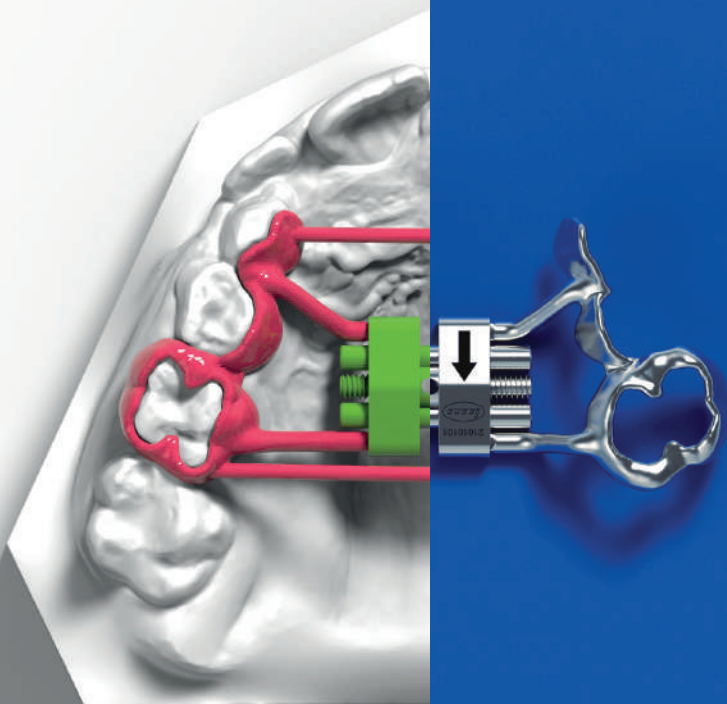


..Tradition expertise  
meets orthodontics  
of the future..



**Leone**<sup>®</sup>

COMPLETE **CAD-CAM**  
EXPANDER SERIES



- Over 50 years of know-how and millions of successfully treated clinical cases.
- Widest range of palatal expanders and expansion screws on the market, solutions for every therapeutic need.
- Continuous investment in research and development.
- High quality standards.

Now the new  
CAD-CAM  
Expander Series  
designed  
for a fully digital  
workflow

# 3DLEONE DESIGNER

Software



**3DLEONE DESIGNER** is the first software based on an easy and driven workflow for the digital design of customized framework to be coupled with our innovative CAD-CAM expanders.

Based on our experience with many different software in the dental field and due to the increased customer requests, Leone has made out an innovative and intuitive software that allows to design, not only bands and supports, but also the expander arms, and can automatically place the expander also in the right position, in very short time and independently from the digital skills.

**3DLEONE DESIGNER** software allows to upload and manage the .STL files of both upper and lower arches, obtained from a laboratory scanner or directly from an intra-oral scanner, and it has already in library all the range of Leone's CAD-CAM expanders available.

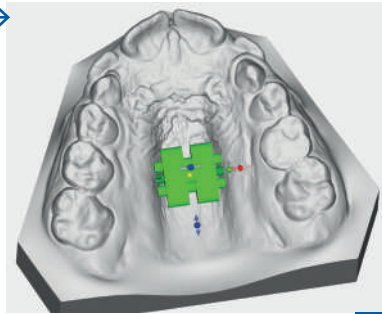
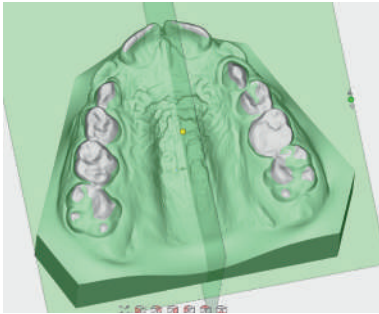
Once the digital driven workflow is completed, thanks to an innovative technology called Selective Laser Melting, the designed .STL file will become, a high precision sintered framework and will be coupled perfectly with the chosen Leone CAD-CAM expander. Then the framework and the expander will be permanently laser welded.

