



## User Guide For Matrix Seating Systems



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### Custom Made Medical Device Description

This Matrix Seating System (MXSS) is a Custom Made contoured seating system designed to support, accommodate and where appropriate correct the user's posture. This device conforms to the essential requirements of Annex 1 of Medical Devices Directive 93/42/EEC.

This Custom Made seating system – serial number:  
has been manufactured for the exclusive use of:

A full copy of the MDD Custom Made device statement for this client's device is available from Consolor by stating the client's name and the seat's serial number(s):  
email: [admin@consolor.co.uk](mailto:admin@consolor.co.uk)

The Matrix has a degree of adjustability to accommodate growth or changes in posture, alterations must only be carried out by a qualified fitter and under the guidance and permission of the ordering authority.

## Safety Guidelines

This user guide gives important information and advice. The user guide should be read, understood and adhered to, along with the wheelchair's user guide, by all persons that are responsible for the client and operation of the equipment.

1. The Matrix should only be used in the wheelchair(s) with which it was supplied.
2. Repairs, alterations and maintenance, outside the scope of this guide, should only be carried out by Consolor Ltd, otherwise the warranty will be void.
3. Additional components or accessories should not be fitted to the Matrix or the wheelchair, without the prior consent of the wheelchair service or Consolor Ltd, doing so could invalidate the warranty and be unsafe.
4. It is recommended that the client and equipment be reviewed and checked every twelve months, contact your wheelchair service if you feel a review of the Matrix is needed.
5. The maximum user weight for the Matrix would have been taken into account at the assessment. This means that the client's weight and the weight of the Matrix would not exceed the maximum user weight of the wheelchair. If the client puts on a significant amount of weight then the Matrix will not fit or function correctly and the wheelchair service should be notified.
6. Posture belts and harnesses should be used in the correct manner, in conjunction with the manufacturers instructions and as detailed on page 4 of this user guide.
7. Upholstery should be kept clean in the interest of hygiene. It should also be regularly inspected to ensure that the cover still conforms to the shape of the Matrix, if it stretches, the client could end up sitting on creases, which could lead to discomfort or even pressure sores.
8. The foam of the pressure relief insert (if fitted) and Matrix should be checked regularly to ensure that its qualities have not deteriorated, otherwise it could lead to discomfort or even pressure sores for the client.
9. The brakes of the wheelchair should always be applied before transferring the client, removing or refitting the Matrix to the wheelchair or making adjustments.
10. Bags or other items should not be hung on the back of the wheelchair or Matrix as this could severely affect the stability of the system i.e. the wheelchair could easily tip over.

### **Additionally, Before Each Use Check the Following:**

11. Accessories such as head support, foot-support, knee-block/pommel, postural straps and harnesses are functioning properly and fitted in the correct manner.
12. The four drop-hooks of the interface should be sat correctly on the wheelchair's seat tubes and the black plastic and steel locks at each drop hook must be locked around the wheelchair's seat tubes.

**If after reading this user guide you are not clear about any aspect of the Matrix Seating System or its correct usage then the wheelchair service that prescribed the Matrix should be contacted, or Consolor Ltd.**

## Fitting the Matrix Seating System into the Wheelchair

Note: The Matrix is fitted to the wheelchair with a positive locking interface. The instructions below refer to the use of the standard interface, however in some cases it may have been more appropriate to use an alternative interface, such as the wheelchair manufacturer's interface, in which case the instructions for that should be referred to in order to ensure correct usage.

1. Remove the wheelchair's armrests.
2. Place the Matrix onto the wheelchair – put the front drop hooks in front of the clamps fitted to the wheelchair's seat tubes, the rear drop hooks should then sit behind the rear tube clamps. Ensure all four drop-hooks are sat down onto the wheelchair's seat tubes.
3. Make sure that all four black plastic and steel locks at each drop hook are locked around the wheelchair's seat tubes.
4. Refit the wheelchair's armrests.



