High quality hinge with integrated dampening.

Sensys.
Sensys.
Perfect design, perfect action

Hettich’s first hinge with integrated dampening

Sensys marks the latest generation in hinge technology: The dampening element is integrated invisibly into the hinge – an innovation that meets the highest criteria for convenience and functionality. Just a light touch – and the door closes smoothly and silently. The unique pull-in function closes the door gently and automatically as soon as the open angle is less than 35°. Sensys delivers an exclusive closing experience. Sensys incorporates high quality material and perfect ‘Silent System’ soft closing action – without the need for bulky adaptors.

Clean, elegant design

Sensys has an elegant, contemporary look and meets all customer expectations for outstanding design and quality. The simple, sleek, harmonious lines of the design – from the cup and the arm cover cap to the mounting plate – give the hinge its streamline modern look. All edges and radii contribute to the perfect harmony of hinge and mounting plate. Silent System dampening is integrated invisibly in the hinge, as is the unlatch tab. Specially designed cover caps conceal fixing screws and adaptors. Winner of the 2008 reddot Design Award and the 2009 iF Product Design Award, Sensys seamlessly combines aesthetics and function.
Toolless assembly

Sensys hinges are mounted and removed quickly and easily. No tools are required. It is unlatched from the hinge arm in one smooth, ergonomic movement by lightly pressing the concealed latch.

Engineered for easy use

With its shallow cup depth, Sensys is a versatile solution for many applications, for example, with thinner doors or bigger outside radii. The Sensys hinge design also permits minimal visible reveals currently popular even with thick doors. The direct adjustment feature makes it easy to set door depth. A special guard prevents accidental disengagement of the overlay adjustment screw. Cam screws in the mounting plate allow fast door height adjustment.

Sensys is a low, slimline design; it leaves ample space for internal drawers, so that only very narrow gaps need be planned between the side panels and drawers.

Sensys stands for tested quality, compliance with all current standards, excellent dampering performance, durability and high stability. Sensys meets the highest design criteria and is sure to be a long-time favourite.
Sensys.
Versatile for different applications

Wide product range

The Sensys hinge family includes products for all popular door mounting options, so that Sensys hinges can be used in a wide variety of cabinet designs. Designed-in compatibility means that Sensys mounting plates can also be combined with hinges from the Intermat range.

Sensys cups and mounting plates can be mounted using any of the commonly accepted methods. The cup can be secured in place by screws, knock-in sockets or by toolless Fix fast assembly.

Mounting plates are available for securing with various options – expanding sockets, pre-mounted with Euro screws and the Hettich Top with eccentric height adjustment.
Sensys.
A glance at the benefits

- **Integrated overlay adjustment ± 2 mm with stop limitation for perfect gap alignment**
- **Hinge and mounting plate - a perfect design match**
- **Mounting plate compatible with Intermat hinge range**
- **Eccentric height adjustment ± 2 mm saves an enormous amount of time**
- **Unique self-closing angle**
  Gentle, smooth closing from an opening angle of 35°
- **Narrow reveals**
  Only 4 mm for 22 mm door thickness
- **Minimum door protrusion**
  Narrow gaps maximize space available for internal drawers
- **Depth adjustment +3 / -2 mm and direct adjustment for millimetre precision**
- **Shallow cup depth: 12,8 mm**
- **Elegant cover cap for the hinge cup**
- **High-performance Silent System dampening system invisibly integrated in the hinge arm**
- **Toolless assembly**
  Press gently and the hinge arm engages securely in the mounting plate
- **Concealed release latch**
  Simple, safe, reliable
- **Narrow reveals**
  Only 4 mm for 22 mm door thickness
Hettich and the environment: committed to responsible practice, active protection, innovative thinking.

Hettich takes a responsibility for the world we live in. This awareness defines the strict policy of environmental management we practise. Our environmental officer has taken personal responsibility for these aspects throughout the company group over a period of many years. In addition, a separate environment committee has been established for each production site. We regard statutory provisions as minimum requirements. At significant sites we also implement the stringent EMAS Directive. And we drive forward developments that in future will help to save even more raw materials and support the necessary endeavours towards sustainability.

Hettich standard for product materials

Hettich underpins its commitment by applying an internal standard for product materials. This ensures that every product – from production to disposal – satisfies all environmental requirements. Products from Hettich come with a long life. Appropriately foresighted, our rigorous standards are formulated to ensure that international legislation is met as well. This provides a reliable basis for marketing furniture world-wide.

Hettich environmental management

Hettich started introducing effective environmental management systems under the stringent EMAS Regulation (currently: EC Regulation No. 761/2001, including EN ISO 14.001/2004) as long ago as 1996. This not only enables us to improve our environmental performance on a broad front but also achieve a high level of safety which, not least, also benefits our customers. This is why we also require our suppliers to meet the necessary minimum standards of environmental protection, industrial safety, health care and social welfare.