For further information on **3DLEONE DESIGNER** software visit [www.leone.it/3dsoftware](http://www.leone.it/3dsoftware)

**Leone**<sup>®</sup>

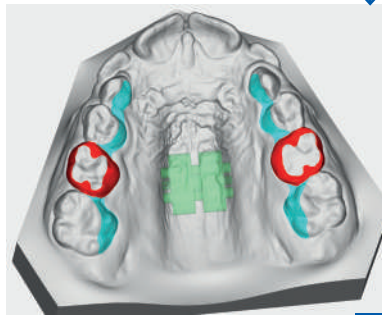
# 3DLEONE DESIGNER Workflow

MODELS  
ORIENTATION



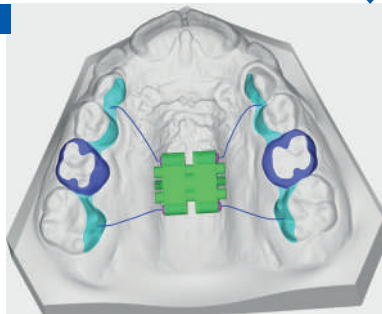
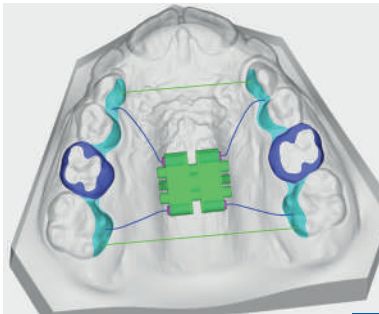
SCREW POSITION  
DEFINITION

Designing and  
creating new  
entirely customized  
orthodontic solutions



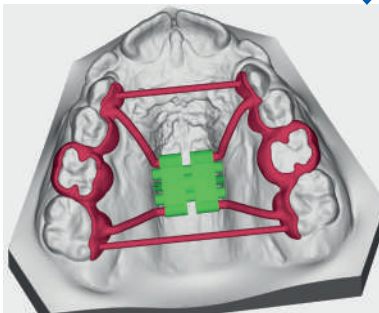
BANDS  
DEFINITION

SUPPORT  
DEFINITION



ARMS  
DEFINITION

REVIEW &  
EXPORT



FREE  
TRIAL



# 3DLEONE DESIGNER

Software



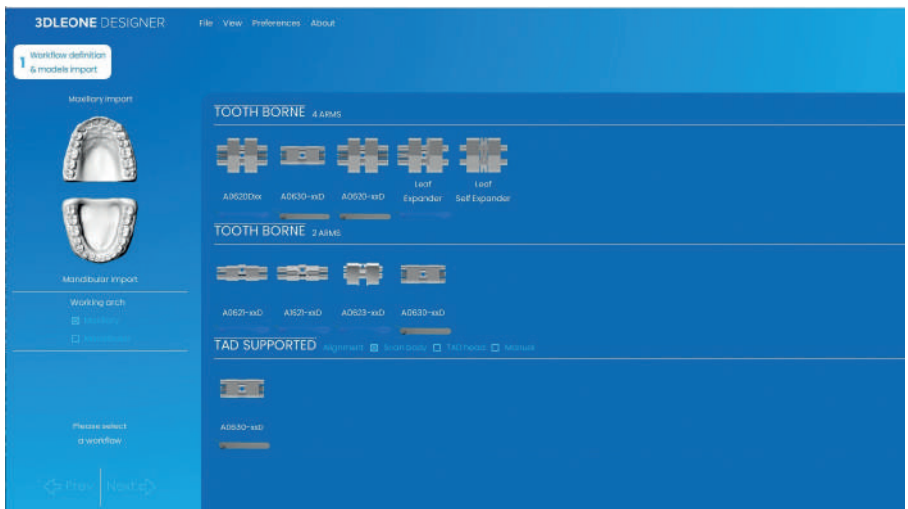
Designing and creating  
new entirely customized  
orthodontic solutions

Thanks to the feedbacks received from various markets, **3DLEONE DESIGNER** is continuously updated, aiming to become the best digital tool for the contemporary orthodontic lab.

