Reliable hinge
in the RTA segment. **Minimat**

Technik für Möbel

Hettich

Minimat
More ways of making a distinction

Minimat is synonymous with first-class quality that lasts. The new design of the established door hinge has been developed specifically for the ready-to-assemble segment and provides enormous creative potential for delicate furniture design. Its shallow cup depth permits the use of thin furniture fronts. This makes it just as easy to capture the trend towards more individuality as it does to make a mark of distinction through high-quality hinge and mounting-plate design.

The technology is perfectly geared to application and installation. Its double spring action makes the Minimat ideal for use in conjunction with internal drawers and ensures that furniture doors are reliably opened and closed every time. What's more, it can be used to replace the predecessor model without changing the drill holes. Drill-hole tolerances are simply concealed by the rim of the new hinge cup. Provided with 3-way adjustability, furniture doors are just as easy to align and position. The hinge is mounted by means of the established keyhole technique.

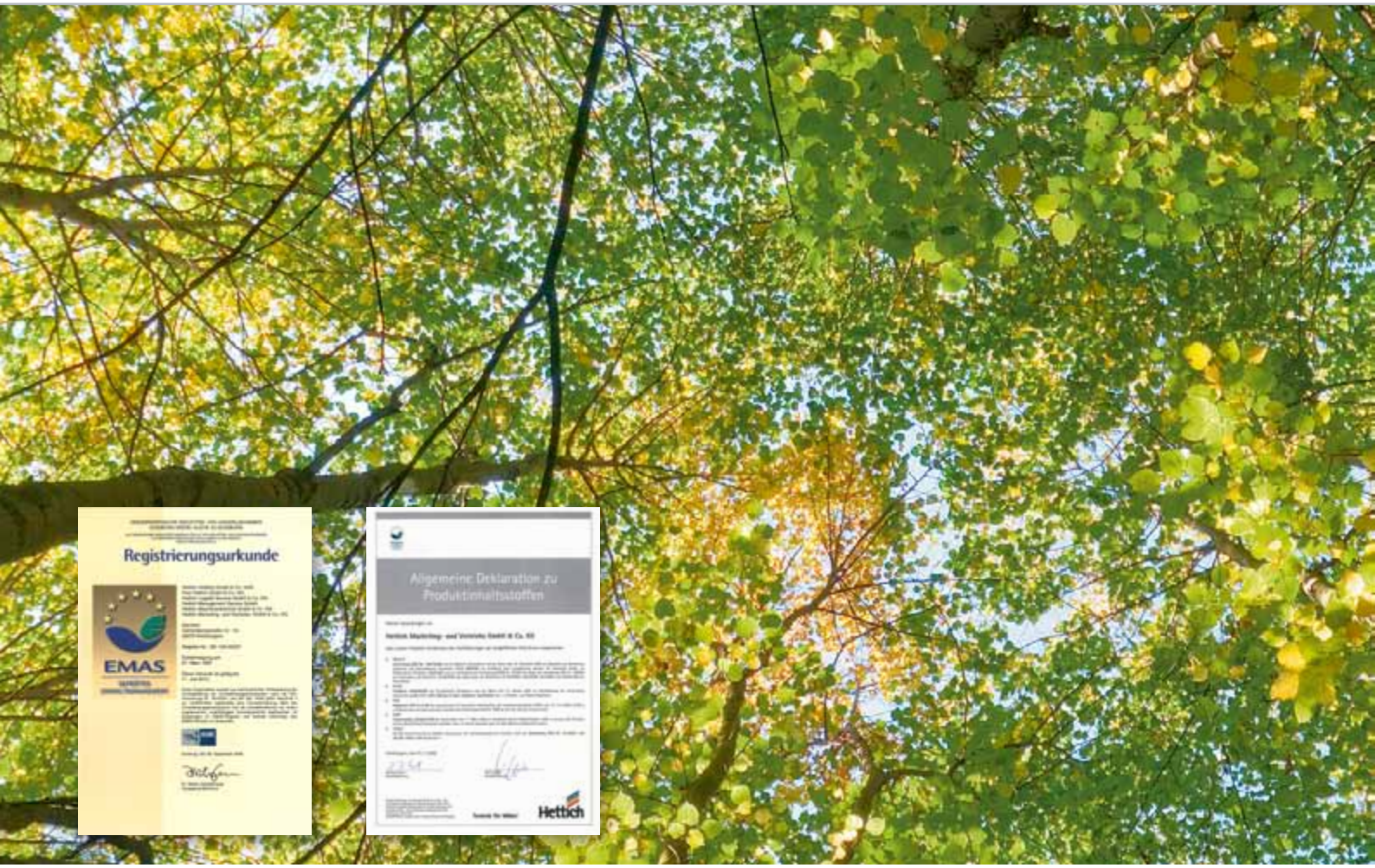
Minimat
The benefits at a glance

Alignment towards
designer-look furniture
in the RTA segment

On request, Minimat hinges can be supplied with direct fixing screws ready mounted in plate and hinge cup, or packed in bags. The high level of prefabrication lends itself to ready-to-assemble furniture in particular.


+2 / -2 mm depth adjustment
for millimetre-precision door
alignment
Hinge cup with rim
to compensate for
drill-hole tolerances
