



## Virtus Dimension guide

Seat system size	Size 1 Standard	Size 1 Longer	Size 2 Standard	Size 2 Longer	Size 3 Standard	Size 3 Longer
Seat depth min / max	19cm / 30cm	26cm / 37cm	26 / 37cm	34cm / 37cm	34cm / 45cm	41cm / 52cm
Pelvic width min / max	21cm / 32cm	21cm / 32cm	25cm / 36cm	25cm / 36cm	30cm / 41cm	30cm / 41cm
Thoracic width min / max	19cm / 36cm	19cm / 36cm	25cm / 40cm	25cm / 40cm	31cm / 46cm	31cm / 46cm
Sacral pad height	10cm	10cm	12.5cm	12.5cm	15cm	15cm
Minimum backrest height (starting from)	30cm	30cm	37.5cm	37.5cm	47.5cm	47.5cm

Your Virtus is :



Serial No. Label



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April 2019



Virtus Seating System

Manufactured in the UK by **RMS**

## Transportation

The **Virtus** is an extremely versatile seating system. It is available with two backrest options. The “Dynamic” Backrest option, offers the ability to absorb the type of thrusting forces, placed on it during user extensor spasms, with a uniquely designed absorbing system, which is variable to suit individual user requirements. The “Fixed” Backrest option, offers the same supportive capabilities, but without the dynamic backrest movement.

Both types have a backrest angle adjustment of 90 and 100 degrees.

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### **SAFETY GUIDELINES**



**Due to the various activities that a wheelchair user has to perform, RMS recommends that, prior to issuing the Virtus Seating System and the wheelchair into which it is to be interfaced, this manual, together with any wheelchair manufacturer’s Users Guide, should be studied by all relevant persons to ensure that all instructions, procedures and warnings are carefully observed and understood.**

**Prior to commencing the installation of a Virtus Seating System, the surrogate wheelbase should be placed on a level non-slip surface with the parking brakes applied.**

- For correct support and user comfort, it is strongly recommended that the initial installation and adjustments are carried out by a suitably qualified person.
- It is the responsibility of the installer to ensure that all Interface Mounting and Component Screws and Nuts are correctly tightened, before handover to the user. (This does not apply to **Virtus** Seating Systems interfaced with a surrogate base at the RMS factory).
- The **Virtus** Seating System was crash tested using a **75 Kg** ATD.
- As the installation of a **Virtus** Seating System may raise or position the user further forward in their wheelchair, an appropriate stability test should be carried out prior to final commissioning.

The **Virtus** Seating System has been successfully Crash Tested to ISO 16840-4 (Seating Devices for use in Motor Vehicles) in the forward facing position with a 50<sup>th</sup> Percentile 75kg ATD, interfaced with an approved surrogate test base. However, this does not imply and is not intended to imply in any way, that the **Virtus** Seating System is suitable for transporting an occupant in a motor vehicle, other than with the **Virtus** Seating System being correctly interfaced with a host wheelbase of a type and model which has been successfully Crash Tested and meets the requirements of ISO 7176-19.

The transporting vehicle **MUST** also be suitably equipped with wheelchair and occupant restraint systems compliant with ISO 10542-1: 2012.

Please follow the instructions for use in transportation provided by the wheelchair and restraint manufacturer.

**Under No Circumstances should any part of a transportation restraint system, be attached directly to the Virtus Seating System.**

Whilst provision is made on the **Virtus** Backrest for attaching a postural positioning belt or harness, which should still be utilised as normal during the transportation period, these support devices should **NEVER** be used as the sole method of occupant restraint during transportation.

### **Risk analysis for Wheelchair Transportation:**

A comprehensive risk assessment is advisable, taking into account the user’s requirements and the type of transport they plan to use. Potential risk areas

- The user being transferred to a fixed vehicle seat.
- The wheelchair/seating unit being transported as unoccupied luggage.
- The user occupying a wheelchair/seating unit during transportation.
- Ability of the WTORS to hold the wheelchair and/or seating unit together with the user during vehicle movement or in the event of an impact.
- Effects of normal vehicle manoeuvres, such as braking, accelerating and cornering on the wheelchair user.
- Effects of the occupant restraint on the user, both in normal vehicle movement and on impact.
- Effects of the seating unit, wheelchair and / or any accessories being used, on the action of a vehicle anchored occupant restraint in an impact.
- Suitability of any interface that connects the seating unit to the wheelchair.
- Postural support or belt/harness that is not sufficiently strong to withstand the force of an impact.
- Requirements for the use of a headrest to restrict the rearward movement of the head during vehicle motion or impact.
- The effect on other passengers if the user, wheelchair/seating unit or accessories were to become detached during impact.

More Information on Transportation and Risk Assessment :

[www.pmguk.co.uk](http://www.pmguk.co.uk), [www.gov.uk](http://www.gov.uk),  
[www.hse.gov.uk/risk/assessment](http://www.hse.gov.uk/risk/assessment).