The latest improvements include:

## NEW INCREASED LEONE CAD-CAM EXPANDER LIBRARY

The range of available screws has been implemented with Leone's best seller expanders - the single arm Stealth, the Leaf Series, the Torko screw for lower arch - in order to allow the lab to design almost every fixed expansion appliance.

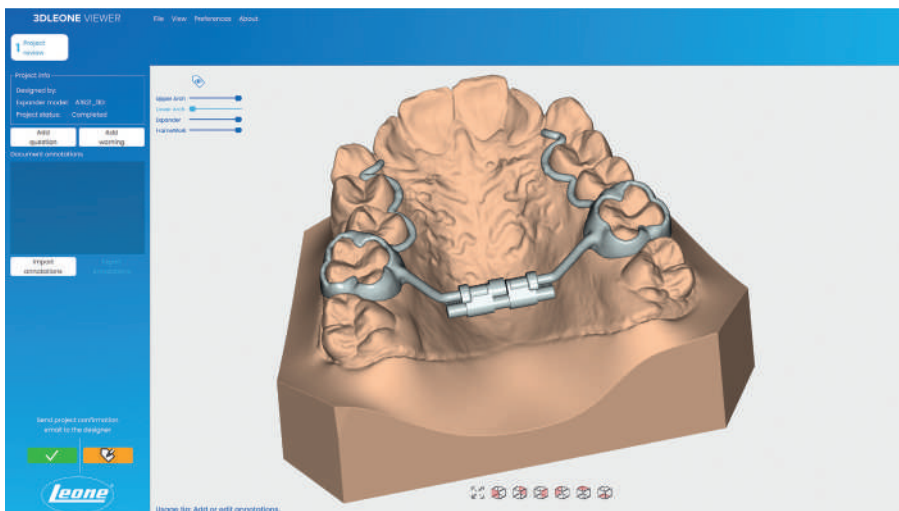


## NEW TOOL ALLOWS FULL CUSTOMIZATION AND QUICKER DESIGN

It is possible to customize the preference menu and define designing features as offset, thickness or diameter, shape, inner geometry of support and bands, as well as the use **of 3 buttons mouse, and 3D mouse for an enhanced experience.**

## 3DLEONE DESIGNER VIEWER

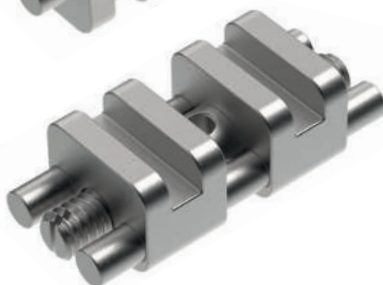
Thanks to the free viewer, the clinician can review the project made by the laboratory and communicate to the lab technician eventual changes or his/her approval through a built-in direct chat.



Review,  
check and  
approve

# CAD-CAM

## Expanders



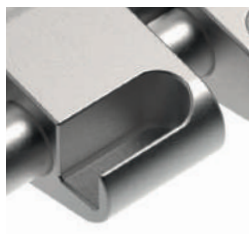
■ First RPE screws series designed for a fully digital workflow



CAD-CAM expanders allow the manufacturing of totally customized appliances with dental anchorage, hybrid (teeth and TADs) and bone borne in a full digital workflow, by using 3DLeone Designer software. Thanks to a manufacturing process called Laser Melting, the .STL file will become a high precision sintered framework, that will fit perfectly the slots on the expander bodies to then be joined permanently by laser welding.

CAD-CAM expanders are manufactured by biomedical stainless steel with increased mechanical properties and a dedicated geometry of the male screw head that allow us to declare, based on in-vitro tests performed, a strength higher than 60 kgf, about 50% higher than standard RPE.

These features ensure the treatment efficiency even with maxillary expansion in adult patients with 2 or 4 TADs.



