

## INSERTO BACK SUPPORTO

This Technical Sheet is to be intended as an integral section of the Inserto Back Range Instruction Manual. Before use, it is essential for the professional user to explain all procedures for a correct commissioning and a proper standard maintenance.

### 1. Commissioning

The SUPPORTO backrest of the Inserto Back Range is the evolution of the INSERTO SEAT concept. Its high versatility and adaptability offers to the end user the best performances of customisation as well as comfort, lightness and protection.

The Inserto Back **Supporto** Trunk Positioning System (pic. 1 and pic. 2) has been developed to provide support to all people with poor trunk control and medium-high deformities. It consists of an aluminium shell and a padding consisting of two layers of polyethylene foam with shock absorbing properties. The whole system is upholstered with not flammable cover, latex free with low risk of skin irritation, commonly used in medical devices. **The peculiarity** of this backrest is to be equipped with polyethylene inserts inside the cover. The inserts are multi-adjustable with hooks and loops and can be modified with a cutter to better adapt to the shape of the user's spine. The professional user has the responsibility to assemble in a proper way the backrest with the inserts contained in a plastic envelope (see pic 2), the padding and the cover.

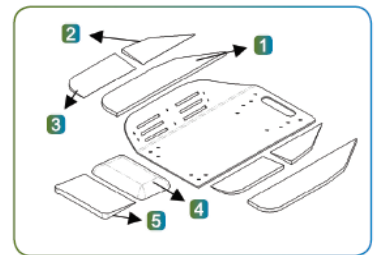
The inserts supplied have different specific functions:

**1** (long lateral contour insert) has the function to contain and support the lateral of the thorax, **2** and **3** ( supplementary inserts of lateral superior and inferior contour) have the purpose to increase the lateral contour to better supporting the trunk, **4** (lumbar support insert) has the function to support the lumbar curve, **5** (Lumbar/torso leveling insert) whose function is to increase the push to the rachis or compensate a poor lean back.

Inserts **1, 2, 3** will be positioned in the pocket located laterally inside the cover.



*Pic. 1: Inserto Back Supporto*



*Pic. 2: Inserts + aluminium shell*

### 2. Use

The **Inserto Supporto** Trunk Positioning System is recommended preferably, but not exhaustively, for users with limited mobility:

- With poor control of the Trunk
- With pelvis/trunk instability
- Medium/severe mobile and/or fixed deformities.

The following essential instructions must be followed when preparing the device for installation.

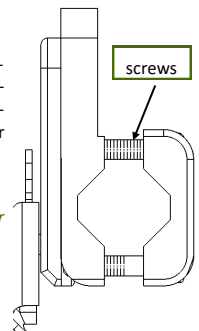
### 3. Suggestions related to some operations

#### 3.1 Check the diameter of the wheelchair tubes

The mounting system to the backrest canes (pic. 3), allows the Backrest to be mounted on tubes with diameter from 19 mm to 25 mm or from 3/4" a 1" without using particular adaptation means; the only accuracy has to be taken to the screws shown in pic 3; the pre-assembled screws will be used on tubes with diameter between 23mm-29/32" and 25 mm.-1" The screws in the relevant wrap are for tubes with diameter between 22mm-7/8" and 19mm-3/4".



*Proceed with the mounting once verified the compatibility of the backrest with the wheelchair tubes. It is recommended to mount the backrest without the end user seated on the wheelchair.*

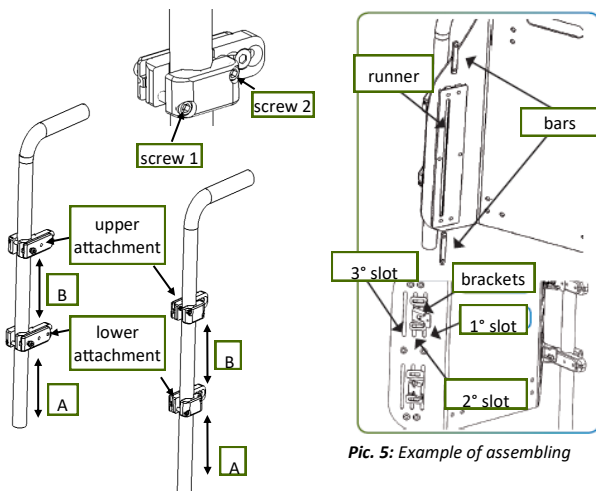


*Pic. 3: mounting system*

### 3.2 Mounting the backrest to the wheelchair

Proceed as follows:

- locate the two inferior attachments on the tubes by tightening the screw 1 and the screw 2; in order to have the two attachments at the same height A it is recommended to find a referring point which could be either the bottom of the back cane or the reclining plate
- thus locate the upper attachments always by tightening the screw 1 and the screw 2; in order to have the two attachments at the same height B take as reference the lower ones previously mounted. It is advisable to keep the attachments loosen before to proceed with the final adjustment of the backrest). Avoid to mount the attachments on tubes with small diameter because they can be damaged during tightening
- insert the steel bars useful to mount the brackets on the backrest in the runner (pic 5) wich is located in the inner part of the Backrest
- mount on the backrest already assembled brackets (pic 5) in the relevant slot of the wheelchair width by taking into consideration the table 1 (the brackets with the tab and the spring will be mounted on the top, the others on the bottom)
- the information given in table 1 is indicative for a tube diameter of 25 mm