The results achieved in the drawer-runner and drawer-system product segment at the Kirchlengern operation illustrate the impressive effects these measures have and verifiably demonstrate our tireless endeavours to translate words into action:

Relief to the environment between 1997 and 2008:

- Specific water consumption: 56 per cent
- Specific power consumption: 21 per cent
- Specific heat consumption: 84 per cent
- Specific CO₂ emissions: 29 per cent

Hettich and the environment: committed to responsible practice, active protection, innovative thinking.

Sensys

Quality that meets all of demands

Hinges with integrated soft-closing mechanism are constantly monitored for quality. The varying quality standards demanded by different markets and segments are each taken into account. The diagrams show examples of some of the testing processes and what they involve.

Life cycle test

The door must withstand a defined number of opening and closing cycles with a defined additional load G.

Closing test

The door is opened by 30° with a defined additional load of G and pushed closed from this position by means of the falling weight.

Horizontal test

In this test, also referred to as the overstraining test, the door is over-opened with a defined test force F.

Vertical test

This is where the door is subjected to a specific number of opening and closing cycles under a defined additional load G.

Quality criteria

- Life cycle test over 80,000 cycles
- Closing test with an additional weight of 4 kg
- Load test in horizontal direction with 40 N
- Load test in vertical direction with 200 N
Product overview: fast-assembly concealed hinges
Sensys with integrated soft-closing function and supplementary Intermat range

Technical information

Sensys 8645i
Opening angle 110°
for doors up to 22 mm thickness
18 - 19

Sensys 8639i
Opening angle 95°
for doors up to 28 mm thickness
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Sensys 8639i W30
Opening angle 95°
for 30° face angle applications
22 - 23

Sensys 8639i W45
Opening angle 95°
for 45° face angle applications
24 - 25

Sensys 8639i W90
Opening angle 95°
for 90° face angle applications
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Intermat 9956
Opening angle 165°
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Intermat 9930
Opening angle 50°/65°
for corner cabinet folding doors
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for Sensys and Intermat hinges
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Minimum reveal
- The minimum reveal (also known as door clearance or minimum clearance) is the space required at the side for opening a door.
- The size of the minimum reveal depends on the cup distance C, the door thickness, and the type of hinge selected. Radii on the door edges reduce the minimum clearance. The required minimum reveal is shown in the table for the respective hinge types.
- Number of hinges per door:
  - Door width, height and weight as well as the material quality of the door are key factors that determine the number of hinges required.
  - The factors encountered in practice differ widely from case to case. For this reason, the number of hinges specified in the diagram must be understood as a guide only. If in doubt, it is recommended to carry out a trial door mounting and adjust the number of hinges as necessary. For reasons of stability, distance X between the hinges must always be made as large as possible.

Overlay application
- The door is positioned in front of the cabinet side, with only a small gap remaining at the side to provide the space necessary for door to open reliably.
- Alternatively, the door can be overlaid fully (max. 19 mm), in which case sufficient space must be allowed at the side for the required minimum reveal. Straight hinges (Basis B = 12.5 mm) are used.

Half-overlay application
- This is where two doors are positioned in front of a cabinet centre panel, with the required overall reveal between them. In other words, the door has a smaller overlay and cramped hinges (Basis B = 3 mm) are used.

Inset application
- The door is positioned inside the cabinet, i.e. next to the cabinet side. Here too, a gap is needed so that the door can open reliably. Heavily cramped hinges (Basis B = 4 mm) are used.

Fast-assembly concealed hinges with integrated soft-closing function
- Sensys
- Technical information

General determination of distances
- Mounting plates are available in various distances (2/3/5 and 5 mm). The effective height of the mounting plate is defined by distance D. Distance D is embossed on the top of each mounting plate.
- A larger distance D reduces overlay for full and half-overlay applications. On inset doors, a larger distance D increases the door reveal.
- To calculate the required distance, the minimum reveal must first be determined from the table of minimum door reveals for the type of hinge concerned. The minimum reveal depends on the cup distance C and the door thickness. Minimum reveals can be reduced by increasing the cup distance C and/or applying radii to the door edges. The table of minimum reveals also shows the possible combinations of door thickness and cup distance C.

Calculating distance for overlay doors
- Once the minimum reveal has been defined, the required distance D can be read off in the table for the required door overlay and the required cup distance C. Ideally, door overlay and value C should be selected to produce distance D that is available as mounting plate.
- Example: Overlay = 16 mm and cup distance C = 5 mm produce a distance D of 1.5 mm. This distance is available as mounting plate.
- If the calculated distance D differs from the distances available as mounting plates, the difference is compensated by means of the overlay adjustment screw on the hinge arm.
- Example: Door overlay = 16 mm and cup distance C = 4 mm produce a distance D of 0.5 mm. When using a mounting plate with a distance = 0 mm, overlay is adjusted by - 0.5 mm.