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### Head Support

In some cases the head support is moulded into the Matrix and therefore not removable or adjustable, in which case the following instructions do not apply.

#### Fitting and Removing the Headrest

Lower the head support's vertical tube into the receiver bracket on the back of the Matrix. Usually a collar will have been fitted to the vertical tube so the correct height can be achieved easily each time. Tighten the locking knob firmly. To remove the head support, reverse this process.

#### Adjusting the Position of the Headrest

This can only be done by users, if there is a second locking knob on the head support's tubes. The knob can be loosened to allow the head support to be moved forwards/backwards to the required position. If there is no second locking knob then the head support can only be adjusted with the use of tools and this should be carried out by a suitably qualified person.

**The headrest must always be securely fitted to the Matrix and be correctly positioned, close to the client's head, when the client is being transported within the Matrix, in order to reduce whiplash injuries.**

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### Foot Support (Where Fitted)

This section refers to a foot support that is fitted directly to the Matrix.

#### Fitting and Removing the Footrest

Loosen the two locking knobs on the tubes of the foot support. Slide the two horizontal tubes into the receiver brackets fitted underneath the Matrix. Push the two pop-pins in, slide the tubes in the rest of the way and ensure the pop-pins locate into the holes on the receiver brackets. Make sure the foot support is sitting down on top of the height setting collar. Tighten the two locking knobs.

## Pressure Relieving Inserts (Where Fitted)

Some Matrix are fitted with pressure relieving inserts, these consist of a high memory visco-elastic foam, sealed inside a clear plastic liner that should not be removed and a dartex cover. A pressure relief insert is to give additional comfort and tolerance of the Matrix to the client.

### Removing and Fitting the Pressure Relieving Insert

Pull the insert carefully away from the Matrix releasing the Velcro. When refitting make sure that the insert is correctly orientated and in the right place.

Note: The foam of the pressure relief insert should be checked regularly to ensure that it has not deteriorated, otherwise it could lead to discomfort or even pressure sores for the client.

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## Posture Belts

Every Matrix is fitted with a pelvic belt, this is intended as a postural support, to assist the client to stay in the correct position within the Matrix.

**WARNING!** It is not intended as a restraint or for safety during transportation.

**WARNING!** Making sure the straps are not twisted, the belt must always be worn tightly across the pelvis or thighs. If the belt is loose the client can slip down, at the very least the Matrix will not work in the manner intended, in a worst case there would be a risk of strangulation.

**WARNING!** Ensure that buckles are always locked together fully. Accidental release of the posture belt would allow the client to slip or fall out of the Matrix. If the client's movements or cognitive ability could lead to accidental release then the client should not be left alone while in the Matrix.

**WARNING!** Regularly check that each end of the belt is securely attached to the seating system.

**WARNING!** There is a risk of wheelchair users slipping down in their seats until the posture belt presses against their necks, if the pelvic belt is incorrectly adjusted by as little as 150mm from the correct position. Chest belts should always be fastened around the occupant's trunk, under the arms. Never include the arms within the belt, if the occupant slips down the seat the belt could press against the occupant's neck.

### Maintenance

Regularly check that buckles, webbing and stitching do not show signs of excessive wear.

## **Cleaning Instructions**

The Matrix, upholstery and accessories should be kept clean in the interest of hygiene.

### **Matrix Shell**

The Matrix can be washed with detergent and very hot water and left to air dry.

### **Padded Covers**

Covers should be regularly inspected to ensure that it still conforms to the shape of the Matrix, if it stretches, the client could end up sitting on creases, which could lead to discomfort or even pressure sores.

The cover is attached to the Matrix by elastic loops stitched to the outer edge. These are fitted around white pegs that are inserted into the Matrix. Unhook all the elastic loops from the pegs and then remove the cover from the Matrix passing posture belts and any harnesses through the slots in the cover. When refitting - press the cover into all the contours of the seat and make sure not to hammock the cover over contours of the seat.

