

# dx

dental x the sterilization company

THE PREMIUM LINE

Domina Plus B

Aptica Plus B

Atoma Plus



## Sterilization ...an important choice

- The growing concern for the spreading of infection diseases and the introduction of new Norms have determined a greater interest for sterilization.

The norm EN 13060 indicates the criteria that, in the future, will guide the manufacturing and use of small steam autoclaves.

The several revisions to the project and the free interpretation of the classifications proposed (B, S, and N) have generated great confusion and the user is sometimes disoriented when choosing an autoclave.

For more than 20 years, Dental X is active in sterilization and dedicates important resources in research and development of innovative solutions for improving the performances and reliability.

The new technologies developed by Dental X, particularly the special heating system and the air exhaust system, have made higher performances possible with very high reliability.

The choice to produce in a state of supreme quality, certified according to the ISO 9001/Vision 2000 norms, enables us to offer absolute quality guarantees for the products as for the services.

Dental X offers a range of innovative solutions, reliable and convenient, capable to solve at best the sterilization needs of a modern medical office.

Class B autoclaves with vacuum pump

- Domina Plus B
- Aptica Plus B

Class S autoclaves with thermo-dynamic vacuum and drying pump

- Atoma Plus



Dental X ...the sterilization company



Dental X ...a partner with much experience

# Domina Plus B

## The state of the art in sterilization

- The Domina sterilization systems are the state of the art in the sterilization field.

Made out of advanced materials and components, the Domina sterilization systems combine, in a compact and elegant design, the performances of the most advanced hospital sterilization units.

The Domina systems are equipped with a powerful vacuum pump which enables the total air expulsion.

Thanks to the pump's action, it is possible to sterilize in a reliably way any kind of material, including the internal surfaces of handpieces. Moreover, the pump generates a forced ventilation and a perfect drying up.

Complying with what requested by the norms, Domina systems can carry out the Bowie & Dick test and the Helix test (Domina Plus).

The control processes and the rigorous compliance to the norms guarantee the absolute sterilization safety.

- Triple safety door
- Cross-check of pressure and temperature values
- Maximum parameters stability
- Computerized control

The adoption of the most innovative computer technique has made sterilization a totally automatic process.

The whole cycle is controlled, step by step, by a powerful microprocessor and, at the end of the cycle, the system stops automatically.

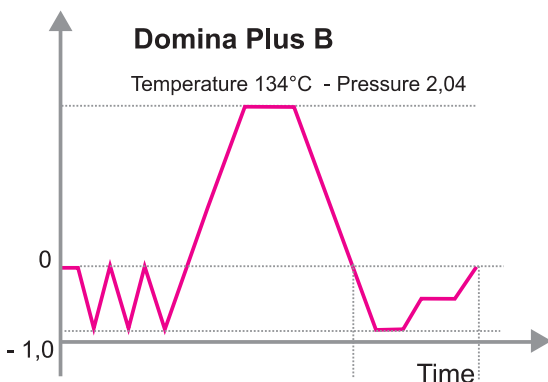
The auto-diagnosis and the automatic malfunction detection system guarantee continuous optimal working conditions.

The 8 pre-stored programs and the possibility to freely set the parameters ensure simple use and maximum versatility.

The possibility to connect the autoclave to a printer or to a PC allows the certification of the sterilization process efficacy.

Moreover, the computer allows the improvement of the quality of tests and of the technical assistance which, also through the use of a modem, result to be faster and more economic.

## Type B sterilization



A new quality standard



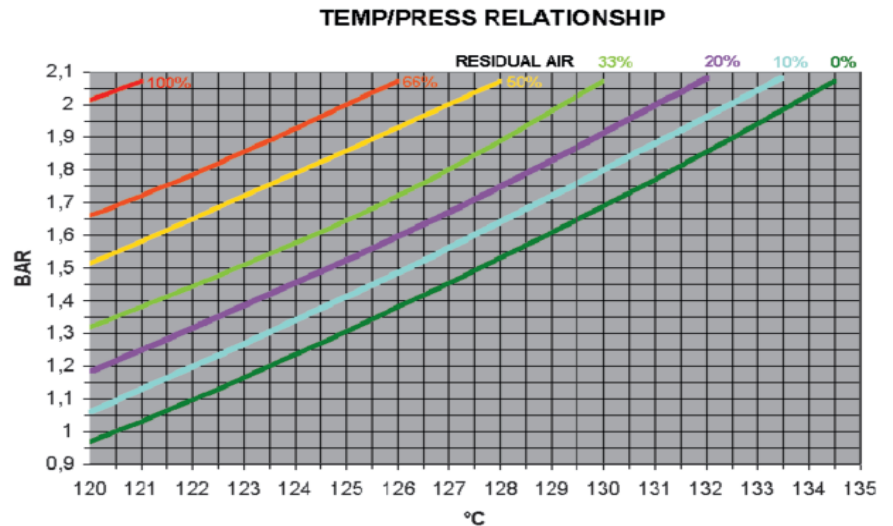
Domina Plus B printer ..... the safe sterilization

