronic components, in accordance