MULTIFUNCTIONAL
All you need to know

Learn more

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The best medium for pressure redistribution is air. Unfortunately, there are a few drawbacks; air is unstable and it tends to leak. Vicair solved these issues when they created Vicair SmartCells.

The unique Vicair air-technology, which uses the small air-filled SmartCells, was developed in cooperation with the Amsterdam Rehabilitation Centre. It was awarded the Grand Prix at the ‘Salon des Inventions’ in Geneva, Switzerland. Vicair develops and produces its product line in the Netherlands for customers all over the world.

Unique combination of skin protection and positioning
When you sit on a Vicair wheelchair cushion, you are supported by hundreds of SmartCells. The layers of cells inside the cushion compartments move with so little friction that the effect resembles the behaviour of a viscous fluid, slowly adjusting to the shape of your body. Also, because SmartCells deform individually, they conform to your body’s contours. The result is superior pressure redistribution. On top of this, the tetraeder-shape of the cells and the design of the cushion compartments make the Vicair cushion ultra stable and prevent the person sitting on it from sliding forward. As a result the cushion reduces shear forces to a bare minimum and helps to create and maintain an optimal, functional posture.

Ease of use
Vicair SmartCell cushions are extremely user-friendly. The well balanced filling grade ensures that Vicair cushions are ready to use, but if you prefer, you can adjust the cushions to your personal positioning needs by adding or removing SmartCells. The cushion requires hardly any maintenance; there is no need for a pump or any other accessories and once the cushion is set up, it doesn’t require daily monitoring. Not only are the Vicair wheelchair cushions extremely comfortable, but they are incredibly lightweight: on average weighing less than 0.8 kg each. This makes them the lightest high performance wheelchair cushions available by far.

The Vicair cushion is always ready for use. Safe, durable and low on maintenance.

View the technology

Scan the code on your smartphone
Excellent pressure redistribution, comfort and support make this back cushion perfect for use in a large variety of situations. It can be used in several types of back systems and in tilt-in-space chairs with adjustable seat depth. The cushion is easily fixed onto the solid backrest by use of Velcro. Although it already automatically adapts to the body’s contours, the cushion can also be adjusted for optimal positioning, while the user is still leaning against the cushion. Optionally available is a head support cushion, for comfort and pressure redistribution.

**PRODUCT PERFORMANCE**
- Skin protection / Anti decubitus
- Pressure redistribution
- Shear reduction
- Micro climate control
- Impact & vibration damping
- Positioning
- Lateral stability
- Frontal stability
- Sliding prevention
- Allows manual adjustments
- Allows easy transfers
- Maintenance & Safety
- Durability
- Reliability
- Functionality when misused
- Low maintenance level
- Level of hygiene
- Functionality & Application
- Comfort
- Low cushion weight
- Available size range
- Maximum user weight
- Low seat to floor height
- Auto adjustments

**USED WITH**
- Neuromuscular diseases, Scoliosis, Kyphosis, Lordosis, Gibbus, Quadriplegia, pain relief, in a geriatric environment

**TECHNICAL SPECIFICATIONS**
- Height 36-60 cm
- Average weight 1,300 grams
- Max. user weight 150 kg

**CUSHION SIZES**
- Standard
- Special

**VICAIR MULTIFUNCTIONAL BACK PRODUCT SHEET**

**Optimal immersion when using a solid back wheelchair**
**Easy to adjust with the user still leaning against the cushion**
**Optimal pressure redistribution**

Excellent pressure redistribution, comfort and support make this back cushion perfect for use in a large variety of situations. It can be used in several types of back systems and in tilt-in-space chairs with adjustable seat depth. The cushion is easily fixed onto the solid backrest by use of Velcro. Although it already automatically adapts to the body’s contours, the cushion can also be adjusted for optimal positioning, while the user is still leaning against the cushion. Optionally available is a head support cushion, for comfort and pressure redistribution.

