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MANUALE ISTRUZIONI
OPERATOR'S HANDBOOK
MANUEL D'UTILISATION
GEBRAUCHSANWEISUNG
MANUAL DE ISTRUCCIONES

MONO-JET
α β

CATTANI
AIR TECHNOLOGY

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ENGLISH

CATTANI
AIR TECHNOLOGY

MONO-JET
α β

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• General running data

Dental aspirator	
Model	Mono-Jet *α, β*
Rated voltage	230 V ∿
Rated frequency	50 Hz
Rated current	3,1 A
Protection against electric shock	Class *I*
Operating conditions	continuous operation
Degree of protection against ingress of liquids	ordinary
Degree of protection against direct or indirect contacts	Type B

∿	**Alternating current**	**IEC 417-5032**
⏚	**Protective earth (ground)**	**IEC 417-5019**
	Apparatus type: B	**IEC 878-02-02**
○	**Off**	**IEC 417-5008**
I	**On**	**IEC 417-5007**

This appliance cannot work in the presence of an anaesthetic mixture inflammable with air, of oxygen or of nitrogen protoxide.
Thermal motor protector.
Power output: 0.4 kW.
Maximum flow: 1250 l/min.
Maximum operating head for continuous service: 1300 mm H2O.
Sound pressure level 59 dB (A) *.
Other available tensions:
220 V ∿ 60 Hz 3.5 A
120 V ∿ 60 Hz 6.0 A
110 V ∿ 60 Hz 7.0 A
100 V ∿ 60 Hz 7.0 A

Manufactured by CATTANI S.P.A. - PARMA - ITALY

*Sound pressure level tested (with canalised air) according to ISO 3746-1979 (E) regulation. Parameters: r or d = 1.5 - background noise < 59 dB (A) - instruments: Brüel & Kjær Type 2232.

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• Signals and warnings
• General features
• Installation

• Signals and warnings

• *Biological danger, danger of infections from epidemic diseases.*



• *High temperature.*



• *General danger sign.*



• *Compulsory direction of flow or rotation.*



Signals cannot always fully express danger warnings and the instructions deemed compulsory, therefore it is necessary that the user reads the warnings and keeps them in due consideration.

Failure to respect a danger signal or warning may harm operator or damage the equipment. Do not remove protections, do not tamper with machines or their operation.

• General features

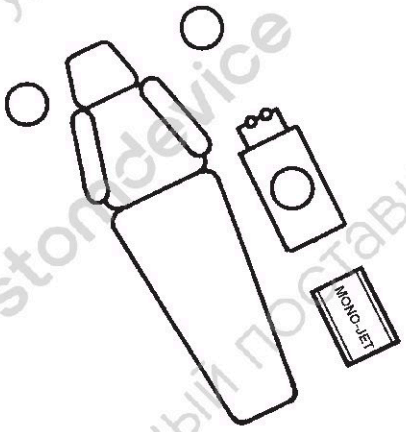
Mono-Jet is the aspirator designed to be coupled to the dental unit; it is wieldy, noiseless and has been manufactured for continuous service.

Special versions:

• MONO-JET α and β: differ only in the outside box.

• Installation

The best position for the Mono-Jet is near the dental unit, precisely on the left of the chair, close to the patient's feet (ill. A). The 3b tube-holder must be connected to an independent drainage fitted with a siphon to prevent any return of liquids from any upper drainage, as spittoon bowl and sinks, and to prevent sewer gas fumes. The 3A tube-holder (ill. B) must be connected the tip support. **The aspirator must be installed in compliance with CEI regulations concerning electromedical appliances.** Before connecting the aspirator to the mains consult the ratings and **ascertain that the mains** are suitable for a proper and regular working of the appliance and that **are protected from short-circuits and overloads as from CEI 64-4 regulation; the appliance must be installed in compliance with CEI 64-4 (relevant to appliances installed in medical rooms); IEC correspondent references are available on request for class I appliances.**