Integrated overlay adjustment
+0 / -6 mm for perfect reveal
alignment
+2 / -2 mm height adjustment
for aligning furniture fronts
Shallow cup depth:
10 mm

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 manage ment 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 CO_2 emissions:	29 per cent

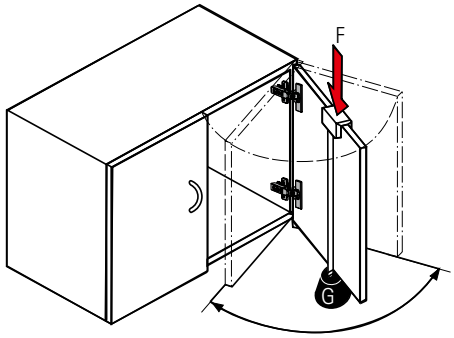
Minimat
Quality that meets all of demands

The Minimat hinges are constantly monitored for quality. The varying quality standards demanded by different markets and segments are each taken into account. The diagrams below show examples of some of the testing processes and what they involve.

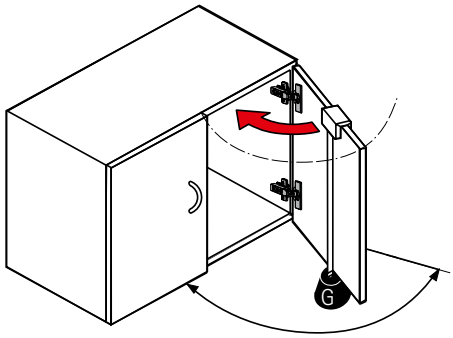
Quality criteria

- Life cycle test over 40,000 cycles
- Closing test with an additional weight of 3 kg
- Load test in horizontal direction with 30 N
- Load test in vertical direction with 150 N

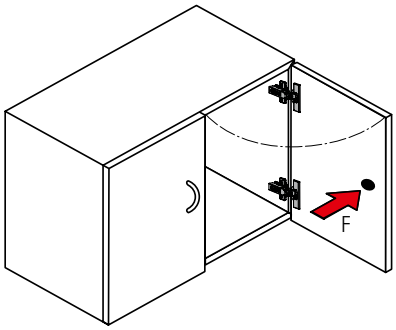
Life cycle test
The door must withstand a defined number of opening and closing cycles with a defined additional load G.



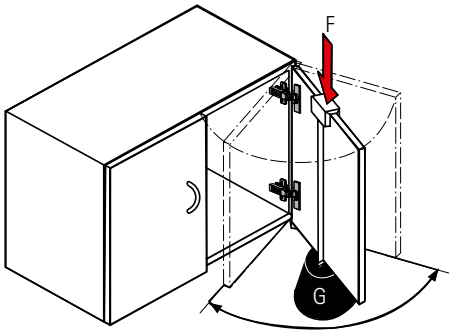
Closing test
The door is opened by 30° with a defined additional load of G and pushed closed from this position by means of the falling weight.



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

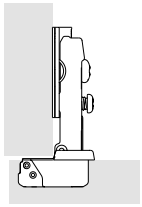


Vertical test
This is where the door is subjected to specific number of opening and closing cycles under a defined additional load G.



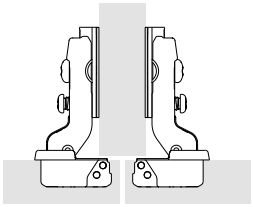
Mini hinge
Minimat
Technical information

Mounting options



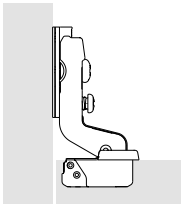
Full overlay

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.