**Top compartments**
- support the shoulders
- Compartment shape provides freedom of movement

**Side compartments**
- Total immersion
- Support

**Bottom compartment**
- adjustable for sacral or lumbar support

**Supporting the spine**
- offloading if required

**Inch to CM Conversion Table**

<table>
<thead>
<tr>
<th>Inch</th>
<th>14½</th>
<th>15</th>
<th>16</th>
<th>16¾</th>
<th>17½</th>
<th>18</th>
<th>18¾</th>
<th>19</th>
<th>20</th>
<th>21½</th>
<th>22¾</th>
<th>24</th>
</tr>
</thead>
<tbody>
<tr>
<td>CM</td>
<td>36</td>
<td>37</td>
<td>40</td>
<td>41</td>
<td>43</td>
<td>45</td>
<td>46</td>
<td>48</td>
<td>50</td>
<td>54</td>
<td>58</td>
<td>60</td>
</tr>
</tbody>
</table>

**Maintainance & Safety**
- ▲▲▲▲

**Durability**
- ▲▲▲▲

**Reliability**
- ▲▲▲▲

**Functionality when misused**
- ▲▲▲▲

**Low maintenance level**
- ▲▲▲▲

**Level of hygiene**
- ▲▲▲▲

**Functionality & Application**
- ▲▲▲▲

**Comfort**
- ▲▲▲▲

**Low cushion weight**
- ▲▲▲▲

**Available size range**
- ▲▲▲▲

**Maximum user weight**
- ▲▲▲▲

**Low seat to floor height**
- ▲▲▲▲

**Auto adjustments**
- ▲▲▲▲

VICAIR MULTIFUNCTIONAL BACK PRODUCT SHEET

relief by air
Available Standard Model

Multifunctional Back

Available Standard Sizes

<table>
<thead>
<tr>
<th>CM</th>
<th>INCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>36x45</td>
<td>14½x18</td>
</tr>
<tr>
<td>41x45</td>
<td>16½x18</td>
</tr>
<tr>
<td>46x45</td>
<td>18½x18</td>
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<tr>
<td>37x54</td>
<td>14¾x21½</td>
</tr>
<tr>
<td>40x54</td>
<td>16x21½</td>
</tr>
<tr>
<td>45x54</td>
<td>18x21½</td>
</tr>
<tr>
<td>50x54</td>
<td>20x21½</td>
</tr>
</tbody>
</table>

* Width x Height

Specials and custom made products on request.
Your Vicair® Academy Multi Functional Back is designed to be used as described in this manual. Please read the whole manual before use.

The system consists of the following parts:

**Inner cushion**
The inner cushion is made up of zippered compartments. Each compartment is filled with a specific number of triangular, air filled SmartCells™. Strips of Velcro tape are fitted on the back of the cushion cover to attach it to the wheelchair back shell.

**Outer cover**
The outer cover is made of Comfair, a breathable fabric which is two-way stretchable. The outer cover is zipped onto the inner cushion.

**ASSEMBLY**
Vicair recommends to assemble, install and adjust the Academy Multi Functional Back cushion under the direct supervision of your therapist or dealer.

**Checking the size**
Together with your therapist or dealer, make sure the system fits the dimensions of your body and your wheelchair. The system should match the width of the wheelchair seat, and the dimensions of the back shell of your wheelchair.

**Fitting the cushion onto the back shell**
- Remove the clear plastic wrapper from the cushion.
- Make sure the inside of the back shell is clean.
- Remove the protective backing tape from the self-adhesive Velcro strips (fig. A).
- Place the cushion in the back shell and push it firmly into position. Make sure the label faces down (fig. B).
- To remove the cushion from the back shell, simply pull it off the Velcro strips.
• Sit in the wheelchair for a few minutes, to allow the back cushion to adapt to your body shape.
• With the aid of your therapist or dealer, adjust the filling of the cushion.