## Upholstery Care and Maintenance

Unless otherwise requested, your **Virtus** Seating System will be finished in 100% Polyester, 3mm “Spacer” fabric.

Alternative surfaces may be textured or smooth (reversed).

Zip-removable covers enable easy removal, for cleaning or machine washing.

The “Spacer” fabrics have the following qualities:-

Flame Retardant to BS5852-2006 Ign. source 5 Crib 5 and meet or exceed BSEN1021—1&2

Anti-Bacterial / Anti Fungal i.e. will not support microbial or fungal growth including Salmonella, E Coli and MRSA.

Waterproof — Water or oil

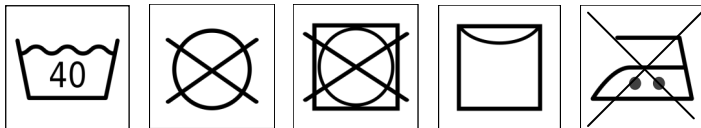
Breathable — Moisture vapour permeable.

### General Fabric Care

- Use of a vacuum cleaner or soft brush, to remove dust and solid particles, together with frequent wiping with a damp cloth, will help to maintain the appearance of the fabrics.
- **Spillages** should always be removed as quickly as possible with an absorbent dry cloth.
- **Minor Soiling** can normally be removed with a clean damp cloth.
- **Water Based Stains** can be cleaned using mild liquid detergent with warm water. Use cold water for stains produced by bodily fluids, then rinsed thoroughly, followed by drying with a clean absorbent cloth.
- **Light Steam Cleaning** can be carried out in situ, ensure all areas are completely dry before reuse.
- **Machine Washing** with care @ 40°. Covers must **NOT** be turned inside-out and any zips should be fully closed. Remove from machine as soon as the wash cycle has finished.
- **DO NOT DRY CLEAN**
- **Line Dry** ideally the upholstery should be “Line Dried” do **NOT** Tumble Dry. **See Symbols below.**

### NOTES:

- All soap residue must be thoroughly rinsed out of all fabrics, as it can attract further stains.
- All stains caused by bodily fluids, should be removed immediately.
- As with all fabrics, stains that are left in situ for over 24 hours will have set and will become increasingly difficult to remove.
- Always pre-test cleaners on a hidden area of fabric to test for colour-fastness and texture before proceeding with cleaning.
- Failure to adhere to the above instructions could void any warranty.



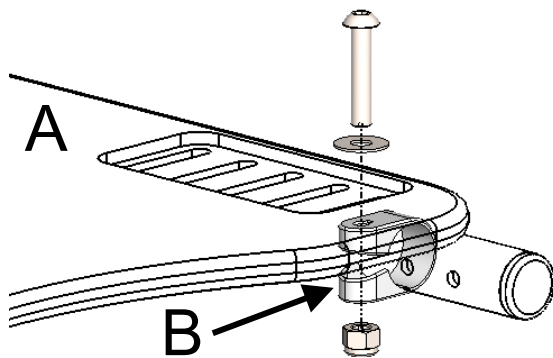
- After the **Virtus** Seating System has been initially adjusted to suit the individual user, any settings should not be subsequently affected by the removal and refitting of the seat unit. However, care should be taken not to impact adjustable components whilst the seat unit is removed from the wheelchair as this could affect their original pre-set position.
- To accommodate any changes in user growth or postural positioning, it is recommended that the user be checked at regular intervals by a suitably qualified person, to ensure that adjustable components are correctly set to suit the user’s current requirements.
- Carers should ensure correct utilisation of any positioning Straps or Harnesses, as failure to do so could result in injury to the user. It is recommended that any postural Straps or Harnesses being used, are the first items to be secured when the user enters the seat and the last items to be released before exiting.
- Worn or damaged upholstery can lead to hygiene contamination, cause injury to the user and, in some cases, fail to support the user correctly. Regular inspections of all upholstery should be made and any defects should be reported to the relevant authority for rectification as soon as possible.
- Ancillary devices, such as the Headrest, positioning Straps and Harnesses, or Pommel should be checked for security on a daily basis.
- The wheelchair parking brakes should always be applied before attempting to transfer the occupant, removing or refitting the **Virtus** Seating System or making any adjustments.
- Never hang heavy objects on the **Virtus** Seating System or any part of the wheelchair, as this could seriously affect the overall stability.
- Always keep the **Virtus** away from sources of heat such as naked flames, cigarettes, electric and gas heaters.
- Due to its weight, care should be taken when fitting and removing the **Virtus** seat unit and the host wheelchairs brakes should always be applied. To help reduce weight before lifting all accessories should be removed.
- Do not place heavy objects on the tray and never move the seat / wheelchair with hot liquids / substances on it.
- **When fitting the Virtus onto its interface please ensure it is locked onto the interface correctly by pushing and pulling the top of the backrest. The seat should not lift at the front or slide forward.**



