



# VENUS™

Augmentation

[Brochure & Surgical Technique](#)



## Universal cement application

The HumanTech cement application consists of the Bone Filler, that due to the standardized Luer-Lock connection, can be filled with the Luer-Lock syringes that are commonly used in kyphoplasty and vertebroplasty. The system for cement application consists of the Cementadapter CPS, the Cementadapter Inserter and Cementadapter Extractor.

The cement application available in the open VENUS™ system and in the percutaneous system VENUS™mini 2.0 is used in conjunction with the following pedicle screw types:

- augmentable 2T Polyaxial Screws
- augmentable 6T Polyaxial Screws
- augmentable 2T Revision Screws
- augmentable 6T Revision Screws
- augmentable 2T Monoaxial Screws

⚠ VENUS™ Reduction screws are not compatible with the VENUS™ cement adapter and bone filler and cannot be cement augmented this way!

The Cementadapter CPS facilitates the connection of the Bone Filler to the augmentable pedicle screws and injection of the cement.



### Inserting the Cementadapter CPS

Push the Cementadapter CPS over the guide wire on the Cementadapter Inserter and lock it into the instrument holder. Insert the equipped Cementadapter Inserter into the cannula of the pedicle screw via the guide wire. Turn the Cementadapter Inserter half a turn to the left and then screw the Cementadapter CPS into the polyaxial screw head to the end position. If the polyaxial screw head cannot move freely, use the Monoaxial Screw Driver and perform turning motions to allow the polyaxial head to be aligned with the screw.

**Note:**  
Never use the Cementadapter Inserter for the alignment of the screw head, since the guide wire may bend, preventing the Cementadapter CPS from being positioned correctly!

### Filling the Bone Filler

Mix the bone cement according to the manufacturer's instructions for use and fill the Bone Filler using a syringe.

**Recommendation:**  
Use a moderate to high viscose bone cement with a quick curing time. We recommend the use of BonOs™ Inject bone cement, which has the optimal consistency for use with the Bone Filler and, through the addition of zirconium dioxide (ZrO<sub>2</sub>), achieves optimal displayability in the X-ray image.

**Note:**  
It is recommended to fill the Bone Filler as soon as possible after mixing the cement.

	Item no.	Name	Image
non-sterile	1006020600	Cementadapter CPS	
sterile	1006020600-S	Cementadapter CPS sterile	
	1006020603	Bone Filler	
non-sterile	1006020601	Cementadapter Inserter	
	1006020602	Cementadapter Extractor	

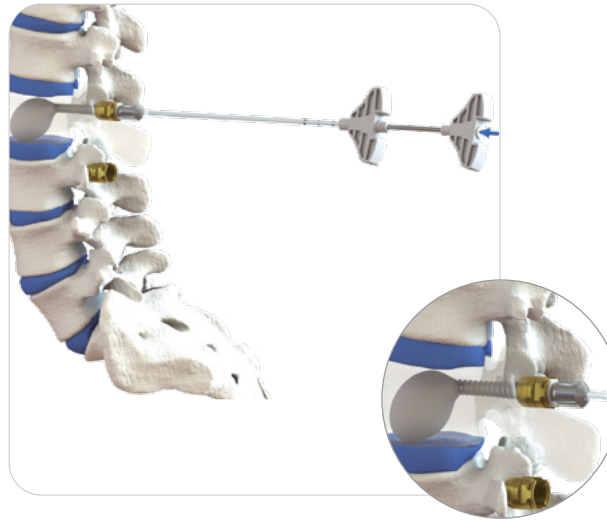


### Applying the Bone Filler

Screw the Bone Filler onto the Cementadapter CPS.

**Note:**

The Bone Filler applied to the Cementadapter CPS must not be used for subsequent correction of the screw-in depth of the pedicle screw as this may adversely affect the connection between the instrument and the implant.



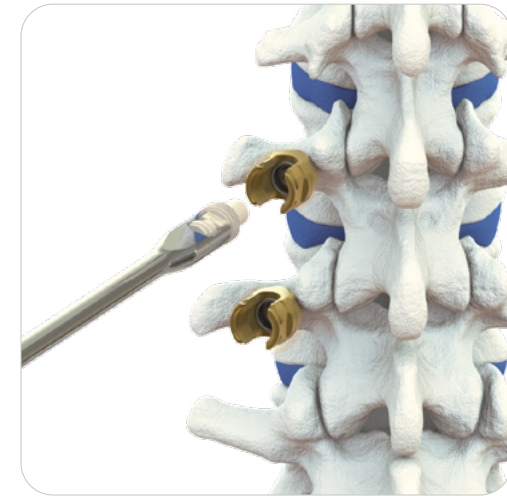
### Cement injection

When injecting the cement using the Bone Filler, a predefined amount (1.5 ml) is applied. While doing so, make sure that the injection is carried out evenly and without excessive pressure, to prevent the cement from flowing back.

