



IDROPULTRICI ELETTRICHE  
ELECTRIC HIGH-PRESSURE WATER CLEANERS  
NETTOYEURS HAUTE PRESSION ELECTRIQUES  
ELEKTRISCHE WASSER-HOCHDRUCKREINIGER  
HIDROLAVADORA ELÉCTRICAS  
HIDROLIMPADORAS ELÉCTRICAS  
ΗΛΕΚΤΡΙΚΑ ΥΑΡΟΚΑΘΑΡΙΣΤΙΚΑ ΜΗΧΑΝΗΜΑΤΑ



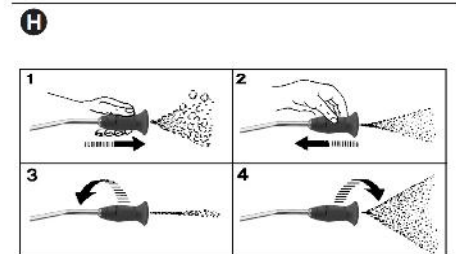
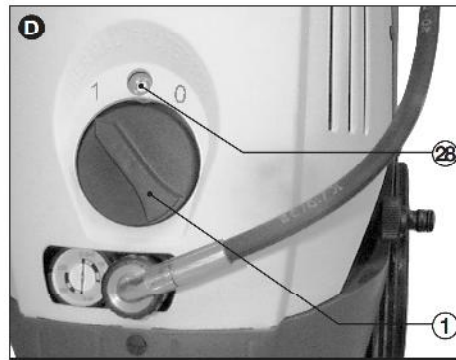
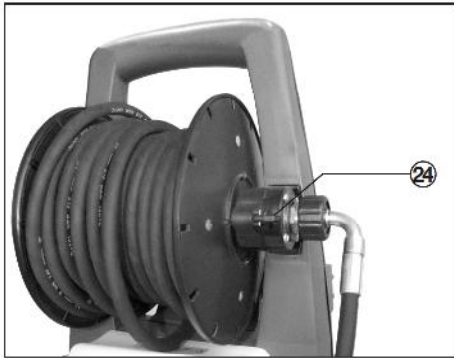
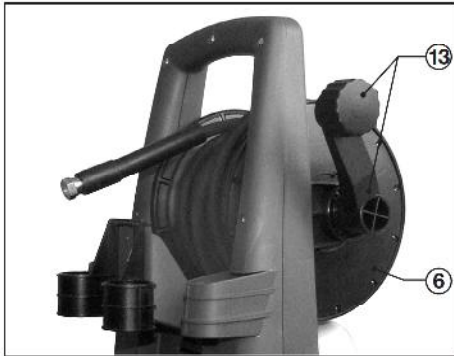
**KS**  
**CLASSIC - EXTRA**

(I) MANUALE DI USO E MANUTENZIONE  
(GB) USE AND MAINTENANCE MANUAL  
(FRA) MANUEL D'UTILISATION ET D'ENTRETIEN  
(D) BETRIEBS - UND WARTUNGSANLEITUNG  
(E) MANUAL DE USO Y MANTENIMIENTO  
(P) MANUAL DE USO E MANUTENÇÃO  
(GR) ΟΔΗΓΙΕΣ ΧΡΗΣΗΣ ΚΑΙ ΣΥΝΤΗΡΗΣΗΣ



ATTENZIONI! Non usare l'apparecchio senza avere letto il foglio di istruzioni.  
CAUTION. Do not use the device without the previous reading of the instruction leaflet.  
ATTENTION. Ne pas utiliser l'appareil sans avoir lu la notice d'utilisation.  
ACHTUNG. Das Gerät nicht benutzen, ohne die vorliegende Gebrauchsanweisung gelesen zu haben.  
CUIDADO. No utilicen el aparato sin haber previamente leído el folleto de instrucciones.  
ATENÇÃO. Não usar o aparelho sem antes ter lido a folha de instruções.  
ΠΡΟΣΟΧΗ. Μην χρησιμοποιείτε τη συσκευή χωρίς ναχετε διαβάσει το φύλλο οδηγιών





