

# Häfele Centor E3 Folding System for Partition Doors

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FINDING BETTER WAYS



Folding partition doors • Product - Häfele Centor E3 System • For sliding end folding timber or timber framed doors



E3 is a folding door hardware system for door panels up to 80 kg

For creating partitions that will allow a seamless transition between indoor and outdoor spaces.

## Häfele Centor E3 folding system for partition doors

E3 is a medium to heavy folding door hardware system for creating partitions that will allow a seamless transition between indoor and outdoor spaces.

E3 is suitable for a range of applications from stylish private residences to the most ambitious storefront, restaurant or commercial project; anywhere the ability to flexibly manage space to suit lifestyle or business is required.

E3-based folding doors promise unprecedented insulation against noise and temperature variation, when doors are closed, and allow for the extra weight of double-glazing. Likewise the ability to utilise even sturdier door construction and materials enhances security and resistance to the elements in the most exposed of applications. The renowned effortless operation of the system, even as maximum panel weight increases, makes E3 the perfect way to utilise bi-fold technology in even the toughest conditions.

### Creating Space

One moment the doors are acting as an effective, secure barrier from rain, wind and noise, the next they're effortlessly moved aside to reveal wide open space – with no fixed glass panels or posts.

The considerable weight-bearing capacity of the elegant, precisely functioning E3 system ensures that possible applications for Centor's bi-fold range are limited only by the imaginations of the world's most progressive architects and designers.

Although engineered to withstand the most severe weather, E3 is just as suited to interior use. The ability to visually and physically connect spaces can be equally beneficial indoors and the sound-proofing effect of double-glazing equally important.

The benefits to the end-user in flexibly managing interior or exterior space to suit lifestyle or business are literally changing the face of contemporary building design.



## Interior Comfort

E3 is truly a system for all seasons and all locations. Teamed with quality door panels (not supplied), E3 hardware ensures a formidable barrier against the elements when closed. The integrity of the required internal environment is never compromised.

## Rain and Wind

E3 hardware was utilised in the first tracked bi-folding door system to be certified under Australian Standard AS2047, which specifies the weather performance required of external windows and sliding doors.

Doors utilising the heavier E4 system have since passed all tests required for product approval; from Florida's meticulous Miami-Dade County testing authorities - (the single toughest standard of testing anywhere in the world) from a region legendary for its coastal hurricanes and seasonal weather. With the same technology built into E3, impressive water performance ratings are achievable from both outward and inward opening doors. Driving rain and howling gales can be shut out completely.



## Air Infiltration

The E3 system achieves its superior rain and wind resistance in part from the way it allows the folding doors to close snugly against weather seals. In the same way doors using E3 effectively resist air infiltration to a level up to 50 times better than a conventional sliding door.

## Noise and Temperature

With double glazing allowed for by E3's impressive panel weight capacity, unprecedented levels of insulation against noise and temperature variation are possible.



## Effortless Operation

Whilst E3's outstanding performance as part of a secure, weatherproof barrier is crucial, it's not until the doors are opened that the space transforming benefits of the system truly come into play. For maximum enjoyment and use of the system, every effort has been made to ensure that doors glide open and slide shut with the minimum of effort throughout their working life.

## Quality Manufacture, Innovative Design

E3 carriers, guides and pivots use the highest grade stainless steel bearings, custom machined to extremely fine tolerances on state-of-the-art German and Swiss machinery with a minimum of six bearings to each carrier. Machined wheels are individually precision ground to an ultra-fine hone. An innovative carrier design prevents scraping on the inside of the overhead track. A polypropylene floor channel lining adds to the smooth, almost silent rolling action which makes the doors a pleasure to operate.



## Assembly and Installation

With quick-fix surface-mounted fittings assembly and installation couldn't be easier. Comprehensive instructions are included and drilling jigs are available to ensure precise placement of fittings.

## Adjustment

Whilst E3 is designed to operate flawlessly, built-in adjustment mechanisms make the system tolerant of an imperfect world. Surelock™, a patented carrier pin locking system ensures that once heights are set they stay set, but should door panels swell or a newly built structure settle over time, the end-user can easily make vertical and lateral adjustments simply using a screwdriver.