Half-overlay

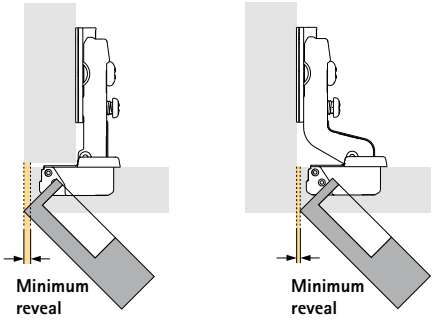
This is where two doors are positioned in front of a cabinet centre panel, with the required overall reveal between them. Each door has a reduced overlay, and cranked hinges are used.



Inset

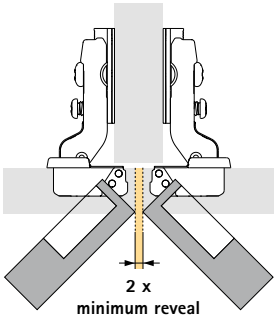
The door is positioned inside the cabinet, i.e. next to the cabinet side. This mounting style also requires a reveal for the door to open reliably. Highly cranked hinges are used.

Minimum door reveal



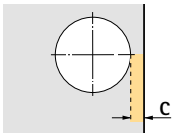
The minimum reveal (also known as door clearance or minimum clearance) is the space required at the side for opening a door.
The size of the minimum reveal depends on the cup distance C, the door thickness and the type of hinge selected.
Radii on the door edges reduce the minimum clearance.
The required minimum reveal is shown in the table for the respective hinge types.

Minimum door reveal at centre panel



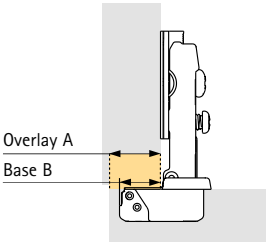
For half-overlay applications, the total reveal selected between the doors must be at least twice the door clearance. Both doors can then be opened at the same time.

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.

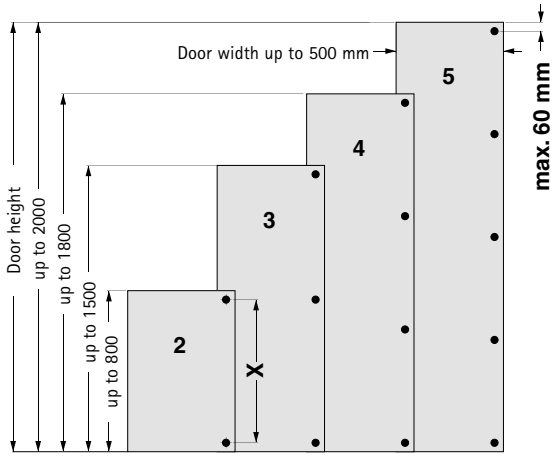
Overlay (door overlay) / base



Overlay refers to the projection of the door in front of the cabinet side.
Base refers to the projection of the cup in front of the cabinet side for a mounting-plate distance of -0.5.

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.



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

General determination of distances

Mounting plates are available in various distances (-0.5/1.5 and 3 mm). The 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 door 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 determined from 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 = 15 mm and cup distance C = 4.5 mm produce a distance D of 1.5 mm. This distance is available as mounting plate.

Cup distance C mm	Overlay mm							
	10	11	12	13	14	15	16	17
	Distance D mm							
3	5.0	4.0	3.0	2.0	1.0			
4	6.0	5.0	4.0	3.0	2.0	1.0		
4.5	6.5	5.5	4.5	3.5	2.5	1.5	0.5	
5	7.0	6.0	5.0	4.0	3.0	2.0	1.0	
5.5	7.5	6.5	5.5	4.5	3.5	2.5	1.5	0.5

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 = 14 mm and cup distance C = 3 mm produce a distance of 1 mm. When using a mounting plate with a distance = 0 mm, overlay is adjusted by - 1 mm.

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.

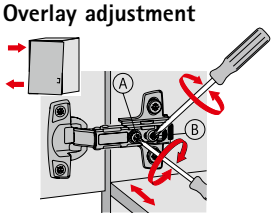
Example:
From the table, a door thickness = 17 mm and cup distance C = 4 mm produces a mounting-plate distance of 1.5 mm. This creates the required minimum reveal of 1.5 mm.