# ENGLISH

## Summary

<b>1</b>	<b>GENERAL INFORMATION</b>	<b>24</b>
1.1	TERMS OF THE GUARANTEE	24
1.2	ADDRESS OF THE MANUFACTURER	25
1.3	USE AND CONSERVATION OF THESE OPERATING AND MAINTENANCE MANUAL	25
1.4	SYMBOLS AND TERMS	25
1.4.1	Symbols	25
1.4.2	Terms	25
<b>2</b>	<b>FEATURES AND TECHNICAL SPECIFICATIONS</b>	<b>26</b>
2.1	IDENTIFICATION OF COMPONENTS	27
2.2	SAFETY DEVICES	27
2.3	INTENDED USE	28
<b>3</b>	<b>REMOVING THE APPLIANCE FROM ITS PACKING MATERIALS</b>	<b>28</b>
3.1	IDENTIFICATION LABEL AND WARNING LABELS	28
3.2	STANDARD ACCESSORIES	29
3.3	OPTIONAL ACCESSORIES	29
<b>4</b>	<b>INSTALLATION</b>	<b>29</b>
4.1	ASSEMBLING THE ACCESSORIES	30
4.2	CHECKS AND CONNECTION TO THE MAINS WATER SUPPLY	30
4.3	CHECKS AND CONNECTION TO THE MAINS ELECTRICITY SUPPLY	30
<b>5</b>	<b>OPERATION</b>	<b>31</b>
5.1	PRELIMINARY PROCEDURES	32
5.2	STANDARD OPERATION (HIGH PRESSURE)	32
5.3	USE WITH DETERGENTS	32
5.4	INTERRUPTING USE (TOTAL STOP)	33
<b>6</b>	<b>SWITCHING OFF AND STORAGE</b>	<b>33</b>
6.1	SWITCHING OFF	33
6.2	STORAGE	34
<b>7</b>	<b>CLEANING AND MAINTENANCE</b>	<b>34</b>
7.1	ROUTINE MAINTENANCE	34
7.2	SPECIAL MAINTENANCE	35
<b>8</b>	<b>DISMANTLING AND DISPOSAL</b>	<b>35</b>
<b>9</b>	<b>PROBLEMS, CAUSES AND SOLUTIONS</b>	<b>36</b>



## 1 GENERAL INFORMATION

Congratulations for choosing one of our products. We would like to remind you that we took the safety of the operator, the efficiency of its use and the protection of the environment into great consideration when designing and manufacturing this product.

In order to preserve its features over time, please read and follow these instructions carefully.

Particular attention must be awarded to the parts with the following symbol:



as they contain important instructions regarding safety when using the water cleaner.

**The Manufacturer is not liable for damage caused by:**

- failure to comply with these instructions;
- use of the water cleaner not included in the “**INTENDED USE**” section;
- failure to comply with current safety regulations and regulations for the prevention of accidents in the workplace;
- incorrect installation;
- failure to carry out the prescribed maintenance;
- modifications or actions without the authorisation by the Manufacturer;
- use of non-original or unsuitable spare parts for this model of water cleaner;
- repairs which were not carried out by a **Skilled Technician**.

### 1.1 TERMS OF THE GUARANTEE

The guarantee is valid for a period of 24 months from the date on the sales document (receipt, invoice etc.) provided the guarantee certificate included with the documents for the water cleaner was sent back to the Manufacturer within 10 days of the purchase date with all its parts filled in.

The purchaser has sole right to the replacement of the parts which the Manufacturer, or his authorised representative, deems faulty as regards their material or manufacture. This does not imply any right to compensation for any type of direct or indirect damage. Any costs for labour, packing and transportation are at the purchaser's expense.

Should the product be sent to the Manufacturer for repairs under this guarantee, it must be complete with all its original parts and not be tampered with upon arrival. Any request under this guarantee will be denied if this is not the case.

All replaced parts become a property of the Manufacturer.

Any faults or failures which occur during or after the period of the guarantee do not imply the right to suspend payment or to any further extension.

This guarantee does not cover the replacement of the water cleaner and automatically becomes void should the agreed terms of payment not be abided by.

The following are not covered by the guarantee:

- direct or indirect damage, of any type, caused by falls, incorrect use of the water cleaner and failure to observe regulations regarding safety, installation, operation and maintenance which are contained in these instructions;
- damage caused by the inactivity of the water cleaner for repairs;
- any parts which are subject to wear during normal use;
- any parts which are deemed faulty due to negligence or carelessness during use;
- damage caused by the use of non-original spare parts or accessories or not expressly authorised by the Manufacturer, and by repairs not completed by a **Skilled Technician**
- damage caused by incorrect electrical power supply.

The guarantee becomes void should the water cleaner, and especially its safety devices, be tampered with and the Manufacturer is no longer liable.

The Manufacturer reserves the right to make any modification at any time which it deems necessary to improve the product and is not liable to make these modifications to previously manufactured products, be they delivered or under delivery.

The conditions in this section exclude any previous explicit or implicit condition.

## 1.2 ADDRESS OF THE MANUFACTURER

The address of the manufacturer is given in the declaration of conformity at the end of this part of the instruction manual.

## 1.3 USE AND CONSERVATION OF THESE OPERATING AND MAINTENANCE MANUAL

The operating and maintenance instructions are an integral part of the water cleaner and they must be kept in a safe place for future reference so that they may be readily consulted in case of need.

The operating and maintenance instructions contain important information for the safety of the operator and of any people near him and for the protection of the environment.

In case of deterioration or loss, a new copy should be requested from the dealer or from an authorised service centre.

