

# 4

# DOOR HINGES



#### Information



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	Ira	

- 4.3 > classification key
- > door hinges



# Drill-in hinges and recessed hinges for interior and front doors

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## **Butt hinges for interior doors**

Butt hinges for interior doors 4.17





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**Position** 





#### Classification of hinges in compliance with EN 1935:2002

The requirements and test procedures for single-axle butt hinges and hinges with fixed pins for entrance doors and windows are defined in European standard EN 1935:2002 "Architectural hardware, single-axle door and window hinges". The requirements are classified using an 8-digit designation system.

## 8-digit classification key in accordance with EN 1935:2002

Position							
1	2	3	4	5	6	7	8
Hinge class	Durability	Weight of test door	Suitability for use on fire resistant/ smoke control doors	Safety	Corrosion resistance	Security: Forced entry resistance	Hinge grade

#### Meaning of individual positions in classification key:

Meaning

Possible

grades	
1 – 4	1 = light use     (hinges for doors or windows in houses or other residential areas and in buildings in which the doors/windows are infrequently used by persons who are inclined to take care, whereby there is a certain risk of accidents or abuse occurring.)
	2 = medium use (hinges for doors in houses or other residential areas and in buildings in which the doors/windows are fairly frequently used by persons who are inclined to take care, whereby there is a certain risk of accidents or abuse occurring.)
	3 = heavy use (hinges for doors in buildings in which the doors/windows are extremely frequently used by the public or other users who are not inclined to use them carefully, and where there is a high risk of accidents or abuse occurring.)
	4 = extremely heavy use (hinges for doors that are subjected to frequent slamming.)
3 – 4, 7	3 = 10,000 cycles (window hinges)
	4 = 25,000 cycles (window and door hinges)
	7 = 200,000 cycles (door hinges)
0 – 7	0 = 10 kg
	1 = 20 kg
	2 = 40 kg
	3 = 60 kg
	4 = 80 kg
	5 = 100 kg
	6 = 120 kg
	7 = 160 kg
0 – 1	0 = not suitable for use on fire resistant/smoke control doors
	1 = suitable for use on fire resistant/smoke control doors
	3-4,7

Position	Possible grades	Meaning
5 Safety	1	1 = all hinges must meet the basic safe usage requirements. For this reason, only one grade (grade 1) has been defined.
6 Corrosion resistance 0 – 5		0 = no defined corrosion resistance
		1 = low corrosion resistance
		2 = medium corrosion resistance
		3 = high corrosion resistance
		4 = extremely high corrosion resistance
		5 = extraordinarily high corrosion resistance
7 Security: Forced entry	0 – 1	0 = not suitable for use on forced entry resistant doors
resistance		1 = suitable for use on forced entry resistant doors
8 Hinge grade	1 – 14	With increased requirements (see following table)

<sup>\*</sup> The proven fire resistant properties can be found in the relevant report.

## Definition of individual hinge grades:

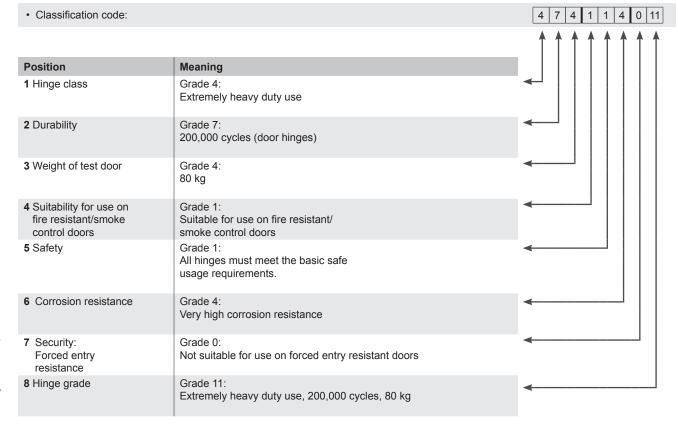
Position				
8 Hinge grade	1 Hinge class	2 Durability	3 Weight of test door	
1	1 (light duty)	3 (10,000 cycles)	0 (10 kg)	
2	1 (light duty)	3 (10,000 cycles)	1 (20 kg)	
3	1 (light duty)	4 (25,000 cycles)	1 (20 kg)	
4	2 (medium duty)	7 (200,000 cycles)	1 (20 kg)	
5	1 (light duty)	3 (10,000 cycles)	2 (40 kg)	
6	1 (light duty)	4 (25,000 cycles)	2 (40 kg)	
7	2 (medium duty)	7 (200,000 cycles)	2 (40 kg)	
8	1 (light duty)	3 (10,000 cycles)	3,000 mm	
9	1 (light duty)	4 (25,000 cycles)	3,000 mm	
10	2 (medium duty)	7 (200,000 cycles)	3,000 mm	
11	3 (heavy duty)	7 (200,000 cycles)	4 (80 kg)	
12	4 (extremely heavy duty)	7 (200,000 cycles)	5 (100 kg)	
13	4 (extremely heavy duty)	7 (200,000 cycles)	6 (120 kg)	
14	4 (extremely heavy duty)	7 (200,000 cycles)	7 (160 kg)	





Example: "Door hinge for flush doors, size 76 mm" (certified in compliance with EN 1935:2002)









## Door hinges - subdivision

The hinges in this catalogue are subdivided into the following groups:

#### **Drill-in hinges**

- > Wing parts and frame parts for interior doors
- > Drill-in hinges for interior and front doors
- > Recessed hinges for front doors

#### **Butt Hinges**

- > Butt hinges for interior and front doors
- > Drill-in hinges and butt hinges
- > Spring hinges for interior doors
- > Double action spring hinges for interior doors
- > Concealed mortice hinges
- > Butt hinges for architectural doors

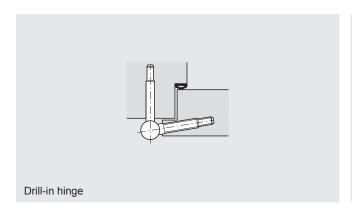
The section of Drill-in hinges and recessed hinges includes all door hinges where components are drilled or recessed into door panels and door frames.

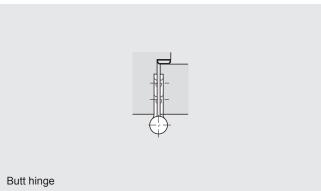
The section Frame and wing parts contains individual components of door hinges, where only the combination thereof make up a complete door hinge.

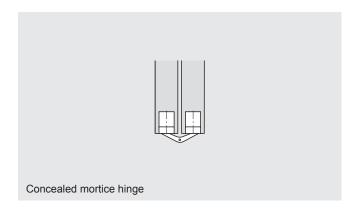
2-piece and 3-piece frame and wing parts can be combined into door hinges for steel and for wooden frames.

Butt hinges are not fixed in the door frame or door panel, they are screwed onto the door structure.

Concealed mortice hinges are mounted so that they are not visible from outside when the door is closed.





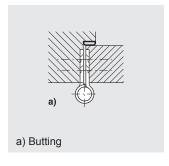


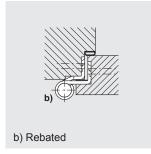


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#### **Mounting situation**

The mounting situation of a door includes the door rebate, the frame material, the frame type as well as the opening direction of the door. The difference between the door rebates is explained in the following illustrations.





The door panels are fitted to a long edge of the frame with hinged doors. The pivot direction determines left or right hand doors. It is important, on which side the door is fitted. When choosing a door hinge, the pivot direction of the door must be considered, as not all door hinges can be used on the left and right hand side.

#### Hinge reference line

The hinge reference line is an imaginary line, running parallel with the upper frame rebate. The distance between the hinge reference line and the upper frame rebate determines the position of the hinge. It is always illustrated as a dash-dot-dot line. The following illustration shows the hinge reference line according to DIN 18101.

The hinge reference line is independent from the hinge type and manufacturer. The distance of the hinge reference line of the upper door hinge to the frame rebate is always 241 ±1 mm.

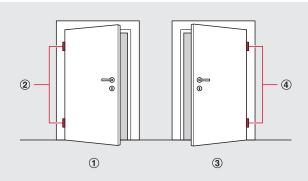
The distance between the upper and lower door hinge depends on the door height. For example, on a door of 2,000 mm height, the distance between both hinge reference lines is 1,435 ±0.5 mm.

If the door panel is fitted with 3 hinges, the distance between the upper and centre door hinge reference line is  $350 \pm 0.1$  mm.

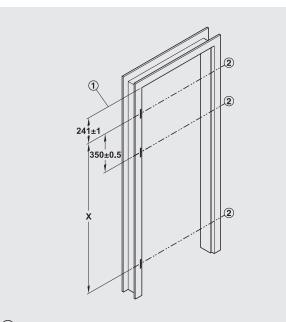
#### **Door mounting – DIN left or DIN right**

The pivot direction determines left or right hand doors. The door direction or side definition according to DIN 107 is determined as follows:

- > Visible position of the door hinges on the left = **DIN left**
- > Visible position of the door hinges on the right = **DIN right**



- (1) DIN left
- 2 Hinges visible on the left hand side
- 3 DIN right
- 4 Hinges visible on the right hand side



- 1 Reference edge frame rebate
- 2 Hinge reference line

Wall openings for doors <sup>a</sup> (block work standard dimensions in accordance with DIN 18100) Height in mm	Hinge distances between the hinge reference lines for upper and lower hinge Dim. X ±0.5 mm
1625	1060
1750	1185
1875	1310
2,000	1435
2125	1435
2250	1685
2375	1810
2,500	1935
2625	2060
2750	2185





#### Max. door weight

The max. permissible door weight generally refers to a door (1 x 2 m) which is mounted with two hinges (or even three hinges).

For doors wider than 100 cm, the following formula for calculating the increase of the door mass (door weight) must be used:

#### Calculation:

- a) Door height divided by door width = X
- b) Factor 2 minus X = increase of door mass %

Example calculation: Door height 2,000 mm Door width 1,100 mm a) 2,000/1,100 mm = 1.82 b) 2 - 1.82 = 0.1

= increase of the door mass by 18%.

When selecting the hinge type it must be considered that the actual load in practice can exceed the door weight considerably due to following factors:

- > Installation site (e.g. residential buildings, public buildings)
- > Material of the door panel and door frame
- Opening frequency of the door
- > Door dimensions (extra wide)
- > Opening direction of the door (e.g. outwards opening doors)
- > Position and installation of the door hinges
- > Door stop
- > Door closer

Therefore when selecting a door hinge, especially for public buildings, a weight buffer should always be taken into consideration.

#### **Protection against corrosion**

The door hinges in this catalogue are available with different finishes. However, only galvanized and coloured powder coated hinges that have been galvanized prior to powder coating have long-term protection from corrosion.

Even so, these hinges are not sufficiently protected from corrosion in wet rooms and outdoors.

Corrosion resistance is verified by testing in accordance with the EN 1670 standard.