Only one Bone Filler may be used for each Cementadapter CPS and screw. Premature removal of the Bone Filler or screwing it into the Cementadapter CPS a second time and/or screwing the Cementadapter CPS onto the screw a second time can result in unwanted cement discharge in the region of the polyaxial screw head.

**Note:**

Once the cement has been applied, an X-ray control is required to monitor the volume of injected cement.

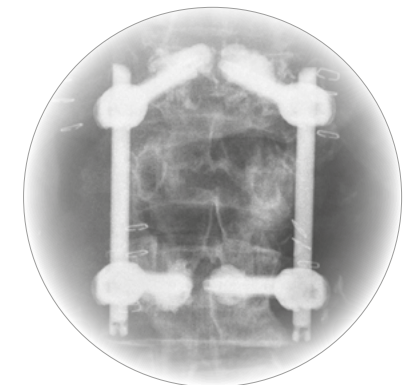


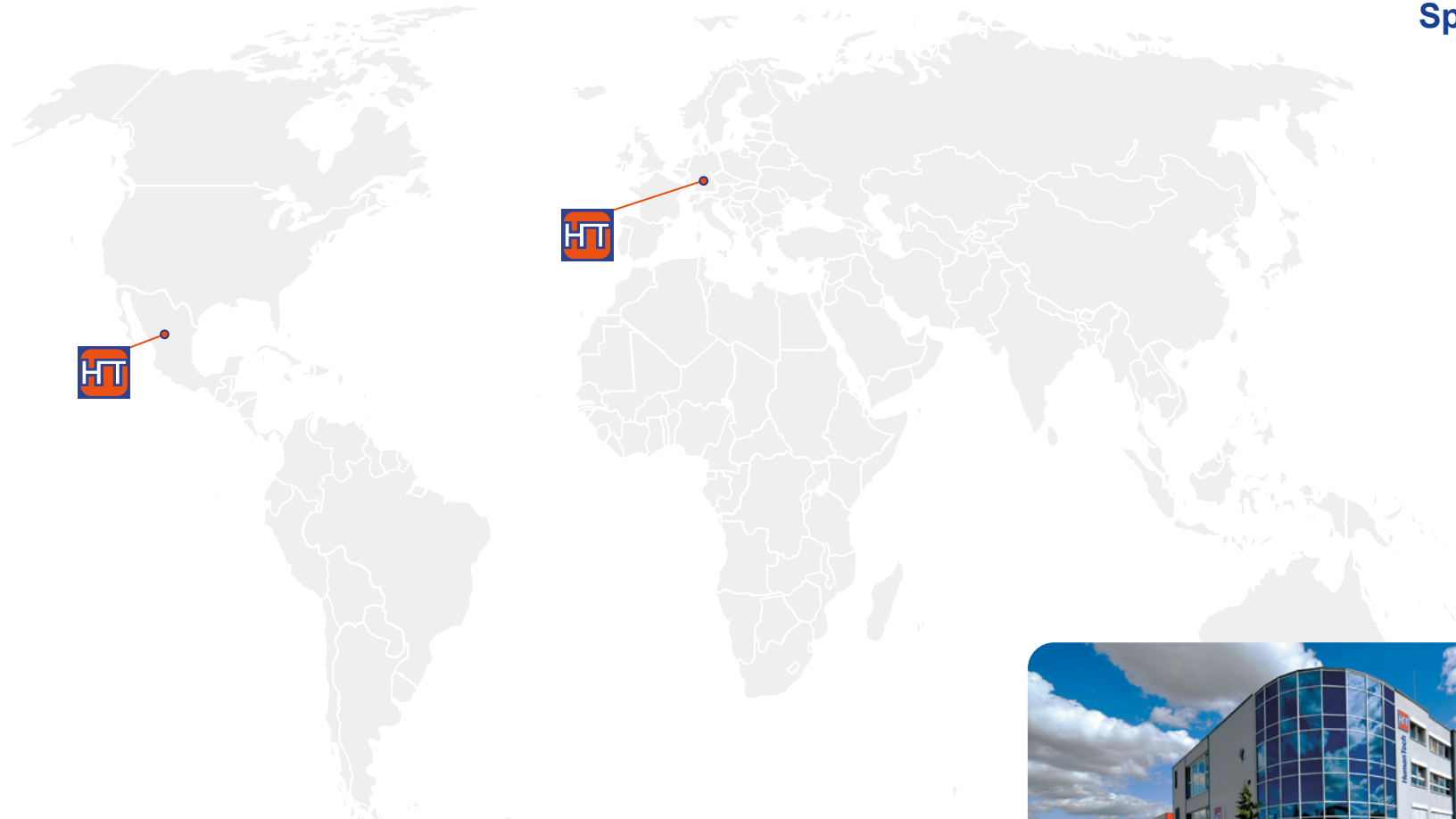
### Removing the Cementadapter CPS

Remove the Bone Filler and unscrew the Cementadapter CPS using the Cementadapter Extractor immediately after applying the cement. To prevent the polyaxial screw head from rotating, a Rocker from the VENUS™ system can be used as a counter-holder.

**Note:**

The Cementadapter CPS is only intended for single use.





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