If the water cleaner is passed on to a third party, please make sure these operating and maintenance instructions are also given to the new owner.

We take great care when drawing up our instructions. If you note any mistakes, please do inform the Manufacturer or an authorised service centre.

The Manufacturer reserves the right to modify, update and correct these instructions without notice.

It is illegal to copy these instructions, even partially, without prior authorisation by the Manufacturer.

## 1.4 SYMBOLS AND TERMS

### 1.4.1 Symbols

The symbol:



next to certain parts of the text, is to indicate that there is the firm possibility of injury to persons if the relative instructions and indications are not followed.

The symbol:

### **WARNING**

next to certain parts of the text is to indicate that there is the possibility of damaging the water cleaner if the relative instructions are not followed.

### 1.4.2 Terms

- **Skilled Technician:** a person, generally from the service centre, who has received appropriate training and is authorised to carry out special maintenance and repairs on the water cleaner. Any work on electrical parts must be carried out by a **Skilled Technician** who is also a **Qualified Electrician**, i.e. a person with professional training who is authorised to check, install and repair electrical equipment correctly and according to current regulations in the country where the water cleaner is installed.
- **Total Stop:** this stops operation of the water cleaner every time the control lever on the cleaner gun is released.
- **By-pass:** means the particular operating mode of the water cleaner that is achieved when the lever of the cleaner gun is released during normal operation. In this condition, the pressure gauge

signals lack of pressure and the pumped water returns to the suction unit thanks to the pressure control valve.

- **Easy Start:** this aids starting up the water cleaner by lowering the pressure for the first moments of its operation.

## 2 FEATURES AND TECHNICAL SPECIFICATIONS

	KS 1600		KS 1700	
	Classic	Extra	Classic	Extra
<b>ELECTRICAL CONNECTION</b>				
Mains power supply	230 V 1~50 Hz		230 V 1~50 Hz	
Absorbed power	2,3 kW		2,7 kW	
Fuse	16 A		16 A	
<b>HYDRAULIC CONNECTION</b>				
Maximum inlet water temperature	50 °C 122 °F		50 °C 122 °F	
Minimum inlet water temperature	5 °C 41 °F		5 °C 41 °F	
Minimum inlet water flow	600 l/h 158 US gph		700 l/h 185 US gph	
Maximum inlet water pressure	8 bar 116 psi		8 bar 116 psi	
Maximum priming depth	0 m 0 in		0 m 0 in	
<b>PERFORMANCE</b>				
Water flow	480 l/h 127 US gph		540 l/h 143 US gph	
Maximum pressure	140 bars 2031 psi		155 bars 2248 psi	
Recoil of cleaner gun	24 N		25 N	
Sound level	75 dB (A)		81 dB (A)	
Operator arm vibrations	1,14 m/s²		2,24 m/s²	
<b>WEIGHT AND DIMENSION</b>				
Lenght x width x height	38 x 32 x 84 cm 15 x 13 x 35 in			
Weight	17 kg 37 lb	19 kg 42 lb	17 kg 37 lb	19 kg 42 lb
Detergent tank	- -	- -	1,75 l 0,46 US gal	1,75 l 0,46 US gal

All features and technical specifications are only indications. The Manufacturer reserves the right to modify the appliance as it deems necessary.



## 2.1 IDENTIFICATION OF COMPONENTS

Please also refer to figures 1 to 4, which are located at the start of these operating and maintenance instructions.

- |   |  |
|---|--|
| 1. Switch                                     | 16. Setscrew wrench for nozzle disassembly               |
| 2. Electrical wire + plug                     | 17. Pin for nozzle cleaning                              |
| 3. Pressure indicator                         | 18. Technical data plate                                 |
| 4. Detergent tank filling plug (only KS 1700) | 19. Room for housing the lance pipe                      |
| 5. Water outlet connection (only CLASSIC)     | 20. Room for housing the water gun                       |
| 6. Hose reel (only EXTRA)                     | 21. Support to wind the electrical wire                  |
| 7. High-pressure hose                         | 22. Rotojet (only EXTRA)                                 |
| 8. Water gun                                  | 23. Guaranteed sound power plate                         |
| 9. Water gun lever                            | 24. Hose reel locking (only EXTRA)                       |
| 10. Water gun lever safety lock               | 25. Water cleaner/hose reel connecting hose (only EXTRA) |
| 11. Lance hose                                | 26. Accessory support (only EXTRA)                       |
| 12. Nozzle-holding multi-adjusting head       | 27. Caution plate  |
| 13. Knob and hose reel lever (only EXTRA)     | 28. Thermal switch                                       |
| 14. Water suction connection                  | 29. Warning plate  |
| 15. Water suction filter                      | 30. Handlebar  |
|   | 31. Foaming lance (only KS 1600)                         |

## 2.2 SAFETY DEVICES

This water cleaner is provided with the following safety devices:

### a) Amperometric protector

This blocks the operation of the water cleaner in case of excessive consumption of electrical current.

