Gas springs, dampers and adjustment systems for the furniture industry

Mechanical, hydraulic and electro-motor-driven solutions for opening, closing and adjusting

More comfort and ergonomics for your furniture.
SUSPA – Gas springs, dampers and adjustment systems for the furniture industry.

This catalogue provides a complete overview of SUSPA products for the furniture industry. It shows a multitude of new ideas to be able to better plan and realize for the desires of your customers. This catalogue shows various product applications with installation suggestions and assembly instructions.

For over 50 years, SUSPA products have been in virtually every part of daily life – in your kitchen, in your living room and in your office. Our ability to see the usual with new eyes is sought-after. From the cushioned opening and closing of hatches or the comfortable adjustment of tables and work stations.

SUSPA products create added value for your furniture because our employees work with competence and passion to solve your technical requirements. Our technology makes your furniture comfortable and supports the user in the demand for reliability and trust.

SUSPA stands for technical reliability, innovation and proximity to the customer. Just speak to us and see for yourself. In our global network of subsidiary companies and sales representatives, you are bound to find a personal contact near to you. For more information, see our website at www.suspa.com
Mechanical, hydraulic and electro-motor-driven solutions for opening, closing and adjusting

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1. Overview of furniture applications

**Kitchen**
- Height adjustment for dining tables: ELS
- Comfortable opening and closing of hatches: Liftline
- Gentle closing of refrigerator doors: Softline
- Height adjustment of entire kitchen blocks: Movotec
- Height adjustment of bar and kitchen side tables: Varistand
Overview of furniture applications

Living
- Height adjustment for living room and dining tables: ELS
- Comfortable opening and closing of hatches: Liftline
- Adjustment of armchairs, couches and sofas: Varilock
- Simple opening and closing of sofa beds: Liftline
- Height adjustment for one-legged side tables: Varistand
- Opening and adjustment of beds: Liftline

Work
- Ergonomic height adjustment for desks: ELS
- Comfortable opening and closing of hatches: Liftline
- Height adjustment of work banks and work stations: Movotec
- Height adjustment of sit-and-stand tables and desks: Varistand
2. Gas springs (Lifeline)

Standard gas spring or Soft-Stop-gas spring

Standard gas springs as well as Soft-Stop gas springs are dampened on extension. After opening the flap slightly (as little as 10 degrees) both gas spring types will automatically lift the flap to the fully open position of approximately 90 degrees unassisted. In order to minimize cupboard vibrations, the speed is controlled over the entire range of opening by using a special hydraulic dampening (extension dampening). By presetting the filling pressure, it is possible to optimize the gas spring to any installation situation.

» Advantages of the Soft-Stop gas spring

• Automatic and noiseless opening function
• Smoothly cushioned movement throughout the entire opening procedure
• Gently slowing down the door / lid as it reaches full extension.

Positioning gas spring

If a furniture flap needs to be used in many different positions, the positioning gas spring may be the right solution. This gas spring supports the load in any position desired by the user. Doors / lids can be positioned infinitely throughout their complete range of motion. By careful adjustment of the pressure during filling, the gas spring can be optimized to the application.

» Advantages of the positioning gas spring

• Counterbalance for loads during the opening function
• The ability to hold or position the door infinitely at any position in its range of motion

Applications

• Kitchen cabinets
• Adjustable kitchen hoods
• Bathroom cabinets
• Furniture fronts with one or more flaps
• Shoe cupboards
• Chests
• Foldout beds
• Adjustable LCD screens and monitors
• Components for complex furniture hinges
• Foldout seating banks
• Sofa bed combinations

More comfort and ergonomics for your furniture.
2.1 Gas springs (Liftline): Assembly and installation

Assembly instructions

1. Fit attachment a to the hatch using screws b.
2. Attach the gas spring on the pipe side to the attachment a and secure with pin c.
3. Fit attachment d to the body using screws e.
4. Snap the gas spring on the piston rod side to the attachment d.

Installation recommendation

For flaps made of MDF or chipboard with 18 mm wall thickness

When complying with the relevant fixed dimension H=232 mm (9.13 in) result. The right gas spring for this installation can be found on Page 8 (Quickship program) or Page 10 (Individual program).

For glass fronts (4 mm glass thickness) with metal / aluminium frame

When complying with the relevant fixed dimension H=236 mm (9.29 in) result. The right gas spring for this installation can be found on Page 9 (Quickship program) or Page 11 (Individual program).