**Checking for “bottoming out”**
Your back and spine should not touch the bottom of the cushion or the sides of the shell. Checking for “bottoming out” should be done during first use and after adjustments to the cushion filling.
• Sit with your back against the cushion for approximately 5 minutes.
• Lean slightly forward in your wheelchair seat.
• Let your therapist or dealer slide a hand between the cushion and your back.
• Make sure your back is supported by at least one full layer of SmartCells™.
• Do not use the cushion if bottoming out occurs. In most cases, adjusting the filling grade of the compartments will solve the problem.

**Adjusting the cushion filling**
Each Vicair cushion has its own unique filling grade depending on size and model. If necessary, the filling grade of the cushion can be adjusted by removing or adding SmartCells™ from the various compartments of the cushion.
You can find the default filling grade on the label that is attached to the inner cover.

**Stability**
Using the Academy Multi Functional Back may affect the static and dynamic behaviour of the wheelchair. Check and test the balance and stability of the wheelchair with the aid of your therapist or dealer.

**USE**

**Checking for redness of the skin**
Check your skin regularly for redness, especially during the first few days. If redness occurs and does not disappear after 15 minutes, do not continue to use the cushion. Consult your therapist or dealer.

**Use at high altitude**
Because each SmartCell™ is filled with air, the cushion may behave differently when used at high altitude or in an aeroplane. Under such circumstances, the cushion’s firmness can be adjusted by removing a few cells from each compartment. Vicair recommends not to use the cushion above 2400 m (8000 ft) ASL (above sea level).
Use in motor vehicles
No testing data are currently available about the safe use of the Vicair® Academy Multi Functional Back cushion in motor vehicles. Therefore we do not encourage using the cushion in motor vehicles.

Transferring the cushion to another user
Before allowing a second person to use the cushion, clean the inner cushion and wash the outer cover. Disinfect both parts. Make sure the cushion is correctly adjusted to the second person.

Replacing the outer cover
Under normal use, Vicair recommends to replace the outer cover every year. Replacement covers can be purchased separately.

Flammability
Do not use or leave the Academy Multi Functional Back cushion close to a naked flame or a high temperature heat source.

MAINTENANCE AND CLEANING

⚠️ Caution: Do not steam clean or autoclave the cushion. The cushion cannot withstand excessive heat or pressure.

Checking for wear and deflated cells
Every three months, check the cushion for wear and deflated cells. In case of serious damage, or a large number of deflated cells, do not continue to use the cushion. Consult your dealer.

Cleaning the inner cushion
- Wipe the inner cushion with a damp cloth using a mild detergent. Difficult spots or stains can be cleaned by first saturating the spot and then using a soft brush to loosen the dirt.
- If it is necessary to remove the cells for cleaning, note the number of cells in each compartment.
- Do not use aggressive or abrasive cleaners, or sharp objects to clean the inner cushion.
- Do not immerse the inner cushion in water or any other liquid.
- Do not wash the filled inner cushion, or the cells, in a washing machine.
Cleaning the outer cover
The outer cover can be machine washed inside-out. See the instructions on the label attached to the inside of the cover.

Disinfecting the cushion
In case of soiling with body fluids, and when transferring the cushion to another user, the cushion must be disinfected to avoid cross contamination.
• Clean the inner cushion and the outer cover as described above. When washing the outer cover, preferably use an anti-bacterial agent.
• Spray disinfectant on the outer cover and the inner cushion. Bend the compartments outwards to make sure that the spray mist gets into the gaps.

WARRANTY
Vicair offers a limited warranty against defects in workmanship and materials for a period of two (2) years from the original date of purchase, provided the product has been used normally. Any damage arising from abnormal use, or caused by improper handling, cleaning or negligence is excluded from this warranty. Should a defect in materials or workmanship occur within two (2) years from the original date of purchase, Vicair will, at its own choice, repair or replace the product free of charge. The outer cover is excluded from this warranty. Remedies for breach of express warranties herein are limited to repair or replacement of the product. In no event shall damages for breach of any warranty include any consequential damages or exceed the cost of non-conforming goods sold.