In this case, proceed as follows:

- switch the main switch (1) to position "0" and remove the plug from the power outlet;
- press the lever (9) on the cleaner gun to eliminate any remaining pressure;
- wait 10 to 15 minutes until the water cleaner cools down;
- check that the instructions in the "**CHECKS AND CONNECTION TO THE MAINS ELECTRICITY SUPPLY**" section have been followed, particularly regarding any extension cord used;
- replace the electric plug in the power outlet and repeat the start-up procedure described in the "**OPERATION**" section.



### CAUTION

- *If this safety device cuts in repeatedly, do not use the water cleaner until it has been checked by a Skilled Technician.*

### b) Pressure limit/adjustment valve

When this valve has been correctly set, the pumped fluid is able to return to the pump's suction unit, thus preventing the creation of dangerous levels of pressure when the cleaner gun is stopped or should pressure be set that is above allowed levels.

### c) Safety stop on cleaner gun lever

This safety device (10) shuts and blocks the lever on the cleaner gun (9) to prevent the possibility of it being started by accident (also see Fig. B)



## 2.3 INTENDED USE



### CAUTION

- This water cleaner is to be used exclusively for:
  - cleaning vehicles, machinery, buildings, tools etc with cold water, possibly with the addition of detergents as per the Manufacturer's instructions;
  - distributing detergents as per the Manufacturer's instructions;
  - removing lime scale and unblocking pipe work using the appropriate tools as per the Manufacturer's instructions;
  - water sanding objects using the appropriate tools as per the Manufacturer's instructions;
- To protect the environment, vehicle engines and machinery with oil-pressure circuits must only be cleaned in areas with a suitable oil trap.
- The water cleaner must not be used to wash people, animals, energized electrical appliances, delicate objects or the high pressure cleaner itself.
- The accessories (standard and optional) and the detergents used with the high pressure cleaner must be those endorsed by the Manufacturer.
- The high pressure cleaner is not suitable for use in certain situations such as in corrosive or explosive atmospheres.
- Contact the Manufacturer's service centre before use on board vehicles, ships or airplanes, as there may be additional instructions for use.  
**Any other use is considered improper.**  
**The Manufacturer is not liable for any damage caused by improper or incorrect use.**

## 3 REMOVING THE APPLIANCE FROM ITS PACKING MATERIALS



### CAUTION

- Protective gloves and glasses must be worn when removing the appliance from the packing materials to prevent injury to the hands and eyes.
- The packing materials (plastic bags, staples etc.) must not be left in reach of children, as they are potentially dangerous.
- The packing materials must be disposed of according to current regulations in the country where the water cleaner is installed.  
*In particular, plastic bags and packaging must never be abandoned, as they are harmful to the environment.*
- After removing the appliance from the packing materials, check that no parts are missing.  
*In case of doubt, do not use the water cleaner but contact an authorised service centre so that a **Skilled Technician** can check the appliance*

### 3.1 IDENTIFICATION LABEL AND WARNING LABELS

See Fig. A at the front of these operating and maintenance instructions.

The identification label (18) contains the serial number and the main technical specifications of the water cleaner.

The warning labels contain information regarding any further risks that may exist when using the water cleaner and their meaning is explained below.

- Warning plate (29): indicates that the water cleaner must not be used unless the operating and maintenance instructions have been read carefully beforehand.
- Caution plate (27): indicates that the water cleaner must not be used to wash people, animals, electrical appliances or the high pressure cleaner itself.



### CAUTION

- *After removing the appliance from the packing materials, check that the identification label and the warning labels are present and are legible. If this is not the case, contact your dealer or an authorised service centre so they can be replaced.*
- *If the identification label and the warning labels deteriorate during use, contact your dealer or an authorised service centre so they can be replaced.*

### 3.2 STANDARD ACCESSORIES

Make sure that in the product package that was bought there are the following elements:

- KS high-pressure water cleaner;
- high-pressure delivery pipe with fast coupling (only CLASSIC);
- hose reel complete with high-pressure delivery pipe (only EXTRA);
- water gun;
- lance hose;
- rotojet (only EXTRA);
- foaming lance (only KS 1600);
- use and maintenance manual;
- guarantee certificate;
- accessory bag containing:
  - lance hose nozzle disassembling wrench,
  - nozzle cleaning pin,
  - water suction hose-holding connector,
  - water suction filter;
- bag containing (only EXTRA):
  - knob and lever for hose reel (13),
  - water cleaner/hose reel connecting pipe (25),
  - accessory support (26).

In case of problems, apply to the dealer or to an authorised service centre.