Cup distance C mm	Door thickness mm										
	15	16	17	18	19	20	21	22	23	24	25
	Distance D mm										
3		0.2	0.7	1.6	2.4	3.3	4.2	5.2	6.1	7.0	8.0
4	0.9	1.2	1.5	2.2	3.0	3.8	4.7	5.6	6.5	7.4	8.3
4.5	1.4	1.6	2.0	2.5	3.2	4.1	4.9	5.8	6.7	7.6	8.5
5	1.9	2.1	2.4	2.9	3.6	4.3	5.2	6.0	6.9	7.8	8.7
5.5	2.3	2.6	2.9	3.3	3.9	4.7	5.5	6.3	7.1	8.0	8.9

If a reveal of 3 mm is preferred instead, however, the mounting-plate distance selected must be 1.5 mm greater. In this example, therefore, a distance of 3 mm instead of 1.5 mm.

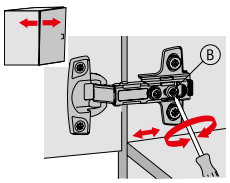
Intermediate distances not available as mounting-plate distances are achieved by adjusting the hinge overlay.

Overlay adjustment



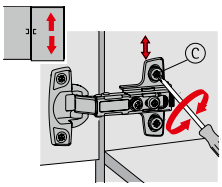
Slightly loosen screw (B), turn overlay adjustment screw (A). Turn screw clockwise: Door overlay is reduced. Turn screw anticlockwise: Door reveal is increased
Now retighten screw (B).

Depth adjustment



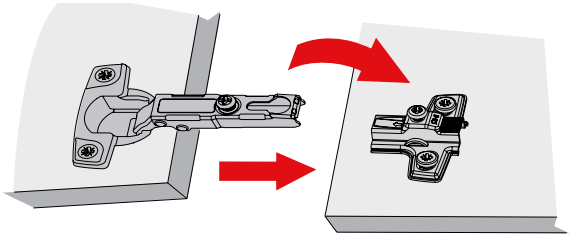
Loosen fixing screw (B) and adjust the gap between door and side of cabinet. Now retighten fixing screw.

Height adjustment



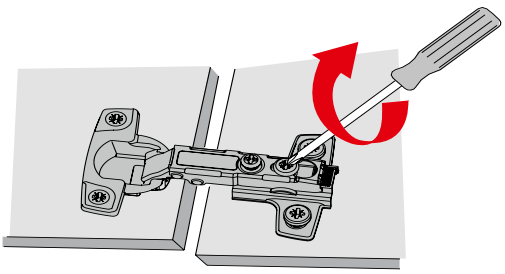
Slightly loosen mounting-plate fixing screws (C) and align door height. Now retighten fixing screws.

The keyhole in the side section of the hinge is fitted over the premounted screw on the mounting plate and pushed back.

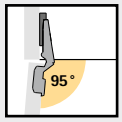


As a general rule, hinges are mounted from top to bottom.
Once fitted, the top-most hinge takes part of the door's weight.
Hinges are removed in the opposite order, i.e. from bottom to top.

The screw is now tightened when the door is positioned at the required depth.

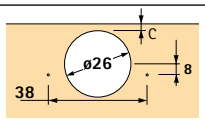
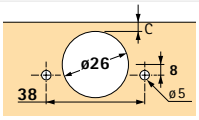


Mini hinge
Minimat 6234
Opening angle 95°



· Keyhole installation
· Cup diametre 26 mm
· Cup depth 10 mm
· Cup with rim
· +2 mm / -2 mm height adjustment at mounting plate
· +2 mm / -2 mm depth adjustment
· +0 mm / -6 mm overlay adjustment
· Cup distance C: 3.0 - 5.5 mm

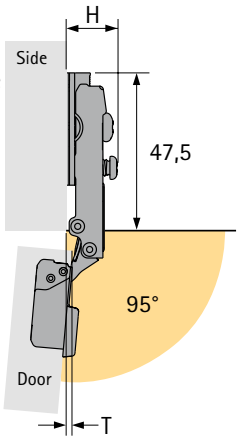


Cup installation		Full overlay B12	Half overlay B4	Inset B -4	PU
Screw-on **T52**		9 073 391	9 073 392	9 073 393	500
Screw-on with pre-mounted direct fixing screws **T56**		9 073 394	9 073 395	9 073 396	500