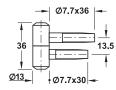
GAEB

CAD

## HAFELE

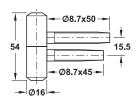
#### FI 1 Drill-in hinge





#### FI 2 Drill-in hinge





> Area of application: For wooden frames, for rebated wooden interior doors

> Door weight: ≤40 kg Knuckle Ø: 13 mm

For DIN left and DIN right hand use > Mounting: > Standard: Certified in compliance with EN 1935:2002

Class: 2 7 2 0 1 2 0 7 > Area of application: For wooden frames,

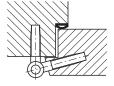
for rebated wooden interior doors

> Door weight: > Knuckle Ø: ≤100 kg 16 mm

Mounting: For DIN left and DIN right hand use > > > Certified in compliance with EN 1935:2002 Standard:

Class: 4 7 5 0 1 2 0 12

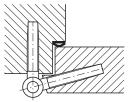
#### Installation



Material	Finish	Cat. No.
Steel	White galvanized	922.24.090

Packing: 10 pieces



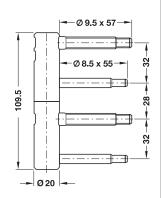


Material	Finish	Cat. No.
Steel	White galvanized	922.24.190

Packing: 10 pieces

Decorative sleeves

►AH 4.16







> Area of application: For wooden frames,

for rebated wooden front doors

> Door weight: ≤120 kg > Knuckle Ø: 20 mm > Overlay distance: ≥18 mm

> Bearing: Maintenance-free friction bearing

With security pin for outward opening doors or without security pin (optional) Continuously 3D adjustable: > Security device:

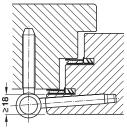
> Adjustment facility:

Height +4 mm,

side and closing pressure +3 / -2 mm Mounting: For DIN left and DIN right hand use > Standard: Certified in compliance with EN 1935:2002

> Class: 4 7 6 0 1 2 1 13

#### Installation



Material	Finish	With security pin	Without security pin
Steel	White galvanized	922.24.590	922.24.490

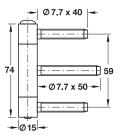
Packing: 12 pieces

►AH 4.16 Decorative sleeves

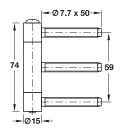
## For interior doors

#### Herkula 315 GL-RA, Herkula 315 GL-FR



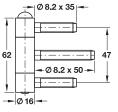


Herkula 315 GL-RA for blind frames

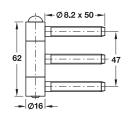


Herkula 315 GL-FR for lining frames





Herkula 316 GL-RA for blind frames



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Herkula 316 FR for lining frame doors

> Area of application: For wooden frames,

for rebated wooden interior doors

> Version: > Door we For blind frames or lining frames (optional)

Door weight: ≤55 kg > Knuckle Ø: 15 mm Drill bit Ø: 6.3 mm step 1, 7.2 mm step 2 > Overlay distance: ≥12 mm

Maintenance-free friction bearing > Bearing:

technology

For DIN left and DIN right hand use > Mounting:

> Suitable for doors with small overlay distance

> Area of application: For wooden frames,

for rebated wooden interior doors

For blind frames or lining frames (optional) Version:

Herkula 316 GL-RA, Herkula 316 GL-FR

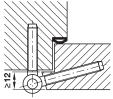
Door weight: ≤60 kg Knuckle Ø: 16 mm Drill bit Ø: 6.7 mm step 1, 7.7 mm step 2 Overlay distance: ≥14 mm

Maintenance-free friction bearing Bearing:

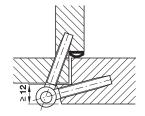
technology

For DIN left and DIN right hand use > Mounting:

#### Installation





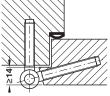


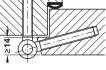
Herkula 315 GL-FR

Material	Finish	Cat. No.	
Herkula 315 GL-RA for blind frames			
Steel	Nickel plated	922.40.170	
	White galvanized	922.40.190	
Herkula 315 GL-FR for lining frames			
Steel	Nickel plated	922.40.070	
	White galvanized	922.40.090	

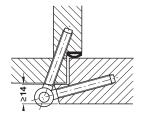
Packing: 1 or 20 pieces

#### Installation





Herkula 316 GL-RA



Herkula 316 GL-FR

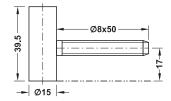
Material	Finish	Cat. No.	
Herkula 316 GL-RA for blind frames			
Stainless steel	Satin	922.40.303	
Steel	Nickel plated	922.40.370	
	White galvanized	922.40.390	
Herkula 316 GL-FR for lining frames			
Stainless steel	Satin	922.40.203	
Steel	Nickel plated	922.40.270	

Packing: 2 pieces

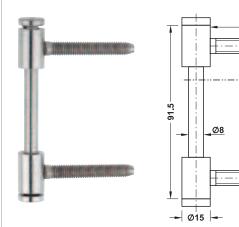
Ø8x50

#### Wing part





#### Wing part



> Area of application: For rebated wooden interior doors

Door weight: Knuckle Ø: > ≤70 kg 15 mm > Drill bit Ø: 6.8 mm

Bearing: Maintenance-free friction bearing

technology
For DIN left and DIN right hand use > Mounting:

# CAD

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Area of application: For rebated wooden interior doors

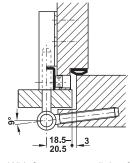
> Door weight: Knuckle Ø: ≤40 kg 15 mm

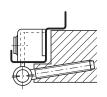
Suitable for drill-in and screw-in machines > Installation:

Drill bit Ø: 6.8 mm

Mounting: For DIN left and DIN right hand use

#### Installation

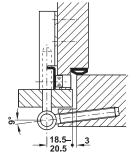


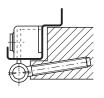


With frame part on lining frames

With frame part on steel frames

Material	Finish	Packing	Cat. No.
Stainless steel	Satin	1 or 50	922.32.003
Steel	Nickel plated	10 or 50	922.32.071





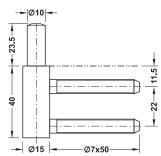
With frame part on lining frames

With frame part on steel frames

Material	Finish	Packing	Cat. No.
Stainless steel	Satin	1 or 50	922.32.503
Steel	Nickel plated	1 or 50	922.32.571

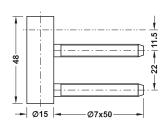
#### Frame part





Frame part





> Area of application: For wooden frames,

for rebated and flush interior doors

> Door weight: Knuckle Ø: 15 mm > Drill bit Ø: > Bearing: 7.2 mm

Maintenance-free friction bearing

technology

> Mounting: For DIN left and DIN right hand use

> For use in combination with receiver

> Area of application: For wooden frames,

for rebated and flush interior doors

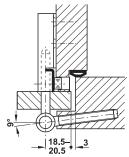
> Door weight: Knuckle Ø: 15 mm > Drill bit v
> Bearing: 7.2 mm Drill bit Ø:

Maintenance-free friction bearing

technology

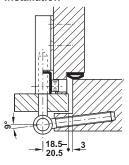
> Mounting: For DIN left and DIN right hand use

For use in combination with receiver



Material	Finish	Packing	Cat. No.
Stainless steel	Satin	1 or 50	922.32.203
Steel	Nickel plated	1 or 50	922 32 271





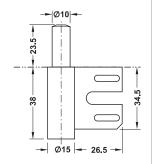
Material	Finish	Packing	Cat. No.
Stainless steel	Satin	1 or 50	922.32.403
Steel	Nickel plated	1 or 50	922.32.471



## HAFELE

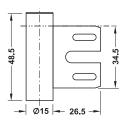
### Frame part





#### Frame part





> Area of application: For steel frames with weld-on pockets, for rebated and flush interior doors

Door weight:Knuckle Ø:Mounting:

≤40 kg 15 mm

CAD

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For DIN left and DIN right hand use

> Area of application: For steel frames with weld-on pockets, for rebated and flush interior doors

> Door weight: ≤70 kg

> Knuckle > Bearing: Knuckle Ø: 15 mm

Maintenance-free friction bearing

technology

For DIN left and DIN right hand use > Mounting:

#### Installation





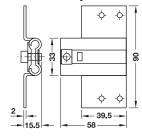


Material	Finish	Packing	Cat. No.
Stainless steel	Satin	1 or 50	922.32.703
Steel	Nickel plated	1 or 50	922 32 771

# Receivers

#### VARIANT V 3610 Series Screw-on pocket





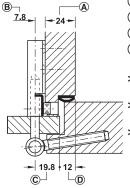
> Area of application: For wooden lining frames

Material: Steel Finish: Zinc plated

> Mounting: For DIN left and DIN right hand use

#### Installation

Example



- (A) Lining frame thickness
- B Installation height
- C Dim. X
- (D) Rebate width
- > Dim. X = frame rebate to centre of drill
- Installation height = dim. X + rebate width - lining frame thickness
- Dimension X must be between 18.5 and 20.5 mm

Re-drill pin holes with 7.2 mm when using VARIANT plastic drilling jig and VARIANT rebate hole drilling jig.

Model	Installation height mm	Cat. No.
V 3611	5.8	922.08.090
V 3612	7.8	922.08.190
V 3613	8.8	922.08.290
V 3614	9.8	922.08.390

Packing: 1 or 20 pieces

#### Order reference

Following items are available on request:

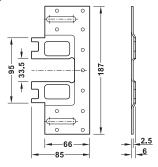
Mounting aids VARIANT series drilling jig metal pocket,

VARIANT rebate hole drilling jig.

#### Reinforcing plate, V 3610



DGH-B-INT 2019, HDE-en, 12/18; Dimensional data not binding. We reserve the right to alter specifications without notice.



> Area of application: For wooden lining frames

Material: Steel

Finish: Zinc plated

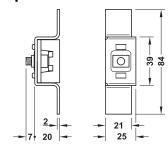
For DIN left and DIN right hand use > Mounting:

	Cat. No.
Reinforcing plate	922.08.910

Packing: 1 or 20 pieces

#### 686 Receiver weld-on pocket





HAFEL

> Area of application: For steel frames,

for flush and rebated frames

Zinc plated Finish:

For DIN left and DIN right hand use Mounting: Hinge continuously adjustable, hinge can be replaced Version:

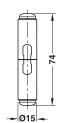
Material	Cat. No.

Packing: 1 or 40 pieces



922.39.040





> Area of application: For 2-piece FI 1 drill-in hinges

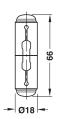
Material	Finish	Cat. No.
Plastic	Matt nickel coloured	922.24.906
	Polished chrome coloured	922.24.902
	Polished brass coloured	922.24.908

Packing: 20 sets

FI 1	►AH 4.9
111	<b>▶</b> ∧11 <b>4</b> .3







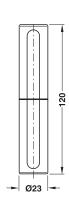
> Area of application: For 2-piece FI 2 drill-in hinges

Material	Finish	Cat. No.
Plastic	Matt nickel coloured	922.24.916
	Polished chrome coloured	922.24.912
	Polished brass coloured	922.24.918
	Traffic white, RAL 9016	922.24.917

Packing: 20 sets

FI 2	►AH 4.9
------	---------





> Area of application: For 2-piece FI 5 drill-in hinges

Finish	Cat. No.
Matt nickel coloured	922.24.936
Polished chrome coloured	922.24.932
Polished brass coloured	922.24.938
Traffic white, RAL 9016	922.24.937
	Matt nickel coloured  Polished chrome coloured  Polished brass coloured

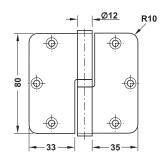
Packing: 20 sets

Startec FI 5 drill-in hinge,	►AH 4.10
for rebated front doors up to 120 kg	

## Butt hinge, size 80 mm

For flush doors





DIN left

> Area of application: For wooden or metal frames, for flush wooden or metal interior doors

> Door weight: ≤48 kg with 3 door hinges

Knuckle Ø: 12 mm Flange thickness: 2.5 mm

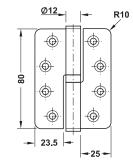
> Bearing: With fixed pin and

ball bearing with intermediate ring

## Butt hinge, size 80 mm

For flush doors





HAFELE

DIN left

> Area of application: For wooden or metal frames,

for flush wooden or metal interior doors

> Door weight: ≤40 kg with 3 door hinges

Knuckle Ø: 12 mm > Flange thickness: > Bearing: 2.5 mm

With fixed pin and

ball bearing with intermediate ring

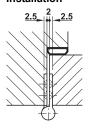
#### Installation





Material	Finish	DIN left	DIN right	
Stainless steel	Satin	926.20.303	926.20.203	

#### Installation



Material	erial Finish		DIN right	
Stainless steel	Satin	926.20.503	926.20.403	

#### Order reference

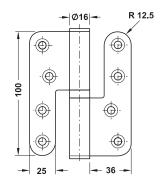
Fixing screws for wooden frames and doors supplied.