Pic. 5: Example of assembling

Backrest sizes	Frame width outside tubes-outside tubes (mm)
3033	1° slot 270-280-290; 2° slot 300-310-320; 3° slot 330
3336	1° slot 300-310-320; 2° slot 330-340-350; 3° slot 360
3640	1° slot 330-340-350; 2° slot 360-370-380; 3° slot 390
3944	1° slot 360-370-380; 2° slot 390-400-410; 3° slot 420
4248	1° slot 390-400-410; 2° slot 420-430-440; 3° slot 450
4550	1° slot 420-430-440; 2° slot 450-460-470; 3° slot 480
4852	1° slot 450-460-470; 2° slot 480-490-500; 3° slot 510

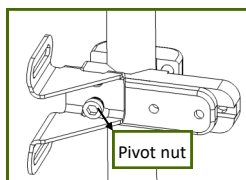
Table 1: Example of mounting on 25 mm diameter

Pic. 4: Example of attachments mounting

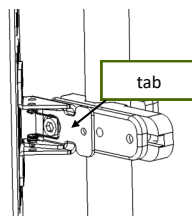
Once the brackets have been mounted it is possible to proceed with the mounting of the backrest on the back canes:

- lean the backrest on the lower attachments being careful to place the bracket on the pivot nut as shown in pic 6 (in case of problems, please loose the brackets and proceed with the correct positioning)
- now lean the backrest on the upper attachments by verifying that the relevant brackets are at the same height of the back canes attachments, in a contrary case loose and proceed to the correct positioning.

The correct mounting is shown in pic 7 where the pivot nut of the upper attachment is located inside the locking tab.



Pic. 6: Pivot nut



Pic. 7: Example of correct mounting



For a proper operation it is obligatory to leave unchanged the upper attachment kit that you will find inside the box as it is mounted (the space where there is the nylon washer will be used for the allocation of the tab).

### 3.3 Removal of the backrest from the wheelchair

For the removal of the backrest it is necessary to push the tabs inwards or to use the provided cord; then move the backrest slightly forward and rise it by using the handle located on the top.

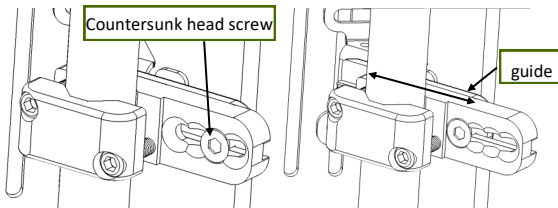
### 3.4 Backrest Height adjustment

For the adjustment of the height it is possible to slide the attachments along the tubes as far as possible dictated by the length of the back canes or by the correct posture needed by the end user. In addition you can slide the brackets along the slots of the backrest. (pic 5)

### 3.5 Backrest Depth adjustment

Adjust the depth by loosening the countersunk head screw located on the upper and lower attachments pic 8 and move the guides forward; in case of any problem arising during the assembling it is necessary to adjust the brackets on the backrest.

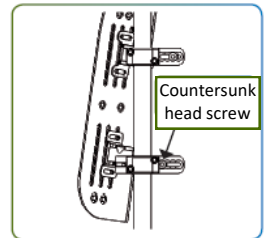
Once the desired depth is achieved, tighten the countersunk head screw and verify that the tabs are in the lock position and that the backrest is firmly in place.



Pic. 8: Backrest depth adjustment

### 3.6 Backrest Reclining adjustment

Adjust the reclining of the backrest by loosening the countersunk head screw of the upper and lower attachments shown in pic 9 and move the guides forward; in case of any problem arising with the assembling it is necessary to adjust the brackets on the backrest. At the achievement of a proper inclination, tighten the countersunk head screws and/or all loosen screws and check that the tabs are in the lock position and the backrest is firmly in place.



Pic. 9: Backrest reclining adjustment

### 3.7 Backrest Rotation adjustment

The rotation of the backrest is performed by loosening the countersunk head screw of the upper and lower attachments of the same side; then move the guides forward and rotate the two attachments around the tube at the required angle needed; on the other side it is also necessary to rotate the attachments until the right assembling is achieved. Once the right angle of rotation has been detected, tighten the countersunk head screws and/or all loosen screws and always verify that the two tabs are in the lock position and the backrest is firmly in place.



Pic. 10: Backrest rotation adjustment



After having performed any operations it is recommended to check that the backrest is firmly mounted on the back canes attachments and the tabs are in the lock position; any failure in the observance of the instructions in this manual will result in a malfunction of the device. Do not use the backrest to push or raise the wheelchair.