Cup distance C
- Cup distance C is the distance between door edge and the edge of the cup drilling.
- The greater the distance selected for cup distance C, the smaller door clearance will be, i.e. the minimum reveal required.

Calculating distance for inset doors
- When calculating the mounting-plate distance using the table for inset doors, allowance is automatically made for the reveal that is shown as the minimum reveal produced by cup distance C and door thickness in the table of minimum reveals.
- If a reveal is to be produced that is larger than this minimum reveal, select a mounting-plate distance of the appropriate size.
- Example: According to the table, a door thickness = 19 mm and cup distance C = 6 mm produces a mounting-plate distance of 3 mm. This demands a minimum reveal of 1 mm. If, for example, a reveal of 3 mm is preferred instead, the mounting-plate distance selected must be 2 mm larger. In this example, therefore, a distance of 5 mm instead of 3 mm.
- Intermediate distances not available as mounting-plate distances are achieved by adjusting the hinge overlay.

Cup distance Overlay
- The required minimum reveal is shown in the table for door to open reliably.
- The minimum reveal at centre panel
- For half-overlay applications, the total reveal selected between the doors must be at least twice the door clearance. Both doors can then be opened at the same time.

For overlay doors:
- Overlay refers to the projection of the door in front of the cabinet side. Basis refers to the projection of the cup in front of the cabinet side for a mounting-plate distance of 0 mm.

Mounting options
- Overlay application
- Half-overlay application
- Inset application

Minimum reveal at centre panel

Minimum reveal
- The minimum reveal is the space required at the side for opening a door.
- This is where two doors are positioned in front of a cabinet centre panel, with the required overall reveal between them. In other words, the door has a smaller overlay and cramped hinges (Basis B = 3 mm) are used.

Overlay (door overlay) / basis

Overlay application

Half-overlay application

Inset application

Number of hinges per door:
- Door width, height and weight as well as the material quality of the door are key factors that determine the number of hinges required.
- The factors encountered in practice differ widely from case to case. For this reason, the number of hinges specified in the diagram must be understood as a guide only. If in doubt, it is recommended to carry out a trial door mounting and adjust the number of hinges as necessary. For reasons of stability, distance X between the hinges must always be made as large as possible.

Cup distance
- Cup distance Overlay refers to the projection of the cup in front of the cabinet side for a mounting-plate distance of 0 mm.
- Cup distance C
- Cup distance Overlay mm

Door thickness mm
- Door overlay increases (+).
- Door overlay is reduced (-).

Turn screw clockwise:
- Door overlay is reduced (-).
- Turn screw anti-clockwise:
- Door overlay increases (+).

Direct, infinitely variable height adjustment
- Height-adjustable mounting plates permit exact alignment of door height.

Direct, infinitely variable depth adjustment
- Depth adjustment
- Height adjustment

Guide values for 19 mm chipboard panels in a density of 750 kg/m³

Cup distance C

Overlay mm

Distance D mm

C mm

Overlay adjustment

Depth adjustment

Height adjustment

Turn screw clockwise:
- Door overlay is reduced (-).
- Turn screw anti-clockwise:
- Door overlay increases (+).

Direct, infinitely variable height adjustment by eccentric screw.

Calculating distance for inset doors

- When calculating the mounting-plate distance using the table for inset doors, allowance is automatically made for the reveal that is shown as the minimum reveal produced by cup distance C and door thickness in the table of minimum reveals.
- If a reveal is to be produced that is larger than this minimum reveal, select a mounting-plate distance of the appropriate size.
- Example: According to the table, a door thickness = 19 mm and cup distance C = 6 mm produces a mounting-plate distance of 3 mm. This demands a minimum reveal of 1 mm.
- If, for example, a reveal of 3 mm is preferred instead, the mounting-plate distance selected must be 2 mm larger. In this example, therefore, a distance of 5 mm instead of 3 mm.
- Intermediate distances not available as mounting-plate distances are achieved by adjusting the hinge overlay.

Calculating distance for overlay doors

- Once the minimum reveal has been defined, the required distance D can be read off in the table for the required door overlay and the required cup distance C. Ideally, door overlay and value C should be selected to produce distance D that is available as mounting plate.
- Example: Overlay = 16 mm and cup distance C = 5 mm produce a distance D of 1.5 mm. This distance is available as mounting plate.
- If the calculated distance D differs from the distances available as mounting plates, the difference is compensated by means of the overlay adjustment screw on the hinge arm.
- Example: Door overlay = 16 mm and cup distance C = 4 mm produce a distance D of 0.5 mm. When using a mounting plate with a distance = 0 mm, overlay is adjusted by - 0.5 mm.

Cup distance Overlay

Overlay mm

Distance D mm

C mm
Toolless fast assembly

Toolless fast assembly is distinguished by ergonomic handling. To begin with, all hinges are pushed onto the mounting plate from the front ①. The hinge arms are then lightly pressed onto the mounting plate so they engage with an audible click ②. The hinge arm is now securely attached to the plate at five points and with zero play. As a general rule, the hinges are clipped onto corpus from top to bottom.