### Tools required for installation and adjustment:

3mm Hex key		10mm spanner
4mm Hex key		13mm spanner
5mm Hex key		8mm drill bit
Drill countersink bit		Medium Flat head screwdriver

## Adjustable Virtus Interface



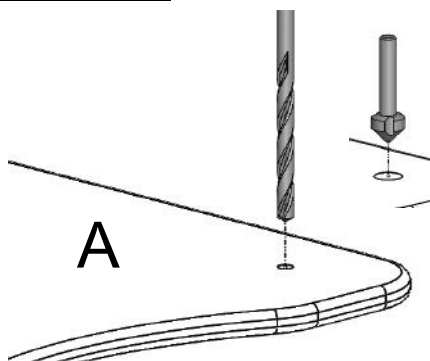
The Virtus interface **A** can be fitted to a host wheelchair using the round tube clamps and nuts and bolts **B**.

The clamps can be positioned around the seat frame and secured using the bolts supplied picking up an appropriate slot in the interface.

⚠ Ensure all four clamps are fully secure and the interface board is captive before use.

## Blank Virtus Interface

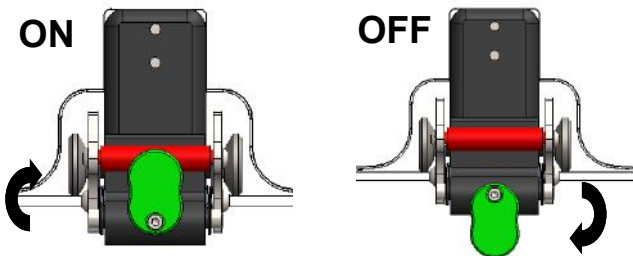
Where this type of attachment is not suitable it may be necessary to drill and bolt the the interface board **A** (blank interface boards available). We advise that four M8 countersunk bolts is used, two front and two back and this is secured to suitable structurally secured point on the wheelchair using nyloc nuts and large M8 washers. In order to allow the Virtus seat to sit correctly the M8 hole should be countersunk on the top of the interface.



⚠ Ensure all four bolts are fully secure and the interface board is captive before use.

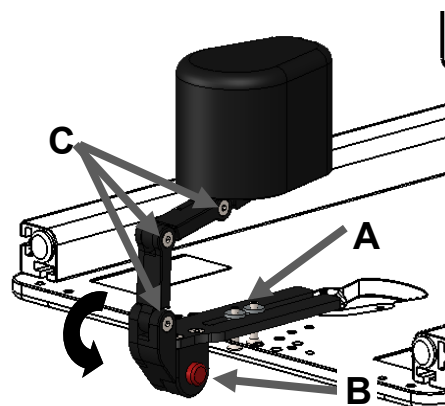
## Positive Locking Interface Mount

When the seat stem is located into the positive locking interface mount the green safety locking lever can be rotated into the on or off position



⚠ The Green safety locking lever should always be in the ON (locked) position before use.

## Flip Down Pommel (optional)



The pommel is fitted using two bolts and key washers **A**. Remove the seat cushion. The key washers sit in the pommels slotted channel and are bolted from underneath the seat. Leave a 25mm gap to the seatboard if a footrest is fitted.

The pommels height and angle can be adjusted to suit by loosening bolts **C** adjusting the pommels arms and re-tightening.

To flip the pommel out of the way depress the red button **B**, the pommel will lock automatically when raised.

⚠ Ensure the pommel is secure before use.

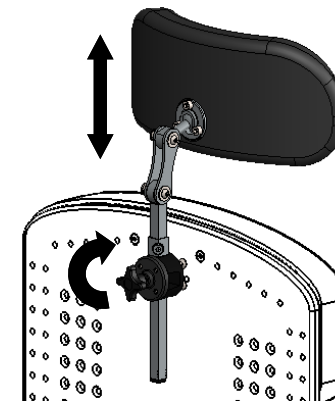
## Headrest (optional)

The headrest boss is mounted onto the pre-drilled holes on the Virtus backrest using bolts supplied. It has two positions depending on the size of the headrest stem, either 13mm or 16mm.

The headrest can be inserted into the boss and adjusted to suit and held in place by turning the thumbscrew on the mounting boss.

Holes are pre-drilled for other RMS headrest fittings.

⚠ Ensure headrest adjusted correctly for the user and tightened before use.



## Tray (optional)

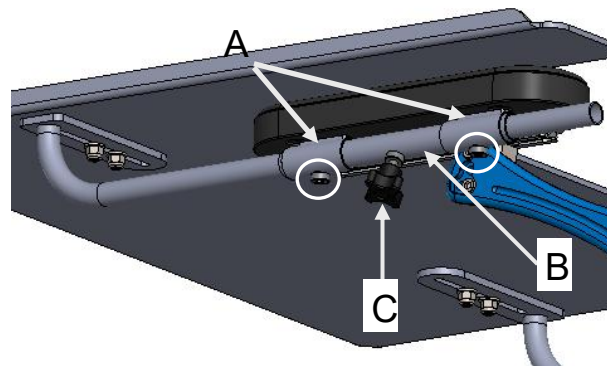
To fit the tray mounts, undo the two arm pad screws and remove the arm pad from the channel. Slide tube **B** between the two receiver brackets **A**, line the slots in **A** with the arm pad screw holes between the armpad and the channel and reinsert the screws and tighten into the armpad.

