

Application, activation, deactivation, repairs and regular servicing of attachments should only be carried out by trained personnel using original instruments and components. Mechanically cleaning attachments with a toothbrush and toothpaste can cause premature wear and tear of the functional components.

With the publication of these instructions for use all previous Editions are no longer valid.

The manufacturer refuses any liability for damages due to Disregard of the instructions for use below.

### The 3 most important points for successful processing

- The housing must be covered with at least 1 mm of alloy.
- The sealing lid (055 676) must fit the housing tightly.
- Fixation screw X (055 648) must be fully coated with investment material and all bubbles eliminated.

### Traceability of lot numbers

If attachments are assembled from components with different lot numbers, all relevant lot numbers have to be recorded to ensure that they can be traced.

### Tooth preparation for extracoronal attachments

No special requirements.

### Dismantling of attachments

Male and female parts of attachments must be separated and, if made of several components, dismantled before thermal treatments (casting-on, soldering, hardening and ceramic firing).

### Pickling

Pickled parts slide better, if they are placed in soap water (ultrasonic bath) after pickling.

### Fit-in

After thermal treatment the parts may have a too strong friction and need to be re-adjusted. This is done by applying colloidal graphite (080241) to one of the degreased parts – here the male part – and drying with compressed air. The adjustment is done by repeated insertion and removal of the attachment parts. Then clean ultrasonically.

### Thread

If desired, thread cutters and tap dies are available for specific attachments.

### Duplicating aids

These red parts are slightly overdimensioned compared to the original parts. The result is an optimal gap for the resin-bonding technique.

Please note: The duplicating aid must not be placed in the patient's mouth as a temporary replacement for the female part.

### Disinfection

After any fabrication or modification, the prosthetic work, incl. female part component, must be cleaned and disinfected according to national guidelines. When selecting the disinfectant, it is essential to ensure that:

- it is suitable for cleaning and disinfection of dental prosthetic components.
- it is compatible with the materials of the products to be cleaned and disinfected.
- it has tested efficacy in disinfection.

All the parts must be disinfected before use with a low or intermediate EPA-registered hospital disinfectant.

Recommended: Cidex® OPA Solution. Strictly follow manufacturer's instructions.

### Further indications

For processing of precious metal alloys, soldering and casting-on see Dental documentation of Cendres+Métaux.

### Warnings

#### Allergies

With patients having an existing allergy to one or several elements of the materials contained in any one attachment, this particular product must not be used. With patients suspected of having an allergy to one or several of these elements contained in any one attachment, this product can only be used after preliminary allergological testing and proof of a non-existing allergy. Please contact your Cendres+Métaux sales representative for further information.

Auxiliary instruments may contain nickel.

The device has not been evaluated for safety and compatibility in the MR environment.

The device has not been tested for heating or migration in the MR environment.

### Precautions

- The parts are delivered non-sterile. Proper preparation of the parts before use in patients is explained in the section «Disinfection».
- Ensure the attachment is cleaned regularly to avoid soft tissue inflammation.
- During intraoral use, all products should generally be secured against aspiration.
- No cutting work should be performed in the patient's mouth.

The products carry the CE sign.  
See packaging for details.

## VV

### Female part

V = Valor®

Fitting: Cast-on, can be laser-welded to the cover

### Male part

V = Valor®

Fitting: Cast-on or soldered, **cannot be laser-welded**

### Components

#### Cover

V = Valor®

Fitting: Cast-on or laser-welded

#### Blocking screw

T = Pure titanium  
(grade 4)

### Indications

Compensation of diverging abutments

For operator removable, rigid bridge constructions

### Examples

Implant-supported restorations

Prospectively planned dentures (extensions and additions with the Mini-SG® system. The Mini-SG® V female part is compatible with all prefabricated metal male parts 23.10.2/25.10.2.)

### Contraindications

- Where patients have an existing allergy to one or more elements of the attachment materials.
- Unwillingness of the patient to correctly follow the aftercare/ recall instructions.
- Patients with bruxism or further uncontrolled para-functional habits.
- Extension bridges with a free end

### Equipment necessary for correct processing

Simple parallelometer apparatus for placing the male parts (see Dental documentation of Cendres+Métaux).

### Instructions for use

#### Important

The Mini-SG® V is unique in that it is transversely screw-retained in bridgework but can be converted later. Casting the female part into the bridge is a highly complex process involving many risks. To virtually rule out failures, the following instructions must be adhered to strictly.

**Cast-on alloys:** Non-precious alloys must not be used for casting on. Due to their high coefficients of thermal expansion, precious alloys are only partly suitable for use with low fusing ceramics (risks cracks in the ceramic).

#### Milled brace support

Due to the construction of the Mini-SG®-V **no** milled brace support for the protection of the attachment is needed.

#### Integration of the male part V by casting-on

Model the wax framework according to the usual techniques. With the parallelometer insert (070567 / 072627) position the degreased male part with respect to the divergence of the abutments and a possible later transformation and fix it with wax.