# Domina Plus B

## Process Evaluation Control ...Sterilization without risks

### ■ Process evaluation system

The process evaluation system guarantees the sterilization safety. The system is based on the cross-check of the pressure and temperature parameters and enables to guarantee the quality of the saturated steam and to control, in a safer way, the perfect functionality of the heating system and chamber pressurizing. The graphic shows the relation temperature-pressure and the alterations in the presence of air.



### ■ Perfect drying

A perfect drying is fundamental in order to reduce corrosion and rust on instruments and to maintain the sterility of wrapped up material. The special heating system together with a forced ventilation system ensure a better and faster drying up without altering the surgical instruments characteristics.

### ■ Rapidity

The speed of the sterilization cycle is an important factor that allows the optimization of the work. A special flash cycle enables a rapid sterilization, under high vacuum, in less than 20 minutes.

### ■ Reliability

The experience and wide diffusion, throughout the world, of the Domina sterilization systems, together with the use of the most advanced technologies and components of quality, made the autoclaves of the new 2003 series to reach a higher reliability level.



## When technology is synonymous of simplicity

### ■ Connection to the computer

The possibility to connect the autoclave to a computer enables the improvement of the performance and reliability of autoclaves.

Thanks to the computerized control, the tests are carried out in a more detailed and precise way and the technical service is faster and more efficient.

Since 2001, all Dental X systems make use of a software calibration system that can also be adjusted via modem.

### ■ Connection to the printer

The autoclaves Dental X can also be supplied with a printer integrated in the control panel. Thanks to the printer and to the correct management of the sterilization protocol, it is possible to guarantee the retrieval of the sterilization cycles.

All models, also if without the integrated printer, can be connected to an external printer.

### ■ USB Log

In order to easily document effective "cycle traceability", the Domina Plus B features a new optional USB log connection. The USB log allows the staff to record all information about the sterilization cycles on a USB flash drive (2.0 GB). All cycles are recorded with progressive numbers and can be opened or printed by using existing text software. No PC wire connections are required.

### ■ Bar Code Label Writer

Domina Plus B is designed to be connected to a special label writer.

Such Label writer enables to increase the traceability level by combining sterile instruments and patients.

At the end of the cycle the printer will release as much labels as the number of envelopes sterilized.

Labels show the cycle information that should be transferred to the patient file.

In order to simplify the acquisition the printer will print also bar codes.

A simple optical reader can obtain information very easily and fast.



## Scope ...quality and innovation

### ■ Total automation

All Dental X models are totally automatic and equipped with pre-set programs. It is only necessary to choose a program and press the Start button to start the cycle.

The cycle is carried out under the microprocessor control, without need any further action, and at the end of the cycle the autoclave switches off automatically, enabling also the night cycle without the risk of overheating.

The operator has always access to a programming menu with which he can freely set parameters to guarantee maximum versatility.

All cycle phases and indications are clearly visualized on the display.

All models are equipped with self-diagnostic and trouble-shooting features to simplify maintenance operations.

The autoclaves Dental X are equipped with a cycle counter and it is possible to visualize on the display the number of aborted cycles and the latest error alarms.

- An advanced system of water quality verification enables the control of the water's quality and to maintain the correct functionality of the autoclave.

### ■ Accelerated and balanced heating

The heating system is the heart of the autoclave.

Dental X has developed an advanced heating system capable of controlling more accurately and homogeneously the temperature inside the sterilization chamber.

The special adhesive electrical resistances, applied directly on the chamber, guarantee a much higher efficiency than with the classic strip resistances.

The possibility to differentially heat-up the resistances below and above enables to better adjust the steam flow and to eliminate thermal variations.

