



L'ARTE DEL VAPORE

CARMEN

Mod. 3400 & Mod. 3400S

1. PREFACE

Dear Client,

We would like to congratulate you in your choice.

With the goal of improving and continually updating production by always offering innovative products, TECNOVAP has studied, designed and created the **CARMEN**; a combined machine for cleaning which brings together the power of steam and the force of vacuuming.

This product, studied in collaboration with 20 years of experience from cleaning experts, is custom-built and presents itself with an attractive design. It is equipped with a dependable stainless steel 18/10 boiler which allows it to produce a powerful and consistent supply of steam.

With the power of steam meaning power of ecological cleaning, Tecnovap has combined a powerful vacuum able to vacuum solids and liquids. **The MODEL 3400S**, thanks to the new filter system for dust and dirt, may also be used for air purification.

All of this has been studied so you could have in possession a multi-functional appliance designed using the most advanced technology with various fantastic possibilities of application which will last you a lifetime.

Pay careful attention to the following instructions which will be helpful in operating your **CARMEN**.

IMPORTANT

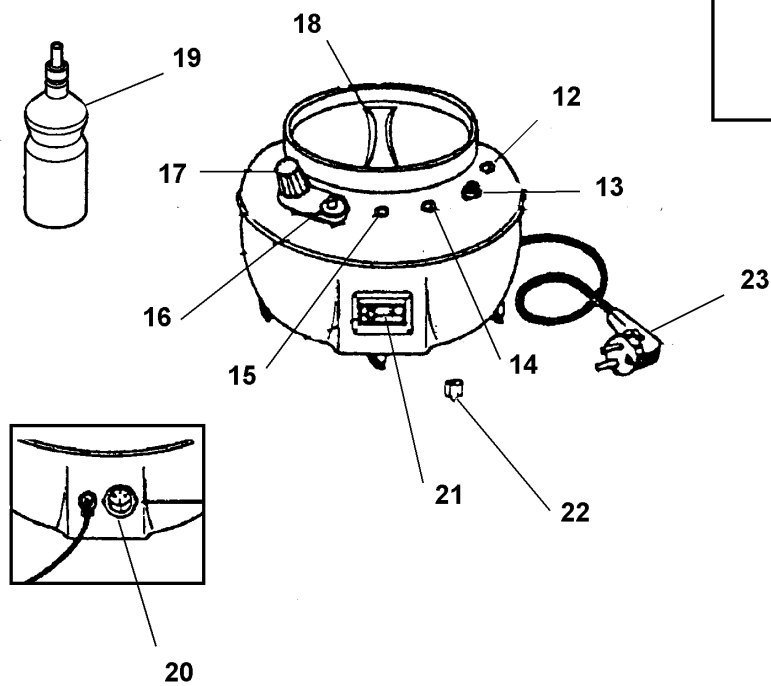
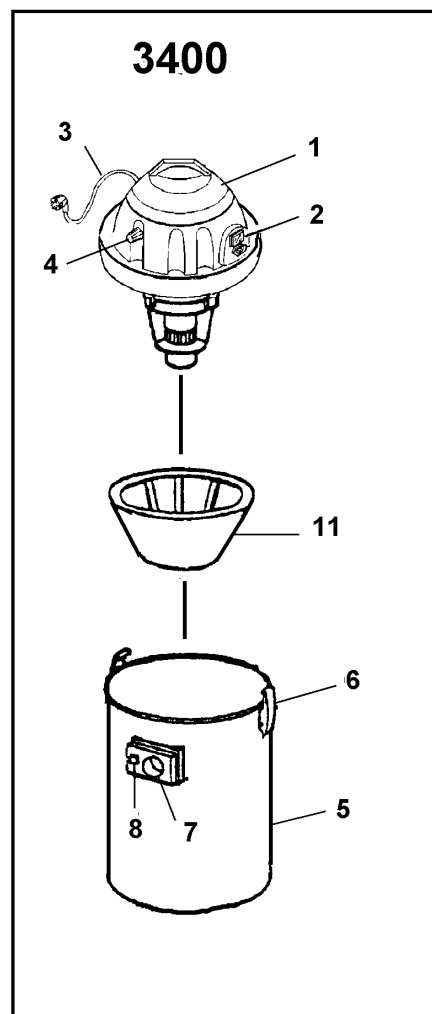
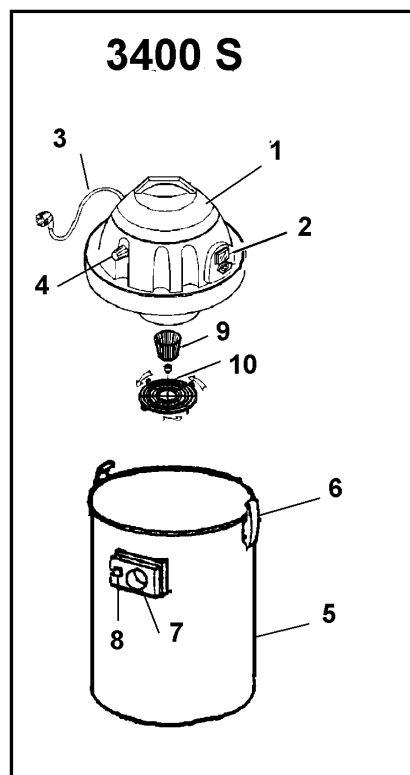
BEFORE USING THE STEAM GENERATOR CAREFULLY READ THIS MANUAL IN ALL ITS PARTS