### 3.3 OPTIONAL ACCESSORIES

The standard accessories for the high pressure cleaner can be integrated with the following vast range of accessories:

- Sandblasting lance: designed for smoothing down surfaces, eliminating rust, paint, deposits etc.
- Pipe-draining probe: designed for unblocking pipes and ducts.
- Underbody lance: designed to reach the most difficult areas of access.
- Rotating water jet brush: designed for cleaning delicate surfaces.
- Rotojet: designed to eliminate the toughest dirt.
- Foaming lance: designed for the most efficient distribution of detergent.



### CAUTION

- *The operation of the water cleaner may be impaired if unsuitable accessories are used and they may even make it dangerous. Only use original accessories endorsed by the Manufacturer. Refer to the documents provided with the optional accessories for information regarding their general use, safety warnings, installation and maintenance.*

## 4 INSTALLATION

See Fig. A at the front of these operating and maintenance instructions.

#### 4.1 ASSEMBLING THE ACCESSORIES

- a) Insert the lance hose (11) on the water gun (8) and tighten.
- b) Mount the accessory support (26) on the handlebar (30); mount the knob and the lever (13) on the hose reel (6) (only EXTRA).
- c) Mount the hose (25) between the hose reel and the water cleaner, by tightening the two fast coupling connectors; release the locking device (24) of the hose reel (6); unroll the hose quantity (7) that is necessary by rotating the hose reel by means of the knob (13), then lock the device (24) (only EXTRA).
- d) Unroll the high-pressure hose (7), connect the fast coupling connector to the water outlet connector (5), screw and tighten (only CLASSIC).
- e) Screw the end of the high-pressure pipe (7) (side without fast coupling for CLASSIC) on the water gun thread (8) and tighten with two 17-mm box wrenches (not supplied).
- f) Insert the water suction filter (15) into the water suction connector (14) and tighten it on the water inlet connector of the water cleaner.

#### 4.2 CONTROLS AND CONNECTION TO THE MAINS WATER SUPPLY

##### WARNING

- The water supply must be able to guarantee the adequate delivery of water flow to the high pressure cleaner; refer to the table of technical specifications.  
In case of doubt, contact a **Skilled Technician**.
- Do not supply the water cleaner with water at a temperature in excess of 50°C/122°F or below 5°C/41°F.
- The pressure of the water supply must not be in excess of 8 bar/116 psi.
- Do not operate the high pressure cleaner with a priming depth in excess of 0 m / 0 ft.
- Do not operate the high pressure cleaner if it is not connected to a water supply.
- Do not supply the high pressure cleaner with salt water or water containing impurities. In this event, run the high pressure cleaner for a few minutes with clean water.



##### CAUTION

- *Follow current regulations for connection to the mains water supply in the country where the water cleaner is installed.*

#### 4.3 CHECKS AND CONNECTION TO THE MAINS ELECTRICITY SUPPLY



##### CAUTION

- *A **Skilled Technician** must check that the electrical supply complies with the data indicated on the identification label (18) on the high pressure cleaner. It is especially important that the supply voltage does not differ more than  $\pm 5\%$  from that indicated on the label.*
- *All connections to mains electricity must be carried out by a **Qualified Electrician** according to IEC 364 regulations or the equivalent standard in the country where the high pressure cleaner is to be used. It is especially important that the current outlet where the high pressure cleaner is connected is provided with an earth conductor and a suitable fuse (according to the size indicated on the identification label and in the table of technical specifications), and must be protected by a magneto-thermal differential circuit breaker, whose sensitivity is not in excess of 30 mA.*
- *If the power supply cable is too short, an extension cord can be used provided it is not longer than 10 m / 32.8 ft, the section of the wires is at least 1.5mm<sup>2</sup> and the plug and the socket are waterproof. Contact a **Qualified Electrician** so that all these requirements are followed. The use of unsuitable extension cords can be dangerous.*



## 5 OPERATION



### CAUTION

- *The high pressure cleaner must be used with care and attention. It is your responsibility to make sure that any infrequent users have read these instructions and are acquainted with the operation of the water cleaner; otherwise do not allow others to use the high pressure cleaner. Water cleaners must not be used by children or by unauthorised personnel.*
- *Comply with the safety warnings in the operating and maintenance instructions of any optional accessories to be used.*
- *Do not use the high pressure cleaner if:*
  - *the power supply cable or other important parts such as the high pressure pipe, the safety devices, the cleaner gun and the lance are damaged;*
  - *the high pressure cleaner has been tipped over or has been bumped;*
  - *there are obvious leaks of water.*

*In these circumstances, the water cleaner should be tested by a **Skilled Technician**.*