Ill. A

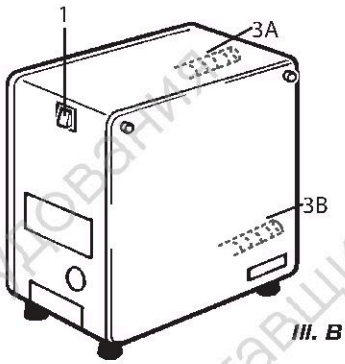
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• Operation and use

The supply cable of the aspirator is provided of protection cable for earthing; this protection must not be removed for any reason and must fit perfectly in the supply plug. When the installation has been completed, the unit can be switched on by the main switch.

When the switch 1 is in ON position (ill. B), it lights up; lifting one of the terminals from its seat will start the aspiration. We recommend to use the brand-new, non contaminated appliance to train the surgery staff about the use and standard maintenance operations.

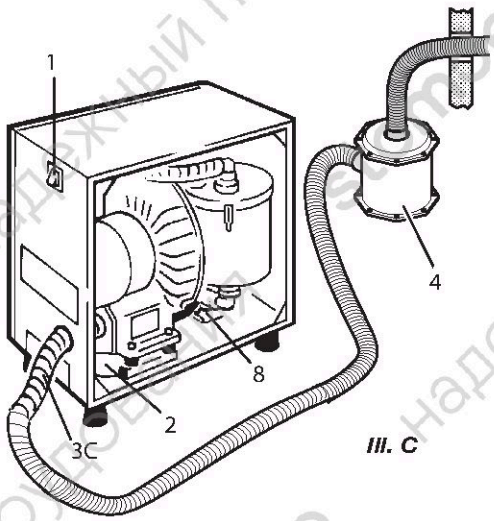
Opening of the door of the cabinet interrupts the circuit and the aspirator stops. On normal assembly the aspirated air is exhausted through the silencer 2 (ill. C). Simply connect a pipe from the motor outlet to an outside tube 3C preferably passing through the bacterial filter with active carbons 4 (ill. C), to convey the air outside: bacteria and most of the noise will be carried outside together with air.



Ill. B

• Operation and use

Through the tip and the lifted hose, liquids and aspirated air get to the manifold 4 (ill. L) and from there to the canister through pipe 3A (ill. B). In the canister liquids are separated from air: the air goes to the motor through pipe 3B (ill. B) and is then exhausted; **on request a certified bacteriological filter is available to filter the exhausted air (ill. C pag. 4).** Liquids, heavier than air, are collected on the bottom of the canister. Draining is automatic: the valve 6 (ill. D), placed on the bottom of the canister, is kept closed by depression when the aspirator is working; when all terminals are replaced on the tip support, the aspiration stops and liquids are drained from the canister (ill. D).

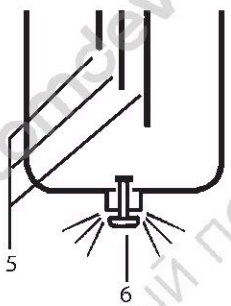


Ill. C

If the canister fills up during an operation, probes 5 (ill. D) will sense the maximum level at about 3/4 of the canister with the shortest probe; the electrical circuit will open and stop the aspiration automatically; the draining valve 6 will open automatically and the draining pump 8 (ill. C) will start: within few seconds the canister will be emptied and the aspiration can re-start automatically.

Blood, mucus and disinfectants can easily form foams that interfere with probes and interrupt suction.

Therefore we recommend using antifoaming tablets. If any running anomaly (block of the cooling system, breakdowns ecc.) causes an overheating of the motors (i.e. temperature rises above 120 °C in the Uni Jet 75 - aspiration unit - and above 90 °C in the draining pump 8), thermal protectors with prefixed temperature value will open the circuits and reset them automatically as soon as the windings get back to normal temperature.



Ill. D

Obviously the causes of the interruption should be ascertained and rectified.

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• General recommendations and biological hazard
• Maintenance and cleaning

• General recommendations and biological hazard

• Danger of electric shocks: also 230 V ∿ can be lethal.