THE MANUFACTURER RESERVES THE RIGHT TO BRING ANY MODIFICATION OR IMPROVEMENT, TECHNICAL OR STRUCTURAL, WITHOUT PRIOR NOTICE.

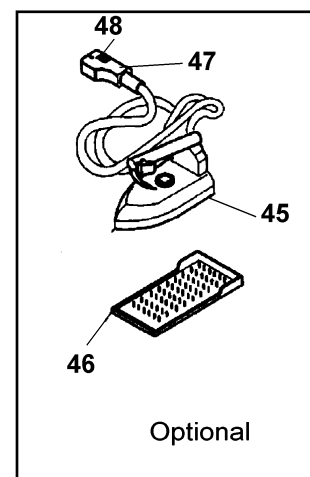
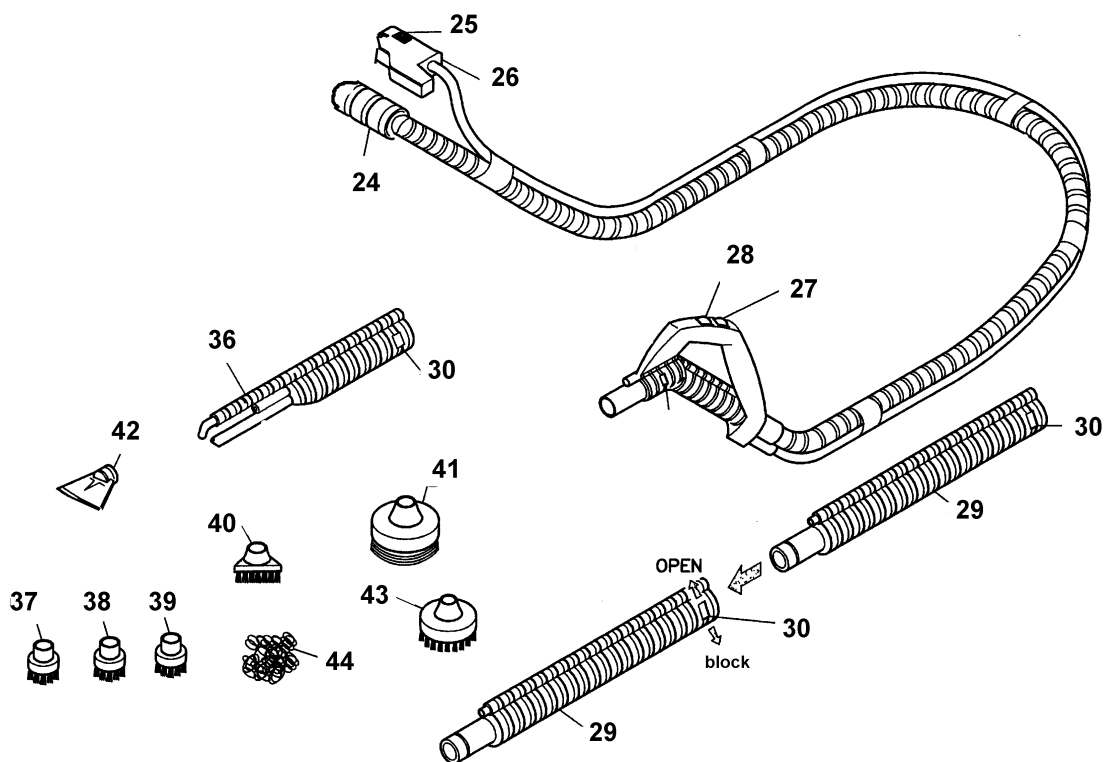
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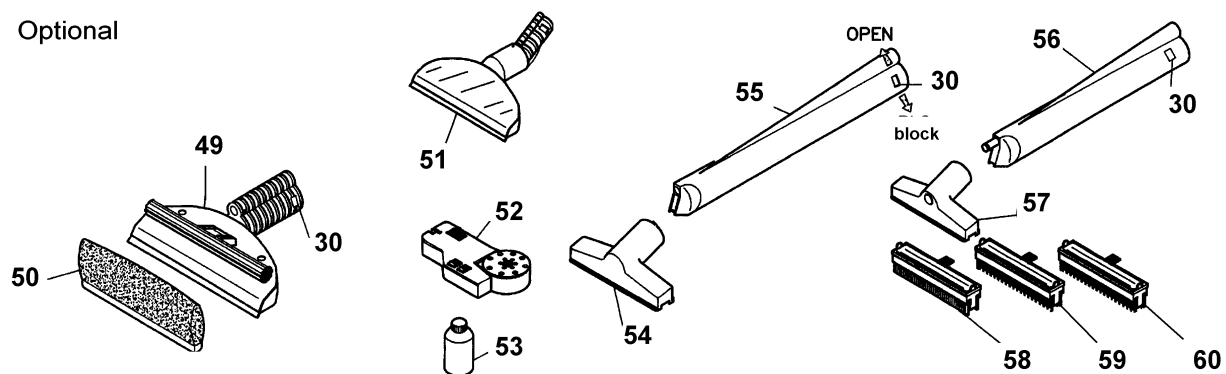
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KIT RADAMES



Optional



3. TECHNICAL CHARACTERISTICS

3.1. TECHNICAL DATA OF THE STEAM GENERATOR

BODY IN PAINTED STEEL

STAINLESS STEEL BOILER (AISI 304), TÜV Certified

POWER SUPPLY: 230 ÷ 240 V / 50 ÷ 60 Hz

BOILER OUTPUT: 2200 Watt (with electronic power control)

BOILER VOLUME: 4 liters

BOILER CAPACITY: 3 liters

PRESSURE: 4 bar

POWER CORD: 5 meters

SAFETY VALVE CAP, TÜV Certified

3.2. TECHNICAL DATA OF THE VACUUM CLEANER

BODY IN PVC, CAPACITY 5,5 liters

POWER SUPPLY: 230 ÷ 240 V / 50 ÷ 60 Hz

VACUUM OUTPUT: 400 ÷ 1200 Watt (with electronic power regulator)