*All information in mm. 25.4 mm = 1 in. The illustrations are suggestions of installations. In individual cases, installation situations can occur which deviate from our suggestions. In this case, we recommend that you seek competent and individual consultation from an SUSPA employee or distributor.*
2.2 Gas springs (Lifeline): Quickship program

Furniture gas spring for flaps made of MDF or chipboard with 18 mm wall thickness

Choose your desired gas spring (standard, soft-stop or positioning) depending on the height, breadth and weight of your flap by using the following selection tables:

1. Standard gas spring or Soft-Stop gas spring

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<tbody>
<tr>
<td>300-350</td>
<td>1.6 - 1.8</td>
<td>1</td>
<td>80</td>
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<td>2.1 - 2.5</td>
<td>1</td>
<td>80</td>
<td>S01625521</td>
</tr>
<tr>
<td>351-400</td>
<td>1.8 - 2.1</td>
<td>1</td>
<td>80</td>
<td>S01625513</td>
<td>2.5 - 2.8</td>
<td>2</td>
<td>50</td>
<td>S01625520</td>
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<td>50</td>
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<td>2.8 - 3.2</td>
<td>2</td>
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<td>S01625521</td>
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<tr>
<td>451-500</td>
<td>2.4 - 2.6</td>
<td>2</td>
<td>80</td>
<td>S01625521</td>
<td>3.2 - 3.5</td>
<td>2</td>
<td>80</td>
<td>S01625521</td>
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<tr>
<td>501-550</td>
<td>2.6 - 2.9</td>
<td>2</td>
<td>80</td>
<td>S01625521</td>
<td>3.6 - 3.9</td>
<td>2</td>
<td>100</td>
<td>S01625522</td>
</tr>
<tr>
<td>551-600</td>
<td>2.9 - 3.2</td>
<td>2</td>
<td>100</td>
<td>S01625522</td>
<td>3.9 - 4.2</td>
<td>2</td>
<td>120</td>
<td>S01625523</td>
</tr>
</tbody>
</table>

The stated values in the selection tables are recommendations for MDF or chipboard panels with an 18 mm wall thickness. 25.4 mm = 1 in., standard color of gas spring is white aluminium, piston rod is chromed, subject to changes.

2. Positioning gas spring

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>300-350</td>
<td>3.2 - 3.7</td>
<td>2</td>
<td>80</td>
<td>S01625513</td>
<td>4.2 - 4.9</td>
<td>2</td>
<td>80</td>
<td>S01625521</td>
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<td>351-400</td>
<td>3.7 - 4.2</td>
<td>2</td>
<td>80</td>
<td>S01625513</td>
<td>4.9 - 5.6</td>
<td>2</td>
<td>100</td>
<td>S01625522</td>
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<td>401-450</td>
<td>4.2 - 4.7</td>
<td>2</td>
<td>100</td>
<td>S01625514</td>
<td>5.7 - 6.4</td>
<td>2</td>
<td>120</td>
<td>S01625523</td>
</tr>
<tr>
<td>451-500</td>
<td>4.7 - 5.3</td>
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<td>120</td>
<td>S01625515</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

The stated values in the selection tables are recommendations for MDF or chipboard panels with an 18 mm wall thickness. 25.4 mm = 1 in., standard color of gas spring is white aluminium, piston rod is chromed, subject to changes.
Furniture gas spring for glass fronts (4 mm glass thickness) with metal / aluminium frame

Choose your desired gas spring (standard, soft-stop or positioning) depending on the height, breadth and weight of your flap by using the following selection tables:

1. Standard gas spring or Soft-Stop gas spring

<table>
<thead>
<tr>
<th>Flap-breadth 450 mm (17.7 in)</th>
<th>Flap-breadth 600 mm (23.6 in)</th>
<th>Flap-breadth 900 mm (35.4 in)</th>
<th>Flap-breadth 1,200 mm (47.2 in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-----------------</td>
<td>-----------------</td>
<td>---------------------</td>
<td>--------</td>
</tr>
<tr>
<td>300-350</td>
<td>1.6 - 1.8</td>
<td>1</td>
<td>80</td>
</tr>
<tr>
<td>351-400</td>
<td>1.8 - 2.1</td>
<td>1</td>
<td>80</td>
</tr>
<tr>
<td>401-450</td>
<td>2.1 - 2.4</td>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>451-500</td>
<td>2.4 - 2.6</td>
<td>2</td>
<td>80</td>
</tr>
<tr>
<td>501-550</td>
<td>2.6 - 2.9</td>
<td>2</td>
<td>100</td>
</tr>
</tbody>
</table>