### ■ SQUARED slots

The CAD-CAM expanders bodies feature squared slots, instead of the standard arms. The squared slots allow a correct oriented coupling of digitally designed customized laser melted framework and, thanks to their geometric shape, the full transmission of the expansion forces to the teeth and/or TADs

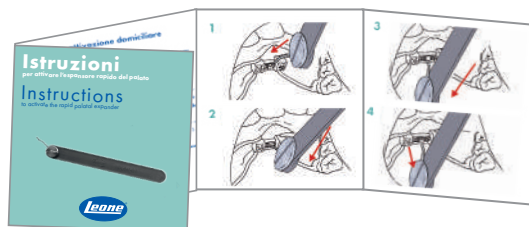


### ■ Strengthened swivel key

ONLY for CAD-CAM expanders, supplied inside the package, it is more resistant than standard one and its use is mandatory in order to enable the full transmission of expansion forces

### ■ Instructions to activate the expander

useful for parents and clinicians



# Anatomical expander

CAD·CAM  
EXPANDER  
PATENTED



■ Ideal and reliable  
with TADs



LEARN  
MORE



Leone












The anatomical CAD-CAM expander looks like a regular anatomical expander with orthogonal arms, but it is a device optimized for the CAD-CAM procedure, featuring 2 squared slots allowing perfect fitting and welding of the laser melted framework. The reduced overall size, the exclusive self-centering guides system, the strengthened stainless steel of the male screw, allow the positioning of the expander even in case of very narrow palates and high resistance and reliability throughout the therapy, even for the usage in MARPE appliances in adult patients. Expansion capacity in mm, directional arrow and lot number are laser marked on the body of the screw.

### Supplied with:

- 1 stainless steel key
- 1 strengthened swivel key with handle
- instructions for the patient

■ .STL file available on Leone website and included in the library of 3DLeone Designer software



		CODE				activation turns	
6 mm	4,5 mm		mm	body mm	mm	mm	for maximum expansion limit
front view	back view						
		<b>A0630-08D</b>	1,5 x 1,5	12	8	0,8	40
		<b>A0630-10D</b>	1,5 x 1,5	14	10	0,8	50
		<b>A0630-12D</b>	1,5 x 1,5	16	12	0,8	60

# Rapid expander

CAD·CAM  
EXPANDER  
PATENTED



■ The strongest RPE  
of the range



LEARN  
MORE

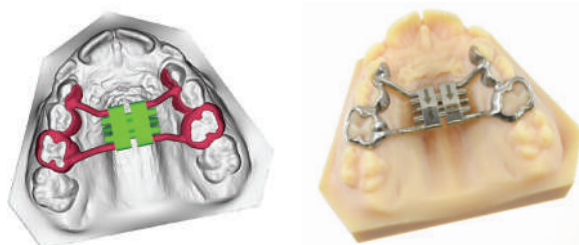
















CAD-CAM rapid expander looks like the world's best sellers expander, but it is a device optimized for the CAD-CAM procedure, featuring 4 squared slots allowing perfect fitting and welding of the laser melted framework. The exclusive self-centering guides system, the strengthened stainless steel of the male screw and the guides and the optimal ratio between bulkiness and size, ensure a reliable treatment and a perfect bio-mechanical expansion control throughout the therapy even for the usage in MARPE appliances in adult patients. Expansion capacity in mm, directional arrow and lot number are laser marked on the body of the screw.

### Supplied with:

- 1 stainless steel key
- 1 strengthened swivel key with handle
- instructions for the patient

■ .STL file available on Leone website and included in the library of 3DLeone Designer software



		CODE					activation turns
11 mm	4 mm		mm	body mm	mm	mm	for maximum expansion limit
<i>front view</i>	<i>back view</i>						
		<b>A0620-08D</b>	1,5	12	8	0,8	35
		<b>A0620-09D</b>	1,5	14	9	0,8	40
		<b>A0620-11D</b>	1,5	16	11	0,8	50
		<b>A0620-13D</b>	1,5	18	13	0,8	60

# CAD-CAM



## Tooth borne

## Expanders

**NEW  
LINE**



■ New expanders designed for tooth borne appliances

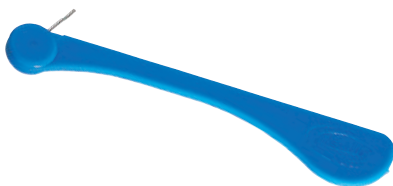
Leone's CAD-CAM Tooth Borne expander series broadens the Leone expander CAD-CAM range. The most popular and used Leone expanders have been optimized to be included in a fully digital workflow to manufacture expansion appliances with dental anchorage.