MODEL 3400: WET/VAC WITH FLOATER

DRUM CAPACITY: 4 liters

DEPRESSION: 2200 mm

AIR FLOW: 200 m³ / h

MODEL 3400S: WET/VAC WITH SEPARATOR AND WATER FILTER

DRUM CAPACITY: 5,5 liters

DEPRESSION: 1700 mm

AIR FLOW: 170 m³ / h

3.3. TECHNICAL DATA OF THE STEAM IRON (OPTIONAL)

POWER SUPPLY: 230 ÷ 240 V / 50 ÷ 60 Hz

POWER OUTPUT: 800 Watt

3.4. TECHNICAL DATA OF THE COMPLETE CARMEN

POWER SUPPLY: 230 ÷ 240 V / 50 ÷ 60 Hz

MAXIMUM POWER: 2.200 Watt

LOW VOLTAGE HAND CONTROLS: 12V

4. NOMENCLATURE

- 1) Vacuum head with motor
- 2) Vacuum power switch
- 3) Power cord of vacuum cleaner
- 4) Variable power control knob
- 5) Vacuum drum in PVC
- 6) Latches for vacuum head clamping
- 7) Vacuum hose outlet
- 8) Hose clamping latch
- 9) Separator (only model 3400S)
- 10) Grill protection for separator (only mod.3400S)
- 11) Nylon Filter (optional, only model 3400)
- 12) "Ready steam" indicator (green)
- 13) Boiler switch
- 14) "Low water" indicator (red)
- 15) "Power" indicator " (green)
- 16) Steam flow regulator Min-Max
- 17) Safety valve cap of the boiler
- 18) Carrying handle for steam generator
- 19) Filling bottle (750cc)
- 20) Electric socket for vacuum cleaner
- 21) Steam socket
- 22) Drain cap
- 23) Power cord of steam generator
- 24) Vacuum hose coupling
- 25) Clamping hook for steam plug
- 26) Steam plug
- 27) Steam command switch
- 28) Vacuum command switch
- 29) Extension tubes with O-Rings
- 30) Clamping latches for tubes and accessories
- 31) Floor tool multiple use
- 32) Latches for blocking inserts
- 33) Carpet insert (L.375mm)
- 34) Insert squeegee/brush (L.375mm)
- 35) Insert squeegee/squeegee (L.375mm)
- 36) Turbo lance steam/vacuum
- 37) Small nylon brush (Ø 28mm)
- 38) Small brass brush (Ø 28mm)
- 39) Small steel brush (Ø 28mm)
- 40) Small triangular brush
- 41) Steam plunger
- 42) Steam scraper
- 43) Small nylon brush (Ø 60mm)
- 44) Steel wool
- 45) Professional steam iron (optional)
- 46) Rubber rest pad for iron (optional)
- 47) Steam plug of iron
- 48) Clamping hook of steam plug
- 49) Window cleaner (optional)
- 50) Microfiber cloth for window cleaner (optional)
- 51) Brush for carpet (optional)
- 52) Steamer for steam/vacuum (optional)
- 53) Nebulizer (optional)
- 54) Upholstery nozzle (optional)
- 55) Steam/Vacuum lance (optional)
- 56) Steam/Vacuum lance with nozzle (optional)
- 57) Perforated upholstery nozzle (optional)
- 58) Insert squeegee/squeegee (L.145mm)(optional)
- 59) Insert squeegee/brush (L.145mm) (optional)
- 60) Insert brush/brush (L.145mm) (optional)

5. SAFETY REGULATIONS

IMPORTANT

IT IS RECOMMENDED THAT THE ELECTRIC SUPPLY TO THIS APPLIANCE SHOULD INCLUDE EITHER A RESIDUAL CURRENT DEVICE THAT WILL INTERRUPT THE SUPPLY IF THE LEAKAGE CURRENT TO EARTH EXCEEDS 30Ma FOR 30Ms OR A DEVICE, WHICH WILL PROVE THE EARTH CIRCUIT.