Three different temperature sensors allow the control not only of the steam temperature but also of the surface temperature, thus avoiding thermal shocks to the instrumentation placed near the chamber surfaces.

The sterilization chamber, made out of nickel plated copper, has a thermal conductance higher than for steel chambers, enabling to a more precise and homogeneous control of the internal temperature.

All these features, managed by an extremely advanced software, result in superior performances.

### ■ Pre and Post vacuum system

The Domina systems utilize a powerful pump for the air exhaust.

The pump has two important functions:

One is to exhaust the air before sterilization in order to guarantee the sterilization efficiency also for the most complicated instruments.

In Domina Plus model, the pump operates in a fractionated manner while in Domina model the pump operates in a continuous way.

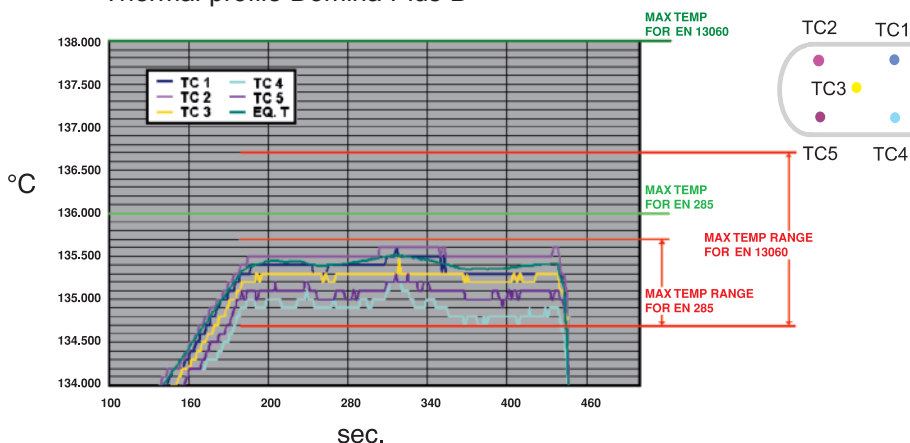
In the drying up phase, the pump makes an important ventilation action through a bacteriological filter. Thanks to this action, it is possible to obtain a perfect drying up for any type of load. The drying up is an essential factor in order to preserve the sterility of the wrapped up instruments and is also a requirement of the new norms.

In the Dental X systems, the pumps have been developed and made directly by Dental X to operate both in the presence of air or water and at low and high temperatures.

### ■ Useful volume of the chamber.

Thanks to the enveloping support and to the special perforated trays, it is possible to use a larger chamber volume and it is consequently possible to sterilize a larger number of instruments than with systems with similar chambers but equipped with standard trays (+20%).

Thermal profile Domina Plus B





## Direct water connection in compliance with EN 1717

### ■ Water connection

New reservoirs have been designed in order to enable the direct water connection through the Purity OR2. The water osmotic reverse system Purity OR2 has been designed in order to prevent biological risk and water leaks in compliance with the norm EN1717.

The water treatment is done by a reverse osmotic system with three phases: Pre filter with active carbons, osmotic membrane and a deionizer filter.

With one cartridge kit it is possible to produce 1000/2000 litres of high quality demineralised water (that means 2000/4000 sterilization cycles).

The maintenance and the cartridge replacement is very easy.

The water quality is controlled directly by the autoclave.

Thanks to the Purity there is no longer need for water purchase and load with a great advantage for the user.

For who it may concern It is also available the Demineralizer DX425. This system, connected to the water network, can provide high quality demineralised water in only few minutes and can be installed everywhere. The resin cartridge can produce 200-350 litres before the replacement.



## Safe sterilization of handpieces and turbines

### ■ The sterilization systems Dental X have been developed for the sterilization of handpieces and turbines.

The air expulsion system allows the saturated steam to penetrate inside the micro-mechanisms and to sterilize all the internal and external surfaces of the instruments.

Thanks to the extraordinary precision of the heating system and to the elimination of thermal shocks, the Dental X sterilization systems allow to

sterilize in absolute safety handpieces and turbines, loose or wrapped, without any risk of the premature deterioration, often associated with sterilization in low quality autoclaves.

In line with the norm requirements, Domina Plus B is equipped with two test programs.

Thanks to the powerful fractionated action of the pump, Domina Plus B passes the most severe hospital test, the Helix Test, which simulates the most critical surgical instrumentation.