For additional product information, see our website: www.vicair.com.
## Seating back accessories

### Headrests
Fit all nxt & nxt-Vicair back systems.

- **Contoured**
  - (wxh) 26x14cm
  - XDNIB0785

- **Large**
  - (wxh) 28x14cm
  - XDNIB0784

- **X-Large**
  - (wxh) 38x14cm
  - XDNIB0818

All include curved depth and angle adjustment with vertical post and latch for easy removal.

Flip back kit: XDNIB1210

### Armadillo laterals

#### Contour trunk lateral
- XDNMAPS-LCS
  - Dual pads (wxh) 10x14cm
  - Available as:
    - non-swing away
    - swing away - SA

#### Pelvic lateral
- XDNMAPS-LPS
  - Single pad (wxh) 9x10cm
  - Available as:
    - non-swing away
    - swing away - SA

### Benefits of the nxt back system

- **One hand release**
  - Quick and easy removal of the back to allow transport or storage of wheelchair.

- **Quickfit mounting system**
  - Optional height and width settings
  - 50° of angle adjustment (25° posterior or 25° anterior)

### Laterals for HA-AC, HA-PC & Carbon

#### Trunk laterals non-swing away
- XDNLAFS-NLPHS
  - Small Pad (wxh) 9x8cm
- XDNLAFS-NLPHL
  - Large Pad (wxh) 10x9cm

#### Trunk laterals swing away
- XDNLASS-NLPS
  - Small Pad (wxh) 9x8cm
- XDNLASS-NLPSL
  - Large Pad (wxh) 10x9cm

#### Trunk laterals swing away - adjustable length
- XDNLASA-NLPSL
  - Large Pad (wxh) 10x9cm
- XDNLASA-NLPTSS
  - Dual Pad (wxh) 18x8cm
# Seating Back Systems

## 1. Model
- **Multi-functional Contour**
  - HA height adjustable

## 2. Indicators
- Used for posture correction.
- Support of spine & pelvis.
- Scoliosis, Kyphosis, Lordosis, spinal support & improved comfort for pain.
- Spinal support, lateral support, kyphotic posture & improved comfort for pain.
- Ideal for active users who require some lateral & pelvic support.
- With more lateral & pelvic support than the HA-AC back.
- Spinal deformities, kyphosis, lordosis & pelvic support.
- As per nxt Armadillo including scoliosis, rotational asymmetry & improved comfort for pain.
- Active user. Thoracic support & pelvic positioning.

## 3. Specifications
- **Back cushion composition**
  - Vicofor zones.
  - Vicair Smartcells.
- **8 adjustable sections.**
- **Dual density foams.**
- **9 adjustable sections.**
- **Dual density foams.**
- **Supplied with back shell.**
- **No, velcro strap attachment.**
- **Yes, 1 section.**
- **Yes, 2 section back shell height adjustable.**
- **Yes, 3 section back shell posture angle adjustable.**
- **Yes, 1 section.**
- **Yes, lightweight carbon.**
- **Quick release back shell.**
- **Yes, one hand quick release for removal.**

## 4. Back angle adjustable
- **Hardware anterior**
  - N/A
  - 25° Anterior
- **Hardware posterior**
  - N/A
  - 25° Posterior
- **Backshell contour - upper**
  - N/A
  - 40° Anterior, 20° Posterior
- **Backshell contour - lower**
  - N/A
  - 30° Anterior, 30° Posterior

## 5. Sizes
- **(Width x Height cm)**
  - Sml 40-44 x 39
  - 41 x 45, 40 x 54
  - 40 x 40, 40 x 50
  - 40 x (height adjustable) 40-50
  - 45 x 49 x 44
  - 46 x 49 x 40
  - 45 x 45 x 40
  - 50 x 50 x 40
  - 50 x (height adjustable) 40-50
  - 50 x 49 x 44
  - 50 x 49 x 40
  - 50 x (height adjustable) 40-50
  - 55 x (height adjustable) 40-50
  - 55 x 49 x 44
  - 55 x 49 x 40

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