WARNING

- **PRESSURE JETS CAN BE DANGEROUS IF SUBJECT TO MISUSE. THE JET MUST NOT BE DIRECTED AT PERSONS, LIVE ELECTRICAL EQUIPMENT UNDER PRESSURE, OR THE APPLIANCE ITSELF.**
- **STEAM CLEANERS SHALL NOT BE USED BY CHILDREN OR UNTRAINED PERSONNEL.**
- **TO ENSURE THE APPLIANCE SAFETY, USE ONLY ORIGINAL SPARE PARTS FROM THE MANUFACTURER OR APPROVED BY THE MANUFACTURER.**
- **ENSURE THAT THE ELECTRICAL INSTALLATION IS EQUIPPED WITH AN EARTH DEVICE.**
- **IF NECESSARY, THE POWER CORD MAY BE REPLACED ONLY BY AUTHORISED PERSONNEL OR SERVICE CENTER.**
- **FILL THE BOILER WITH CLEAN WATER ONLY. DO NOT ADD DETERGENTS OR CHEMICAL PRODUCTS.**
- **PRESSURE HOSES, FITTING AND COUPLINGS ARE IMPORTANT FOR THE SAFETY OF THE APPLIANCE. USE ONLY HOSES, FITTINGS AND COUPLINGS RECOMMENDED BY THE MANUFACTURER.**
- **DO NOT USE THE APPLIANCE IF THE POWER CORD OR OTHER IMPORTANT PARTS OF THE APPLIANCE ARE DAMAGED, I.E. SAFETY DEVICES, PRESSURE HOSES AND TRIGGER GUN.**
- **IF AN EXTENSION CORD IS USED THE PLUG AND SOCKET MUST BE OF WATERTIGHT CONSTRUCTION. INADEQUATE EXTENSION CORDS CAN BE DANGEROUS.**
- **DO NOT DISASSEMBLE THE ACCESSORIES WHILE THE MACHINE IS SUPPLYING STEAM.**
- **DO NOT OPERATE ELECTRIC APPLIANCES WITH WET HANDS.**
- **NEVER TURN THE MACHINE OVER OR ON ITS SIDE DURING USE.**
- **FAILURE TO OBSERVE THE REGULATIONS LISTED ABOVE WILL RENDER THE MANUFACTURERS WARRANTY NULL AND VOID ON THE ENTIRE APPLIANCE.**

6. USING INSTRUCTIONS

OPERATING THE CARMEN WITH THE KIT RADAMES

- (a) Unscrew the boiler cap (17) and fill the boiler with the filling bottle (19). The bottle holds approx. 75 cc of water and the boiler capacity is of about 3 liters. Screw on the safety valve cap (17) correctly.
- (b) Lift the vacuum head (1) from the drum (5) and clamp in place using the latches (6). Pour approx. 1 liter of clean water in the drum making sure that the water level is sitting higher than the lower part of the internal air intake tube. Reposition the vacuum head (1) onto the drum (5) and clamp in place using the latches (6).
- (c) Insert the electric plug of the vacuum cleaner (3) into the socket (20) found on the back of the steam generator. Insert the power cord (23) from your **CARMEN** in an electric outlet making sure that the voltage and amperage correspond to those found on the rating plate (located underneath the unit and listed as well in section 3 of this manual). The presence of electrical power is indicated by the green indicator light (15).
- (d) Insert the steam plug (26) of the Radames steam/vacuum hose into the steam socket (21), ensuring that the clamping hook (25) correctly locks into place. Then insert the vacuum hose coupling (24) into the vacuum hose outlet (7) found on the vacuum drum (5). Ensure that the hose clamping latch (8) has secured the hose coupling and verify that the vacuum switch (2) is in the "ON" position. The hand grip switches (27 and 28) are switched "OFF".
- (e) Activate the main power switch of the boiler (13). Wait approximately 3 minutes for each liter of water added to the boiler allowing the steam generator to reach operating pressure. Operating pressure is reached when the green "ready steam" indicator (12) lights up.
- (f) Your **CARMEN** is now ready for use. Choose the accessory best suited for the cleaning task and connect to the steam/vacuum hose taking particular attention to secure the accessories with the clamping unit in "BLOK" position (30).

To clean with the combination of steam and vacuum use one of the following accessories most suitable for the task at hand:

Floor tool (31) with ideal insert (33,34,35). The various inserts are locked into place by sliding the latches (32) to the "OPEN" position and hold the insert in place applying a little pressure while sliding the latches in "BLOK" position. Remember that the command switches (27 and 28) on the handgrip should be in the "OFF" position.