# Aptica Plus B

## Ultra rapid sterilization systems of class B

- In line with the need to sterilize in a short time all surgical instrumentation, particularly the dynamic instruments, Dental X has developed a new sterilization system that conjugates in a compact and elegant design the great experience of more than 20 years.

Aptica Plus guarantees a rapid and safe sterilization that allows to perform a complete drying-up cycle in less than 14 minutes.

Aptica Plus B is equipped with a powerful vacuum pump that enables the total air exhaust and the safe sterilization of the most critical surgical instruments like, for example, hand-pieces and turbines.

The Aptica systems use the differential heating system, already proven in the Domina systems, which allows a more accurate temperature control and a higher steam circulation.

In line with the need to offer a simple and versatile sterilization system, the Aptica systems are equipped with 7 pre-stored programs, one of which is free and its parameters can be selected by the operator.

The computerized cycle control and the automatic switch-off guarantee the maximum operative simplicity and total safety.

Thanks to the pump's action, to the differential heating system and to the forced ventilation through a bacteriological filter, a perfect drying up is obtained and the risk of corrosion, associated to many sterilization systems, is eliminated.

The sterilization chamber, made out of nickel plated copper, enables to accelerate the pre-heating and sterilization times and to improve the performance while reducing the consumption.

The cylindrical volume of the chamber guarantees a better steam circulation together with uniform sterilization conditions for any kind of load.

Aptica Plus can be connected to a personal computer or to a printer for the certification and validation of the cycles. This simplifies also the technical service and reduces costs.

Aptica Plus has an independent water supply with two AISI 316 steel tanks.

## Type B sterilization



# Rapid sterilization of handpieces, turbines and surgical instruments

## ■ The rapid sterilization of handpieces and turbines.

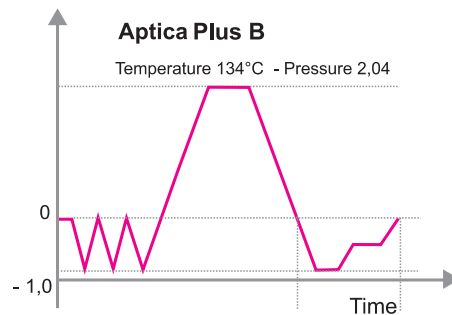
The Aptica Plus B model has been specifically developed for the sterilization of dynamic instrumentation, thus allowing the immediate sterilization, even between patients.

Differently from the expensive and complicated systems that incorporate in a single device the cleaning, lubrication and sterilization functions, Aptica Plus B operates exclusively to guarantee the rapid and effective sterilization of the dynamic instrumentation and of all the rest (even if wrapped up).

Compared to other systems, the higher operative simplicity increases reliability.

The accuracy of the temperature control and the elimination of thermal shocks enable the sterilization of turbines and handpieces without risking premature wear.

The fractionated vacuum and the steam circulation, forced also by the special heating system, allow the saturated steam to penetrate inside of micro-mechanisms.



Entrust your instruments to expert hands

# Atoma Plus

## The automatic sterilization with thermo-dynamic vacuum

- The Atoma sterilization systems have been developed to conjugate the sterilization safety requirements with the need of simplicity and reliability.

Very similar to the Domina systems, the Atoma ones differ particularly in the air exhaust system.

In the Atoma models, the air exhaust is electronically controlled by the microprocessor.

Thanks to this system, it is possible to exhaust more than 98% of the air with results comparable to those of systems using vacuum pumps and it is therefore possible to safely sterilize all surgical instruments.

The unique Atoma Plus features permits to sterilize safely also hand pieces (Class A hollow instruments). Tests and FDI approvals confirm that Atoma Plus can sterilize wrapped hand pieces even if classified as a Class S autoclave.

- Atoma Plus is equipped with a powerful pump that guarantees a perfect drying up through a phase of bacteriological pure forced ventilation.

Like the more sophisticated class B systems, also the Atoma Plus is equipped with the process control system that controls the quality of the saturated steam and guarantees the sterilization safety.

Atoma Plus uses the special differential heating system and it is therefore possible to sterilize all instruments without the risk of damages caused by overheating and thermal shocks.

The use of the most innovative computer techniques has made sterilization a totally automatic process. The entire cycle is controlled, step by step, by the powerful microprocessor and, at the end of the cycle, the system switches off automatically.