### **Washing of Covers**

To prolong the life and colour of the cover it should be washed with a colour care, bleach free liquid, using a 40°C cycle with a slow spin. It can also be washed by hand in warm water. The cover should be allowed to dry naturally. After many washes the foam inside the cover will deteriorate, the cover should be checked regularly to ensure there is no noticeable difference. Fasten any Velcro to itself to avoid damage to the upholstery.

### **Do not iron, bleach or tumble dry.**

Ensure the cover is completely dry before refitting it to the Matrix.

### **Pressure Relieving Inserts (Where Fitted)**

The cover can be washed as above. The clear plastic lining that protects the foam can be wiped clean with a damp cloth and mild detergent. It should not be immersed.

### **Posture Belts and Harnesses**

Hand wash, with bleach free liquid. Drip dry, do not tumble dry or iron.

## Transporting the Client within the Matrix Seating System in a Motor Vehicle

The following guidelines should be made available to all parties who are responsible for the transportation of the client, such as schools and transport providers. This guidance should be read in conjunction with the MHRA Device Bulletin MDA DB2001(03) June 2001 'Guidance on the Safe Transportation of Wheelchairs'

- The Matrix has not been designed for use as a car safety seat.
- The Matrix can be used to transport the person for whom it was designed, within the wheelchair for which it was manufactured, in a forward facing position, in a vehicle designed for that purpose e.g. a suitably equipped minibus.

### Before Entering the Vehicle Check the Following:

**Matrix Seating System** - must be securely fastened into the wheelchair as described on page 3.

**Posture belts and harnesses** - should remain fitted during transportation, although they are designed to provide postural support only, they are not intended for safety during transportation.

**Head Support** - must be securely fitted and correctly adjusted close to the rear of the client's head during transportation, in order to reduce the risk of whiplash injuries.

**Trays** - must be removed from the wheelchair and secured safely for transportation. If left in place there would be a high risk of abdominal or head injury in the event of a crash.

**Knee-blocks** – are prescribed to clients in order to promote improved sitting posture, where appropriate and necessary. Consideration should be given as to whether the client would sit adequately without the use of knee-blocks during transportation. If left in place, in the event of an accident, there is a risk of injury to the knees and hips, however if they are removed the client may submarine down in the seat, even during a normal journey and be at risk of strangulation.

**Foot-straps** – are prescribed to clients in order to promote improved sitting posture, where appropriate and necessary. Although foot-straps are not intended to be part of the occupant restraint system, using them during travel, the client may be more likely to remain in a seated position.

### The Wheelchair Tie-down and Occupant Restraint System (WTORS).

- **Wheelchair Tie-down** - The wheelchair must be securely tied down within the vehicle, in accordance with the wheelchair manufacturers instructions.
- **Occupant Restraint** - A suitable occupant restraint system must also be fitted in accordance with the manufacturer's instructions. A minimum is a lap and diagonal belt (lap belts on their own are not suitable). Restraints that loop over the shoulder and anchor to the vehicle floor should be avoided where possible, as they can cause a heavy downward load through the client during an impact, the preferred type anchor above and behind the shoulder as with a car seat belt. The lap section of the belt should fit snugly over the pelvis of the client and should not be able to ride up to the abdominal area. The upper torso section of belt should be in contact with the client's chest and fit over the shoulder(s), while not cutting into the neck or slipping off the shoulder(s).

Note: If the wheelchair and Matrix are to be transported unoccupied the wheelchair should be tied down with suitable equipment according to the manufacturer's instructions. If the equipment is to be dismantled for transportation, ensure that all parts are secured safely within the vehicle.

WTORS are available from: Q-Straint (Europe), 175 John Wilson Business Park, Whitstable, Kent. CT5 3RB. Tel. 01227 773035 Fax. 01227 770035