**Note:** The Valor® male part can be identified by the mark on the occlusal surface of the cylinder.

**Important:** The two guiding grooves A (Fig. 1) must be free of wax.

Cast, then benchcool the casting cylinder to room temperature.

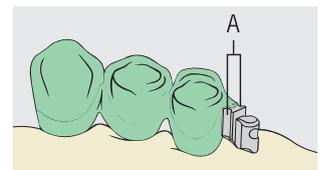
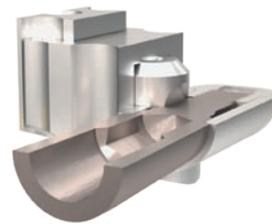


Fig. 1

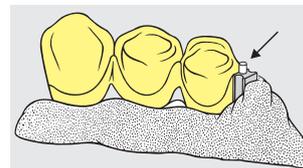


Fig. 2

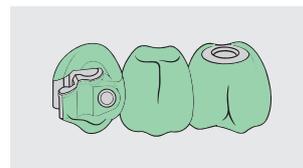


Fig. 3

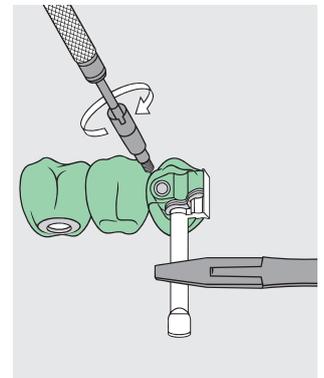


Fig. 4

T = Pure titanium (grade 4)

Ti > 98.9375%

V = Valor®

Pt 89.0%, Au 10.0%, Ir 1.0%

$T_s - T_L$  1660-1710°C

CTE

(25–500°C) 10.1  $\mu\text{m}/\text{m} \cdot \text{K}$

(25–600°C) 10.3  $\mu\text{m}/\text{m} \cdot \text{K}$

**Integration of the male part V by soldering**

If the male part is to be soldered to the crown, the soldering area must be parallel to the attachment. Insert the rod solder into the groove (Fig. 2) .

**Integration of the female part V by casting-on****Testing for correct functioning**

Before fitting the female part, check that the sealing lid (055676) fits the housing properly with locking screw T (055519) and fixation screw X (055648).

**Recommendation**

As the cover is not loaded and is covered with cast-on alloy, it can be laser-welded to the female housing. Alternatively, the cover can be fixed in place with sticky wax.

Mount the female part. Insert the sealing lid V (055676) on the vestibular side. Firmly tighten the sealing lid with the insulated blocking screw T (055519) using the special screwdriver (072604). If necessary, the length of the screw head can be shortened by max. 2.5mm. The chimney around the blocking screw need not be extremely oversized but must be waxed-up with wax.

**Important:** The female part must be coated with **at least 1 mm of wax** all around (Fig. 3). Ensure that the ceramic is not in contact with the Valor® female part as the coefficient of thermal expansion of Valor® is lower than that of the ceramic alloy (risks cracks in the ceramic).

**Investing the female part V**

Before investing remove the locking screw T (055519) using the special screwdriver (072604). Separate the primary and secondary parts. Insert a **modified** system transfer jig (072616) into the female part, grip it with pliers and wind fixation screw

X (055648) into the female housing as far as possible (Fig. 4). Modifying the system transfer jig: Remove the top third (indentation) with a rubber polisher, to produce a sloping surface (Fig. 5). **Important:** The transfer jig must be removed from the female part before investing.

As fixation screw X (055648) is purposely oversized and depending on the grade of wax used, the aperture may crack when the screw is wound in.

These cracks indicate that fixation screw X (055648) has been wound in fully. It also guarantees that locking screw T (055519) can be replaced smoothly in the housing after casting.

**Important:** The inner surfaces of the female part housing must be free of wax. It is advisable to use a scalpel to cut (see arrow) a small notch between the wax and housing (refer to Fig. 6) to prevent the alloy running in while being cast-on. During investing, ensure that the investment material flows around the screw in the housing exactly and that no bubbles are entrapped. We recommend wetting the female part with water.

Use a pointed probe to run **minute** portions of investment material around the screw (Fig. 7).

It is advisable to blow the investment onto the screw gently with your mouth. This ensures that the material flows around the screw without entrapping bubbles.

The female part must be positioned in the casting ring with its **bottom opening upwards** to enable it to be invested in a controlled manner.