- **Application:** High quality top hung folding door system for residential or commercial applications. Complete with weather seals which are suitable for coastal applications.
- **Function:** Normally used for outward opening doors. Inward opening doors are possible, please contact the Architectural Ironmongery department for further details.
- **Range:**  
 Door type: **Non rebated equal sized doors**  
 Max. panel weight: **80 kg**  
 Max. panel height: **3000 mm**  
 Max. panel width: **1000 mm**  
 Max. opening: **16 m**  
 Panel thickness: **35-68 mm**  
 Max. number of panels: Up to **8 panels** to each side. Odd or even number of doors can be used.  
**Note:** Range dims given are intended as a guide only. Calculated weight check should be performed to ensure doors built to maximum height and width do not exceed maximum weight.
- **Adjustability:** 10 mm vertical adjustment on all pivots and carriers. 8 mm lateral adjustment on each pivot set. Cut-out in track allows simple removal of hardware
- **Durability:** Hardware is made using 304 and 316 stainless steel. System tested to exceed 50,000 operations. Salt spray corrosion tested



## Door size calculation

To calculate the dimensions of the doors or openings we strongly recommend you contact the Architectural Ironmongery Department for advice.

To manually calculate door sizing for an opening, follow the following steps:

1. Prepare a basic sketch of your door opening (see worked example), to visualise clearances and check sizes.
2. The calculation is based on all panels being equal width, using half-offset hinges. Note that the allowance between each panel is 4 mm although hinge thickness is less - this allowance has been determined by consultation with fabricators as the best approximation for calculation. Clearance between hinges and hinge pins, coupled with the pressure from compression seals accounts for the allowance being larger than the nominal hinge flap thickness.
3. Recommended clearances are as follows:  
 Jamb to panel (door closed): **7 mm**  
 Panel to panel (door closed): **4 mm**  
 Top of panel to head: **5 mm**  
 Bottom of panel to sill: **10.0 mm**
4. Panel width: **W**  
 Opening width: **L**  
 Total number of panels: **N**  
 Panel width is: 
$$W = \frac{L - 14 - (4 \times (N - 1))}{N}$$

## Worked examples

Clear opening size 2425 high x 4200 wide (L), and a 3L x 2R arrangement

$$W = \frac{4200 - 14 - (4 \times (5 - 1))}{5}$$

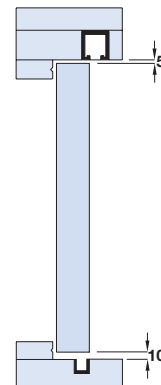
$$W = 834 \text{ mm}$$

Check against your door layout:

$$L = 2(7.0) + 4(4) + 5(834) = 4200 \text{ (OK)}$$

The panel height is the opening height less the nominal top and bottom clearances:

$$\text{Panel height } H = 2425 - 5 - 10 = 2410 \text{ mm}$$



**\*\*Note:** For even sets, e.g. 2L2R or 4L2R, the meeting gap would be larger - double seals are used to close the gap.

$$W = \frac{L - 14 - (4 \times N)}{N}$$

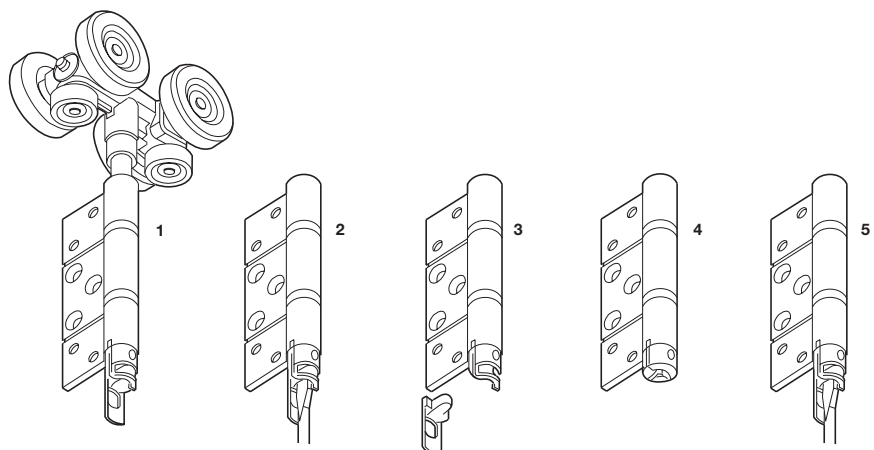
## Surelock™ adjustment

Surelock™ is the trademark for Centor's carrier pin locking system (patents granted).

Carrier pins at the top pivot, intermediate and end carriers support the full door weight and it is here that the height of the panels is adjusted. Surelock™ ensures that once the heights are set, they are set.