Adjust the angle of tube **B** to allow easy access to thumb screw **C** when the tray is attached and tighten the grub screws circled.

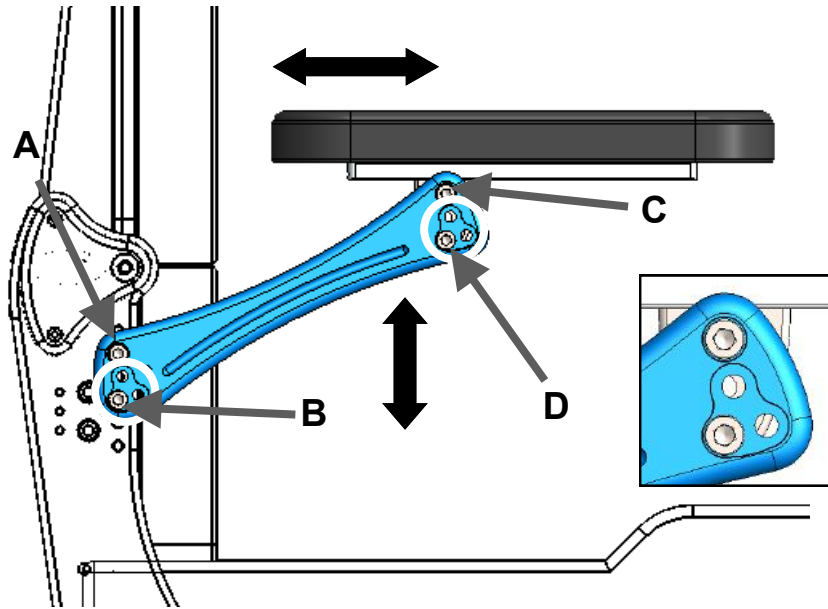
Slide the tray brackets into receiver **B** and once in position tighten the thumb screw **C** on both sides.

⚠ Ensure tray and mounts are secure before use.

Do not put heavy items on the tray.



## Armrest Adjustment (optional)

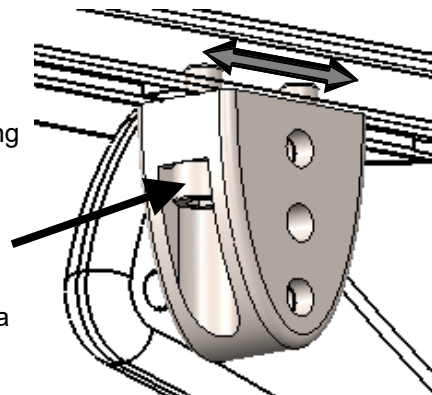


The armrest height can be adjusted using two methods:

- 1) Remove bolts A and B, adjust the height and reinsert bolts A and B and retighten.
- 2) Loosen bolts A and remove bolts B. Adjust the height of the armrest arm by pivoting the armrest on bolt A lining up one of the three holes circled with a pre-drilled hole in main backrest section. Reinsert bolt B and retighten.

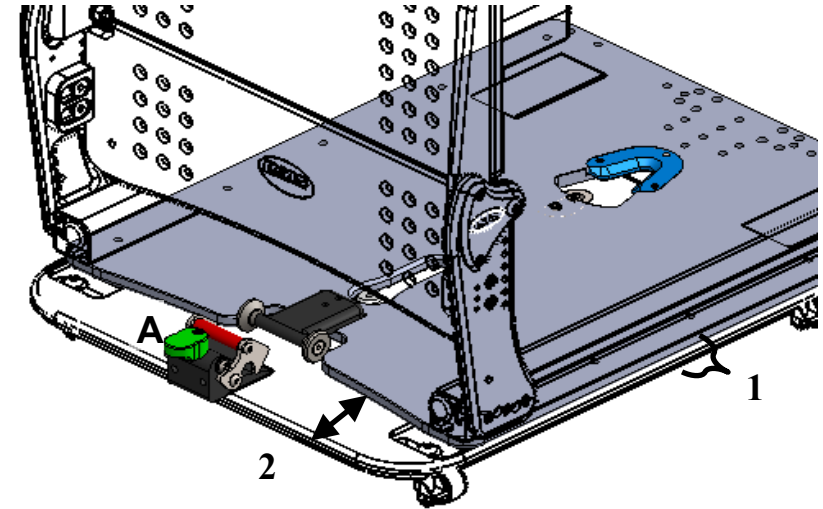
To adjust the armpad angle loosen bolt C and remove bolt D and adjust the armpad angle fitting bolt D in the corresponding position as bolt B.