#### Order reference

#### Butt hinge, size 100 mm

For flush doors







> Area of application: For wooden or metal frames, for flush wooden or metal interior doors

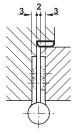
> Door weight: ≤68 kg with 3 door hinges

Knuckle Ø: 16 mm > Flange thickness: 3 mm

With fixed pin and ball bearing with > Bearing:

intermediate ring

#### Installation



Material	Finish	DIN left	DIN right
Stainless steel	Satin	926.20.103	926.20.003
Brass	Polished	926.20.180	926.20.080

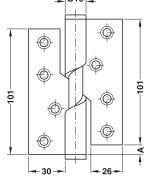
#### Order reference

Fixing screws for wooden frames and doors supplied.

#### Butt hinge, size 101 mm

Rising/falling for flush doors up to 40 kg

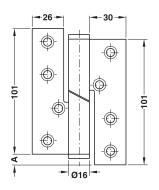




Rising DIN right

A = 9 mm with 180° opening angle



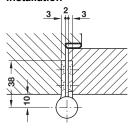


A = 9 mm with 180° opening angle

> Area of application: For wooden frames, for flush interior doors

> Door weight: ≤40 kg Knuckle Ø: 16 mm Pin Ø: 10 mm Flange thickness: 3 mm > Bearing: With fixed pin

#### Installation



Material	Finish	Version	DIN left	DIN right
Stainless	Satin	Rising	926.26.003	926.26.103
steel		Falling	926.26.203	926.26.303

Packing: 2 pieces

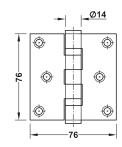
#### Order reference



#### DHB 1212 Butt hinge, size 76 mm

For flush doors





> Area of application: For wooden or metal frames,

for flush wooden or metal interior doors

> Door weight: 80 kg
> Knuckle Ø: 14 mm
> Flange thickness: 3 mm
> Flange shape: Square
> Bearing: With fixed pin,

knuckle with two ball bearings
> Mounting: For DIN left and DIN right hand use

> Standard: Certified in compliance with

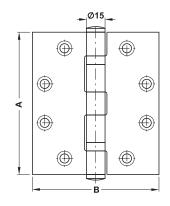
DIN 1935:2002

> Class: 4 7 4 1 1 4 0 11

#### Butt hinge, size 102 mm

For flush doors





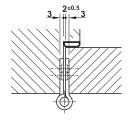
> Area of application: For wooden or metal frames, for flush wooden or metal doors

Material: Stainless steel
 Knuckle Ø: 15 mm
 Flange thickness: 3 mm
 Flange shape: Square

Bearing: With separate pin,

knuckle with two ball bearings
> Mounting: For DIN left and DIN right hand use

#### Installation





E

Material	Finish/colour	Cat. No.
Stainless steel	Satin	926.98.000
	Polished	926.98.001
	Burnished	926.98.009
	Polished brass coloured, PVD coated	926.98.008
	Matt black, PVD coated	926.98.003

Packing: 1 or 10 pieces

#### Order reference

Fixing screws for wooden frames and doors supplied. Please order fixing screws for metal frames and doors 020.00.136 separately.

Finish	Dim. A	Dim. B	Door weight kg	Cat. No.
Satin	4"/102 mm	3"/76 mm	With 3 door hinges ≤58 kg	926.29.603
		3.5"/89 mm	With 3 door hinges ≤61 kg	926.29.703

Packing: 1 or 2 pieces

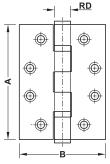
#### Order reference



#### **Butt hinge**

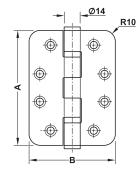
For flush doors





RD = knuckle diameter





> Area of application:

For wooden frames, for flush interior doors Stainless steel

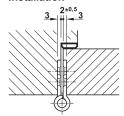
> Material: > Door weight: 120 kg > Bearing:

With fixed pin, knuckle with two ball bearings For DIN left and DIN right hand use > Mounting:

Certified in compliance with DIN 1935:2002 > Standard:

> Class: 4 7 6 1 1 4 0 13





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Knuckle Ø mm	Flange thickness mm	Dim. A	Dim. B	Model	Material	Satin	Polished	Burnished	Polished brass coloured, PVD coated	Matt black, PVD coated	
Flange sh	nape square										
12	2.5	4"/ 102 mm	3"/ 76 mm	DHB 2122	Stainless steel, quality 201	926.98.010	926.98.011	926.98.019	926.98.018	926.98.013	
				DHB 2222	Stainless steel, quality 304	926.98.020	926.98.021	926.98.029	926.98.028	926.98.023	
14	3	4"/ 102 mm	3"/ 76 mm	DHB 3122	Stainless steel, quality 201	926.98.030	926.98.031	926.98.039	926.98.038	926.98.033	
				DHB 3222	Stainless steel, quality 304	926.98.040	926.98.041	926.98.049	926.98.048	926.98.043	
		89 r 4"/		DHB 3322	Stainless steel, quality 316	926.98.060	926.98.061	926.98.069	926.98.068	926.98.063	
			3.5"/ 89 mm	DHB 5222	Stainless steel, quality 304	926.98.100	926.98.101	926.98.109	926.98.108	926.98.103	
				4"/ 102 mm	DHB 4122	Stainless steel, quality 201	926.98.070	926.98.071	926.98.079	926.98.078	926.98.073
	5"/			DHB 4222	Stainless steel, quality 304	926.98.090	926.98.091	926.98.099	926.98.098	926.98.093	
		4.5"/ 114 mm	4"/ 102 mm	DHB 6222	Stainless steel, quality 304	926.98.110	926.98.111	926.98.119	926.98.118	926.98.113	
		5"/ 127 mm	3.5"/ 89 mm	DHB 8222	Stainless steel, quality 304	926.98.130	926.98.131	926.98.139	926.98.138	926.98.133	
			4"/ 102 mm	DHB 9222	Stainless steel, quality 304	926.98.140	926.98.141	926.98.149	926.98.148	926.98.143	
15	3.5	4.5"/ 114 mm	4"/ 102 mm	DHB 7222	Stainless steel, quality 304	926.98.120	926.98.121	926.98.129	926.98.128	926.98.123	
Flange sh	nape rounde	d									
14	3	4"/ 102 mm	3"/ 76 mm	DHB 3221	Stainless steel, quality 304	926.98.050	926.98.051	926.98.059	926.98.058	926.98.053	
			4"/	DHB 4121	Stainless steel,	926.98.080	926.98.081	926.98.089	926.98.088	926.98.083	

quality 201

Packing: 1 or 10 pieces

#### Order reference

Fixing screws for wooden frames and doors supplied.

Please order fixing screws for metal frames and doors 020.00.136 separately.

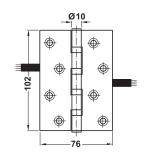
102 mm

## For interior doors

#### **Butt hinge**

Narrow, current-carrying

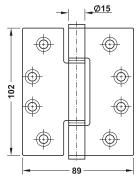




#### Butt hinge, size 102 mm

Extra heavy duty hinge for flush doors up to 160 kg





HAFELE



> Area of application: For transmitting power (24 V) from frame to

door, only use as middle hinge together with a pair of compatible hinges on the

outer sides Stainless steel

> Material: > Knuckle Ø: 10 mm > Flange thickness: 2.5 mm > Flange shape: Square Door thickness: ≥35 mm

Version: With 4-core cable > Area of application: For wooden or metal frames,

for flush wooden or metal doors (stainless steel quality AISI 316)

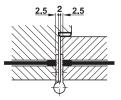
≤160 kg

> Door weight: Knuckle Ø: 15 mm Flange thickness: 3 mm

> Maintenance-free friction bearing Bearing: Mounting: For DIN left and DIN right hand use Standard: Certified in compliance with EN 1935:2002

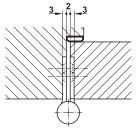
Class: 4 7 7 1 1 1 4 1 14

#### Installation



Material	Finish	Mounting	Cat. No.
Stainless steel	Satin	DIN left	921.09.111
		DIN right	921.09.110

#### Installation



Material	Finish	Cat. No.
Stainless steel	Satin	926.94.703

#### Order reference

Fixing screws for wooden frames and doors supplied.

#### Order reference

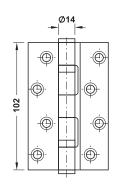
Available with rounded corners (radius 10 mm) on request.

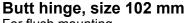
## HAFELE

#### Butt hinge, size 102 mm

For rebated doors

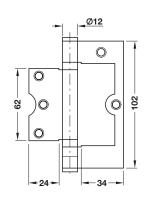






For flush mounting





GAEB

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4

> Area of application: For wooden or metal frames, for flush wooden or metal interior doors

> Door weight: ≤58 kg with 3 door hinges Knuckle Ø: 14 mm

Flange thickness: 3 mm > Bearing:

With fixed pin, knuckle with two ball bearings

> Mounting: For DIN left and DIN right hand use > Area of application: For wooden or metal frames,

for flush wooden or metal interior doors,

for flush mounting

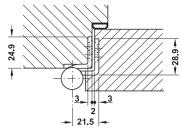
> Door weight: > Knuckle Ø: ≤60 kg 12 mm Flange thickness: 2.5 mm

Bearing: Knuckle with 2 ball bearings

102 mm Routing height: Routing depth: 2.65 mm

For DIN left and DIN right hand use Mounting:

Installation



Material	Finish	Cat. No.
Stainless steel	Satin	926.25.803
Brass	Polished	926.25.880

#### Installation



Material	Finish	Cat. No.
Stainless steel 304	Satin	926.22.103
Stainless steel 201	Satin	926.22.127

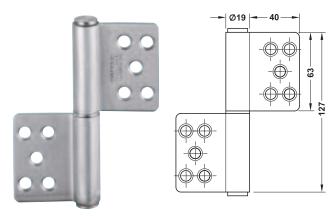
#### Order reference

Fixing screws for wooden frames and doors supplied.