Hinges are removed in the opposite order, i.e. from bottom to top. The rear part of the hinge is pressed by thumb against the mounting plate while pushing on the release catch ①. The hinge arm is now lifted off the mounting plate ② and the door can be removed towards the front ③.

Flash fast assembly

Flash fast hinge assembly and removal merely requires the use of a standard crosshead screwdriver PZ 2. The socket securely expands in the wood simply by turning the flash screw through 90°. A symbol shows that the hinge is locked in place.

Fix toolless fast assembly

Toolless assembly of the Sensys Fix hinge in the door as well as removal (which can only be done with a screwdriver for safety reasons) is illustrated in the following sequence of pictures.
For hinge-arm cover cap and hinge-cup cover cap, see accessories on page 8.

**Cup assembly**

- Clip-on concealed hinge with integrated soft-closing function
- For door thicknesses of 15 - 22 mm
- Cup diameter 35 mm
- Integrated overlay adjustment of ± 2 mm
- Height adjustment at mounting plate
- Cup depth 12.8 mm

<table>
<thead>
<tr>
<th>Screw-on:</th>
<th>Press-in:</th>
</tr>
</thead>
<tbody>
<tr>
<td>TH S2</td>
<td>TH H5</td>
</tr>
<tr>
<td>TH 53</td>
<td>TH 54</td>
</tr>
<tr>
<td>Fix fast assembly: TH 55</td>
<td></td>
</tr>
</tbody>
</table>

**Full overlay B 12.5**

| 9 071 205 | 9 071 206 | 9 071 207 | 200 |
| 9 071 208 | 9 071 209 | 9 071 210 | 200 |
| 9 071 211 | 9 071 212 | 9 071 213 | 200 |
| 9 071 220 | 9 071 221 | 9 071 222 | 200 |

**Half overlay B 3**

| 9 071 205 | 9 071 206 | 9 071 207 | 200 |
| 9 071 208 | 9 071 209 | 9 071 210 | 200 |
| 9 071 211 | 9 071 212 | 9 071 213 | 200 |
| 9 071 220 | 9 071 221 | 9 071 222 | 200 |

**Inset B 4**

| 9 071 205 | 9 071 206 | 9 071 207 | 200 |
| 9 071 208 | 9 071 209 | 9 071 210 | 200 |
| 9 071 211 | 9 071 212 | 9 071 213 | 200 |
| 9 071 220 | 9 071 221 | 9 071 222 | 200 |

**PU**

| 9 071 205 | 9 071 206 | 9 071 207 | 200 |
| 9 071 208 | 9 071 209 | 9 071 210 | 200 |
| 9 071 211 | 9 071 212 | 9 071 213 | 200 |
| 9 071 220 | 9 071 221 | 9 071 222 | 200 |

**Cup distance C mm**

<table>
<thead>
<tr>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
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<th>21</th>
<th>22</th>
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</table>

**Door thickness mm**

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<tr>
<th>3</th>
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<th>4.5</th>
<th>5</th>
<th>6</th>
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<td>0.6</td>
<td>0.8</td>
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<tr>
<td>0.3</td>
<td>0.4</td>
<td>0.6</td>
<td>0.8</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**Minimum reveal per door**

- Take into account when determining distance
- Values shown in the table apply to doors with 0 mm radius
- Cup depth 12.8 mm

**Fast-assembly concealed hinge with integrated soft-closing function**

For hinge-arm cover cap and hinge-cup cover cap, see accessories on page 8.

- Cup depth 12.8 mm
- For door thicknesses of 15 - 22 mm
- Cup diameter 35 mm
- Integrated overlay adjustment of ± 2 mm
- Height adjustment at mounting plate
- Cup depth 12.8 mm

**For hinge-arm cover cap and hinge-cup cover cap, see accessories on page 8.**

For technical information, see pages 14 - 17.
Fast-assembly concealed hinge with integrated soft-closing function
Sensys 8639i
Opening angle 95°

- Clip-on concealed hinge with integrated soft-closing function
- For door thicknesses of 15 - 28 mm
- Cup diameter 35 mm
- Integrated overlay adjustment of ± 2 mm
- Integrated depth adjustment of + 3 mm / - 2 mm
- Height adjustment at mounting plate
- Cup depth 12.8 mm

### Cup assembly

<table>
<thead>
<tr>
<th>Screw-on:</th>
<th>Full overlay B 12.5</th>
<th>Half overlay B 3</th>
<th>Inset B -4</th>
<th>PU</th>
</tr>
</thead>
<tbody>
<tr>
<td>TH S2</td>
<td>9 084 995</td>
<td>9 084 996</td>
<td>9 084 997</td>
<td>200</td>
</tr>
</tbody>
</table>

- Press-in:
  - TH 53
  - Flash fast assembly: TH 54
  - Fix fast assembly: THS 55