The CAD-CAM tooth borne expanders are made of stainless steel and manufactured according to the high-quality Leone standards. They feature transversal housings to be coupled with the digital designed and sintered framework, instead of the arms as the classic models.



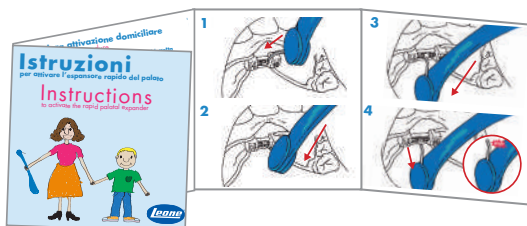
### ■ EMBEDDED slots

The Tooth borne CAD-CAM expanders bodies feature slots embedded in the body profile that allow a correct oriented coupling of digitally designed customized laser melted framework. This feature guarantees a high reliability of the device throughout the therapy.



### ■ Swivel key

Each expander comes with the classic blue swivel key. Also available with activation turn counter



### ■ Instructions for use of expanders

useful for parents and clinicians

# Rapid expander Tooth borne

CAD·CAM  
EXPANDER  
PATENTED

NEW  
LINE



■ Classic design  
goes digital





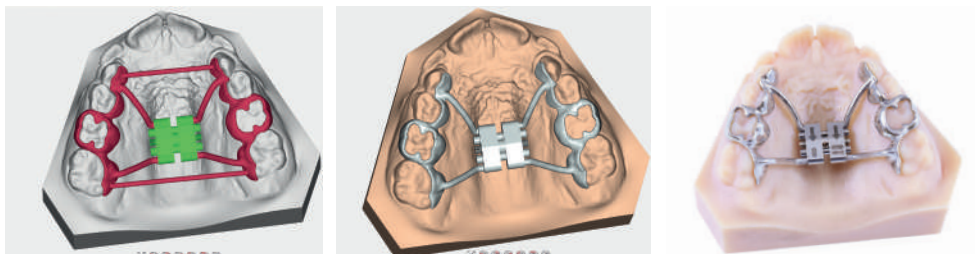
The CAD-CAM Rapid Expander Tooth Borne screw is the optimized CAD-CAM version of the Leone's best seller expander: instead of the arms, it has four transversal housings with an ending stop on the bodies that allow a perfect oriented coupling with the digitally designed and SLM manufactured framework, thus assuring an optimal laser welding process.















It is recommended for the utilization on tooth borne appliances. This series of expanders keeps all the features and sizes of our worldwide famous expander, allowing doctors to smoothly switch to digital manufactured RPEs.

Expansion capacity in mm, directional arrow and lot number are laser marked on the body of the screw.

### Supplied with:

- 1 stainless steel key (to be used only inside the lab)
- 1 blue swivel key with handle
- Instructions for the patients



 11 mm front view	 4 mm back view	CODE	 mm	 body mm	 mm	 mm	activation turns for maximum expansion limit
		<b>A0620D08</b>	1,5	12	8	0,8	35
		<b>A0620D09</b>	1,5	14	9	0,8	40
		<b>A0620D11</b>	1,5	16	11	0,8	50
		<b>A0620D13</b>	1,5	18	13	0,8	60

# Easy Access

micro expander

**Tooth borne**



PATENTED

**NEW  
LINE**



- The smallest expander of the range

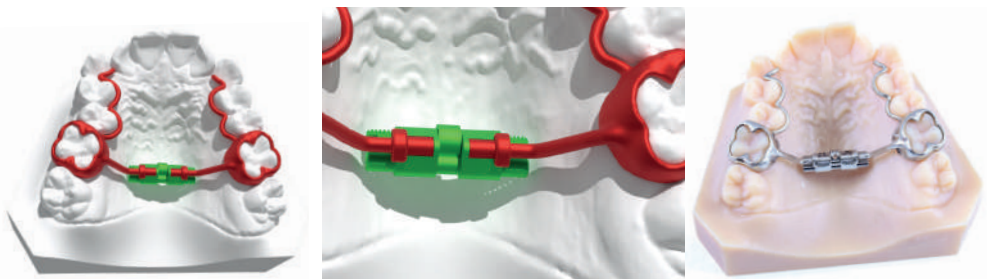














This expander is the optimized CAD-CAM version of the Stealth Easy Access. Instead of the arms, it has two transversal housings with an ending stop on the bodies that allow a perfect oriented coupling with the digitally designed and SLM manufactured framework, thus assuring an optimal laser welding process.