The depth of the armpad can be adjusted by loosening the two bolts on the underside of the armpad pivot mount and sliding the arm pad to a suitable position.



**!** Ensure Arm rest is adjusted correctly for the user and tightened before use.

## Virtus Seat Fitment



The positive locking interface mount lever A should be set into the unlocked position (see page 4).

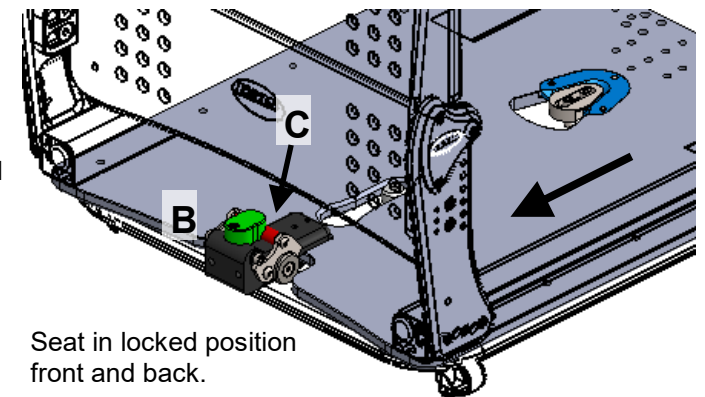
Place the Virtus onto the interface making sure sides of the seat are parallel with the side of the interface 1 and leave approximately a 3" gap between the back of the board and the back of the interface 2.

Slide the seat unit rewards until the interface locking mount catch engages with the seat locking stem and rotate the green interface locking lever into the locked position B.

To Remove the Virtus seat, unlock the green safety lever A and pull the red bar C upwards on the positive locking mount and push the Virtus forward until it is clear of the mount. The Virtus can now be lifted off the interface.

**!** Care should be taken when lifting the Virtus seat unit due to its weight, removal of accessories such as the footplate will lighten the unit. Please ensure the wheelchairs brakes are on.

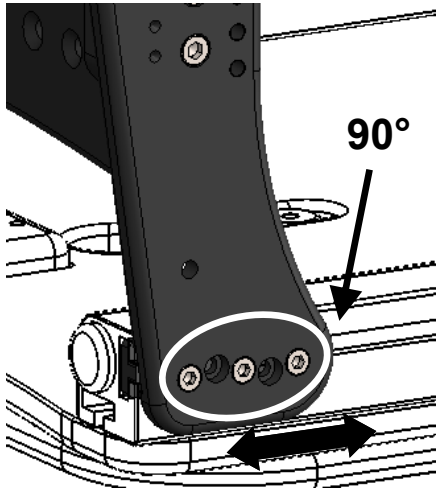
**!** To check that the front and rear of the seat is correctly located, push and pull the top of the backrest. The seat should not lift at the front or slide forward.



Seat in locked position front and back.

## Adjusting Backrest Angle and Seat Depth

### Backrest Angle Adjustment



The back rest angle can be set at either 90° or 100°  
To alter the backrest angle, loosen the centre of the three bolts and remove the outer bolts on both sides, adjust to the required angle and replace the bolts in the positions shown and retighten all three.

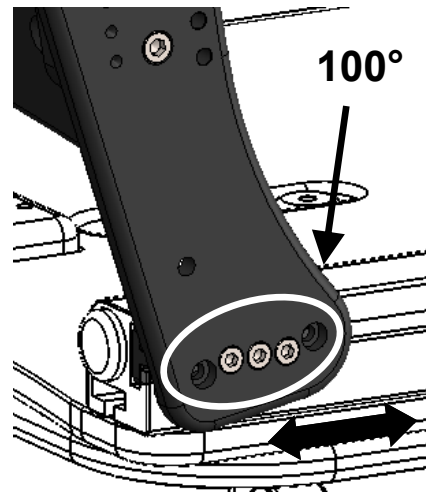
- ⚠ Ensure the backrest is at the same angle both sides and set at the correct angle for the user.
- ⚠ Check the backrest is secure before use.

### Seat Depth Adjustment

The depth of the seat can be altered by loosening all three bolts on both sides and sliding the backrest assembly forwards or backwards to the desired depth and retightening the bolts.