### Using Surelock™ is simple

1. Surelock™ is supplied with a plastic shipping clip installed to make initial adjustment very easy.
2. Insert a flat bladed screwdriver into the slot to rotate the pin
3. When correct adjustment is reached and doors operate well, remove the shipping clip (it's bright yellow to help you remember).
4. Surelock will automatically snap into place when the blade and slot are aligned.
5. To readjust at a later date, simply pull the blade down to disengage it from the slot, replace plastic shipping clip and rotate the pin.



**Common outward panel layouts**

Type	Outward opening configuration	Fittings required
2L	inside <b>not accessible from exterior</b> outside	1 x pivot set (F) 1 x wall pivot set (G) 1 x right carrier set (C) 1 x hinge set (J) 2 x dropbolt (P)
2L1R	inside outside	2 x pivot set (F) 2 x wall pivot set (G) 1 x right carrier set (C) 1 x hinge set (J) 2 x dropbolt (P)
3L	inside outside	1 x pivot set (F) 1 x wall pivot set (G) 1 x intermediate carrier set (B) 1 x half offset hinge set (I) 2 x dropbolt (P)
3L1R	inside outside	2 x pivot set (F) 2 x wall pivot set (G) 1 x intermediate carrier set (B) 1 x half offset hinge set (I) 4 x dropbolt (P)
4L	inside outside	1 x pivot set (F) 1 x wall pivot set (G) 1 x intermediate carrier set (B) 1 x right carrier set (C) 2 x half offset hinge set (I) 4 x dropbolt (P)
4L1R	inside outside	2 x pivot set (F) 2 x wall pivot set (G) 1 x intermediate carrier set (B) 1 x right carrier set (C) 2 x half offset hinge set (I) 4 x dropbolt (P)
3L2R	inside outside	2 x pivot set (F) 2 x wall pivot set (G) 1 x intermediate carrier set (B) 1 x left carrier set (C) 1 x hinge set (J) 1 x half offset hinge set (I) 4 x dropbolt (P)
5L	inside outside	1 x pivot set (F) 1 x wall pivot set (G) 2 x intermediate carrier set (B) 1 x hinge set (J) 1 x half offset hinge set (I) 4 x dropbolt (P)
3L3R	inside outside <b>may be reversed</b>	2 x pivot set (F) 2 x wall pivot set (G) 2 x intermediate carrier set (B) 2 x half offset hinge set (I) 6 x dropbolt (P)
7L	inside outside	1 x pivot set (F) 1 x wall pivot set (G) 3 x intermediate carrier set (B) 2 x hinge set (J) 1 x half offset hinge set (I) 6 x dropbolt (P)
4L3R	inside outside	2 x pivot set (F) 2 x wall pivot set (G) 2 x intermediate carrier set (B) 1 x right carrier set (C) 3 x half offset hinge set (I) 6 x dropbolt (P)
5L2R	inside outside	2 x pivot set (F) 2 x wall pivot set (G) 2 x intermediate carrier set (B) 1 x left carrier set (C) 2 x hinge set (J) 1 x half offset hinge set (I) 6 x dropbolt (P)
5L3R	inside outside	2 x pivot set (F) 2 x wall pivot set (G) 3 x intermediate carrier set (B) 1 x hinge set (J) 2 x half offset hinge set (I) 8 x dropbolt (P)