• Biological danger, danger of infections from epidemic diseases.



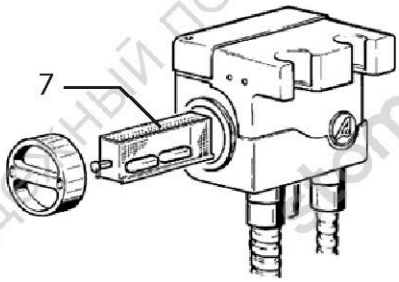
Before any operation on used appliances, clean them several times with Puli-Jet plus new disinfecting detergent or other adequate product and wait till the disinfection has been carried out.
Cut off the appliance from the power mains and lock the general switch, if provided.
For any maintenance operation wear gloves, goggles, mask, and disposable overall. The aspirated liquid is infectious and can spread infective diseases. In the Mono-Jet α and β (ill. C, det. 8) the pump puts the aspirated fluid under pressure; for that reason, **the biological hazard increases if there is a pipe break, or a failure of the appliances under pressure.**

• Maintenance and cleaning

Before operating on the appliance, read the chapter **"Signals and warnings"** and **"General notes and biological hazard"**. Because solid particles are aspirated together with liquids, restraining filters are fitted to assure a proper running. The Mini-Separator requires the filter 7 on the tip support (ill. F); the Mono-Jet fitted with Maxi-Canister has also a second filter 9 on the cover (ill. G). **Filters must be cleaned daily.** To reach the filter 7 the appliance must be switched on for some seconds with open terminals, aspirating air only so that hoses and manifold dry completely inside; then cut off the power and pull out the filter. To inspect the filter 9 lift up the pipe-holder sleeve 10 (ill. G). **The Maxi-Canister must be removed every week and cleaned with a jet of clear running water**; at the same time, the canister must be cleaned inside with a sponge as well as the lid and the overflow control probes. **Every evening, after cleaning the filters, it is very important that a solution of Puli-Jet plus new and warm water is aspirated; follow the instructions on the bottle label to prepare the solution.**
This cleaning and disinfecting aspiration must be carried out by means of Pulse Cleaner (ill. H). Pulse Cleaner creates the necessary turbulence for a complete cleansing. Insert the disinfectant antifoam tablets in the aspirator that has been previously cleaned and disinfected. The day after, at the resumption of work, passing through the filter, the aspirated liquid will catch some particles of detergent-disinfectant and antifoam for the continuous control of bacterial plaque. We strongly recommend avoiding the use of detergents, even with reduced foams, since turbulence and flow of aspirated air increase enormously the quantity of foams, causing interruptions, damage to the aspirator and in time also bad smells.



Ill. E



Ill. F



Ill. G

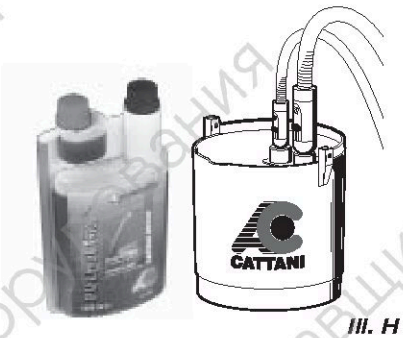
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- *Summary of main cleaning and routine maintenance operations to be entrusted to purposely trained surgery staff*
- *Extraordinary maintenance operations to be entrusted to trained service engineers, provided with original spare parts*

Detergents damage aspirators, hypochlorite destroys them.

O-rings (seals) and the slides for the closure of terminals (ill. I) must be lubricated with Lubri-Jet every 15 working days. It is important to replace all flexible tubes once a year (ill. L): in particular, the external hose and terminals (ill. L) must be disinfected for each patient and replaced every three months for hygienic and operational reasons.



Ill. H

Summary of main cleaning and routine maintenance operations to be entrusted to purposely trained surgery staff

• After every surgical operation or very long treatment: rinse the appliance by aspirating water, preferably warm and Puli-Jet plus new. Replace and disinfect external tubes and terminals.