Thanks to the more visible screw holed-head, the micro expander A1621D allows an easier intraoral activation with the swivel key. It is recommended for dental anchored expanders. This series of expander keeps all the features and sizes of our classic worldwide famous expander, allowing doctors to smoothly switch to digital manufactured RPEs. Expansion capacity in mm, directional arrow and lot number are laser marked on the body of the screw.

### Supplied with:

- 1 stainless steel key (to be used only inside the lab)
- 1 swivel key with handle
- Instructions for the patients



 4,95 mm front view	 4,05 mm back view	CODE	 mm	 body mm	 mm	 mm	activation turns for maximum expansion limit
		<b>A1621-08D</b>	2	12	8	0,8	35
		<b>A1621-11D</b>	2	16	10	0,8	50
		<b>A1621-13D</b>	2	18	12	0,8	60

# Expander for lower arch **Tooth borne**

CAD·CAM  
EXPANDER  
PATENTED

**NEW  
LINE**



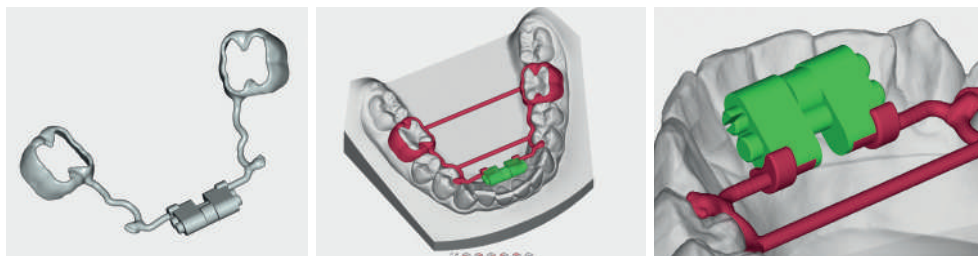
- Flat profile  
ideal for lower arch













The CAD-CAM expander for lower arch Tooth Borne is the optimized CAD-CAM version of the Torko lower screw. Instead of the arms, it has two transversal housings with an ending stop on the bodies that allow a perfect oriented coupling with the digitally designed and SLM manufactured framework, thus assuring an optimal laser welding process. The main characteristics are the same of the classic A0623 expanders, featuring a flat profile that reduces the overall bulkiness, particularly important since it is recommended for the use on lower jaw tooth borne appliances. Expansion capacity in mm, directional arrow and lot number are laser marked on the body of the screw.

### Supplied with:

- 1 stainless steel key (to be used only inside the lab)
- 1 key with safety ring leash
- Instructions for the patients



		CODE					activation turns
7,5 mm <i>front view</i>	4 mm <i>back view</i>		mm	body mm	mm	mm	for maximum expansion limit
		<b>A0623-08D</b>	2	12	8	0,8	35
		<b>A0623-11D</b>	2	16	11	0,8	50

# Leaf expander Tooth borne

CAD·CAM  
EXPANDER  
PATENTED

NEW  
LINE



- No parent/patient activations

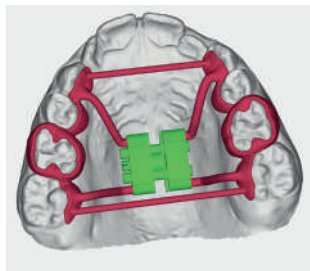







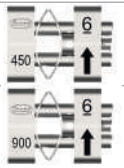
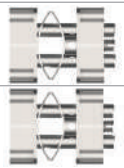
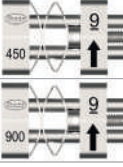
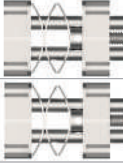
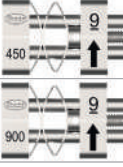
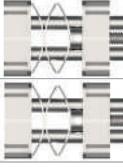