Cup distance C mm	Door thickness mm 15	16	17	18	19	20	21	22	23	24	25
	Minimum reveal per door – take into account when determining distance Values shown in the table apply to doors with 0 mm radius										
3	0.9	1.2	1.7	2.6	3.4	4.3	5.2	6.2	7.1	8.0	9.0
4	0.9	1.2	1.5	2.2	3.0	3.8	4.7	5.6	6.5	7.4	8.3
4.5	0.9	1.1	1.5	2.0	2.7	3.6	4.4	5.3	6.2	7.1	8.0
5	0.9	1.1	1.4	1.9	2.6	3.3	4.2	5.0	5.9	6.8	7.7
5.5	0.8	1.1	1.4	1.8	2.4	3.2	4.0	4.8	5.6	6.5	7.4

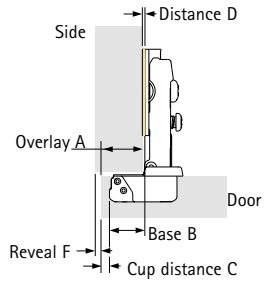
A door thickness of 22 mm with radius, for example, reduces the minimum reveal as follows:
Radius 1 mm: Values shown in table - 0.4 mm
Radius 3 mm: Values shown in table - 1.0 mm

Hinge protrusion H/ door protrusion T for -0.5 mm distance and 3 mm cup distance



Mounting options	H mm	T mm
Full overlay	17.5	2.2
Half overlay	20.0	10.2
Inset	28.0	18.2

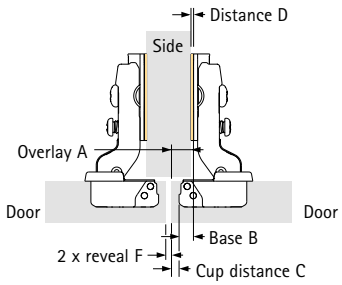
Full overlay



Cup distance C mm	Overlay mm 10	11	12	13	14	15	16	17
	Distance D mm							
3	5.0	4.0	3.0	2.0	1.0			
4	6.0	5.0	4.0	3.0	2.0	1.0		
4.5	6.5	5.5	4.5	3.5	2.5	1.5	0.5	
5	7.0	6.0	5.0	4.0	3.0	2.0	1.0	
5.5	7.5	6.5	5.5	4.5	3.5	2.5	1.5	0.5

Distance D = C + B – A = cup distance C + 12 mm – overlay A

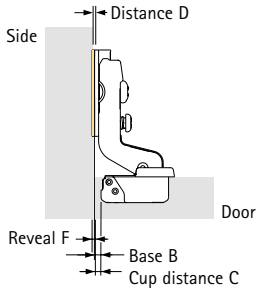
Half-overlay



Cup distance C mm	Overlay mm 0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5
	Distance D mm								
3	6.5	5.5	4.5	3.5	2.5	1.5	0.5		
4	7.5	6.5	5.5	4.5	3.5	2.5	1.5	0.5	
4.5	8.0	7.0	6.0	5.0	4.0	3.0	2.0	1.0	
5	8.5	7.5	6.5	5.5	4.5	3.5	2.5	1.5	0.5
5.5	9.0	8.0	7.0	6.0	5.0	4.0	3.0	2.0	1.0

Distance D = C + B – A = cup distance C + 4.0 mm – overlay A

Inset

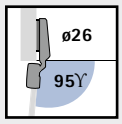


Cup distance C mm	Door thickness mm 15	16	17	18	19	20	21	22	23	24	25
	Distance D mm										
3		0.2	0.7	1.6	2.4	3.3	4.2	5.2	6.1	7.0	8.0
4	0.9	1.2	1.5	2.2	3.0	3.8	4.7	5.6	6.5	7.4	8.3
4.5	1.4	1.6	2.0	2.5	3.2	4.1	4.9	5.8	6.7	7.6	8.5
5	1.9	2.1	2.4	2.9	3.6	4.3	5.2	6.0	6.9	7.8	8.7
5.5	2.3	2.6	2.9	3.3	3.9	4.7	5.5	6.3	7.1	8.0	8.9

Distance D = C + B + F = cup distance C – 4.0 mm + reveal F

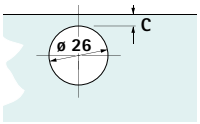
For technical information, see pages 8 - 9
For mounting plates, see page 14
For accessories, see page 15