- *It is especially important to pay great attention when the high pressure cleaner is used in areas where there are moving vehicles as these can crush or damage the power supply cable, the high pressure pipe, the cleaner gun etc.*
- *During operation, never leave the water cleaner unattended and make sure it is out of children's reach. Pay particular attention when using it in kindergartens, nursing homes and old people's homes, as unsupervised children, elderly people and disabled people may be present in such places.*
- *Before using the water cleaner, make sure it is in a dry place and that it is in a flat and stable position in order to avoid accidents and prevent it from falling over.*
- *Before moving the water cleaner, follow the instructions in the "**Switching off**" section.*
- *Before starting the water cleaner, put on clothing which guarantees adequate protection against the possibility of incorrect manoeuvres of the jet of pressurised water. Do not operate the water cleaner near people unless they are also wearing protective clothing.*
- *High-pressure jets of water can be dangerous if they are not used properly. Do not point the jet in the direction of people, animals, and energized electrical appliances or towards the water cleaner itself.*
- *Hold the cleaner gun firmly during use; when operating the lever (9), the operator is subjected to the backlash of the high pressure. The power of this recoil is indicated in the table of technical specifications (recoil is expressed in N, where 1 N = 0.1 kg).*
- *Do not point the jet towards oneself or other people in order to clean off clothing or footwear.*
- *Vehicle tyres must be cleaned at a distance of at least 50cm to safeguard them from being damaged by the high-pressure jet. The first evidence of damage to a tyre is a change in colour.*
- *Do not point the high-pressure jet towards materials, which contain asbestos or other harmful substances.*
- *Do not use the water cleaner in the rain.*
- *Pay particular attention to the instructions in the "**Checks and connection to the mains electricity supply**" section.*
- *Pay particular attention to the instructions in the "**Use with detergents**" section.*
- *When the water cleaner is not in use, do not leave its plug in the power outlet and disconnect it before any activity. More precisely, make sure that the mains switch (1) is in position "0", remove the plug from the power outlet, press the lever (9) on the cleaner gun to eliminate any remaining pressure and bring the safety catch in its locked position (10) (Fig. B):*
  - *before leaving the high power cleaner unattended, even for only a short time;*
  - *before topping up the detergent;*
  - *after use;*



*In addition, wait until the high pressure cleaner has completely cooled down before cleaning or maintenance.*

- *During use, do not lock the lever (9) on the cleaner gun in the open position.*
- *Do not remove the plug from the power outlet by pulling on the power supply cable.*
- *Do not put any reducers or adaptors between the electric plug and the power outlet.*
- *Keep the power supply cable, any extension cords, the plugs and the outlets dry. Do not touch them with wet hands.*
- *If the supply cord is damaged, it must be replaced by the Manufacturer or by a **Skilled Technician**, in order to avoid a hazard.*
- *Do not cover the high pressure cleaner during operation and do not place it where there is inadequate ventilation.*
- *When the high pressure cleaner is used in enclosed spaces, make sure that there is adequate ventilation.*

### **5.1 PRELIMINARY PROCEDURES**

- Unroll the high-pressure pipe (7) completely.
- Attach a supply pipe to the water inlet's quick connection (14) using a normal garden connector.
- Open the tap to the water supply and make sure that there are no drips.
- Make sure that the main switch (1) is in the off position (the "0" position) and put the plug into the electric current outlet.
- Turn the main switch (1) to position "1".
- Press the cleaner gun's control lever (9) and wait for a continuous jet of water to be issued.
- Turn the main switch (1) to position "0" and connect the lance pipe (11) to the cleaner gun (8).

### **5.2 STANDARD OPERATION (HIGH PRESSURE)**

- Make sure that the nozzle head (12) is not in the position for supplying detergent (also see the "Use with detergents" section).
- Restart the high pressure cleaner by turning the main switch (1) to position "1" and check that the spray from the nozzle is uniform, without dripping.  
**Note:** during this restart phase, the high pressure cleaner will immediately stop operating after the initial peak, as the Total Stop device will take effect.
- Use the cleaner gun's lever (9) to start operation of the high pressure cleaner and thus start cleaning.
- The pressure value can be read on the pressure indicator (3).

### **5.3 USE WITH DETERGENTS**



#### **CAUTION**

- *The high pressure cleaner was designed to be used with the detergents recommended by the Manufacturer. Use of other detergents or chemicals can affect the safety of the high pressure cleaner.  
Never suck up liquids, which contain solvents, petrol, diluents, acetone and fuel oil, as these products are highly inflammable, explosive and toxic when nebulized.*
- *Carefully read the instructions and warnings on the label of the detergent to be used.*
- *Store detergents in a safe place out of children's reach.*
- *Should detergent come into contact with your eyes, wash immediately with water. Contact a doctor without delay and remember to take the container of detergent with you.*
- *If detergent is swallowed, do not provoke vomiting. Contact a doctor without delay and remember to take the container of detergent with you.*

- *When filling the tank with detergent, take care not to spill any detergent on the high pressure cleaner. If this should happen, wait at least 24 hours before using the high pressure cleaner so that any liquid, which may have entered the appliance, can evaporate.*

The recommended detergents, are over 90% biodegradable.