### Fast-assembly concealed hinge with integrated soft-closing function

Minimum reveal per door - take into account when determining distance

<table>
<thead>
<tr>
<th>Values shown in the table apply to doors with 0 mm radius</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radius 1 mm: Values shown in table - 0.4 mm</td>
</tr>
<tr>
<td>Radius 3 mm: Values shown in table - 1.0 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Distance D mm</th>
</tr>
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<tbody>
<tr>
<td>3</td>
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<td>4</td>
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<tr>
<td>4.5</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>6</td>
</tr>
</tbody>
</table>

### Opening angle 95°

- Flash fast assembly:
  - THS 55

- Press-in:
  - TS 53
- Fix fast assembly:
  - TS 52

For hinge-arm cover cap and hinge-cup cover cap, see accessories on page 38

For technical information, see pages 14 - 17

For mounting plates, see page 36
Fast-assembly concealed hinge with integrated soft-closing function
Sensys 8639i W30
for 30° face angle applications, opening angle 95°

- Clip-on concealed hinge with integrated soft-closing function
- For corner cabinets with 30° face angle
- For door thicknesses of 15 - 28 mm
- Cup diameter 35 mm
- Integrated overlay adjustment of ± 2 mm
- Integrated depth adjustment of + 3 mm / – 2 mm
- Height adjustment at mounting plate
- Cup depth 12.8 mm

For hinge-arm cover cap and hinge-cup cover cap, see accessories on page 38

For mounting plates, see page 36
For technical information, see pages 14 - 17

<table>
<thead>
<tr>
<th>Cup assembly</th>
<th>Full overlay</th>
<th>Inset</th>
<th>PU</th>
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<td>Screw-on:</td>
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<td></td>
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<tr>
<td>TH 52</td>
<td>9 085 166</td>
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<tr>
<td>Press-in:</td>
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</tr>
<tr>
<td>TH 53</td>
<td>9 085 171</td>
<td>9 085 172</td>
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<td>TH 54</td>
<td>9 085 176</td>
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</tr>
<tr>
<td>THS 55</td>
<td>9 085 336</td>
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Cup distance

<table>
<thead>
<tr>
<th>C mm</th>
<th>Door thickness mm</th>
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<tr>
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<td>27</td>
<td>28</td>
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</tbody>
</table>

Minimum reveal per door – take into account when determining distance
Values shown in the table apply to doors with 0 mm radius

- Cup distance C (3 - 6 mm), the door overlay can be measured directly from
- The individual distance lines.
- The position for attaching the mounting plate is determined by measuring
- along the chosen distance line from the cabinet front edge to the applicable centre line.
- For inset-mounted doors, the minimum reveal must be selected from the table
- in relation to door thickness and distance C.

A door thickness of 22 mm with radii, for example, reduces the minimum reveal as follows:

Radius 1 mm: Values shown in table - 0.4 mm
Radius 3 mm: Values shown in table - 1.6 mm

Calculating distance

Overlay: Distance D = 0.87 x C + B - A = 0.87 x [cup distance C + 2 mm - overlay A]
Inset: Distance D = 0.87 x C + B + I = 0.87 x [cup distance C + 16 mm + reveal A]

Overlay application

- Inside cabinet side panel for D 5 mm
- for D 3 mm
- for D 1.5 mm
- for D 0 mm

Inset application

- Inside cabinet side panel for D 5 mm
- for D 3 mm
- for D 1.5 mm
- for D 0 mm

For technical information, see pages 14 - 17
Fast-assembly concealed hinge with integrated soft-closing function
Sensys 8639i W45
for 45° face angle applications, opening angle 95°

- Clip-on concealed hinge with integrated soft-closing function
- For corner cabinets with 45° face angle
- For door thicknesses of 15 – 28 mm
- Cup diameter 35 mm
- Integrated overlay adjustment of ± 2 mm
- Integrated depth adjustment of + 3 mm / – 2 mm
- Height adjustment at mounting plate
- Cup depth 12.8 mm

Cup assembly

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<tr>
<th>Screw-on:</th>
<th>Full overlay B – 2</th>
<th>Inset B – 25</th>
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<td>TH 52</td>
<td>9 085 168</td>
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<td>Press-in:</td>
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</tr>
<tr>
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<td>Flash fast assembly: THS 55</td>
<td>9 085 178</td>
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<tr>
<td>Fix fast assembly: THS 55</td>
<td>9 085 338</td>
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Cup distance C mm

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<th>Door thickness mm</th>
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</thead>
<tbody>
<tr>
<td>Minimum reveal per door (mm)</td>
<td>1.7</td>
<td>1.9</td>
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<td>Values in the table apply to doors with 0 mm radius</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radius 1 mm: Values shown in table - 0.4 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radius 3 mm: Values shown in table - 1.0 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Calculating distance