2. Positioning gas spring

<table>
<thead>
<tr>
<th>Flap-breadth 450 mm (17.7 in)</th>
<th>Flap-breadth 600 mm (23.6 in)</th>
<th>Flap-breadth 900 mm (35.4 in)</th>
<th>Flap-breadth 1,200 mm (47.2 in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-----------------</td>
<td>-----------------</td>
<td>---------------------</td>
<td>--------</td>
</tr>
<tr>
<td>300-350</td>
<td>1.6 - 1.8</td>
<td>1</td>
<td>45</td>
</tr>
<tr>
<td>351-400</td>
<td>1.8 - 2.1</td>
<td>1</td>
<td>45</td>
</tr>
<tr>
<td>401-450</td>
<td>2.1 - 2.4</td>
<td>1</td>
<td>60</td>
</tr>
<tr>
<td>451-500</td>
<td>2.4 - 2.6</td>
<td>2</td>
<td>45</td>
</tr>
<tr>
<td>501-550</td>
<td>2.6 - 2.9</td>
<td>2</td>
<td>60</td>
</tr>
</tbody>
</table>

The stated values in the selection tables are recommendations for glass fronts (4 mm glass thickness) with metal / aluminium frame. 25.4 mm = 1 in, standard color of gas spring is white aluminium, piston rod is chromed, subject to changes.
Gas springs (Lifeline): Individual program

Furniture gas spring for flaps made of MDF or chipboard with 18 mm wall thickness

Gas spring configuration and selection of end fittings

End fitting B

End fitting A

Extended length 222 ± 2
Stroke max. 85

Finishing: White aluminium or black, further colors on request

Selection of attachments

Attachment piston rod side (body):

C9 (Plastics, grey)
Ordering no. S06210024
Suitable for B416

C8 (Plastics, black)
Ordering no. S06210007
Suitable for B415

C10 (Metal)
F_{max} = 270 N
Ordering no. S06710163

C14 (Metal)
F_{max} = 270 N
Ordering no. S06710167

Attachment pipe side (flap):

C7 (Plastics, grey, consistend with C9)
Ordering no. S06210025 (Attachment) S06210026 (Pin)

C6 (Plastics, black, consistend with C8)
Ordering no. S06210008 (Attachment) S06210009 (Pin)

C13 (Metal)
F_{max} = 270 N
Ordering no. S15810014

Determine the force of the gas spring depending on height, breadth and weight of the flap.
Use the selection tables on Page 8. All information in mm. 25.4 mm = 1 in. Subject to changes.
Furniture gas spring for glass fronts (4 mm glass thickness) with metal / aluminium frame

Gas spring configuration and selection of end fittings

End fitting B

End fitting A

Selection of attachments

Attachment piston rod side (body):

C10 (Metal)
$F_{max} = 270N$
Ordering no. S06710163

C14 (Metal)
$F_{max} = 270N$
Ordering no. S06710167

Attachment pipe side (flap):

C11 (Metal)
$F_{max} = 270N$
Ordering no. S06810013

C15 (Metal)
$F_{max} = 270N$
Ordering no. S06710168

Determine the force of the gas spring depending on height, breadth and weight of the flap.
Use the selection tables on Page 9. All information in mm. 25.4 mm = 1 in. Subject to changes.
3.1 Dampers (Softline): Assembly and configuration

Furniture dampers

- Independent and noiseless opening of hatches
- Smooth cushioned movement throughout the entire opening procedure
- Gentle stopping and avoidance of force peaks when reaching the end position

Installation recommendation

For flaps made of MDF or chipboard with 18 mm wall thickness

1. Fit attachment a to the hatch using screws b
2. Attach the damper on the piston rod side to the attachment a and secure with pin c
3. Fit attachment d to the body using screws e
4. Snap the damper on the pipe side to the attachment d

When complying with the relevant fixed dimension $\triangle$, an opening angle of $\alpha = 90^\circ$ at an interval of $H=232$ mm (9.13 in) result.