Turbo lance steam/vacuum (36) to be used by itself or with the small brushes (37-43).

If necessary, attach the extension tubes (29) and lock them in place using the clamping units (30) in "BLOK" position. It is possible to apply one extension only.

- (g) To regulate the steam flow operate the steam adjustment knob (16) found on the steam generator. To regulate the vacuum air flow operate the adjustment knob (4) situated on the

vacuum head (1). Activate the command switch (27) for steam flow and command switch (28) for vacuum power found on the hand grip.

- (h) **Model 3400:** The vacuum head (1) is equipped with a floater which stops the air flow when the water has reached its maximum level in the vacuum drum (5). The appliance loses suction power and there is a change in the noise of the motor.

Model 3400S: Also on this model, equipped with a separator, there is a loss in suction power and a change in the noise of the motor when the water has reached its maximum level in the vacuum drum (5).

- (i) Turn off the vacuum power switch (2) and unplug the power cord (3). Lift the vacuum head (1) from the vacuum drum (5) by releasing the latches (6) and empty the drum making sure to have detached the vacuum hose (24) before. If necessary rinse the drum and refill it as described in step (b) of this section.
- (j) When the red "low water" indicator (14) lights up, turn off the main power switch (13) of the boiler and unplug the power cord (23) from the main current. Wait until the residual pressure in the boiler decreases and permits you to remove the boiler cap (17). At this point you can proceed with refilling the boiler as described in step (a) of this section. **Warning:** the boiler cap, for safety purposes, does not permit removal with pressure inside the boiler.
- (k) Once the cleaning task terminated, it is recommended to vacuum approximately 4 liters of clean water to rinse internally the flexible hose and the vacuum tubes. Extract the vacuum drum (5) and after having it emptied and rinsed, let it dry in a well-aired place.

7. MAINTENANCE

7.1. MAINTENANCE OF THE STEAM GENERATOR

IMPORTANT

- **SWITCH OFF THE ELECTRIC SUPPLY BEFORE PROCEEDING TO THE USER'S MAINTENANCE.**
- **IT IS RECOMMENDED CLEANING THE BOILER ONLY WHEN THE MACHINE HAS COOLED DOWN (FOR AT LEAST 5 HOURS).**

ELIMINATION OF SCALE DEPOSITS FROM THE BOILER

We suggest cleaning the boiler after every 200 hours of use, or also if the machine produces water or dirty steam.

Unscrew the boiler cap (17) and fill with clean water. Position the machine over a recipient container and remove the boiler drain cap (22) located underneath the machine. Pieces of scale

could block the drain opening. In this case, a screwdriver can be used to free the outlet. Once the water has drained replace the drain cap (22) and fill again the boiler with clean water. Repeat the operation 2-3 times.

At this point the maintenance of the boiler is complete and your **CARMEN** is now ready for use.

7.2. MAINTENANCE OF THE VACUUM CLEANER

MODEL 3400S: Cleaning the separator

An operation to be done whenever the vacuum cleaner shows indications of vibrating during use caused by dirt deposited on the separator unbalancing the alignment of the separator.

- (a) Unhook the vacuum head (1) from the drum (5) using the latches (6).
- (b) Remove the grill protection (10) turning it counter clockwise.
- (c) Unscrew the locking nut and remove the separator (9).
- (d) Proceed with cleaning the piece with a small brush or with steam using the turbo lance steam/vacuum included.
- (e) Remount the separator (9) making sure it fits correctly in the given slot.
- (f) Screw on the locking nut and the grill protection (10).

The vacuum cleaner MODEL 3400 does not require any specific maintenance.

7.3. MAINTENANCE OF THE ACCESSORIES

Lubricate the joints of the tubes and accessories from time to time with a lubricating grease.