The attaching system of the back canes of the wheelchair as well as the guide-tabs system of the backrest have been tested in compliance with ISO 7176-19 Directive. Therefore, if the backrest is used in a motor vehicle, it must be mounted on a crash-tested wheelchair.

**NOTE:** It is strictly recommended the use of an headrest when the device is transported in a vehicle.

## 4. Accessories

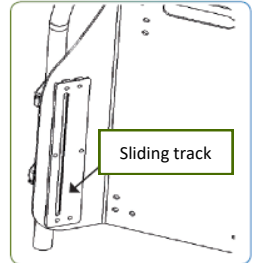
The backrest can be equipped with accessories such as thoracic supports, headrest and harnesses.

### 4.1 Thoracic Support

For a correct use of these accessories please follow the instructions below:

- the thoracic support will be mounted inside the shell between the cover and the sliding track on which it is fixed with the supplied screws; inside of the sliding track there is a metallic guide which allows the fixing and the adjustments
- the height adjustment of the thoracic support is performed by using the slot on the track, while the slots on the fixing brackets of the thoracic pads, with or without swing-away mechanism, allow the adjustment of the thoracic width (table 2)
- the swing away mechanism is easy to use; the central body of the bracket is provided with a pushing button which, when operated, it will open up for enhancing user's transfers.

The thoracic support assembly is composed by a pad and a mechanism and/or a bracket (if it is a fixed one). The thoracic support pad can be flat or contoured, it can be positioned on the backrest with a fixed bracket or a mechanism which makes it swing-away. The following table 3 shows all sizes available (expressed in cm.)



**Pic. 11:** Thoracic support adjustment

Backrest technical features						User Measures
SIZE (cm)	Shell height (cm)	Effective shell width (cm)	Mounting on wheelchair (outside tubes- outside tubes) (cm)	Reclination (°)	Rotation (°)	Trunk width achieved with thoracic supports (cm)*
30x33	33	27	da 27 a 33	-12° a +12°	-5° a + 5°	17-25
33x36	36	30	da 30 a 36			20-28
36x40	40	33	da 33 a 39			23-31
39x44	44	36	da 36 a 42			26-34
42x48	48	39	da 39 a 45			29-37
45x50	50	42	da 42 a 48			32-40
48x52	52	45	da 45 a 51			35-43
Diameter of wheelchair tubes for attachment mounting: 19 mm to 25 mm and 3/4" to 1"						

Table 2

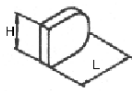
	Flat	Contoured
		
size 1*	6 x 6.5	6 x 10.5
size 2*	8 x 8.5	8 x 12.5
size 3*	10 x 10.5	10 x 14.5
size 4*	12 x 13.5	12 x 17.5
size 5*	12 x 16.5	N.D.

Table 3



*The thoracic support assembly works perfectly when the additional polyethylene Insert inside the cover are not used. It is recommended to use the thoracic supports as containment to the thorax and not as a point of support because it may result in a damage to the end user.*

#### 4.1 Headrest and Harnesses

- the holes located to the sides of the handle and at the bottom of the backrest shell can be engaged for mounting the harnesses (for adjustments see the relevant Versa Fixatis instruction manual)
- the holes located under the handle can be engaged for mounting an headrest; the two central holes can be used for a central position of the headrest. Upon request, it is possible to mount on the backrest an universal plate (for adjustments see the relevant Versa Capitis instruction manual).



*After each operation has been performed it is strictly recommended to verify that the backrest is firmly mounted on the back canes attachments, the tabs are in the lock position and all accessories work perfectly. The inobservance of the instructions may affect the performances and functionality of the device.*

## 5. Maintenance and cleaning

In order to avoid the development of infections, it is recommended to perform a careful cleaning every 2 weeks and/or, if needed, check the trunk positioning system in all its parts by avoiding malfunctions.

In order to guarantee a good functioning and long lasting performances in safe conditions it is necessary to check regularly and make periodically maintenance (tightening screws) to ensure that no sores due to excessive pressure have been developed.

This operation must be performed by the end user.

The regular maintenance consists of two parts: cleaning and mechanical parts checking

#### - Cleaning -

The metal parts can be cleaned with a damp cloth with cold water without addition of detergent, taking care to go over everything with a dry cloth. Regarding the removable cover of the backrest and thoracic supports, they can be washed in tepid water at max 30° with the addition of a light, not aggressive detergent, bleach free. Then dry away from heat sources. The padding, even if it is not in direct contact with the user's skin, in order to avoid infections can be simply cleaned with a damp cloth or a brush with natural bristles (do not clean with water).

#### - Mechanical parts checking -

The operations to perform are the following:

- monthly check the tightening of the screw
- checking the adjustments: it is recommended to respect the checking plan scheduled with the professional user to check all adjustments and settings
- periodically check the thoracic support mechanism and the attaching hardware on the back canes of the wheelchair.

For further information, please contact our technical-Sales Department at the following number:



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