The right damper for this installation can be found on Page 13.

For glass fronts (4 mm glass thickness) with metal / aluminium frame

When complying with the relevant fixed dimension $\triangle$, an opening angle of $\alpha = 90^\circ$ at an interval of $H=236$ mm (9.29 in) result.

The right damper for this installation can be found on Page 13.

All information in mm. 25.4 mm = 1 in.
The illustrations are suggestions of installations. In individual cases, installation situations can occur which deviate from our suggestion. In this case, we recommend that you seek competent and individual consultation from an SUSPA employee or distributor.
3.2 Dampers (Softline): Quickship program

Dampers from the quickship program S01110478 and S01110479 are configured with damping characteristics A 1 (see diagram). You may also choose between stronger (A 0.5) resp. weaker damping (A 2, A 3, A 4, A 6) for your individual damper. Display of the characteristics shows you the damping force in relation to the extension speed. If you wish to have an individual damping for the opening of your flap, please specify your requested damping when ordering (e.g. A 0.5, A 2, A 3, A 4, A 6). Otherwise, your damper will be configured with our standard recommended damping A 1.

Choose from a large number of end fittings and attachments (see pages 10 and 11). Dampers are delivered in white aluminum or black. Other colors are available on request.

3.3 Dampers (Softline): Individual program

Damping behaviour

Dampers quickship program (see above)
4. Lockable gas springs (Varilock)

Applications in the furniture industry

Home furniture
- Positioning of chairs and of individual sections of beds
- Head support, backrest and leg support for armchairs
- Height adjustment for bedside tables/over-bed tables
- Complete, ready-to-install column for height adjustment of tables

Office furniture
- Height adjustment for podiums
- Height of keyboard support
- Audio / Visual carts
- Portable workstations
- Computer carts

School furniture
- Height of chairs and podiums for teachers and students
- Adjustment of tabletop tilting
- Audio / Visual carts
- Computer carts

Type of locking

Rigid locking in extension (VARILOCK HY1 and HY3) is used when a cushioning effect in the locking position is not desired – for example, for safety reasons. Rigid locking in compression (VARILOCK HY4, HY6, VOB18-1 and VOB18-3) is recommended for light weight applications that are subject to high compression forces when locked and require no movement. The VOB18-1, VOB18-3 and HY6 are ideal for applications that require a short installation length and a large stroke.

Elastic-locking gas springs VARILOCK, EL1, EL2, VOB24 and VOB28 are recommended when the locking feature is required to have a cushioning effect. Sudden jolted loads can thus be dampened or even completely avoided. This type of gas springs should be mounted with the piston rod pointing downwards. The VARILOCK, VOB24 and VOB28 are both suitable for applications where the release mechanism is installed at the upper mounting point.

Forces

The gas spring’s extension force depends on the filling pressure. When the VARILOCK is being manufactured, the force is set at the nominal value F1 and remains unchanged over the service life of the gas spring. The locking feature is released when the VARILOCK’s valve is opened. This is a result of the user activating the release mechanism which compresses on the release pin. Once the user lets off the control mechanism, the internal gas pressure causes the valve to close automatically. The activation force and the valve closing force both depend on the filling pressure of the gas spring and are proportional to the VARILOCK’s extension force.
End fittings

SUSPA supplies a wide variety of connections and end fittings to ensure that the VARILOCK will be easily integrated into your application.

Bowden cables, buttons and levers

SUSPA can supply a wide variety of Bowden cables in various lengths and designs. They can be operated by means of levers and/or buttons. Cables can be manufactured based on your specifications of: Length, color, fittings, diameter, low friction casing, cables and adjustment elements.

Release systems

The valve in a locking gas spring is actuated via the release pin. To ensure successful compatibility with your application, SUSPA has developed a wide range of release systems. These include levers, cable releases and push-buttons, that can be matched to each application.
5.1 Height adjustment system: Pneumatic (Varistand)

Varistand: The ready-to-install, height-adjustable table column

The Varistand table column is a professional, sophisticated and design-orientated complete solution for table/cart applications. It is characterised in particular by its ease of use and plug & play assembly. Varistand offers high-quality and comfortable height adjustment.