**Inset:**

<table>
<thead>
<tr>
<th>Distance D = 0.71 x (C + B - A) = 0.71 x (cup distance C - 2 mm - overlay A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overlay:</td>
</tr>
<tr>
<td>Distance D = 0.71 x (C + B - A) = 0.71 x (cup distance C - 2 mm - overlay A)</td>
</tr>
</tbody>
</table>

A door thickness of 22 mm with radii, for example, reduces the minimum reveal as follows:

- Radius 1 mm: Values shown in table - 0.4 mm
- Radius 3 mm: Values shown in table - 1.0 mm

For technical information, see pages 14 - 17

For mounting plates, see page 36
Fast-assembly concealed hinge with integrated soft-closing function
Sensys 8639i W90
for 90° face angle applications, opening angle 95°

- Clip-on concealed hinge with integrated soft-closing function
- For door thicknesses of 15 - 28 mm
- Cup diameter 35 mm
- Integrated adjustment for door offset ±1 / -2 mm
- Integrated reveal adjustment ±3 / -2 mm
- Height adjustment at mounting plate
- Cup depth 12.8 mm

<table>
<thead>
<tr>
<th>Cup assembly</th>
<th>Insert</th>
<th>PU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screw-on:</td>
<td>TH 52</td>
<td></td>
</tr>
<tr>
<td>Press-in:</td>
<td>TH 54</td>
<td></td>
</tr>
<tr>
<td>Fix fast assembly:</td>
<td>THS 55</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>9 085 170</th>
<th>200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screw-on:</td>
<td>9 085 175</td>
<td>200</td>
</tr>
<tr>
<td>Press-in:</td>
<td>9 085 180</td>
<td>200</td>
</tr>
<tr>
<td>Fix fast assembly:</td>
<td>9 085 340</td>
<td>200</td>
</tr>
</tbody>
</table>

For hinge-arm cover cap and hinge-cup cover cap, see accessories on page 38

---

Cup distance

<table>
<thead>
<tr>
<th>Cup distance C mm</th>
<th>Door thickness mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>19</td>
<td>20</td>
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<tr>
<td>21</td>
<td>22</td>
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<td>23</td>
<td>24</td>
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<tr>
<td>25</td>
<td>26</td>
</tr>
<tr>
<td>27</td>
<td>28</td>
</tr>
</tbody>
</table>

Minimum reveal per door - take into account when determining distance
Values shown in the table apply to doors with 0 mm radius

<table>
<thead>
<tr>
<th>Cup distance C mm</th>
<th>Reveal mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>0.3</td>
</tr>
<tr>
<td>4</td>
<td>0.3</td>
</tr>
<tr>
<td>4.5</td>
<td>0.3</td>
</tr>
<tr>
<td>5</td>
<td>0.3</td>
</tr>
<tr>
<td>6</td>
<td>0.3</td>
</tr>
</tbody>
</table>

A door thickness of 22 mm with radii, for example, reduces the minimum reveal as follows:
Radius 1 mm: Values shown in table - 0.4 mm
Radius 3 mm: Values shown in table - 1.0 mm

Calculation of required mounting-plate distance (D)
and hole-line distance (X) to be observed:
The measurements must be taken from the drawing in accordance with the required door offset (T), cup distance (C) and reveal (F).

Distance D = B - T = 4 mm - door offset T
(For mounting plates with hole line LR 28)

The hole offset can be adjusted with the setting screw.

Hole-line distance X = 38.5 mm - cup distance C - reveal F
(For mounting plates with hole line LR 37)

The reveal can be adjusted via the adjustment element.

Mounting example

For mounting plates, see page 36
For technical information, see pages 14 - 17
Fast-assembly hinge with integrated soft-closing function
Sensys 8638i
for aluminium framed doors, opening angle 95°

- Clip-on concealed hinge with integrated soft-closing function
- For 19 x 20 mm aluminium framed doors
- Integrated overlay adjustment of ± 2 mm
- Integrated depth adjustment of + 3 mm / - 2 mm
- Height adjustment at mounting plate
- Includes 2 hinge fixing screws

Cup assembly

<table>
<thead>
<tr>
<th>Screw-on:</th>
<th>Full overlay B 12.5</th>
<th>Half overlay B 3</th>
<th>Inset B -4</th>
<th>PU</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 071 421</td>
<td>9 071 422</td>
<td>9 071 423</td>
<td>200</td>
<td></td>
</tr>
</tbody>
</table>

For hinge-arm cover cap, see accessories on page 38

For mounting plates, see page 36
For technical information, see pages 14 - 17
The Sensys mounting plate
Multi-compatible