For information on how to use the detergents, refer to the instructions in the table below and on the label on the container of detergent.

- In case of suction from the water cleaner tank (only KS 1700):
  - Remove the plug (4) and, by paying attention that the fluid does not overflow, fill the tank (maximum capacity 1.75l/0.46 US gal.) by following the recommendations relating to the proportion indicated on the detergent package label.
  - Operate the nozzle-holding multi-adjusting head (12) as shown in Fig. H-1 and activate the water gun lever (9) and start the detergent spraying operation.
  - Operate the nozzle-holding multi-adjusting head (12) as shown in Fig. H-2 to reset the high-pressure operation.
- In case you use the foaming lance (31) (only KS 1600), insert it on the water gun (8) and switch on the device (the suction and the mixing take place automatically when the water flows by).

#### 5.4 INTERRUPTING USE (TOTAL STOP)

Release the lever (9) on the cleaner gun and the water cleaner will automatically stop.

The water cleaner starts operating normally again when the lever on the cleaner gun is pressed again.



#### CAUTION

- *It is important to remember that the high pressure cleaner is still operational when it is in Total Stop mode. Therefore, always put the main switch (1) in position "0", remove the plug from the power outlet, press the lever (9) on the cleaner gun to eliminate any remaining pressure and lock the safety protection device (10) (Fig. B), before leaving it unattended, even for a short time.*

## 6 SWITCHING OFF AND STORAGE

After cleaning, switch the water cleaner off and prepare it for storage.

### 6.1 SWITCHING OFF

- Close the tap for the water supply securely.
- Empty the water out of the water cleaner by pressing the lever (9) on the cleaner gun for a few seconds.
- Put the main switch (1) in position "0"
- Remove the plug from the power outlet.
- Press the lever (9) on the cleaner gun to eliminate any remaining pressure in the high-pressure pipe (7).
- Rewind the power supply cable (2) with care and hook it to its support (21).
- Wait for the high pressure cleaner to cool down.



#### CAUTION

- *When the water cleaner is left to cool down, take care that:*
  - *the water cleaner is not left unattended in the presence of unsupervised children, elderly or disabled people.*
  - *the water cleaner is in a stable position and not at risk of falling over.*
  - *the water cleaner is not in contact with inflammable materials, or in their immediate vicinity.*

## 6.2 STORAGE

- Wind up the high-pressure pipe (7) carefully and avoid bending it.
- Wind up the electric power supply cable (2).
- Put the water cleaner in a clean and dry place making sure that the electric power supply cable and the high-pressure pipe are not damaged.

### WARNING

- The water cleaner is not frost proof.

In order to prevent the formation of ice inside the water cleaner in cold areas, it is possible to make the high pressure cleaner take up a motor vehicle grade anti freeze before starting the “**Switch off**” procedures. Contact a **Skilled Technician** before attempting this as the pumped liquid could damage the seals in the high-pressure pump.

If it is not possible to protect the high pressure cleaner in cold areas as described above, it must be brought into a warm room for the time required to melt any ice which may have formed inside it before attempting to start it up again.

If these instructions are not followed, the high pressure cleaner may be seriously damaged.

## 7 CLEANING AND MAINTENANCE



### CAUTION

- *Only start cleaning and maintenance once the instructions in the “**Switching off**” section have been completed.*

***It is particularly important to always disconnect the electricity supply.***

- *To safeguard the safety of the high pressure cleaner, only use the original spare parts supplied by the Manufacturer or those endorsed by him.*
- *The rubber pipes, the coupling and the high-pressure lances are important for safety: only use those endorsed by the Manufacturer.*

### 7.1 ROUTINE MAINTENANCE

Follow the instructions in the “**Switching off**” section and abide by the recommendations in the table below.

INTERVAL FOR MAINTENANCE	ACTION
Each time used	<ul style="list-style-type: none"><li>• Check the supply cable, high-pressure pipe, couplings, cleaner gun, lance pipe.</li></ul> <b>Should any of these parts appear to be damaged, do not use the high pressure cleaner and contact a Skilled Technician.</b>
Weekly	<ul style="list-style-type: none"><li>• Clean the water inlet filter (15).</li></ul> Usually, it is sufficient to pass the filter under running water or in a jet of compressed air to clean it. In more difficult cases, use a lime scale remover or replace the filter. Contact an authorised service centre for the purchase of a new filter.
Monthly	<ul style="list-style-type: none"><li>• Clean the nozzle.</li></ul> For cleaning, it is generally enough to pass the supplied pin (17) inside the nozzle hole. In case you do not obtain any appreciable result, replace the nozzle by using the supplied wrench 16. For purchasing the spare part, apply to an authorised service centre.