**Highlights**

- Elegant design
- Precise, quiet guide system
- Rigid / elastic locking in any position
- Constant force, independent of position
- Non-rotational column
- Large adjustment range despite short installation length
- Quick and easy to adjust
- Plug & Play assembly
- Override-function: tabletop can be lifted without activating the release (optional)

**Applications**

Varistand can be used as a ready-to-install and color-matched height adjustment system in hospitals and care homes. Set up your office according to the latest ergonomic expertise in modern design. Make your classroom more flexible with height-adjustable desks. Or transform your restaurant into a stand-up café in the morning or a relaxing lounge in the evening. It is also perfect for computer carts and AV carts.

**Specifications Varistand**

<table>
<thead>
<tr>
<th>Features</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter</td>
<td>75 / 70 mm (2.95 / 2.85 in)</td>
</tr>
<tr>
<td>Stroke</td>
<td>max. 450 mm (17.7 in)</td>
</tr>
<tr>
<td>Length when compressed ($L_{\text{compressed}}$)</td>
<td>Stroke + 166 mm (6.5 in)</td>
</tr>
<tr>
<td>Length when extended ($L_{\text{extended}}$)</td>
<td>$L_{\text{compressed}}$ + Hub (max. 1065 mm, 42.0 in)</td>
</tr>
<tr>
<td>Stroke force</td>
<td>From 70 N (16 lbs) onwards, according to weight of tabletop or application</td>
</tr>
<tr>
<td>Surface finishing</td>
<td>Chrome plated, powder-coated (RAL colors)</td>
</tr>
<tr>
<td>Activation/release</td>
<td>Lever, button, foot release</td>
</tr>
<tr>
<td>Tabletop fitting</td>
<td>Flange adapter (with 12 drillholes, distance 32 mm, 1.26 in)</td>
</tr>
<tr>
<td>Base fitting</td>
<td>Flange or tapered cone adapter</td>
</tr>
<tr>
<td>Non-rotation function</td>
<td>standard</td>
</tr>
<tr>
<td>OverRide-function</td>
<td>optional</td>
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</table>

**Varistand Quickship program**

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<th>13652052</th>
<th>13652000</th>
<th>13652051</th>
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</thead>
<tbody>
<tr>
<td>Diameter [mm ([in])]</td>
<td>75 / 70 (2.95 / 2.85)</td>
<td>75 / 70 (2.95 / 2.85)</td>
<td>75 / 70 (2.95 / 2.85)</td>
<td>75 / 70 (2.95 / 2.85)</td>
</tr>
<tr>
<td>Stroke [mm ([in])]</td>
<td>436 (17.2)</td>
<td>245 (9.6)</td>
<td>436 (17.2)</td>
<td>245 (9.6)</td>
</tr>
<tr>
<td>Length when compressed [mm] ([in])</td>
<td>603 (23.7)</td>
<td>436 (17.2)</td>
<td>603 (23.7)</td>
<td>436 (17.2)</td>
</tr>
<tr>
<td>Length when extended [mm] ([in])</td>
<td>1,039 (40.9)</td>
<td>661 (26.0)</td>
<td>1,039 (40.9)</td>
<td>661 (26.0)</td>
</tr>
<tr>
<td>Stroke force [N] ([lbs])</td>
<td>140 (31.5)</td>
<td>200 (45.0)</td>
<td>140 (31.5)</td>
<td>200 (45.0)</td>
</tr>
<tr>
<td>Surface finishing</td>
<td>Chrome</td>
<td>Chrome</td>
<td>RAL 9005</td>
<td>RAL 9005</td>
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<tr>
<td>Activation/release</td>
<td>Lever L=365mm ([14.4in])</td>
<td>Lever L=365mm ([14.4in])</td>
<td>Lever L=365mm ([14.4in])</td>
<td>Lever L=365mm ([14.4in])</td>
</tr>
<tr>
<td>Tabletop fitting</td>
<td>Flange adapter</td>
<td>Flange adapter</td>
<td>Flange adapter</td>
<td>Flange adapter</td>
</tr>
<tr>
<td>Base fitting</td>
<td>tapered cone adapter</td>
<td>tapered cone adapter</td>
<td>tapered cone adapter</td>
<td>tapered cone adapter</td>
</tr>
<tr>
<td>Non-rotation function</td>
<td>standard</td>
<td>standard</td>
<td>standard</td>
<td>standard</td>
</tr>
<tr>
<td>OverRide-function</td>
<td>none</td>
<td>none</td>
<td>none</td>
<td>none</td>
</tr>
</tbody>
</table>

Minimum: 25 pieces

Further types on request.
Varislim: The slim, ready-to-install, height-adjustable table column

Varislim rounds off the benefits of the Varistand through slim design and numerous implementation possibilities. The slim, yet stable design of Varislim allows additional surfaces to be mounted.