#### Order reference

#### Butt hinge - Startec, size 127 mm

For flush doors



> Area of application: For wooden or metal frames, for flush wooden or metal interior doors

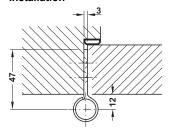
> Door weight: > Knuckle Ø: ≤80 kg with 3 door hinges

14 mm > Flange thickness: 3 mm

> Bearing: With fixed pin and with intermediate ring > Mounting: > Routing height: For DIN left and DIN right hand use

127 mm

#### Installation



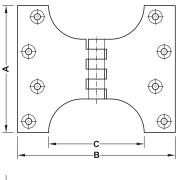
Material	Finish	Cat. No.
Stainless steel	Satin	926.13.903

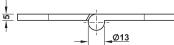
#### Order reference

Fixing screws for wooden frames and doors supplied.

#### **Butt hinge**







> Area of application: For wooden or metal frames,

for wooden or metal interior doors, for lightweight loads,

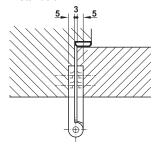
HAFELE

not suitable for very wide doors

> Material: Brass > Knuckle Ø: 13 mm Flange thickness: 5 mm

Bearing:

With fixed pin
For DIN left and DIN right hand use > Mounting:

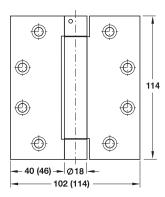


Dim. A mm	Dim. B mm	Dim. C mm	Finish	Cat. No.
102	127	76	Polished	921.08.590
			Chrome plated, satin finish	921.08.594
102	152	102	Polished	921.08.610
			Chrome plated, satin finish	921.08.614

## HAFELE

#### Spring hinge







4



> Area of application: For wooden or steel frames,

> Version:

for flush wooden or steel interior doors Flange width 40 or 46 mm

> Door weight:

≤60 kg with 3 door hinges 18 mm

Knuckle Ø: > Flange thickness:

3.4 mm

Adjustment facility: Bearing:

Spring force can be adjusted and fixed

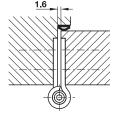
Maintenance-free friction bearing

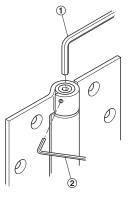
technology

Mounting: Standard:

For DIN left and DIN right hand use In compliance with ANSI A117.1, UL listed

#### Installation





1 Adjustment of spring force 2 Fixing set spring force

#### Loosen:

- > Loosen safety lock screw on the side of the hinge knuckle
- Press down and simultaneously turn the hex socket head screw in the hinge knuckle anticlockwise.

Repeat this action until the hinge is completely loosened. Then install the hinges.

#### Tighten:

- > Turn the hex socket head screw in the hinge knuckle clockwise and adjust spring force of all hinges equally as required
- > Re-tighten safety lock screw

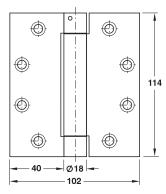
Material	Finish	Cat. No.
Steel	Matt chrome plated	926.10.041
Steel	Polished brass plated	926.10.080
Steel	Matt chrome plated	926.10.141
	Steel Steel	Steel Matt chrome plated Steel Polished brass plated

#### Order reference

4

## Spring hinge





> Area of application: For wooden or steel frames,

for flush wooden or steel interior doors

Door weight: ≤60 kg with 3 door hinges

> Knuckle Ø: 18 mm Flange thickness: Adjustment facility: 3.4 mm

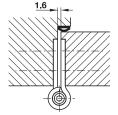
Spring force can be adjusted and fixed

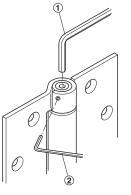
> Bearing: Maintenance-free friction bearing

technology

> Mounting: For DIN left and DIN right hand use

#### Installation





- 1 Adjustment of spring force
- 2 Fixing set spring force

#### Loosen:

- > Loosen safety lock screw on the side of the hinge knuckle
- Press down and simultaneously turn the hex socket head screw in the hinge knuckle anticlockwise.

Repeat this action until the hinge is completely loosened. Then install the hinges.

- > Turn the hex socket head screw in the hinge knuckle clockwise and adjust spring force of all hinges equally as required
- > Re-tighten safety lock screw

Flange width mm	Material	Finish	Cat. No.
40	Stainless steel	Satin	926.35.003

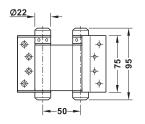
Packing: 2 pieces

#### Order reference

## Double action spring hinge

For flush doors

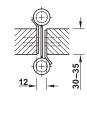






Ø22 Ф

Size 125 mm



Size 75 mm

Ø22. 9 120

Ø26 0 150 Φ



Size 100 mm

> Area of application: For wooden frames, for flush wooden interior doors

-55

Opening angle: 180° swing action on both sides For DIN left and DIN right hand use > Mounting:

Ф

#### $\rightarrow$ Size 75 mm, up to 15 kg

> Door weight:	≤15 kg
> Door thickness:	18–25 mm
> Door height:	≤1,800 mm
> Door width:	≤600 mm
> Knuckle Ø:	22 mm

Material	Finish	Cat. No.
Stainless steel	Satin	927.01.003
Steel	Nickel plated	927.01.070
	Brass plated	927.01.081

Packing: 1 pair

#### $\rightarrow$ Size 125 mm, up to 27 kg

Size 150 mm

> Door weight:	≤27 kg
> Door thickness:	30–35 mm
> Door height:	≤2,000 mm
> Door width:	≤700 mm
> Knuckle Ø:	22 mm

Material	Finish	Cat. No.
Stainless steel	Satin	927.01.203
Steel	Nickel plated	927.01.270
	Brass plated	927.01.281

Packing: 1 pair

#### $\rightarrow$ Size 100 mm, up to 22 kg

> Door weight:	≤22 kg
> Door thickness:	25-30 mm
> Door height:	≤1,900 mm
> Door width:	≤700 mm
> Knuckle Ø:	22 mm

Material	Finish	Cat. No.
Stainless steel	Satin	927.01.103
Steel	Nickel plated	927.01.170
	Brass plated	927.01.181

Packing: 1 pair

#### $\rightarrow$ Size 150 mm, up to 40 kg

> Door weight:	≤40 kg
> Door thickness:	35–40 mm
> Door height:	≤2,500 mm
> Door width:	≤750 mm
> Knuckle Ø:	26 mm

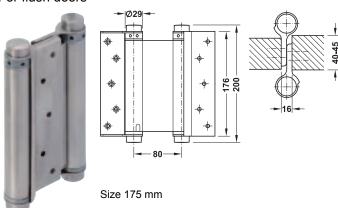
Material	Finish	Cat. No.
Stainless steel	Satin	927.01.303
Steel	Nickel plated	927.01.370
	Brass plated	927 01 381

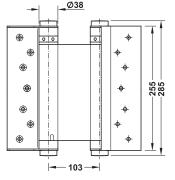
Packing: 1 pair

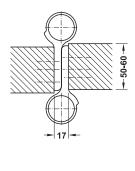
GAEB

#### Double action spring hinge

For flush doors



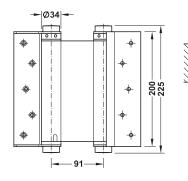


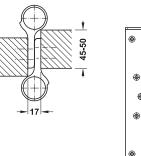


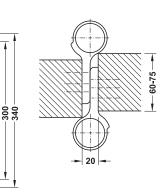
HAFELE

Size 250 mm

Size 300 mm







Size 200 mm

For wooden frames, for flush wooden interior doors

> Area of application: Opening angle: 180° swing action on both sides > Mounting: For DIN left and DIN right hand use

#### $\rightarrow$ Size 175 mm, up to 55 kg

> Door weight:	≤55 kg
> Door thickness:	40–45 mm
> Door height:	2,500 mm
> Door width:	860 mm
> Knuckle Ø:	29 mm

Material	Finish	Cat. No.
Stainless steel	Satin	927.02.503
Steel	Nickel plated	927.02.571
	Brass plated	927.02.580
	Galvanized	927.02.590

Packing: 1 pair

#### $\rightarrow$ Size 200 mm, up to 70 kg

'0 kg
5–50 mm
600 mm
5 mm
mm

Material	Finish	Cat. No.
Stainless steel	Satin	927.02.603
Steel	Nickel plated	927.02.671
	Brass plated	927.02.680
	Galvanized	927.02.690

Packing: 1 pair

#### $\rightarrow$ Size 250 mm, up to 100 kg

> Door weight:	≤100 kg
> Door thickness:	50-60 mm
> Door height:	2,800 mm
> Door width:	985 mm
> Knuckle Ø:	38 mm

Material	Finish	Cat. No.
Stainless steel	Satin	927.02.703
Steel	Nickel plated	927.02.771
	Brass plated	927.02.780
	Galvanized	927.02.790

Packing: 1 pair

#### $\rightarrow$ Size 300 mm, up to 145 kg

> Door weight:	≤145 kg
> Door thickness:	60–75 mm
> Door height:	3,000 mm
> Door width:	1,235 mm
> Knuckle Ø:	44 mm

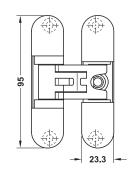
Material	Finish	Cat. No.
Stainless steel	Satin	927.02.803
Steel	Nickel plated	927.02.871
	Brass plated	927.02.880
	Galvanized	927.02.890

Packing: 1 pair

## HAFELE

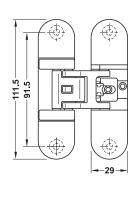
#### **H2** Concealed mortice hinge





#### H7 Concealed mortice hinge





> Area of application:

For wooden frames, for flush wooden interior doors

> Door weight:

≤45 kg with 2 door hinges, ≤60 kg with 3 door hinges

Opening angle: Door width:

≤180° ≤900 mm ≤2.000 mm

> Door height: > Door thickness: Size:

≥32 mm 95 mm

> Adjustment facility:

Continuously 3D adjustable:

Height: ±2.5 mm, side: +3 / -2 mm and closing pressure: ±1 mm

> Hex key for adjustment supplied

> Area of application: For wooden frames,

for flush wooden interior doors

≤50 kg with 2 door hinges, ≤70 kg with 3 door hinges > Door weight:

> Opening angle: ≤180° Door width: ≤900 mm Door height: ≤2,100 mm Door thickness: ≥40 mm 111.5 mm

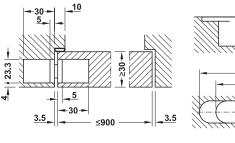
Size:Adjustment facility: Continuously 3D adjustable:

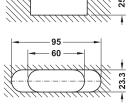
Height: ±3 mm, side: +3/-2 mm and closing pressure: ±1 mm

> Fixing material supplied

Hex key for adjustment supplied

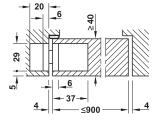
#### Installation

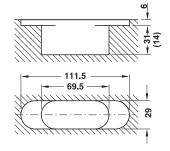




Routing pattern for frame and door

#### Installation





Routing pattern for frame and door

#### Note

Different recess dimensions when using hinge pockets for lining frames.

4 door hinges must be used for door height of 2,100 mm and above.

Material	Finish	Cat. No.
Zinc alloy	c alloy Matt chrome plated	
	Matt nickel plated	927.91.546
	Polished gold coloured	927.91.548

#### Note

Different recess dimensions when using hinge pockets for lining frames.

4 door hinges must be used for door heights of 2,400 mm and above.