• After every working day: clean the filters; clean the equipment with warm water and Puli-Jet plus new. Insert the disinfectant antifoam tablets in the filter.

• Every 15 days: clean the canister, the draining valve and probes; lubricate O-rings and slides closing terminals with Lubri-Jet.



Ill. I

Extraordinary maintenance operations to be entrusted to trained service engineers, provided with original spare parts

• Periodical checks: the service engineer shall check up all relays, functioning of probes and draining pump, siphons and waste outlets, all internal pipes, and plastic and rubber compo-nents subject to ageing; hoses and seals should be replaced once a year. The appliance must be tested periodically from the current safety regulations point of view. Short-circuit probes: make sure that suction stops and that the drainage pump starts operating.

• The manufacturer is at your disposal to supply spare parts, literature, instructions and anything that might be useful. Our concessionaires, agents, authorised retailers and service engineers are provided with split-up drawings, electrical diagrams, instructions and updating about maintenance and service.

• The appliance is guaranteed for a year from the date of sale provided that the guarantee card addressed to the manufacturer is returned with date of sale, retailer's stamp and customer's name.



Ill. L

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• Important notice
• Transport and storage
• Transport of second-hand appliances

• The guarantee and manufacturer's liability cease: - if the recommended maintenance is not carried out; - if the user employs products different from those recommended by the manufacturer; if the appliances and/or the plants have been tampered with operations of any kind done by persons unfit and so unauthorised by the manufacturer.

• For any application that is not included and described in this manual, contact the manufacturer.

• On the web-site: **www.cattani.it** you can find our **updated** manuals. We suggest to consult them especially for **safety** updating.

• *Important notice*

• Mono-Jet is a EEE device, therefore it is subject to the WEEE (Waste of Electrical and Electronic Equipment) regulations.

• *Transport and storage*

• Packed equipment can be transported and stored at a temperature range of -10 °C / +60 °C.

• Packages must be kept away from water and splashing and cannot tolerate humidity >70%.

• Packages with the same weight can be stored in piles of three only.