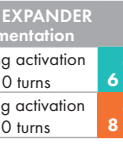
The CAD-CAM Leaf Expander is a spring loaded expander that, along with the male screw, has two or three MEMORIA Ni-Ti leaf springs that allow the release of calibrated and continuous forces to promote the expansion of the maxillary arch. It is a device optimized for the CAD-CAM procedure, instead of the arms it has four transversal rounded slots on the bodies that allow a correct oriented coupling for the welding of digitally designed customized laser melted framework. The main features are the same as the standard Leaf expander series. It is recommended for the utilization on tooth borne appliances. This expander series keeps the efficiency of the classic expander while looking towards the future.

### Supplied with:

- 1 stainless steel key  
(to be used only inside the lab)
- 1 swivel key with handle

■ .STL file available on Leone website and included in the library of 3DLeone Designer software



 11 mm front view		 4 mm back view		CODE	 mm body mm	 mm mm	 mm mm activation turns	for maximum expansion limit
		<b>A2703-06D</b> 2 springs 450 g approx	1,85	12	6	0,4	30	
		<b>A2704-06D</b> 2 springs 900 g approx	1,85	12	6	0,4	30	
		<b>A2703-09D</b> 3 springs 450 g approx	1,85	12	9	0,4	45	
		<b>A2704-09D</b> 3 springs 900 g approx	1,85	12	9	0,4	45	

EXPANDER ACTIVATION GUIDELINES	LEAF EXPANDER cementation	FIRST visit	SECOND visit	THIRD visit
<b>6 mm</b> <b>A2703-06D</b> <b>A2704-06D</b>	spring activation 0 turns	after 6 weeks 10 turns	after 4 weeks 10 turns	after 4 weeks 10 turns
<b>9 mm</b> <b>A2703-09D</b> <b>A2704-09D</b>	spring activation 0 turns	after 8 weeks 15 turns	after 6 weeks 15 turns	after 6 weeks 15 turns



# Leaf Self expander Tooth borne

CAD·CAM  
EXPANDER  
PATENTED

NEW  
LINE



■ For a non-compliance  
treatment



**leone**

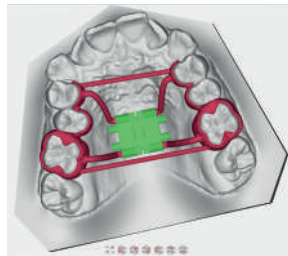
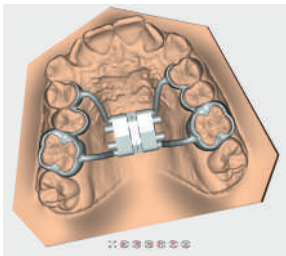












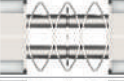
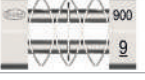

Leaf Self Expander is a spring loaded expander equipped with four or six MEMORIA Ni-Ti leaf springs that allow the release of calibrated and continuous forces to promote the expansion of the maxillary arch.

It is a device optimized for the CAD-CAM procedure: instead of the arms it has four transversal rounded slots on the bodies that allow a correct oriented coupling for the welding of digitally designed customized laser melted framework. The main features are the same as the standard Leaf expander series. It is recommended for the utilization on tooth borne appliances.

This expander series keeps the efficiency of the classic expander while looking towards the future.

■ .STL file available on Leone website and included in the library of 3DLeone Designer software



		CODE			
11 mm	4 mm		mm	body mm	mm
front view	back view				
		<b>A2705-06D</b> 4 springs 450 g approx	1,85	12	6
		<b>A2706-06D</b> 4 springs 900 g approx	1,85	12	6
		<b>A2705-09D</b> 6 springs 450 g approx	1,85	12	9
		<b>A2706-09D</b> 6 springs 900g approx	1,85	12	9

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