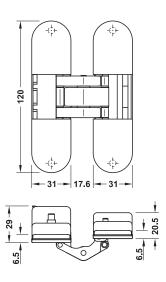
Material	Finish	Cat. No.
Zinc alloy	Matt chrome plated 9	
	Matt nickel plated	927.91.556
	Polished gold coloured	927.91.558

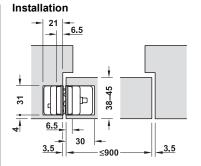
# For interior doors - 3D adjustable

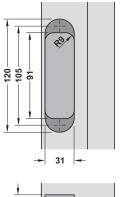
#### H12 Concealed mortice hinge, size 120 mm

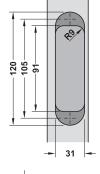
For flush doors up to 60 kg



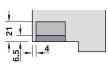








HAFELE





Routing pattern for frame

Routing pattern for door

#### Note

Fixing screws for wooden frame supplied.

> Area of application: For wooden frames,

for flush wooden interior doors

> Door weight: ≤60 kg with 2 door hinges

> Opening angle: ≤180° > Door width: ≤900 mm Door height: ≤2,100 mm

> Door thickness: With centred door hinge 38-45 mm

> Size: 120 mm

Continuously 3D adjustable: > Adjustment facility:

Height: ±3 mm, side: ±1 mm and

closing pressure: ±1 mm

Hex key for adjustment supplied

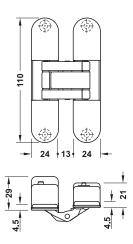
Waterial	Fillian	Cal. NO.
Steel	Matt chrome plated	927.91.344
	Matt nickel plated	927.91.346
	Polished brass coloured	927.91.328
Satin black		927.91.343

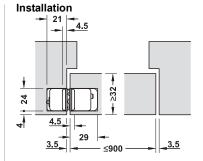
# HAFELE

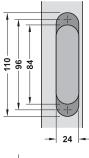
# H12 S Concealed mortice hinge, size 110 mm

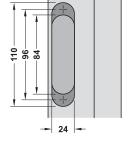
For flush doors up to 60 kg



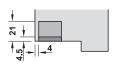












Routing pattern for frame

Routing pattern for door

#### Note

Fixing material supplied.

> Area of application: For wooden frames,

for flush wooden interior doors ≤60 kg with 2 door hinges

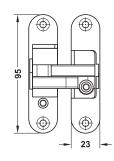
> Door weight: ≤60 kg with
> Opening angle: ≤180°
> Door width: ≤900 mm
> Door height: ≤2,100 mm
> Door thickness: ≥ 32 mm
> Size: 110 mm

> Adjustment facility: Continuously 3D adjustable:

Height: ±2.5 mm, page: ±1 mm and closing pressure: ±1.5 mm

Material	Finish/colour	Cat. No.
Steel	Matt chrome plated	927.91.074
	Matt nickel plated	927.91.076
	Polished chrome plated	927.91.072
	Polished brass coloured	927.91.078
	White	927.91.077
	Matt black	927.91.073
Bronze coloured		927.91.071

Packing: 1 or 2 pieces



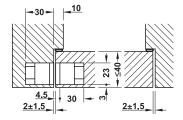
> Area of application: For wooden frames, for flush wooden interior doors

> Opening angle: > Door width: ≤180° ≤1,000 mm > Door height: ≤2,000 mm Door thickness: ≤40 mm > Size: 95.0 mm

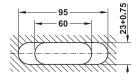
> Adjustment facility: Continuous 3D adjustment:

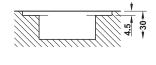
Height ±1.5 mm, side and closing pressure ±1 mm

#### Mounting



#### **Drilling pattern**





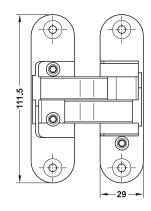
Number of	Door width mm				
hinges	600	700	800	900	1000
2	50 kg	46 kg	42 kg	40 kg	36 kg
3	56 kg	51 kg	48 kg	45 kg	40 kg
4	63 kg	57 kg	53 kg	50 kg	45 kg

Material	Finish	DIN left	DIN right
Zinc alloy	Matt nickel plated	927.32.036	927.32.046

Packing: 1 or 3 pieces

#### **Concealed mortice hinge**





> Area of application: For wooden frames,

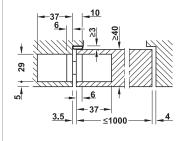
for flush wooden interior doors

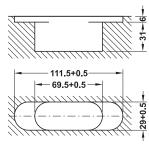
> Opening angle: > Door width: ≤180° Door width: ≤1,000 mm Door height: ≤2,000 mm Door thickness: ≥40 mm Size: 111.5 mm

Continuously 3D adjustable: Adjustment facility:

Height ±1.5 mm, side and closing pressure ±1 mm

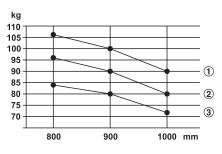
#### Installation





Routing pattern for frame and door

#### Weight table



(1) 4	hinges
<b>2</b> 3	hinges
<b>③</b> 2	hinges

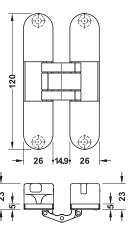
Material	Finish	DIN left	DIN right
Zinc alloy	Matt nickel plated	927.32.006	927.32.016
	Polished nickel plated	927.32.007	927.32.017
	Polished gold coloured	927.32.008	927.32.018

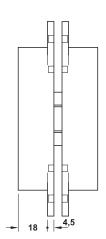
**GAEB** 

# HAFELE

#### **Concealed mortice hinge**







> Area of application: For wooden frames,

for flush wooden interior doors ≤40 kg with 2 door hinges, ≤50 kg with 3 door hinges > Door weight:

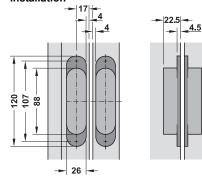
120 mm > Size:

> Door thickness: ≥35 mm > Opening angle: 180°

> Adjustment facility: Continuously 3D adjustable: Height and side ±2 mm,

closing pressure ±1 mm

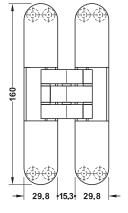
#### Installation

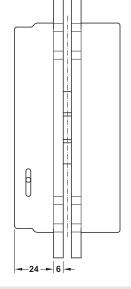


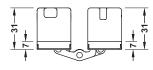
Material	Finish	Cat. No.
Zinc alloy	Matt chrome plated	927.91.604
	Matt nickel plated	927.91.606

#### **Concealed mortice hinge**







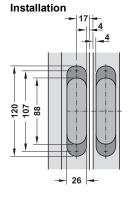


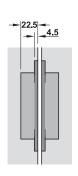
> Area of application: For wooden frames, for flush wooden interior doors > Door weight: ≤80 kg with 2 door hinges, ≤100 kg with 3 door hinges

> Size: 160 mm > Door thickness: ≥40 mm Opening angle: 180°

Adjustment facility: Continuously 3D adjustable:

Height ±3 mm, side +3/-2 mm and closing pressure ±1 mm

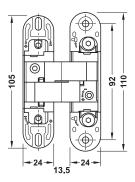




Material	Finish/colour	Cat. No.
Zinc alloy	Matt chrome plated	927.91.634
	Matt nickel plated	927.91.636
	Polished brass coloured	927.91.638
	Satin black	927.91.633

## **CDH 40 Concealed mortice hinge**





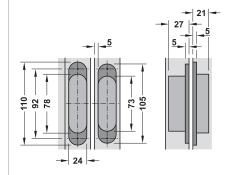
> Area of application: For wooden frames, for flush wooden interior doors
> Door weight: ≤40 kg with 2 door hinges, ≤52 kg with 3 door hinges

> Door thickness: ≥35 mm > Opening angle:

DGH-B-INT 2019, HDE-en, 12/18; Dimensional data not binding. We reserve the right to alter specifications without notice.

> Adjustment facility:

Continuously 3D adjustable: Height ±2.5 mm, side ±1 mm and closing pressure +3/–1.5 mm



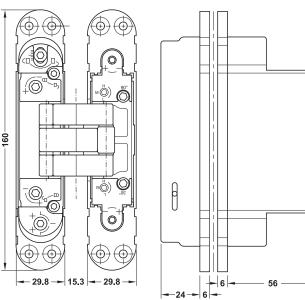
Material	Finish	Cat. No.
Zinc alloy	Matt nickel plated	927.91.666

## **Concealed mortice hinge**

Doors close automatically by means of the self closing mechanism







> Area of application: For wooden frames,

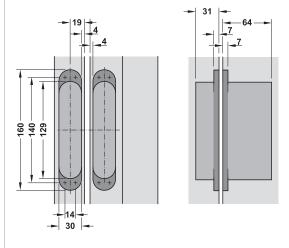
for flush wooden interior doors > Door weight: ≤60 kg with 3 door hinges

> Size: 160 mm ≥40 mm 180° > Door thickness: > Opening angle:

> Adjustment facility: Continuously 3D adjustable:

Height ±3 mm, side +3/-2 mm and closing pressure ±1 mm,

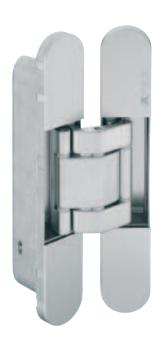
closing force with 3 settings

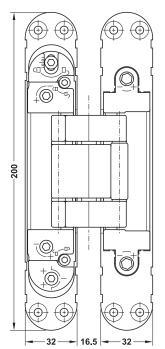


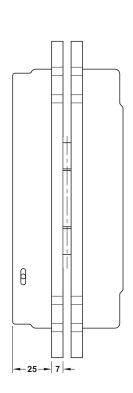
Material	Finish	Cat. No.
Zinc alloy	Matt chrome plated	927.91.614
	Matt nickel plated	927.91.616

# HAFELE

#### **Concealed mortice hinge**





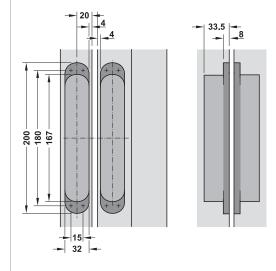


> Area of application: For wooden frames, for flush wooden interior doors
> Door weight: ≤120 kg with 2 door hinges, ≤140 kg with 3 door hinges

> Size: 200 mm > Door thickness: ≥40 mm Opening angle:Adjustment facility: 180°

Continuously 3D adjustable: Height ±3 mm, side +3/-2 mm and closing pressure ±1 mm





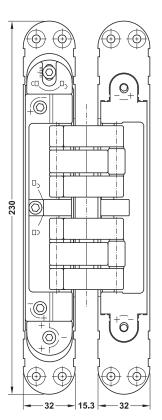
Material	Finish	Cat. No.
Zinc alloy	Matt chrome plated	927.91.624
	Matt nickel plated	927.91.626

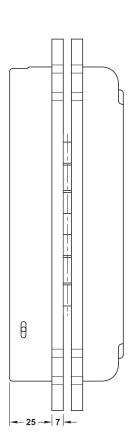












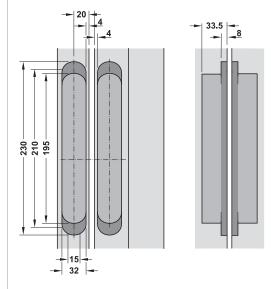
> Area of application: For wooden frames, for flush wooden interior doors Door weight:Door thickness: ≤200 kg with 2 door hinges