The compatibility advantage

Sensys mounting plates can also be used with all Intermat fast-assembly hinges. For furniture manufacturers and especially kitchen manufacturers, this means cost savings thanks to a leaner production process. The same mounting plate can be used for all the cabinets in different product ranges and price categories. Differentiation, through selecting hinges with different features, takes place only towards the end of the production process. This represents a significant gain in flexibility for manufacturers. The new mounting plate makes it easier to offer optional, integrated or no dampening in line with pricing policy for each product range. It’s also easy to upgrade a product already in production at short notice, e.g., for special marketing campaigns. In addition, all of the mounting options in the Intermat hinge range can be used to expand the Sensys hinge range.
Fast-assembly concealed hinge
Intermat 9956
Opening angle 165°

- Concealed hinge for snap-on attachment
- Snap-on Silent System must be ordered separately, see next page
- For door thicknesses of 16 mm and over
- Cup diameter 35 mm
- Ideal reveals (hairline reveal)
- Integrated overlay adjustment of +1/-2.5 mm
- Integrated depth adjustment 4 mm
- Height adjustment at mounting plate
- Cup depth 11.6 mm

Cup assembly

<table>
<thead>
<tr>
<th>Screw-on:</th>
<th>TH 52</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press-in:</td>
<td>TH 53</td>
</tr>
<tr>
<td>Fix fast assembly:</td>
<td>TH 54</td>
</tr>
<tr>
<td>Fix fast assembly:</td>
<td>THS 55</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C</th>
<th>B 12.5</th>
<th>B 3</th>
<th>PU</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 084 697</td>
<td>9 084 688</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>9 084 701</td>
<td>9 084 702</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>9 084 705</td>
<td>9 084 706</td>
<td>200</td>
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<tr>
<td>9 084 777</td>
<td>9 084 778</td>
<td>200</td>
<td></td>
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</tbody>
</table>

For hinge-arm cover cap, see accessories on page 38

For fitting instructions, see accessories on page 40

For technical information, see pages 14 - 17

For mounting plates, see page 36

For hinge-arm cover cap, see page 38

9 084 643 100
Fast-assembly concealed hinge for corner cabinet folding doors
Intermat 9930
Opening angle 50°/65°

- Concealed hinge for snap-on attachment
- Cup diameter 35 mm
- Integrated overlay adjustment, see sketch
- Integrated depth adjustment, see sketch
- Diagonal adjustment = 9.5 mm / - 9.5 mm
- Cup depth 12.8 mm
- Cup distance C up to 6 mm

For hinge-arm cover cap and hinge-cup cover cap, see accessories on page 38

TS 56

Euro screws:
With premounted

9 090 053 200

Fix fast assembly:

9 090 062 200

Flash fast assembly:

9 090 058 200

Press-in:

9 090 051 200

Screw-on:

9 090 057 200

TB 56

Euro screws:
With premounted

9 090 053 200

9 090 053 200

9 090 047 200

Flash fast assembly:

9 090 050 200

TB 54

Flash fast assembly:

TB 53

9 090 048 200

Screw-on:

TH 56

Euro screws:
With premounted

9 090 053 200

9 090 053 200

9 090 047 200

Flash fast assembly:

TH 53

9 090 046 200

Press-in:

TH 52

9 090 045 200

For technical information, see pages 14 - 17

Intermat 9930

Cup assembly Corner cabinet PU

Screw-on:

TH S2

9 090 045 200

200

Press-in:

TH S3
Fix fast assembly:

TH S4

9 090 046 200

200

9 090 047 200

200

9 090 053 200

200

Cup assembly

- Identical door elements
- No cutaway required in cup drillings
- Simple adaption to door thickness by diagonal adjustment
- Hole line distance in attached door 32 mm or 41 mm

Calculating the required mounting plate distance (D):

For cup distance (C) =
4.5 mm: Distance (D) = 0 mm
3.0 mm: Distance (D) = 1.5 mm
2.5 mm: Distance (D) = 3.0 mm

Other cup distances can be compensated for by the depth and diagonal adjustment.

Calculating the door width:

Door width = cabinet width – reveal F – door thickness

Calculating the required mounting plate distance (D):

depends on cup distance (C)

For cup distance (C) =
4.5 mm: Distance (D) = 0 mm
3.0 mm: Distance (D) = 1.5 mm
2.5 mm: Distance (D) = 3.0 mm

Other cup distances can be compensated for by the depth and diagonal adjustment.

Features

- All cup drillings in one door
- Hairline reveal possible between door elements
- No cutaway required in cup drillings
- Identical cup distance on both sides of attached door
- Hole line distance in free door 28 mm or 37 mm

Calculating the door width:

Door width = cabinet width – reveal F – door thickness

Features

- Centre reveal
- No cutaway required in cup drillings
- Simple adaption to door thickness by diagonal adjustment
- Hole line distance in attached door 32 mm or 41 mm

Calculating the required mounting plate distance (D):

For cup distance (C) =
4.5 mm: Distance (D) = 0 mm
3.0 mm: Distance (D) = 1.5 mm
2.5 mm: Distance (D) = 3.0 mm

Other cup distances can be compensated for by the depth and diagonal adjustment.