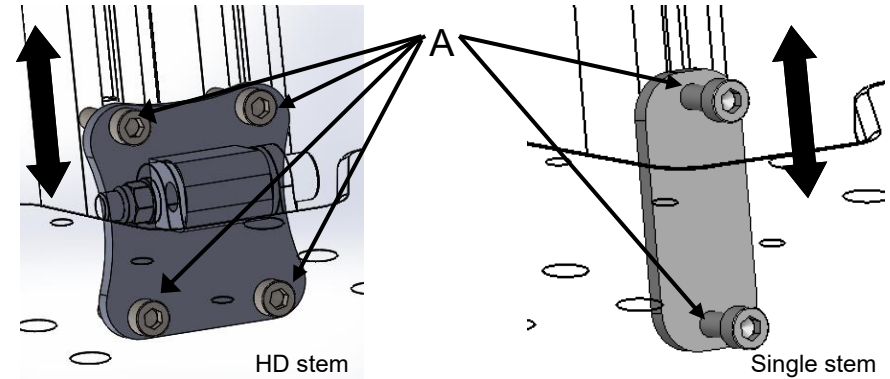
- ⚠ The backrest assembly must not be extended beyond the seat side extrusion, the maximum rearwards travel is shown in the illustrations above and right.

- ⚠ Ensure the backrest is secure before use.



\* The fixed Backrest Virtus has the same angle and depth adjustment as the Dynamic version above.

## Footplate Adjustment



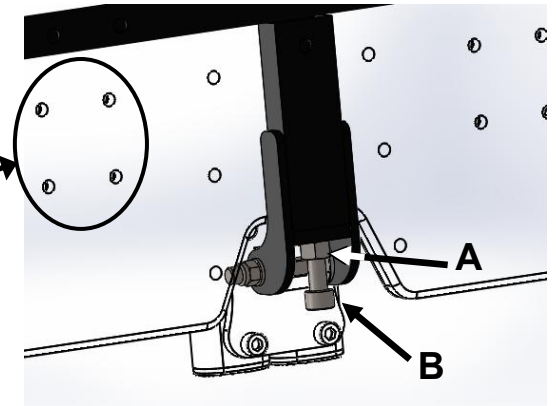
To adjust the height of the footplate loosen the upper and lower bolts **A** on the footplate mount.

Slide the footplate up the stem and retighten.

- ⚠ Ensure the footplate is adjusted correctly for the user and fully tightened before use.

The fixed and flip-up footplate board can have its depth adjusted by releasing the three bolts that hold the board onto the footboard bracket and moving the board to an appropriate pre-drilled hole (circled).

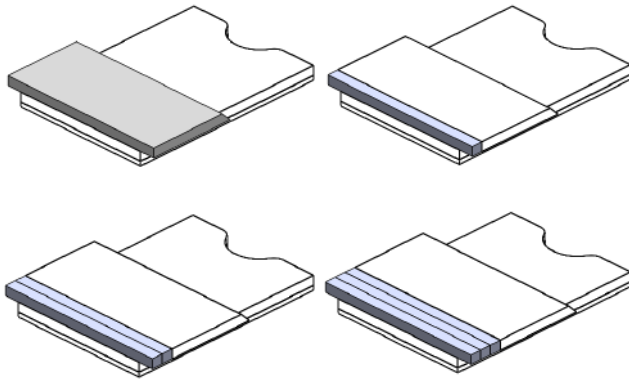
Individual footplates have pre-drilled holes to alter depth and are held onto the footboard arm by individual clamps, which can be released to make adjustment to depth and angle and retightened.



To adjust the angle of the flip up footplate, loosen nut **A** and turn bolt **B** in the desired direction until it sits at the correct angle and retighten nut **A**.

- ⚠ Ensure all footplates fixings are secure before use and the flip up option set to the correct angle.

## Seat Cushion Ramp Depth Adjustment



The Virtus is supplied with 2 (size 1) or 3 (size 2/3) evazote foam infill sections to allow for seat ramp depth adjustment. To fit these turn the seat cushion over and unzip the seat cover. Remove the evazote cushion assembly, move the main ramp section adding or removing the infill sections to

suit (these are held in place with hook and loop). The seat assembly can then be reinserted into the cover a zipped up.

**!** Please ensure the cushion assembly is adjusted correctly and reassembled into the cover correctly. After adjustment it is advisable check the cushion is suitable for the user .

## Footrest (optional)

The Virtus footrests are available in two stem and three footplate options.

Fitment to the Virtus seat is the same for both the single and double stems.

Hold the stem at slight rearward angle at the top. Line up the four locating pins with the slots in the mount and push backwards, then exert a slight downwards force until the stem drops into place. (see Figs 1 & 2 )

The security pin can then be place through the monut and stem.