180°

Opening angle:Adjustment facility:

Continuously 3D adjustable: Height ±3 mm, side +3.5/1.5 mm

and closing pressure ±1.0/-1.0 mm



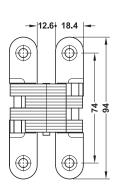
Material	Finish	Cat. No.
Zinc alloy	Matt chrome plated	927.91.644
	Matt nickel plated	927.91.646

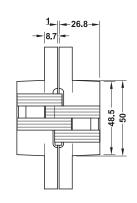
CAD

# HAFELE

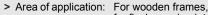
## Concealed mortice hinge











for flush wooden interior doors ≤45 kg with 2 door hinges

> Door weight:

Door Weight:Door thickness:Opening angle: ≥25 mm ≤180° Material: Zinc alloy

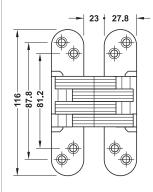
Mounting: For DIN left and DIN right hand use

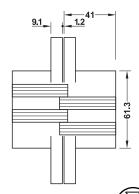
Finish	Cat. No.
Matt chrome	927.97.000
Polished chrome	927.97.002

Packing: 1 or 40 pieces

## **Concealed mortice hinge**









> Area of application: For wooden frames, for flush wooden interior doors

≤70 kg with 2 door hinges, ≤85 kg with 3 door hinges ≥40 mm ≤180°

Door thickness:Opening angle: Zinc alloy Material:

Mounting: For DIN left and DIN right hand use

Finish	Cat. No.
Matt chrome	927.97.010
Polished chrome	927.97.012

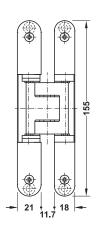
Packing: 1 or 40 pieces

> Door weight:

## **TECTUS TE 240 3D N** Concealed mortice hinge, size 155 mm

For flush doors up to 60 kg





For wooden, steel or aluminium frames, > Area of application:

for flush doors

> Door weight: ≤60 kg Size: 155 mm Door thickness: ≥25 mm ≤180° Opening angle: > Router bit Ø: 16 mm Seal ring Ø: 30 mm

> Adjustment facility: Continuously 3D adjustable:

Side and height ±3 mm, closing pressure: ±1.5 mm

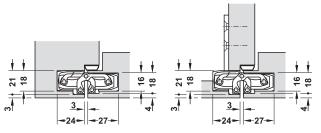
> Bearing: Maintenance-free friction bearing

technology

For DIN left and DIN right hand use > Mounting:

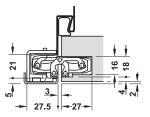
#### Note

"Energy" version for permanent and invisible energy transmission from the door frame to the door leaf optionally available.

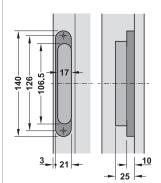


On wooden block frames

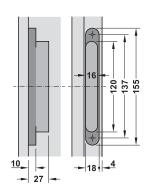
With mounting plate on wooden lining frames



With receiver on steel frames



Routing pattern for wooden block frame, frame



Routing pattern for wooden block frame, door



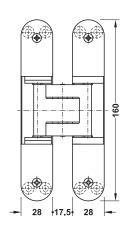
Routing pattern for block frame, frame

Material	Finish	Cat. No.
Covers: Steel,	Stainless steel design	924.18.904
powder coated,	Silver coloured	924.18.921
link: Aluminium	New silver coloured	924.18.922

Mounting plate	►AH 4.47
Receiver	►AH 4.48

## **TECTUS TE 340 3D** Concealed mortice hinge, size 160 mm





> Area of application: For wooden, steel or aluminium frames, for flush doors

≤80 kg 160 mm

> Size: Door thickness: ≥40 mm Opening angle: Router bit Ø: ≤180° 24 mm > Seal ring Ø: 30 mm

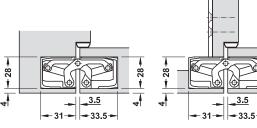
> Door weight:

> Adjustment facility: Continuously 3D adjustable: Side and height ±3 mm,

closing pressure: ±1 mm
For DIN left and DIN right hand use > Mounting:

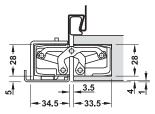
"Energy" version for permanent and invisible energy transmission from the door frame to the door leaf optionally available.

#### Installation

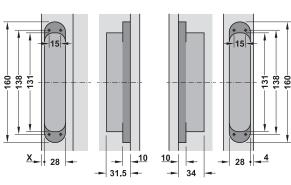


On wooden block frames

With mounting plate on wooden lining frames

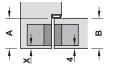


With receiver on steel frames



Routing pattern for wooden block frame, frame

Routing pattern for wooden block frame, door



Routing pattern for block frame, frame

### Calculation of routing dimensions:

A = frame rebate depth to sealing level

B = door thickness or 1. door rebate

## A - B + 4 = dim. X

The result must be a dimension between 3 mm and max. 7 mm (steel frame: X = 5 mm).

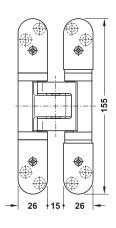
Material	Finish	Cat. No.
Cover plates: Steel,	Stainless steel design	924.17.104
powder coated,	Silver coloured	924.17.121
link: Aluminium	New silver coloured	924.17.122

Mounting plate	►AH 4.47
Receiver	►AH 4.48



4





> Area of application: For wooden, steel or aluminium frames,

for flush doors

≤100 kg > Door weight:

> Standard: certified in compliance with

DIN EN 1935:2002

> Size: 155 mm > Door thickness: ≥35 mm > Opening angle: > Router bit Ø: ≤180 24 mm 30 mm > Seal ring Ø:

> Adjustment facility: Continuously 3D adjustable:

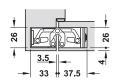
Side and height ±3 mm, closing pressure ±1 mm

> Bearing: Maintenance-free friction bearing

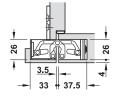
technology

> Mounting: For DIN left and DIN right hand use

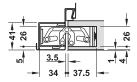
"Energy" version for permanent and invisible energy transmission from the door frame to the door leaf optionally available.



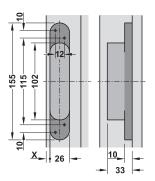
On wooden block frames

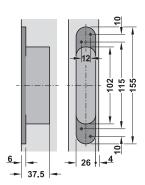


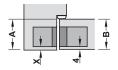
With mounting plate on wooden lining frames



With receiver on steel frames







Routing pattern for block frame, frame (left) and block frame, door (right)

Material	Finish	Cat. No.
Stainless steel	Satin	924.16.803

Packing: 1 or 2 pieces

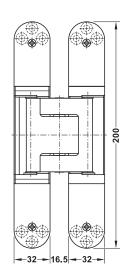
## Concealed Mortice Hinges – Simonswerk For interior doors - 3D adjustable



## **TECTUS TE 540 3D** Concealed mortice hinge, size 200 mm

For flush doors up to 120 kg





> Area of application: For wooden, steel or aluminium frames,

for flush doors

≤120 kg > Door weight: 200 mm Size: > Door thickness: ≥40 mm > Opening angle: ≤180° Router bit Ø: 24 mm > Seal ring Ø: 30 mm

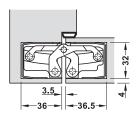
> Adjustment facility:

Continuously 3D adjustable: Side and height ±3 mm, closing pressure: ±1 mm

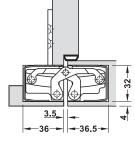
For DIN left and DIN right hand use > Mounting:

"Energy" version for permanent and invisible energy transmission from the door frame to the door leaf optionally available.

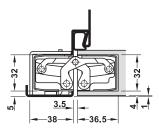
#### Installation



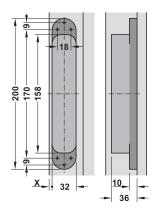
On wooden block frames



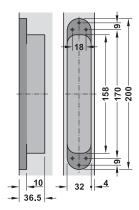
With mounting plate on wooden lining frames



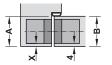
With receiver on steel frames



Routing pattern for wooden block frame, frame



Routing pattern for wooden block frame, door



A = frame rebate depth to sealing level

= door thickness or 1. door rebate

Routing pattern for block frame, cross section

## Calculation of routing dimensions:

The following applies for wooden block frames and wooden lining frames: X = A - B + 4

Prerequisite for X: 4 mm  $\leq$  X  $\leq$  6 mm

The following applies for steel frames: X = 5 mm

Material	Finish	Cat. No.
Covers: Steel,	Stainless steel design	924.17.225
powder coated,	Silver coloured	924.17.223
link: Aluminium	New silver coloured	924.17.224

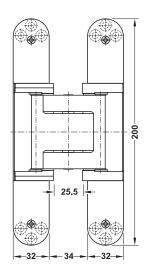
Packing: 1 or 2 pieces

Mounting plate	►AH 4.47
Receiver	►AH 4.48

## **TECTUS TE 540 3D A8** Concealed mortice hinge, size 200 mm

For flush doors up to 100 kg with doubling elements





> Area of application: For wooden, steel or aluminium frames,

for doors with doubling elements

up to 8 mm

Door weight: ≤100 kg > Size: 200 mm Door thickness: ≥40 mm Opening angle: ≤180° Router bit Ø: 24 mm Seal ring Ø: 30 mm

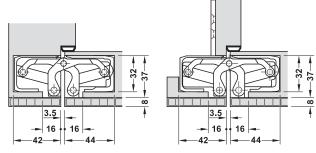
> Adjustment facility: Continuously 3D adjustable:

Side and height ±3 mm, closing pressure: ±1 mm

> Mounting: For DIN left and DIN right hand use

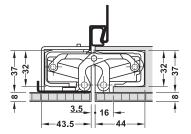
### Note

"Energy" version for permanent and invisible energy transmission from the door frame to the door leaf optionally available.

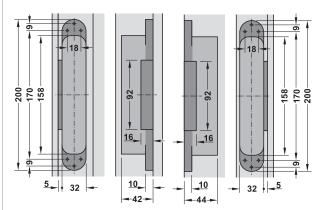


On wooden block frames

With mounting plate on wooden lining frames



With receiver on steel frames



Routing pattern for wooden block frame, frame

Routing pattern for wooden block frame, door



Routing pattern for block frame, cross section

Material	Finish	Cat. No.
Covers: Steel,	Stainless steel design	924.17.325
powder coated,	Silver coloured	924.17.323
link: Aluminium	New silver coloured	924.17.324

Packing: 1 or 2 pieces

Mounting plate	►AH 4.47
Receiver	►AH 4.48

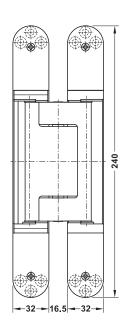
## Concealed Mortice Hinges – Simonswerk For interior doors - 3D adjustable

# HXFELE

## **TECTUS TE 640 3 D** Concealed mortice hinge, size 240 mm

For flush doors up to 200 kg





> Area of application: For wooden, steel or aluminium frames, for flush doors

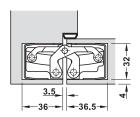
≤200 kg > Door weight: 240 mm > Size: > Door thickness: ≥40 mm > Opening angle: ≤180° Router bit Ø: 24 mm > Seal ring Ø: 30 mm

Continuously 3D adjustable:
Side and height ±3 mm,
closing pressure: ±1 mm
For DIN left and DIN right hand use > Adjustment facility:

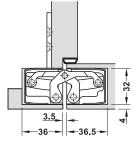
> Mounting:

"Energy" version for permanent and invisible energy transmission from the door frame to the door leaf optionally available.