**Highlights**

- Slim design
- Non-rotational column
- Multifunctional application
- Rigid locking in any position
- Large adjustment range
- Plug & Play assembly
- Override-function: tabletop can be raised without activating the release (optional)

**Applications**

- Office and coffee tables
- Bistro tables
- Standing desks
- Sit-and-stand tables
- Laptop tables
- Motor home interiors
- Flipchartholder

**Specifications Varislim**

<table>
<thead>
<tr>
<th>Features</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter</td>
<td>45 / 40 mm (1.77 / 1.57 in)</td>
</tr>
<tr>
<td>Stroke</td>
<td>100 - 400 mm (3.94 - 15.7 in)</td>
</tr>
<tr>
<td>Length when compressed (L&lt;sub&gt;compressed&lt;/sub&gt;)</td>
<td>Stroke + 155 mm (6.1 in)</td>
</tr>
<tr>
<td>Length when extended (L&lt;sub&gt;extended&lt;/sub&gt;)</td>
<td>L&lt;sub&gt;compressed&lt;/sub&gt; + Hub (max. 1065 mm, 42.0 in)</td>
</tr>
<tr>
<td>Stroke force</td>
<td>From 70 N (16 lbs) put in max, tunable according to weight of tabletop or application</td>
</tr>
<tr>
<td>Surface finishing</td>
<td>Chrome plated, powder-coated (RAL colors)</td>
</tr>
<tr>
<td>Activation/release</td>
<td>Lever, button, foot release</td>
</tr>
<tr>
<td>Tabletop fitting</td>
<td>Depending on activation / release</td>
</tr>
<tr>
<td>Base fitting</td>
<td>See drawing (right)</td>
</tr>
<tr>
<td>Non-rotation function</td>
<td>standard</td>
</tr>
<tr>
<td>Override-function</td>
<td>optional</td>
</tr>
</tbody>
</table>

Further types on request.
5.2 Height adjustment system: Hydraulic (Movotec)

General system description

The Movotec system is made up of cylinders and a pump, which are driven using a hand crank or an electronic motor. The drive generated through this causes the oil to flow from the pump into the cylinders or from the cylinders back into the pump. This makes the cylinders move in and out of the specified adjustment range (stroke).

The Movotec product range is made up of the following system variations:

1. Bolt-on System
The Bolt-on System is supplied as a retrofit kit. Every customer can make his existing tables height adjustable by upgrading them with the Bolt-on System.

2. Corner Leg System
(System with ready-to-install corner legs)
The Corner Leg system is supplied with ready-to-install corner legs made of standard aluminium profiles. The customer is thus able to put together his individual height-adjustable table with the supplied ready-to-install corner legs.

3. ATU System (Table Adjustment System)
The ATU system (Aluminium Telescopic Unit) is a complete table adjustment system based on two legs (without table top). For further details, please see page 20 and 21.

Properties

- Selection of preconfigured solutions (see order numbers) or individual solutions
- Exceptionally comfortable – upon request also display controlled – operation with electronic motor drives
- Comfortable manual height adjustment for hand crank operation, since only a small amount of power is required
- Synchronised height adjustment for up to eight legs possible
- Height adjustment for heavy loads possible (up to more than 900 kg)
- Simple assembly and intuitive operation
- Extensive and self-explanatory delivery packages with accessory kits and documentation

Applications

- Lifting workbenches, joiner’s benches and assembly tables
- Adjusting the height of individual and group workstations (e.g. office desks, CAD work stations, sewing and craft tables, sink units in catering establishments, packing tables, etc.)
- Lifting and lowering sales and service installations in wholesale and retail, in museums, in the catering and the hotel industry (e.g. cash desks, counters, check-in desks, etc.)
- Height adjustment for kitchen blocks, sinks, work surfaces and other kitchen installations
- Entry and exit aids for people of various sizes, elderly persons and disabled persons (e.g. height adjustment of bathtubs)
- Comfortable and safe lifting and lowering of patients (e.g. therapy tables, operating tables, massage tables, etc.)
### Quickship program for 4-leg-tables