**!** Ensure the footrest is locked in place correctly before use and the security pin is correctly fitted.

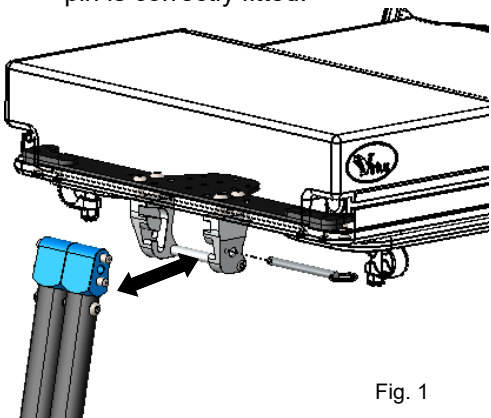


Fig. 1

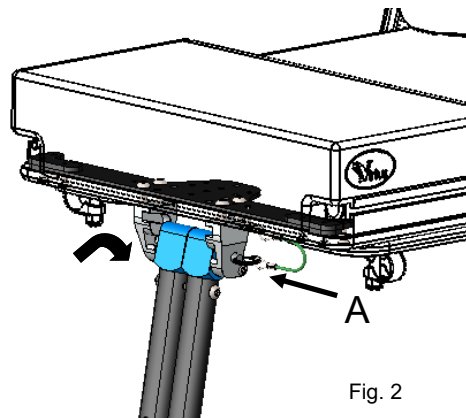
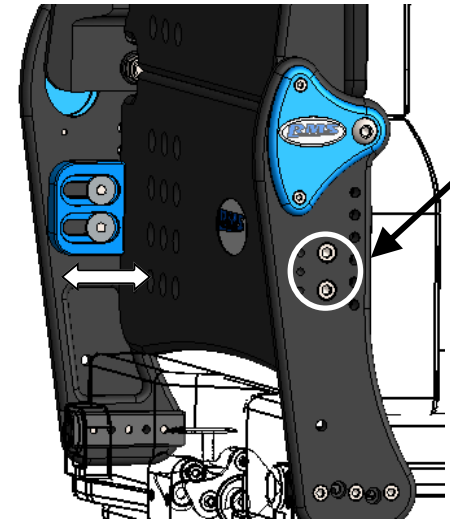


Fig. 2

## Sacral Panel Depth Adjustment

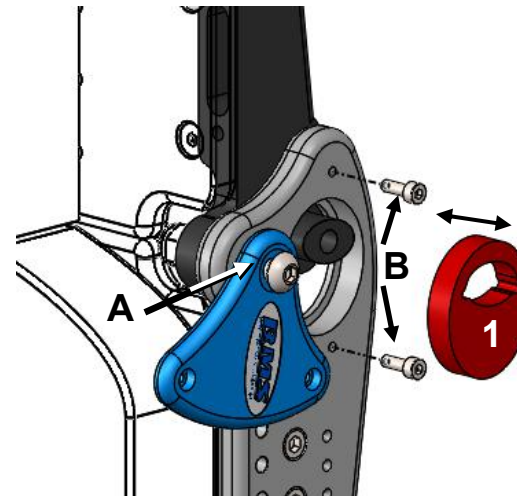


Loosen the bolts on both sides (arrowed) and slide the sacral panel along the brackets to the desired depth.

Check both sides are set at the same depth and retighten the bolts.

**!** Ensure the sacral panel is secure before use and set to the correct depth for the user.

## Dynamic Rubber Replacement



To change the dynamic rubber 1, loosen bolt A and remove bolts B

Swing the Blue cover forward, pivoting on A.

Hold the backrest and carefully remove the bearing rubber.

**!** Caution as the bckrest could tilt slightly and trap fingers!

Carefully insert the replacement bearing rubber by lining the backrest and the bearing guide pin. Swivel the blue cover plate back and reinsert bolts B and retighten A and B.

**!** Ensure the cover plate is tight and the backrest is sitting correctly on both sides before use.

The Dynamic Rubbers are available in three resistance levels.

For identification, these are colour coded as follows:-

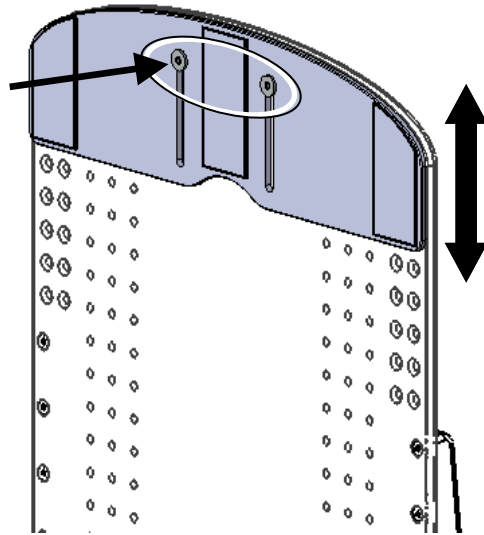
**Blue DX** Low Resistance, **Black DY** Medium Resistance, **Red DZ** High Resistance

## Backrest Height Adjustment

To adjust the height of the backrest extender, loosen the two bolts that hold it in position slide the panel to the desired position and retighten both bolts.

The backrest cushion can be moved to suit and the gap left between cushioning taken up by inserting the extension infill cushion supplied with the Virtus.

**!** Ensure the extender panel is secure before use and both the panel and cushion set to the correct height for the user.