Mini hinge for glass doors
Minimat 6204
Opening angle 95°



· Keyhole installation
· Cup diametre 26 mm
· +2 mm / -2 mm height adjustment at mounting plate
· +2 mm / -2 mm depth adjustment
· +0 mm / -6 mm overlay adjustment
· Glass door thickness: 4.0 - 6.0 mm
· Cup distance C: 5.5 - 6.0 mm



Cup installation		Full overlay B12	Half overlay B4	Inset B -4	PU
Screw-on **T1**		9 076 460	9 076 461	9 076 462	500

Cover cap A

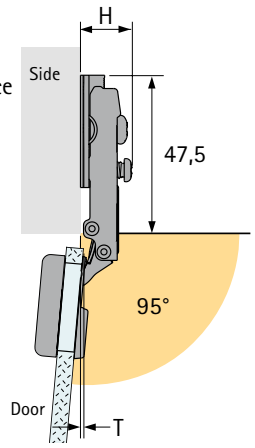
Finish	Order no. *)	PU
polished gold-plated	1 006 478	1000
matt gold-plated	1 006 640	1000
polished nickel-plated	1 006 473	1000
black	1 007 984	1000
matt nickel-plated	1 006 639	1000
metallic brown	1 006 778	1000

Cover cap B

Finish	Order no. *)	PU
polished gold-plated	1 006 466	1000
matt gold-plated	1 006 638	1000
polished nickel-plated	1 006 521	1000
black	1 006 615	1000
matt nickel-plated	1 006 637	1000
metallic brown	1 006 519	1000

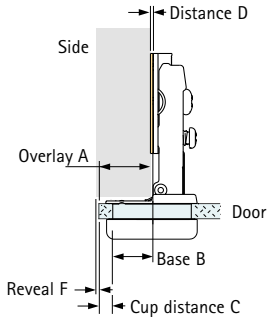
*) Order numbers refer to complete sets and, in addition to the cover cap itself, also include one cap mount and two fixing screws.

Hinge protrusion H/
door protrusion T
for -0.5 mm distance
and -0.5 mm
cup distance



Mounting options	H mm	T mm
Full overlay	17.5	1.5
Half overlay	20.0	9.5
Inset	28.0	17.5

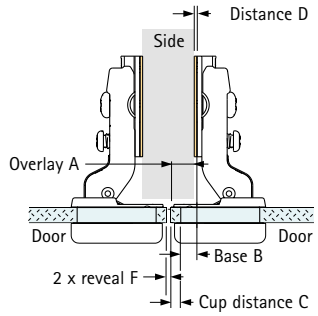
Full overlay



Cup distance C mm	Overlay mm 10	11	12	13	14	15	16	17	18
	Distance D mm								
5.5	7.5	6.5	5.5	4.5	3.5	2.5	1.5	0.5	-0.5
6.0	8.0	7.0	6.0	5.0	4.0	3.0	2.0	1.0	0.0

Distance D = C + B – A = cup distance C + 12 mm – overlay A

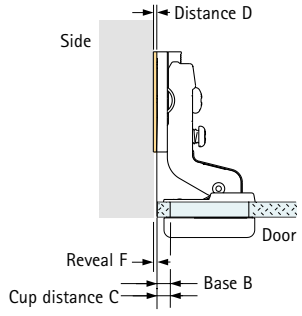
Half-overlay



Cup distance C mm	Overlay mm 1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.0	9.5	10.0
	Distance D mm										
5.5	8.0	7.0	6.0	5.0	4.0	3.0	2.0	1.0	0.5	0.0	-0.5
6.0	8.5	7.5	6.5	5.5	4.5	3.5	2.5	1.5	1.0	0.5	0.0

Distance D = C + B – A = cup distance C + 4.0 mm – overlay A

Inset

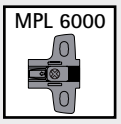


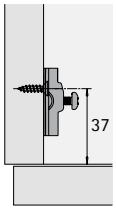
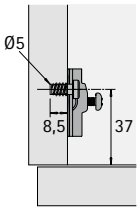
Cup distance C mm	Glass door thickness mm 4.0	4.5	5.0	5.5	6.0
	Distance D mm				
5.5	3.0	3.0	3.0	3.0	3.0
6.0	3.5	3.5	3.5	3.5	3.5

Distance D = C + B + F = cup distance C – 4.0 mm + 1.5 mm

For technical information, see pages 8 - 9
For mounting plates, see page 14
For accessories, see page 15