### WARNING

- During use, the high pressure cleaner should not be too noisy and large amounts of water or oil should not drip from underneath it.  
In this event, a **Skilled Technician** should test the appliance.

### 7.2 SPECIAL MAINTENANCE



#### CAUTION

- *Only **Skilled Technicians** are authorised to carry out special maintenance.*

Follow the instructions in the table below for special maintenance.

INTERVAL FOR MAINTENANCE	ACTION
Every 100 hours	Check the pump hydraulic circuit. Check the pump fixing.
Every 200 hours	Replace the pump oil. Check the pump suction/delivery valves. Check the pump screws are tightened. Check the pump adjustment valve. Check the safety devices.

### WARNING

- The data in the table are indications.

## 8 DISMANTLING AND DISPOSAL

Only trained personnel are allowed to dismantle the high pressure cleaner in accordance with the current regulations in the country where it is installed.



#### CAUTION

- *Before disposing of the high pressure cleaner, make sure it is no longer possible to operate it, by cutting the power supply cable for example. Make sure all its parts are inoffensive, as they could prove to dangerous to children playing.*



## 9 PROBLEMS, CAUSES AND SOLUTIONS



### CAUTION

- Before undertaking any action, follow the instructions in the **“Switching off”** section. If it is not possible to restore correct operation of the high pressure cleaner using the information in the table below, contact a **Skilled Technician**.

FAILURES	CAUSES	SOLUTIONS
By setting the switch (1) to «1», the water cleaner does not start. Remember also what mentioned in the note or section «Interrupting the use (Total Stop)».	A safety device of the system to which the water cleaner is connected (fuse, differential switch, etc.) has triggered.  The plug of the power supply cable is not inserted correctly.	Reset the protection device. In case of a new triggering, do not use the water cleaner and apply to a Skilled Technician.  Disconnect the plug from the socket and reconnect it correctly.
The water cleaner vibrates a lot and is noisy.	The water inlet filter (15) is dirty.  The water supply is not enough.	Observe what mentioned in the section «Routine maintenance».  Check that the tap is completely opened and that the capacity of the hydraulic network conforms with what mentioned in the section «Features and technical specifications».
The water cleaner does not reach the maximum pressure.	The nozzle-holding multi-adjusting head (12) is in low pressure position (Fig. H-1).  The nozzle is worn.	Operate according to what shown in Fig. H-2.  Replace the nozzle according to what mentioned in the section «Features and technical specifications».
Poor detergent suction.	The nozzle-holding multi-adjusting head (12) is not in low pressure position (Fig. H-1)  Product missing in the tank.  The used detergent is too viscous.	Operate according to what shown in Fig. H-1.  Add product to the tank.  Use a detergent that is recommended by the producer (see the detergent table), by observing the thinning indicated on the label.
No water comes out from the nozzle.	Water missing.  Water nozzle clogged.	Check that the tap of the water network is completely opened.  Clean and/or replace the nozzle according to what mentioned in the section «Features and technical specifications».
The water cleaner stops during the operation.	A safety device of the system to which the water cleaner is connected (fuse, differential switch, etc.) has triggered.  The amperometric protection device has cut in.	Reset the protection device. In case of a new triggering, do not use the water cleaner and apply to a Skilled Technician.  Observe what mentioned in the section «Safety devices».
Rotating the main switch (1), the motor hums but does not start.	The electrical system and/or the extension are not suitable.	Observe what mentioned in the section «Checks and connection to mains electricity supply».



**EC declaration of conformity**

according to Directive: 73/23/EC, 93/68/EC, 89/336/EC, 98/37/EC, 2000/14/EC.

**Comet S.p.A.**  
**Via G. Dorso, 4 - 42100 Reggio Emilia - Italia**

as the owner of the technical documentation declares,  
under its own responsibility, that the water cleaner:

**KS**

with serial number (to be reported by the purchaser by referring to the identification plate):

---

**to which this declaration refers, conforms with the requirements of the Directives**

**73/23/EC, 93/68/EC, 89/336/EC, 98/37/EC e 2000/14/EC.**

For the check of conformity, reference to the following Standard has been made:

- |                |                 |            |            |                |
|----------------|-----------------|------------|------------|----------------|
| • EN 60335-1   | • EN 60335-2-79 | • EN 55014 | • EN 55104 | • EN 61000-4-2 |
| • EN 61000-4-4 | • ENV 50141     | • EN 292-1 | • EN 292-2 | • EN ISO 3744  |

The measured power level amounts to 93 dB(A) and the guaranteed sound power level is 95 dB(A)

Rated capacity (max.): 540 l/h

Conformity evaluation procedure: Enclosure V to Directive 2000/14/EC

Reggio Emilia, 08/01/2003

Baldi Renzo  
(President Comet S.p.A.)

A handwritten signature in black ink, appearing to be "Baldi Renzo", written over the printed name and title.