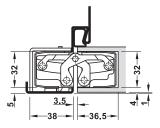
#### Installation



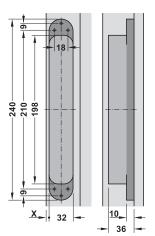
On wooden block frames



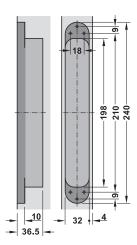
With mounting plate on wooden lining frames



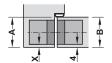
With receiver on steel frames



Routing pattern for wooden block frame, frame



Routing pattern for wooden block frame, door



A = frame rebate depth to sealing level

B = door thickness or 1. door rebate

Routing pattern for block frame, cross section

## Calculation of routing dimensions:

The following applies for wooden block frames and wooden lining frames: A - B + 4

Prerequisite for X: 4 mm  $\leq$  X  $\leq$  6 mm

The following applies for steel frames: X = 5 mm

Material	Finish	Cat. No.
Covers: Steel,	Stainless steel design	924.17.425
powder coated,	Silver coloured	924.17.423
link: Aluminium	New silver coloured	924.17.424

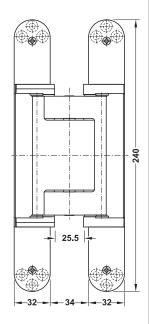
Packing: 1 or 2 pieces

Mounting plate	►AH 4.47
Receiver	►AH 4.48

## TECTUS TE 640 3D A8 Concealed mortice hinge, size 240 mm

For flush doors up to 160 kg, with doubling elements





> Area of application: For wooden, steel or aluminium frames,

for doors with doubling elements

up to 8 mm

> Door weight: ≤160 kg
> Size: 240 mm
> Door thickness: ≥40 mm
> Opening angle: ≤180°
> Router bit Ø: 24 mm
> Seal ring Ø: 30 mm

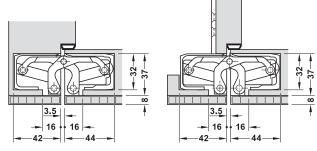
> Adjustment facility: Continuously 3D adjustable:

Side and height ±3 mm, closing pressure: ±1 mm

> Mounting: For DIN left and DIN right hand use

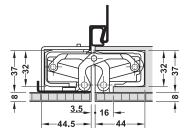
#### Note

"Energy" version for permanent and invisible energy transmission from the door frame to the door leaf optionally available.

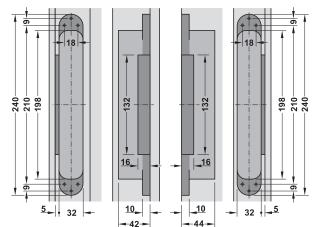


On wooden block frames

With mounting plate on wooden lining frames



With receiver on steel frames



Routing pattern for wooden block frame, frame

Routing pattern for wooden block frame, door



Routing pattern for block frame, cross section

Material	Finish	Cat. No.
Covers: Steel,	Stainless steel design	924.17.525
powder coated,	Silver coloured	924.17.523
link: Aluminium	New silver coloured	924.17.524

Packing: 1 or 2 pieces

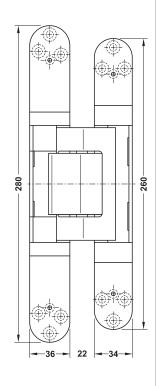
Mounting plate	►AH 4.47
Receiver	►AH 4.48

# For interior doors - 3D adjustable

## **TECTUS TE 645 3D** Concealed mortice hinge, size 280 mm

For flush doors up to 300 kg





> Area of application: For wooden, steel or aluminium frames,

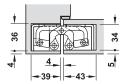
for flush doors

> Door weight: ≤300 kg > Size: 280 mm ≥40 mm > Door thickness: > Opening angle: ≤180° Router bit Ø: 24 mm > Seal ring Ø:

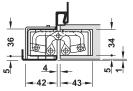
30 mm > Adjustment facility:

Continuously 3D adjustable:
Side and height ±3 mm,
closing pressure: ±1 mm
For DIN left and DIN right hand use > Mounting:

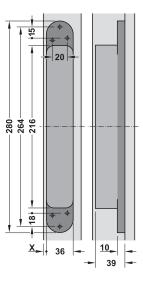
## Installation

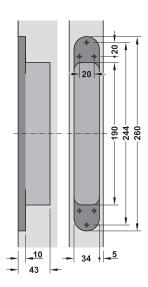


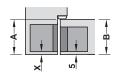
On wooden block frames



With receiver on steel frames







Routing pattern for block frame, frame

Routing pattern for block frame, door

Material	Finish	Cat. No.
Covers: Steel, powder	Silver coloured	924.19.004
coated link: Aluminium	Stainless steel design	924.19.000

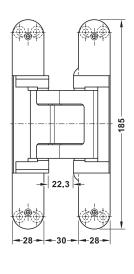
"Energy" version for permanent and invisible energy transmission from the door frame to the door leaf optionally available.

Mounting plate	►AH 4.47
Receiver	►AH 4.48

## **TECTUS TE 541 3D FVZ** Concealed mortice hinge, size 185 mm

For flush doors up to 100 kg, with recessed frame facing





> Area of application: For wooden, steel or aluminium frames, for flush doors with recessed frame facing

> Door weight: ≤100 kg > Size: 185 mm Door thickness: ≥40 mm > Opening angle: > Router bit Ø: ≤180° 24 mm

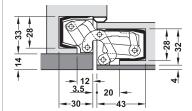
> Seal ring Ø: 30 mm > Adjustment facility:

Continuously 3D adjustable:

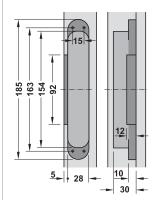
Side and height ±3 mm,

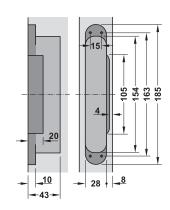
closing pressure: ±1 mm
For DIN left and DIN right hand use > Mounting:

## Installation



Recessed frame facing







Routing pattern for block frame, frame

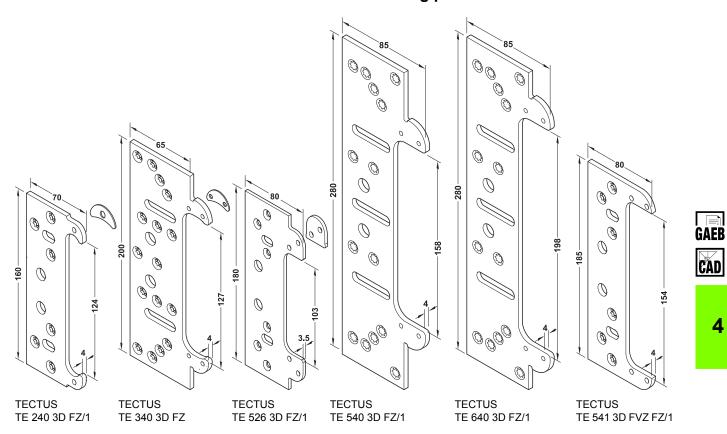
Routing pattern for block frame, door

Material	Finish	Cat. No.
Covers: Steel,	Stainless steel design	924.19.010
powder coated link: aluminium	Silver coloured	924.19.019

Packing: 1 or 2 pieces

Mounting plate	►AH 4.47
Receiver	►AH 4.48

## TECTUS TE 240/340/526/540/541/640 3D FZ/1 Mounting plate



> Area of application: For TECTUS TE 240/340/526/540/640 3D/3D A8/541 3D FVZ concealed mortice hinges, for wooden lining frames

Steel

> Material: > Finish: Galvanized

For DIN left and DIN right hand use > Mounting:

Supplied with

1 mounting plate

2 spacer plates each of 0.5, 1, 2, 3 mm TE 526 without 0.5 mm spacer plates

Model	Cat. No.
TECTUS TE 240 3D FZ/1	924.17.098
TECTUS TE 340 3D FZ	924.17.192
TECTUS TE 526 3D FZ/1	924.04.983
TECTUS TE 540 3D FZ/1	924.17.298
TECTUS TE 640 3D FZ/1	924.17.498
TECTUS TE 541 3D FVZ FZ/1	924.19.027

TECTUS TE 240 3D door hinge	►AH 4.38
TECTUS TE 340 3D door hinge	►AH 4.39
TECTUS TE 526 3D door hinge	►AH 4.40
TECTUS TE 540 3D door hinge	►AH 4.41
TECTUS TE 540 3D A8 door hinge	►AH 4.42
TECTUS TE 640 3D door hinge	►AH 4.43
TECTUS TE 640 3D A8 door hinge	►AH 4.44
TECTUS TE 541 3D FVZ door hinge	►AH 4.46

2.5

## TECTUS TE 240/340/526/540/541/640/645 3D (A8) SZ (SZ/1) Receiver

> Area of application: For TECTUS TE 240/340/525/526/540/541/640/645 3D (A8)

concealed mortice hinge for steel frames

-42.5*-*

> Material: Steel Galvanized > Finish:

For DIN left and DIN right hand use > Mounting:

Model	Dim. A mm	Dim. B mm	Cat. No.
TECTUS TE 240 3D SZ	205	26	924.17.099
TECTUS TE 340 3D SZ/1	225	35.5	924.17.199
TECTUS TE 526 3D SZ	205	35.5	924.05.083
TECTUS TE 540 3D SZ	248	38	924.17.299
TECTUS TE 640 3D SZ	288	38	924.17.499
TECTUS TE 540 3D A8 SZ	250	43	924.17.799
TECTUS TE 640 3D A8 SZ	290	43	924.17.899
TECTUS TE 645 3D SZ	328	42.5	924.19.029
TECTUS TE 541 3D FVZ SZ	235	34.5	924.19.028

		42.5	
<del>38.5</del>   <del>33</del>	38.5	38.5	
27.4 - 33.5 - 33.5 - 26 - 0 0			34.5
-162 -164 -208	248	248	192
TECTUS TE TECTUS TE TECTUS TE 240 3D SZ 340 3D SZ 526 3D SZ 540 3D SZ	TECTUS TE TECTUS TE 540 3D A8 SZ 640 3D SZ	TECTUS TE TECTUS TE 640 3D A8 SZ 645 3D SZ	TECTUS TE 541 3D FVZ SZ

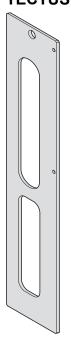
TECTUS TE 240 3D door hinge	►AH 4.38
TECTUS TE 526 3D door hinge	►AH 4.40
TECTUS TE 540 3D door hinge	►AH 4.41
TECTUS TE 540 3D A8 door hinge	►AH 4.42
TECTUS TE 640 3D door hinge	►AH 4.43
TECTUS TE 640 3D A8 door hinge	►AH 4.44
TECTUS TE 645 3D door hinge	►AH 4.45
TECTUS TE 541 3D FVZ door hinge	►AH 4.46







## TECTUS TE 240/340/526/540/640 3D and TECTUS TE 540/640 3D A8 Routing template



> Area of application:
For routing the hinge recesses for TECTUS TE 240/340/526/540/640 3D, TECTUS TE 540/640 3D A8 concealed mortice hinges
> Router bit Ø: 24 mm, with TE 240: 16