**Note:** In case of strong overheating of the casting alloy the fixation screw can be damaged.

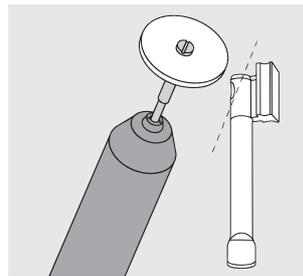


Fig. 5

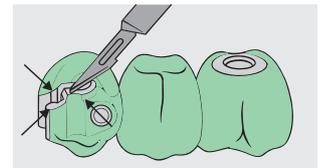


Fig. 6

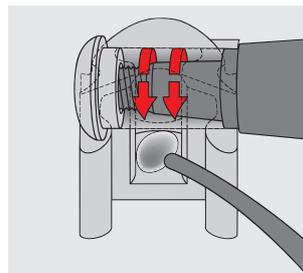


Fig. 7

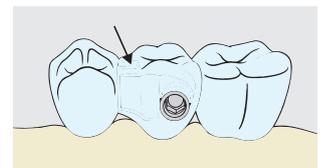


Fig. 8

## Devesting and cleaning

To avoid compromising the precision, do not sandblast the inner surfaces of the housing. Carefully loosen the fixation screw (055648). Manually retouch the transversal screw thread with the reamer (072610 / Thomas spanner key 070221). Test the function with the locking screw T.

## Fitting

It is possible that after casting the female part on, the fit of the slide attachment may require adjusting. Binocular viewing aids and graphite paste (080241) are very useful for this purpose. Final fitting must be carried out in a series of stages, checking regularly that the attachment continues to function correctly.

Fixation screw X dissolves in warm, 30% hydrochloric acid (HCL) after approximately 1 hour.

## Transformation

Remove the locking screw T and the secondary construction. Place a Mini-SG® duplicating aid or original female part on the male part and take the impression. To make the master model place the system transfer jig (072616) as manipulating male part into the female part in the impression. Make the model. Now the desired transformations can be carried out on the denture. Consult the instructions of the system in use.

## Directions for the dental technician

Female and male part of the Mini-SG® V have optimal mechanical properties after casting-on or soldering provided they were benchcooled to room temperature.

**Aesthetics:** With sufficient occlusal space the Mini-SG® V can be veneered above the guiding grooves. To prevent the alloy running into the female part, keep all wax out of the housing while waxing up the occlusal surface (Fig. 8).

## Directions for the dental surgeon

Because of the danger of aspiration always secure the special screw driver (072604) with a thread in the bore provided. The hexagonal head of the special screwdriver wedges the locking screw T, thus preventing aspiration or swallowing. If the retentive force of the screwdriver (can be activated/deactivated) is too weak, adjust it by spreading the lamellae at the head. The handle of the special screwdriver is designed to be used, if necessary, with the ratchet spanner (046.020)\*.

\* Available from: Institut Straumann AG

Because of its flexible head the special screwdriver (072604) must **not** be sterilized, but disinfected with common disinfection processes.

**Aftercare**

Inside the mouth, retainers for prosthetic work are more or less exposed to stresses in a constantly changing environment, and hence wear. Wear occurs everywhere in everyday situations and cannot be avoided, only reduced. The intensity of wear depends on the system as a whole. Our endeavour is to use materials that are optimally matched to one another, in order to reduce wear to an absolute minimum. The good fit of the denture on the mucosa has to be checked at least once a year and a lining may have to be provided in order to eliminate swinging movements (overloads), especially in the case of free-end prostheses. We recommend replacing the friction insert (wearing part) at the annual check-up as a precaution.

Patients can obtain information and recommendations about the use, removal and care of prostheses on the patient website at [www.cmsa.ch/dental/infos](http://www.cmsa.ch/dental/infos).

**Care & cleaning**

Ideally you should clean your teeth and your denture after every meal. Cleaning your denture also involves cleaning the connecting element. The gentlest method is to clean the connecting element under running water with a soft toothbrush. For the most thorough cleaning, the denture has to be placed in a small ultrasonic device with a suitable cleaning additive. High-precision attachments must never be cleaned with toothpaste because this can cause damage. You should also be wary of unsuitable cleaning solutions or tablets. These can also damage the high-quality connecting element or interfere with its functioning. The connecting elements fixed in your mouth, e.g. on remaining teeth or on implants, must be cleaned only by using water and a soft toothbrush as well as an interdental brush. Do not use toothpaste in order to avoid premature damage to the connecting element. Ensure the attachment is cleaned regularly to avoid soft tissue inflammation.

Please contact your Cendres+Métaux agency for advice and additional information.

**Disclaimer**

Upon publication, these instructions for use supersede all previous editions.

The manufacturer is not liable for any damages due to the user disregarding the instructions for use below.

This attachment is part of a comprehensive conception and may only be used or be combined with the corresponding original components and instruments. If this is not the case, any responsibility by the manufacturer will be refused.

In case of complaints the lot number must always be specified.

**Markings on the packaging / Symbols**

	Manufacturer
	Catalogue number
	Batch code
	Quantity
	Consult instructions for use
Rx only	Caution: US Federal law restricts this device to sale by or on the order of a licensed (healthcare) practitioner.
	Cendres+Métaux products with the CE mark fulfill the requirements of the Medical Device Directive 93/42/EEC.
	
	Do not re-use
	Non-sterile
	Keep away from sunlight
	Caution, consult accompanying documents