<table>
<thead>
<tr>
<th>System Lift</th>
<th>Capacity</th>
<th>Adjustment Range (mm)</th>
<th>CB „Bolt-On“ Cylinder</th>
<th>Crank driven system</th>
<th>Motor driven system</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A (mm)</td>
<td>B (mm)</td>
<td>X (mm)</td>
<td>Y (mm)</td>
</tr>
<tr>
<td><strong>Bolt-On</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>750 / 340</td>
<td>155</td>
<td>258.5</td>
<td>165</td>
<td>344.5</td>
<td>328.5</td>
</tr>
<tr>
<td>750 / 340</td>
<td>195</td>
<td>333.5</td>
<td>240</td>
<td>404.5</td>
<td>388.5</td>
</tr>
<tr>
<td>750 / 340</td>
<td>300</td>
<td>463.5</td>
<td>340</td>
<td>586.5</td>
<td>570.5</td>
</tr>
<tr>
<td>750 / 340</td>
<td>400</td>
<td>558.5</td>
<td>340</td>
<td>714.5</td>
<td>698.5</td>
</tr>
<tr>
<td>1000 / 454</td>
<td>150</td>
<td>258.5</td>
<td>165</td>
<td>404.5</td>
<td>388.5</td>
</tr>
<tr>
<td>1000 / 454</td>
<td>230</td>
<td>463.5</td>
<td>340</td>
<td>586.5</td>
<td>570.5</td>
</tr>
<tr>
<td>1000 / 454</td>
<td>305</td>
<td>463.5</td>
<td>340</td>
<td>714.5</td>
<td>698.5</td>
</tr>
<tr>
<td><strong>Corner Leg</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>750 / 340</td>
<td>155</td>
<td>-</td>
<td>-</td>
<td>344.5</td>
<td>328.5</td>
</tr>
<tr>
<td>750 / 340</td>
<td>195</td>
<td>-</td>
<td>-</td>
<td>404.5</td>
<td>388.5</td>
</tr>
<tr>
<td>750 / 340</td>
<td>300</td>
<td>-</td>
<td>-</td>
<td>586.5</td>
<td>570.5</td>
</tr>
<tr>
<td>750 / 340</td>
<td>400</td>
<td>-</td>
<td>-</td>
<td>714.5</td>
<td>698.5</td>
</tr>
</tbody>
</table>

**Individual program**

Configure your Movotec system to your individual needs. Please follow these four steps:

1. Specify the number of cylinders (= number of legs and columns)
2. Specify the weight of the load that has to be moved
3. Define the adjustment range (stroke)
4. Define the operating mode (hand crank or switch with electronic motor)

---

**Crank driven system**

**Motor driven system**

---

**Bolt-On**

**Corner Leg**

- **Top view:**
  - All dimensions in mm. 0.453kg = 1 lb. / 25.4mm = 1in.
  - with four hydraulic cables (2x 2.5m and 2x 3.0m)

- **Adjustment range:**
  - All dimensions in mm. 0.453kg = 1 lb. / 25.4mm = 1in.
  - with four hydraulic cables (2x 2.5m and 2x 3.0m)
5.2 Height adjustment system: Hydraulic (Movotec - ATU)

ATU Table Adjustment System

With the ATU (Aluminium Telescopic Unit) table adjustment system you can build your individual height-adjustable 2-leg table. You can order all the necessary frame and accessory parts, except for the table top.

The ATU table adjustment system is modular and is made up of two components:

1. **Movotec system** (electronic motor or hand crank) with two aluminium profiles as table legs (ATU)
2. **Workstation kit** (cross beam, top bracket, foot bracket, accessory parts)

**Step 1: Select your Movotec system**

**Crank Driven System**

1. Crank driven unit
2. Two flexible tubing sections 90 cm and 180 cm (3 ft. and 6 ft.)
3. Two lift cylinders with ATU bracket
4. Two ATUs (Aluminium profiles as table legs)
5. Installation instructions (not shown)

<table>
<thead>
<tr>
<th>Ordering number</th>
<th>Lift capacity</th>
<th>Adjustment range (stroke)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSY-04495</td>
<td>226 kg</td>
<td>200 mm (8 in)</td>
</tr>
<tr>
<td>MSY-04496</td>
<td>226 kg</td>
<td>300 mm (12 in)</td>
</tr>
</tbody>
</table>