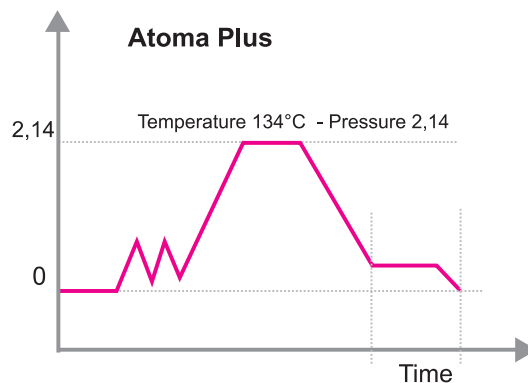
Self-diagnosis and automatic troubleshooting always guarantee optimal working conditions.

Four programs and the possibility to freely set the parameters ensure simplicity of use and maximum versatility.

- As for the Domina models, also the Atoma ones can be connected to a PC, to a printer and also to the registration Steril Management System.

The model Atoma Plus is equipped with two large tanks in order to use always clean water or recycling water.

## Type S sterilization



## Simplicity means reliability

### ■ Perfect drying-up

Atoma Plus is equipped with a powerful drying pump which, combined with a bacteriological filter, allows, through a phase of forced ventilation, a complete drying up of loose or wrapped loads.

### ■ Vacuum with the electronic control of the exhaust.

In the Dental X thermo-dynamic systems the air exhaust is adjusted by the microprocessor through the constant control of the saturated steam quality.

The system guarantees, in very short times, the almost total expulsion of the air with results comparable to those obtained with a vacuum pump. The thermo-dynamic systems are more silent, require less maintenance compared to those equipped with pump, and are the basic unit for a medical office.



Simple controls and clear visualization of signals

# Technical characteristics

## Domina Plus B

Programs		Parameters	Indications	Class	
1	<b>STERILIZATION 1</b>	134 °C 5 min 3 vacuum	For every load that could be submitted to 134°C (helix test)	B	
2	<b>STERILIZATION 2</b>	121 °C 20 min 3 vacuum	For every load that could be submitted to 121°C (helix test)	B	
3	<b>FLASH (*)</b>	134 °C 3 min 1 vacuum	For sterilization of all unwrapped surgical material	S	
4	<b>SPECIAL</b>	S1 Disinfection	105 °C 8 min 3 vacuum	For disinfection	
5		S2 heavy load	134 °C 5 min 4 vacuum	For special loads	B
6		S3 Heavy load	121 °C 20 min 4 vacuum	For special loads	B
7		S4 BSE	135 °C 19 min 3 vacuum	For Creutzfeld & Jacob disease (crazy cow)	B
8		S5	selected by the operator: - Temperature.: 105 -135 °C - Time: 3 - 90 min. - Vacuum 1 - 3 - 4 phases - Drying: 5 -10 -14 min.	Depend by the selected parameters	
	Bowie & Dick	134°C 3,5 min 3 vacuum			
	Vacuum test	20 min.			

\*The Flash cycle will take roughly 20 min drying included - The timing can change depending on the load and the autoclave conditions

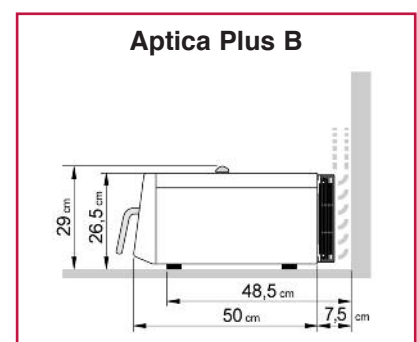
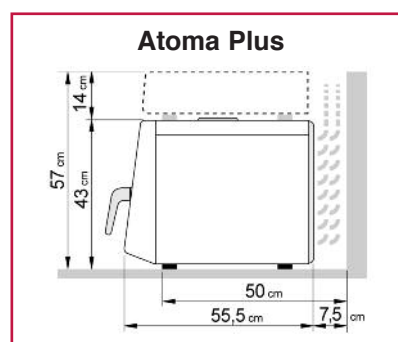
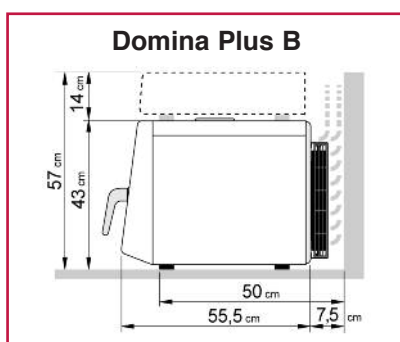
## Atoma Plus