Mounting plate system 6000
for Minimat hinges



Article			Hole line mm	Distance mm	Order no.	PU
Screw-on cross mounting plate · Attachment by countersunk wood screws ø 4.5 mm x 16 mm · Hole distance: 32 mm · Height adjustment: +2 mm / -2 mm · Hole diametre: ø 2.5 mm max.			37	-0.5	9 077 431	500
				1.5	9 077 432	500
				3.0	9 077 433	500
Screw-on cross mounting plate · Attachment by pre-mounted direct fixing screws (Euro screws) · Hole distance: 32 mm · Height adjustment: +2 mm / -2 mm · Hole diametre: ø 5 x 8.5 mm			37	-0.5	9 077 435	500
				1.5	9 077 436	500
				3.0	9 077 437	500

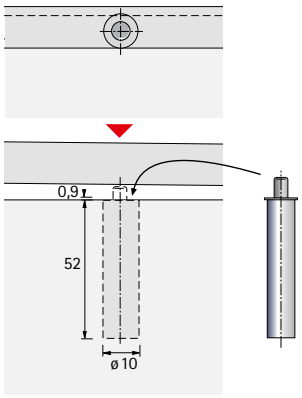
Accessories
Silent System for Minimat hinges

Drill-in version
for overlay doors

Housing:
Plastic, grey

Article	Order no.	PU
Silent System Universal drill-in	9 051 557	1000

Installation

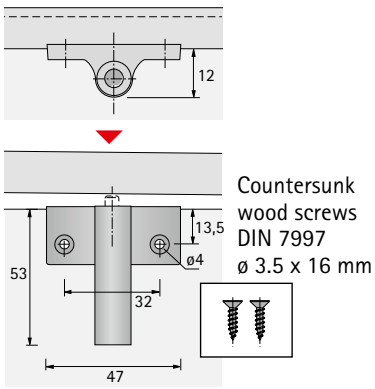


Screw-on version
for overlay doors

Housing:
Plastic, grey

Article	Order no.	PU
Silent System Universal drill-in/screw-on	9 051 577 *)	1000

Installation



Countersunk
wood screws
DIN 7997
ø 3.5 x 16 mm

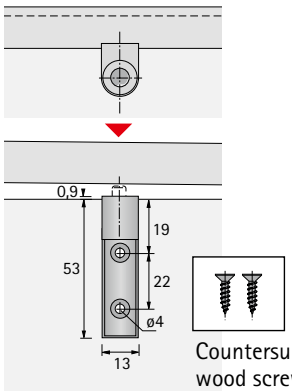
Screw-on version
for overlay and inset doors

Housing:
Plastic, grey

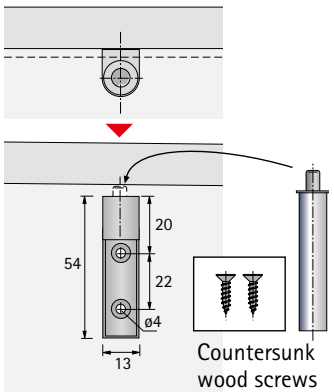
Article	Order no.	PU
Silent System Universal screw-on for overlay doors	9 051 581 *)	1000
Silent System Universal screw-on for inset doors	9 046 994 *)	1000

**) This item no. refers to the adapter. For a complete door damping system, order an adapter plus Silent System Universal drill-in (9 051 557).*

Installation

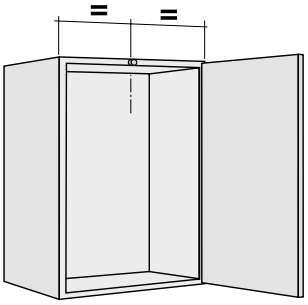


Countersunk
wood screws
DIN 7997
ø 3.5 x 16 mm



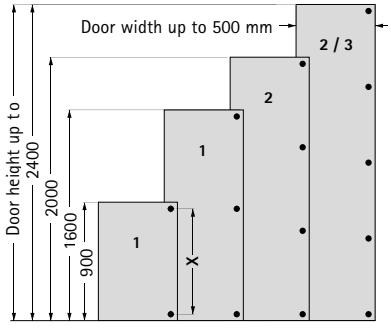
Countersunk
wood screws
DIN 7997
ø 3.5 x 16 mm

Installation



Recommended quantity of Silent Systems per door

Guide values for 19 mm chipboard panels with a density of 750 kg/m^3



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1012-010-Minimat-0511-HMV/ENG

Technik für Möbel

Hettich