8. BEFORE REFERRING TO TECHNICAL ASSISTANCE

PROBLEMS	POSSIBLE CAUSES	REMEDY
APPLIANCE DOES NOT PRODUCE STEAM AND VACUUM DOES NOT WORK.	LACK OF POWER.	MAKE SURE THE PLUG IS WELL INSERTED (23) AND THE POWER SWITCH OF THE HOUSE IS TURNED ON.
THE RED "LOW WATER" INDICATOR (14) LIGHTS UP.	ALL THE WATER HAS BEEN CONSUMED.	REFILL THE BOILER (17) WITH CLEAN WATER (MAX 3 LITERS).
SUCTION POWER IS MISSING.	<p>A) THE VACUUM TUBE IS OBSTRUCTED.</p> <p>B) THE VACUUM DRUM (5) IS FULL OF WATER.</p> <p>C) LACK OF POWER TO THE VACUUM CLEANER.</p>	<p>A) CLEAN TUBE AND ACCESSORY USED.</p> <p>B) EMPTY THE VACUUM DRUM (5). THEN REFILL IT WITH APPROX. 1 LITER OF CLEAN WATER.</p> <p>C) MAKE SURE THE SWITCH (2) IS "ON" AND THE PLUG (3) IS WELL INSERTED.</p>
WATER LEAKS THROUGH THE CONNECTIONS OF THE ACCESSORIES.	CHECK THE WEAR OF THE O-RING.	CLEAN AND LUBRICATE THE O-RING WITH GREASE. IF NECESSARY, REPLACE WITH ONE OF THE SPARES SUPPLIED.
STEAM DOES NOT COME OUT.	<p>A) BOILER HAS NOT YET REACHED THE OPERATIONAL PRESSURE (GREEN LIGHT (12) IS STILL OFF).</p> <p>B) STEAM REGULATOR (16) IS OFF.</p>	<p>A) WAIT A FEW MINUTES.</p> <p>B) TURN THE STEAM REGULATOR (16) ON (TO THE LEFT).</p>
DROPS OF WATER COME OUT OF THE ACCESSORIES.	AT BEGINNING OF WORK WATER CONDENSES IN THE TUBES AND ACCESSORIES DUE TO THE DIFFERENCE IN TEMPERATURE.	AFTER A FEW MINUTES OF USE THIS PROBLEM WILL CEASE. IF IT CONTINUES, PROCÉED TO THE CLEANING OF THE BOILER.
ACCESSORIES DO NOT FIT PERFECTLY.	THERE IS DIRT BUILD UP IN THE JOINTS AND LOCK/RELEASE LATCHES (30).	CLEAN AND LUBRICATE THE JOINTS OF THE ACCESSORIES.

9. CERTIFICATIONS AND HOMOLOGATIONS

CE

MACHINE MANUFACTURED ACCORDING TO THE EUROPEAN NORMS
EN 6335-2-3+A1+A52, EN 60335-2-79, EN 55014, EN 61000-3-2, EN 61000-3-3.

10. SOCIETY TECNOVAP

10.1. CERTIFIED QUALITY SYSTEM ISO 9002



SGS ICS S.r.l.
Servizi di Certificazione Internazionale

Certificato N° Q.99.097

Si certifica che il Sistema Qualità di:

TECNOVAP DI FRANCHINI G. & C. SNC
Via R. Rosani, 18 - 37024 NEGRAR (VR) - Italia

è stato verificato ed è risultato conforme ai requisiti di:

ISO 9002 / UNI EN ISO 9002 - Ed. 1994

Scopo della certificazione:

Produzione di apparecchiature a vapore e relativi accessori per la pulizia ad uso domestico ed industriale.



SGS ICS S.r.l. - Il Rappresentante Autorizzato





Prima emissione: 21/04/1999
Ultima emissione: 21/04/1999

SINCERT
Registrazione n° 015A

Valido fino al 21/04/2002 subordinato all'esito soddisfacente delle attività di sorveglianza.

SGS ICS S.r.l. - Via G. Gozzi, 1/A - 20129 MILANO - Tel. 02 73.93.1 - Fax. 02 70.10.94.89



10.2. ASSOCIATED AFIDAMP

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