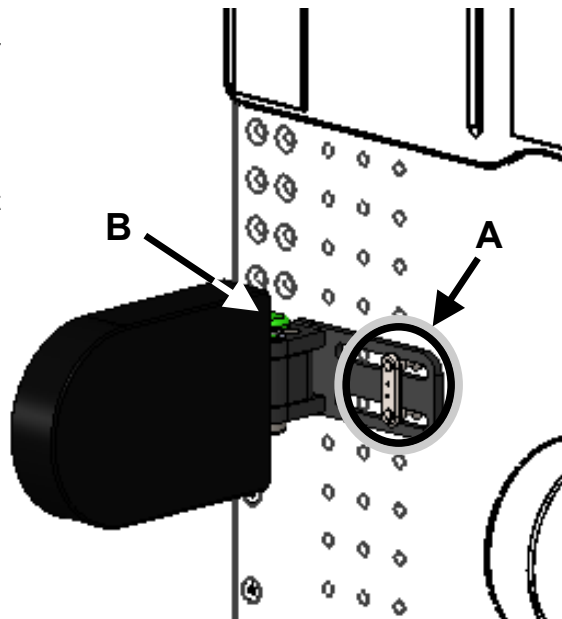
## Lateral Thoracic Support Adjustment

To adjust the width of the thoracic loosen the two bolts **A** from the rear of the backrest and slide the thoracic to the desired width and retighten.

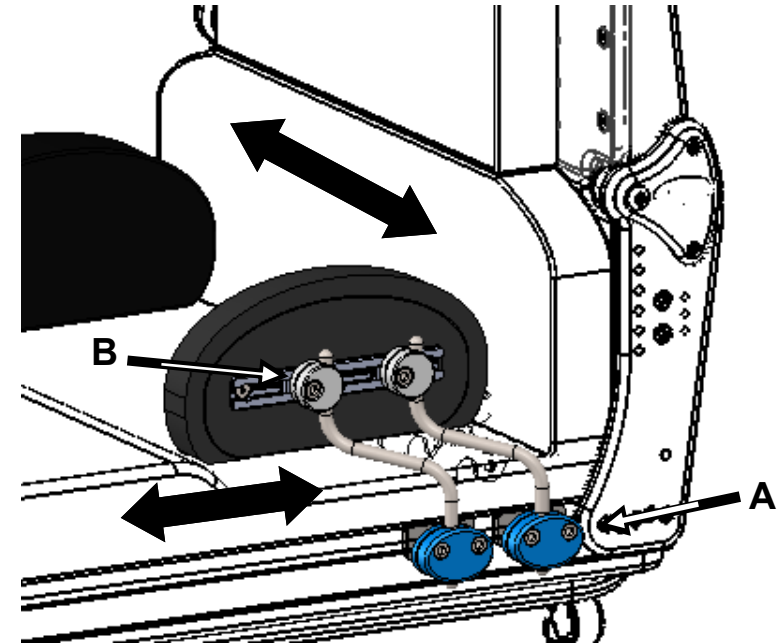
For greater adjustment the backrest has a number of pre drilled holes that allow the thoracic to be raised and lowered accordingly.

Swing away thoracic versions can be swung to one side by depressing the green button **B**. when swung back into position they automatically lock back .

**!** Ensure the thoracics are adjusted correctly and secure before use.



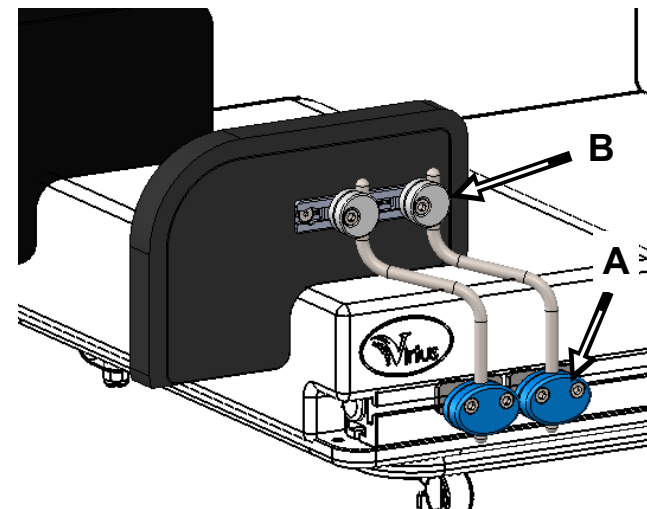
## Pelvic Support Adjustment



Loosen the bolts on clamps **A** and **B** and adjust the width and the depth of the pelvic supports to suit, allowing the arms to rotate in clamps **A** & **B**. Retighten the clamps once set into the desired position.

Depth adjustment is available on both clamps **A** or **B**.

**!** Ensure correct adjustment and security of pelvic supports before use



## Knee Adductor

The Knee Adductors can be adjusted in the same way as the Pelvic supports (above) by loosening **A** & **B**, adjusting to suit and retightening.

**!** Ensure correct adjustment and security of knee adductors before use.