Features

Diagonal adjustment

Depth adjustment

+0.5

–3.0

For mounting plates, see page 36

For technical information, see pages 14 - 17
Mounting plate system 8099
for Sensys and Intermat hinges

<table>
<thead>
<tr>
<th>Article</th>
<th>Hole dimeter: ø 10 x 12 mm</th>
<th>Hole distance: 32 mm</th>
<th>Material: zinc die cast</th>
<th>Height adjustment: ± 1.6 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screw-on cross mounting plate</td>
<td>- For attachment: countersunk wood screws ø 3.5 mm x 16 mm</td>
<td>- Height adjustment: ± 2 mm</td>
<td>- Hole distance: 32 mm</td>
<td>- Hole diameter: ø 10 x 12 mm max.</td>
</tr>
<tr>
<td>Cross mounting plate with expanding dowels</td>
<td>- For attachment with premounted press-in plugs</td>
<td>- Height adjustment: ± 2.5 mm</td>
<td>- Hole diameter: ø 10 x 12 mm</td>
<td>- Hole distance: 32 mm</td>
</tr>
</tbody>
</table>

Accessories
for Sensys and Intermat hinges

<table>
<thead>
<tr>
<th>Article</th>
<th>Hole dimeter: ø 10 x 12 mm</th>
<th>Hole distance: 32 mm</th>
<th>Material: zinc die cast</th>
<th>Height adjustment: ± 1.6 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angled spacer plates for cross mounting plates</td>
<td>- Material: zinc die cast</td>
<td>- Height adjustment: ± 1.6 mm</td>
<td>- For attachment: countersunk wood screws ø 3.5 mm x 16 mm</td>
<td>- Height adjustment: ± 2.5 mm</td>
</tr>
</tbody>
</table>

*) Only the 5° angled spacer plate can be stacked, i.e. mounted on top of another angled spacer plate.
Accessories for Sensys and Intemat hinges

**Senys hinge arm cover cap**
- Steel, nickel-plated for Sensys

**Hinge-cup cover cap**
- Steel, nickel-plated for Intemat 9956
- Not for Intemat 9936

**Cup spacer**
- For reducing drill hole depth in thin or highly softened doors
- Cup spacer is fitted between door and cup and lifts the cup out of the doors by amount of its thickness
- Cup spacer only used for TH52
- Mounted using 3.5 mm dia. x 20 mm countersunk chipboard screws (instead of the screws used for mounting the simple hinge, D3.5 mm dia. x 16 mm) in wooden doors
- Transparent plastic

**Opening angle stop**
- The opening angle stop (OAS) reduces the opening angle
- For doors with neighbouring or protruding elements to prevent damage to fronts
- Opening angle 165° – the M6 x 12 mm adjusting screw can be used for reducing the opening angle to 130° by infinitely variable amounts

<table>
<thead>
<tr>
<th>Version</th>
<th>Order no.</th>
<th>PU</th>
</tr>
</thead>
<tbody>
<tr>
<td>without Hettich logo</td>
<td>9 082 612</td>
<td>200</td>
</tr>
<tr>
<td>with Hettich logo</td>
<td>9 082 774</td>
<td>200</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cup version</th>
<th>X mm</th>
<th>Y mm</th>
<th>Order no.</th>
<th>PU</th>
</tr>
</thead>
<tbody>
<tr>
<td>for TH52, TH53, TH54</td>
<td>68.2</td>
<td>4.5</td>
<td>9 082 614</td>
<td>200</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Drilling pattern</th>
<th>Thickness in mm</th>
<th>Order no.</th>
<th>PU</th>
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</thead>
<tbody>
<tr>
<td>TH</td>
<td>1.8</td>
<td>9 072 980</td>
<td>200</td>
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<tr>
<td>TH</td>
<td>2.7</td>
<td>9 072 981</td>
<td>200</td>
</tr>
</tbody>
</table>

**Mounting opening angle stop for Sensys hinges**
8645i, 110° > 85° and 8639i, 95° > 85°
Insert screwdriver into the slot in the opening angle stop. Using the screwdriver, position opening angle stop under the lever. Push opening angle stop in as far as possible. Slowly close hinge while gently pushing towards lever. Opening angle stop engages with an audible “click”. The hinge is now limited to an opening angle of 85°. The opening angle stop is removed by performing the above procedure in reverse order.

**Mounting opening angle stop for Sensys aluminium frame hinges**
8638i, 95° > 85°
Position opening angle stop on rivet. Press opening angle stop down. Opening angle stop is engaged. The hinge is now limited to an opening angle of 85°.

**Mounting snap-on Silent System for Intemat 9956**
- Only 1 Silent System required for 2 hinges
Slide on Silent System in the centre section of the wide-angle hinge and press down lightly until it can be heard to click into place.

<table>
<thead>
<tr>
<th>Order no.</th>
<th>PU</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 084 643</td>
<td>100</td>
</tr>
</tbody>
</table>

**Accessories for Sensys and Intemat hinges**