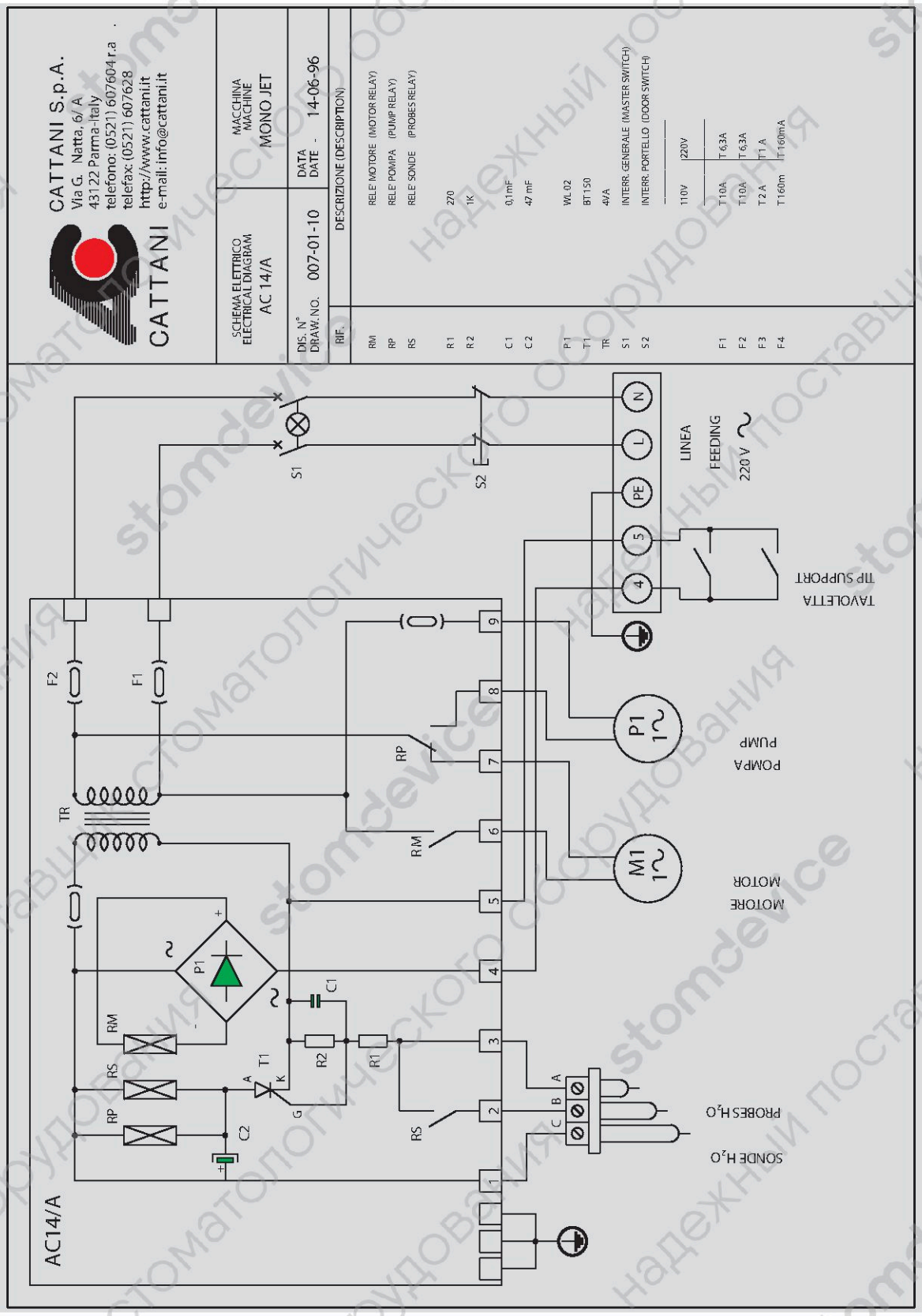
• *Transport of second-hand appliances*

• Prior to packing cleanse and disinfect with PULI-JET PLUS NEW or other suitable product **(see "Maintenance and cleaning").**

• Place the unit into a polyethylene bag, seal and pack in 3-layer corrugated board.

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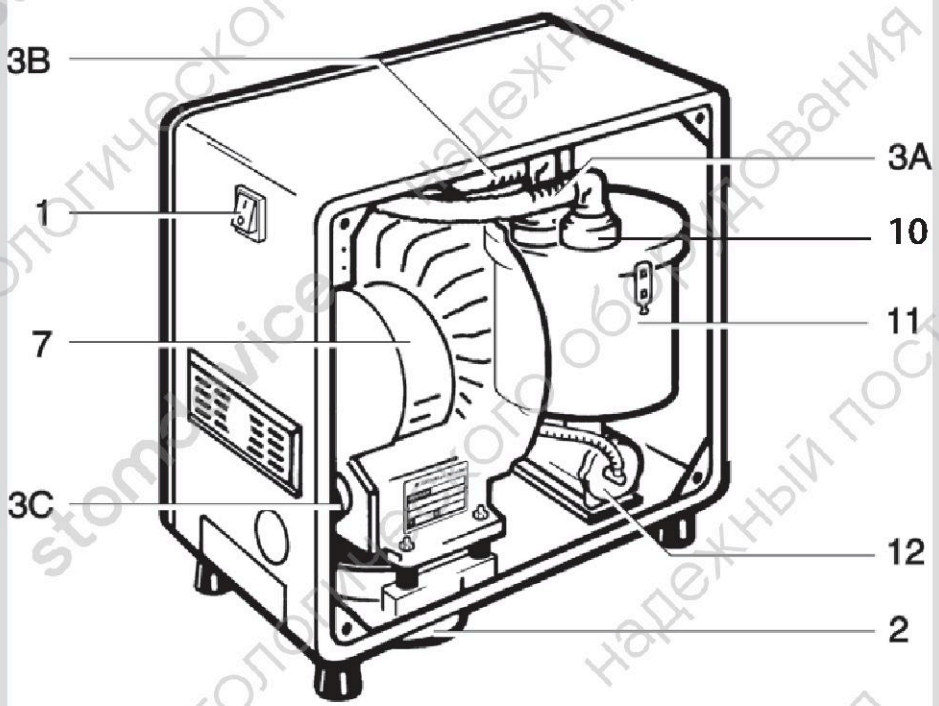
• SCHEMA ELETTRICO
• ELECTRICAL DIAGRAM