**Motor Driven System**

1. Motor driven unit
2. Two flexible tubing sections 90 cm and 180 cm (3 ft. and 6 ft.)
3. Two lift cylinders with ATU bracket
4. Two ATUs (Aluminium profiles as table legs)
5. Controller
6. Surface mount switch
7. Power cord (not shown)
8. Installation instructions (not shown)

<table>
<thead>
<tr>
<th>Ordering number</th>
<th>Lift capacity</th>
<th>Adjustment range (stroke)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSY-04588</td>
<td>226 kg</td>
<td>200 mm (8 in)</td>
</tr>
<tr>
<td>MSY-04589</td>
<td>226 kg</td>
<td>300 mm (12 in)</td>
</tr>
</tbody>
</table>
Step 2: Select your workstation kit

Workstation kit with frame and accessory parts

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Two foot brackets</td>
</tr>
<tr>
<td>2</td>
<td>Two top brackets</td>
</tr>
<tr>
<td>3</td>
<td>Cross beam</td>
</tr>
<tr>
<td>4</td>
<td>All fasteners and plugs required to assemble frame</td>
</tr>
<tr>
<td>5</td>
<td>Installation instructions (not shown)</td>
</tr>
</tbody>
</table>

Select your workstation kit according to your desired table frame length (length of the cross beam):

<table>
<thead>
<tr>
<th>Ordering number</th>
<th>Length of the cross beam</th>
</tr>
</thead>
<tbody>
<tr>
<td>D44-00033</td>
<td>800 mm (31.5 in)</td>
</tr>
<tr>
<td>D44-00034</td>
<td>1,000 mm (39.4 in)</td>
</tr>
<tr>
<td>D44-00035</td>
<td>1,200 mm (47.2 in)</td>
</tr>
</tbody>
</table>

Notice:
The construction kit allows the table legs to be attached both centrally on the foot (see bottom left) and as a self-supporting version at the end of the foot (see bottom right).
5.3 Height adjustment system: E-motor-driven (ELS Office)

Ergonomics in the workplace

The ELS adjustable system for sit-and-stand workplaces allows tables without crossbars to be constructed with the highest level of stability and optimum anti-twist protection.

It comprises one or more table legs powered by electronic motors, electronic control and a manual control switch (can be programmed as an option). The drive that is built into the telescopic arm boasts high adjustment speeds with low noise emission. The table legs are available as rounded or square versions. The powder coating is silver-grey as standard, but is also available in other colors upon request.

Highlights

- Individual configuration: 1-leg-tables to 4-leg-tables
- Design: round or square
- New anti-rotational guide package
- Maximum adjustment range with a very low compressed height
- Excellent stability
- Plug and play system makes installation simple
- Fast height adjustment
- Low noise level
- Programmable control unit

Specifications ELS Office

<table>
<thead>
<tr>
<th>Features</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material / surface finishing</td>
<td>Steel profile / powder-coated (silver-grey)</td>
</tr>
<tr>
<td>Design</td>
<td>Double telescoping</td>
</tr>
<tr>
<td>Assembly dimension</td>
<td>570 mm (22.4 in)</td>
</tr>
<tr>
<td>Adjustment range (stroke)</td>
<td>660 mm (26 in)</td>
</tr>
<tr>
<td>Length extended</td>
<td>1,230 mm (48.4 in)</td>
</tr>
<tr>
<td>Adjustment speed</td>
<td>40 mm/sec. (1.5 in/s)</td>
</tr>
<tr>
<td>Maximum load</td>
<td>60 kg (132 lbs) per leg, e.g. 2-leg-table: 120 kg (264 lbs)</td>
</tr>
</tbody>
</table>

Further types on request.
Two version available: round and square

Round model: ELS 2-R

Square model: ELS 2-S

Control Units and Hand Switches for ELS Office

Control Units

- TA-C1: One column control unit
- TA-C2: Two column control unit
- TA-C3: Three column control unit
- TA-C4: Four column control unit

Hand Switches

- TA-HS1: basic hand switch with Up-and-Down function
- TA-HS2: Deluxe hand switch with digital display and four programmable height settings

Input voltage: 220–240 VAC (115 VAC available upon request)
Output voltage: 24 V DC
Temperature range: 5 – 60°C (41–140°F)
Safety class: IP20

All dimensions in mm (in).