Programs	Parameters	Indication	Class
1 <b>Unwrapped</b>	134 °C 4 min	For all unwrapped instruments	S
2 <b>Wrapped</b>	134 °C 15 min	For all wrapped material	S
3 <b>Packs</b>	121 °C 30 min	For surgical packs and tissues	S
4 <b>Special</b>	<b>selected by the operator</b> - from 105 to 135 °C - from 3 to 90 min	The operator can select the time and the temperature in order to sterilize special material	

## Optica Plus B

Programs		Parameters	Indication	Class
1	<b>STERILIZATION 1</b>	134 °C 5 min 3 vacuum	For every load that could be submitted to 134°C (helix test)	B
2	<b>STERILIZATION 2</b>	121 °C 20 min 3 vacuum	For every load that could be submitted to 121°C (helix test)	B
3	<b>FLASH (*)</b>	134 °C 4 min 2 vacuum	For sterilization of all unwrapped surgical material	S
4	<b>SPECIAL</b>	S1 Heavy load	134 °C 5 min 4 vacuum	For special loads
5		S2 Heavy load	121 °C 20 min 4 vacuum	For special loads
6		S3 BSE	135 °C 19 min 3 vacuum	For Creutzfeld Jacob disease (crazy cow)
7		S4	selected by the operator - Temp.: 121-135 °C - Time: 3 - 60 min. - Vacuum: 2 - 3 - 4 phases - Drying: 3 - 6 - 9 min.	Depend by the selected parameters
	Bowie & Dick	134°C 3,5 min 3 vacuum		
	Vacuum test	20 min.		

\*The Flash cycle will take roughly 13 min, drying included - The timing can change depending on the load and the autoclave conditions



Technical characteristics	Domina Plus B	Atoma Plus	Aptica Plus B
External dimensions (LxDxH)	443x562x428 mm	443x562x428 mm	443x545x254 mm
Chamber dimensions	Ø 240x384 mm	Ø 240x384 mm	Ø 156x251 mm
Chamber capacity	18 lt	18 lt	4,5 lt
Net weight	55 kg	49 kg	27 kg
Maximum power consumption	1.900 W	1.600 W	1.400 W
Average power consumption	800 W	600 W	600 W
Supply Voltage	CE USA	230 V - 50 Hz 110 V - 60 Hz	230 V - 50 Hz 110 V - 60 Hz
Triple safety lock	■	■	■
Air expulsion system	Vacuum pump 1,3,4 vacuum	Thermodinam. electr. control	Vacuum pump 2,3,4 vacuum
Drying pump	■	■	■
Programs	8	4	7
Bowie & Dick test	■	■ **	■
Helix test	■	/	■
Vacuum test	■	/	■
Automatic switch off - Night cycle	■	■	■
Process Evaluation Control	■	■	■
Adhesive heating elements	■	■	■
Nr. of temperature sensors	3	2	3
Nr. of pressure sensors	1	1	1
Differentiated heating	■	■	■
High resolution temperature reading	■	■	■
PC connection - USB	■	■	■
Printed integrated/external optional	■	■	■
Volumetric doser	■	/	■
Water quality control	■	/	■
Bacterial filter - high filtration	■	■	■
Altitude setup	■	■	■
Double water tank	■	■	■
Self diagnosis and trouble shooting	■	■	■
Cycle counter	■	■	■
Automatic maintenance	■	■	■
Annual validation recall	■	■	■
Water fill on the top and on front	■	■	■
H <sub>2</sub> O filter on the front	■	■	■
Software calibration	■	■	■
Remote service	■	■	■
Average sterilization time*	19-32 min (1V) 32-50 min (3V)	23-38 min	13-17 min
Class in compliance with EN 13060	B	S	B

\* Timing can change with reference to the load type and instrument quantity and autoclave operating conditions.

\*\* AAMI Standards (USA)

## Dental X.....a partner with great experience

The efficiency and duration of an autoclave depend also from the quality and professionalism of the service centers. Dental X has invested time and resources to create a wide spread net

of authorized technicians capable of providing a professional support to your activity. Dental X, a partner with great experience.