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MONO-JET β



LEGENDA COMPONENTI

1 - Interruttore acceso / spento
2 - Silenziatore aria espulsa
3A - Tubo che convoglia le secrezioni
3B - Tubo che convoglia l'aria aspirata al motore
3C - Tubo che convoglia l'aria espulsa al silenziatore
7 - Gruppo aspirante Uni-Jet 75
10 - Manicotto portatubo secreti (sul vaso portasecreti)
11 - Vaso portasecreti Maxi-Canister
12 - Pompa di drenaggio

LEGEND OF COMPONENTS

1 - On/Off switch
2 - Exhausted air silencer
3A - Debris conveying pipe
3B - Pipe conveying aspirated air to the motor
3C - Pipe conveying exhausted air to silencer
7 - Uni-Jet 75 aspiration unit
10 - Debris tube-holder sleeve (on canister)
11 - Maxi-Canister
12 - Draining pump

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ITALIAN PATENTS OR PATENT APPLICATIONS:

CATTANI: 1201707 - 1234828 - 1259318 - 1.187.187 - 1253460 - 233634 - 2337706 -1294904

ESAM: 1225173 - 1253783 - 0791751

FOREIGN PATENTS OR PATENT APPLICATIONS:

CATTANI: AU 546.143 - US 4,386,910 - US 4,787,846 - US 5,039,405 - US 5,002,486 AU 580839 - US 4,684,345 - US 5,330,641 - AT 0040181 - CH 0040181 - DE 0040181 FR 0040181 - GB 0040181 - LU 0040181 - SE 0040181 - CH 0211808 - DE 0211808 FR 0211808 - GB 0211808 - SE 0211808 - DE 0335061 - ES 0335061 - FR 0335061 GB 0335061 - AT 0557251 - DE 0557251 - ES 0557251 - FR 0557251 - GB 0557251 DE 0638295 - DK 0638295 - ES 0638295 - FR 0638295 - GB 0638295 - NL 0638295 SE 0638295 - US 6,083,306 - US 6,090,286 - US 6,022,216

ESAM: US 4,948,334 - DE 0351372 - ES 0351372 - FR 0351372 - GB 0351372 EP 0791751 - US 5,779,443 - CH 0791751 - DE 0791751 - ES 0791751 - FR 0791751 GB 0791751 - PT 0791751 - AU 93321 - ES 107358 - FR 222.394/395

PENDING PATENT

CATTANI: IT M098A000019 - IT M098A000119 - EP 99830010.7 - EP 99830011.5 EP 99830250.9 - EP 00830491.7 - IT M099A000165 - US 09/624,182

HOW CAN WE DO WE LEAD IN OUR FIELD, YET WE COST LESS THAN THE ALTERNATIVES?
THIS IS HOW:

- **WE RESEARCH:** this lets us apply the latest technology in all of our products and solutions.
- **WE INCREASE PERFORMANCE:** electronic and information technology allow us to increase the performance and reliability of our products.
- **WE REDUCE COSTS:** less maintenance and energy costs mean on a cost-benefit analysis we are always the most economical.
- **WE REDUCE ENVIRONMENTAL IMPACT:** we save 50% of primary materials, and allow you to save between 30% and 50% of electrical consumption.

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Company with Quality System Certified according to
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