> Seal ring Ø: 30 mm

Suitable for	Version	Cat. No.
TECTUS TE 240 3D	Wing part	924.17.600
	Frame part	924.17.601
TECTUS TE 340 3D	Wing and frame part, step 1	924.17.611
	Wing and frame part, step 2	924.17.612
TECTUS TE 526 3D	Wing and frame part	924.02.320
TECTUS TE 540 3D	Wing and frame part, step 1	924.17.621
tECTUS TE 540 3D A8	Wing and frame part, step 2	924.17.622
TECTUS TE 540 3D A8	Wing and frame part, step 3	924.17.623
tECTUS TE 640 3D	Wing and frame part, step 1	924.08.701
tECTUS TE 640 3D A8	Wing and frame part, step 2	924.17.632
TECTUS TE 640 3D A8	Wing and frame part, step 3	924.17.633

#### Note

Following versions are required for each hinge:

Door hinge	Routing template version
TECTUS TE 240 3D	Wing and frame part
TECTUS TE 340 3D	Step 1 and 2
TECTUS TE 526 3D	Wing and frame part
TECTUS TE 540 3D	Step 1 and 2
TECTUS TE 540 3D A8	Step 1, 2 and 3
TECTUS TE 640 3D	Step 1 and 2
TECTUS TE 640 3D A8	Step 1, 2 and 3

## **TECTUS TE 526 3D Drilling jig**



> Area of application: For drilling the fixing holes of TECTUS TE 526 3D concealed mortice hinge

#### Supplied with

1 drilling jig

1 drill bit Ø 3 mm

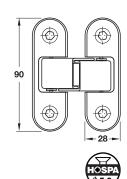
Suitable for	Cat. No.
TECTUS TE 526 3D	924.02.330

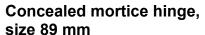
TECTUS TE 240 3D door hinge  ►AH 4.38  TECTUS TE 340 3D door hinge  ►AH 4.39  TECTUS TE 526 3D door hinge  ►AH 4.40  TECTUS TE 540 3D door hinge  ►AH 4.41  TECTUS TE 540 3D A8 door hinge  ►AH 4.42  TECTUS TE 640 3D door hinge  ►AH 4.43  TECTUS TE 640 3D A8 door hinge  ►AH 4.44		
TECTUS TE 526 3D door hinge  ►AH 4.40  TECTUS TE 540 3D door hinge  ►AH 4.41  TECTUS TE 540 3D A8 door hinge  ►AH 4.42  TECTUS TE 640 3D door hinge  ►AH 4.43	TECTUS TE 240 3D door hinge	►AH 4.38
TECTUS TE 540 3D door hinge  ►AH 4.41  TECTUS TE 540 3D A8 door hinge  ►AH 4.42  TECTUS TE 640 3D door hinge  ►AH 4.43	TECTUS TE 340 3D door hinge	►AH 4.39
TECTUS TE 540 3D A8 door hinge  ►AH 4.42  TECTUS TE 640 3D door hinge  ►AH 4.43	TECTUS TE 526 3D door hinge	►AH 4.40
TECTUS TE 640 3D door hinge ►AH 4.43	TECTUS TE 540 3D door hinge	►AH 4.41
	TECTUS TE 540 3D A8 door hinge	►AH 4.42
TECTUS TE 640 3D A8 door hinge ► AH 4.44	TECTUS TE 640 3D door hinge	►AH 4.43
	TECTUS TE 640 3D A8 door hinge	►AH 4.44

## Concealed mortice hinge, size 90 mm

For flush doors up to 50 kg, polyamide housing

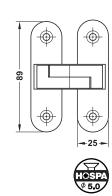






For flush doors up to 40/60 kg, polyamide housing





> Area of application: For wooden frames,

for flush wooden interior doors ≤50 kg with 2 door hinges

> Door weight: > Door thickness: ≥35 mm

Opening angle: ≤180°

Housing: Polyamide, link and Material:

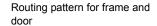
screw-on plate: Stainless steel For DIN left and DIN right hand use > Mounting:

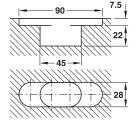
## Installation

GAEB

CAD

4





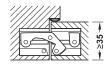
Material	Cat. No.
Polyamide/stainless steel	927.51.003

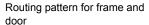
> Area of application: For wooden frames,

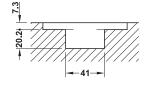
for flush wooden interior doors ≤40 kg with 2 door hinges, ≤60 kg with 3 door hinges ≥35 mm > Door weight:

Door thickness: ≤180° Opening angle:

Material: Housing: Polyamide, link and screw-on plate: Stainless steel For DIN left and DIN right hand use > Mounting:



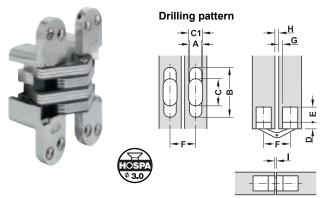




Material	Cat. No.
Polvamide/stainless steel	921.07.400

## Concealed mortice hinge, size 90 mm

For flush doors, zinc alloy housing



Version with plastic slide plates

> Area of application: For wooden frames,

for flush wooden or metal interior doors

> Version: Link with or without plastic slide plates Opening angle:

> Mounting: For DIN left and DIN right hand use

Application and planning dimensions				
For door thickness mm	28–34	35–38	41–45	48–51
Dim. A mm	19.4	25.6	28.5	35.6
Dim. B mm	95.0	117.0	117.5	139.1
Dim. C mm	53.0	66.0	78.0	78.0
Dim. C1 mm	20.0	26.0	31.0	37.0
Dim. D mm	9.5	12.0	10.0	11.9
Dim. E mm	29.0	39.0	43.0	52.0
Gap F mm	32.6	43.7	50.9	62.0
Gap G mm	4.8	6.4	6.4	7.5
Gap H mm	4.0	5.5	9.5	8.0
Gap I mm	1.2	1.6	1.2	1.6

## → Without fire protection

Housing: Zinc alloy, link: Steel > Material:

Door thickness mm	Version	Brass plated	Nickel plated
28–34	Without plastic slide plates	341.07.554	341.07.754
35–38	Without plastic slide plates	341.07.563	341.07.763
41–45	With plastic slide plates	341.07.572	341.07.772
48–51	With plastic slide plates	341.07.581	341.07.781



## → With fire protection



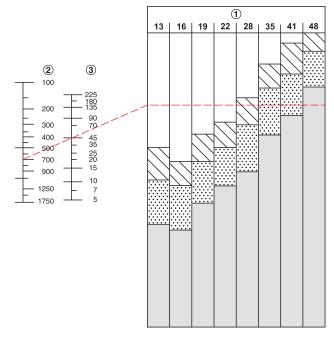
> Material: Steel The use on fire resistant and smoke control doors Standard: in compliance with BS 476, Part 22:1987 is permitted

Door thickness mm	Version	Brass plated	Nickel plated
41–45	Without plastic slide plates	927.50.505	927.50.507

## Order reference

Fixing material supplied.

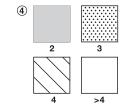
## Reference table for calculating the number of required hinges



#### Example:

A door 700 mm wide that weighs 45 kg and has a thickness of 41 mm would require 3 concealed hinges No. 341.07.572 or 341.07.772

- 1 Door thickness in mm
- (2) Door width in mm
- 3 Door weight in kg
- (4) Number of hinges

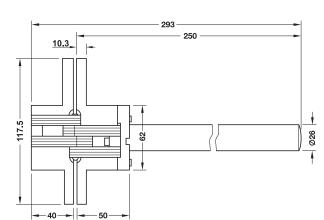






CAD

4



> Area of application: For wooden or metal frames,

for flush wooden or metal interior doors

> Door weight: ≤25 kg, with 3 hinges

Door height: Door width: ≤2,200 mm ≤900 mm Door thickness: ≥41.3 mm Size: 117 mm Opening angle: ≤180°

Version: With door closer function

Steel Material:

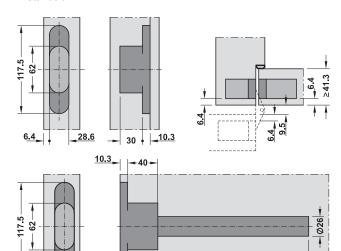
For DIN left and DIN right hand use > Mounting: > Standard: The use on fire resistant and smoke control

doors in compliance with BS 476,

Part 22:1987 is permitted

## Installation

28.6



Finish	Cat. No.
Nickel plated	927.50.207

250

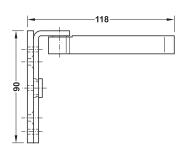
GAEB

4

## **CIR Concealed mortice hinge**

For flush doors





- > Area of application: > Version:
- > Door weight:
- > Adjustment facility:
- > Mounting:

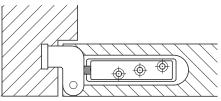
For concealed mounting of flush doors With maintenance-free bearing

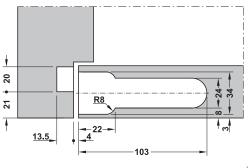
≤70 kg

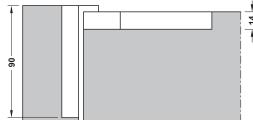
Lateral inclination each side ±3 mm,

closing pressure each ±1.5 mm
For DIN left and DIN right hand use

## Installation







Material	Finish	Cat. No.
Steel	Galvanized	927.54.090

Packing: 1 or 6 sets

## Cover cap For CIR mortice hinge



>	Area of application:	For CIR concealed	mortice hinge
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Material	Finish	Cat. No.
Plastic	Matt chrome plated	927.54.141
	Brass plated	927.54.180

## Routing jig For CIR mortice hinge



_	Area of applications	For CID consocied mortics bings
>	Area of application:	For CIR concealed mortice hinge

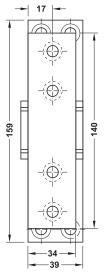
Material	Cat. No.
Steel	927.54.200

CAD

# HAFELE

## Concealed mortice hinge





For installation in wall recesses, for flush wooden or metal doors > Area of application:

> Door height: ≤2,150 mm Door width: Door thickness: ≤1,200 mm 45 mm > Size: > Mate 159 mm Material: Steel

For DIN left and DIN right hand use Mounting: > Standard: Certified for fire resistant and smoke

control doors in compliance with

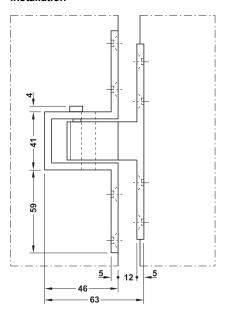
ANSI 156.1 and NFPA 80

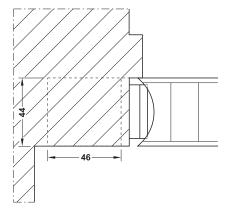
### Note

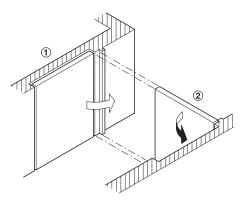
The number of required hinges depends on the door size and door weight.

Max. door size	Max. door weight	Number of
mm	mm	hinges
900 x 2150	68	2
900 x 2150	113	3
1200 x 2150	158	4

#### Installation







1 DIN L 2 DIN R

Finish	Cat. No.
Matt chrome plated	921.07.116