**Top tracks, bottom channels and seals to be ordered as separate items**

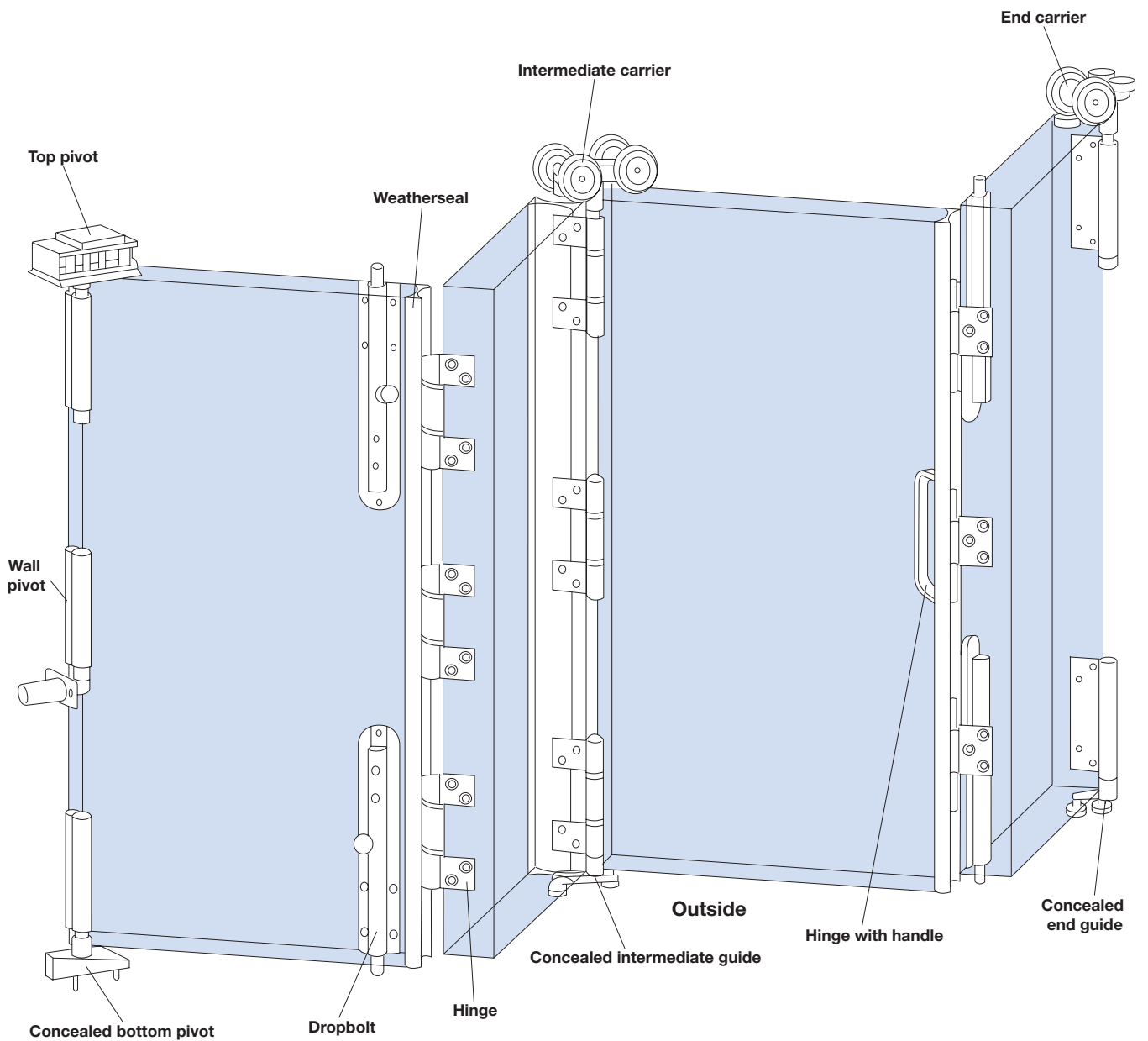
Type	Outward opening configuration	Fittings required
2R	inside outside	1 x pivot set (F) 1 x wall pivot set (G) 1 x left carrier set (C) 1 x hinge set (J) 2 x dropbolt (P)
1L2R	inside outside	2 x pivot set (F) 2 x wall pivot set (G) 1 x right carrier set (C) 1 x hinge set (J) 2 x dropbolt (P)
3R	inside outside	1 x pivot set (F) 1 x wall pivot set (G) 1 x intermediate carrier set (B) 1 x half offset hinge set (I) 2 x dropbolt (P)
1L3R	inside outside	2 x pivot set (F) 2 x wall pivot set (G) 1 x intermediate carrier set (B) 1 x half offset hinge set (I) 4 x dropbolt (P)
2L2R	inside outside	2 x pivot set (F) 2 x wall pivot set (G) 1 x right carrier set (C) 1 x left carrier set (C) 2 x hinge set (J) 4 x dropbolt (P)
1L4R	inside outside	2 x pivot set (F) 2 x wall pivot set (G) 1 x intermediate carrier set (B) 1 x left carrier set (C) 2 x half offset hinge set (I) 4 x dropbolt (P)
4R	inside outside	1 x pivot set (F) 1 x wall pivot set (G) 1 x intermediate carrier set (B) 1 x left carrier set (C) 2 x half offset hinge set (I) 4 x dropbolt (P)
2L3R	inside outside	2 x pivot set (F) 2 x wall pivot set (G) 1 x intermediate carrier set (B) 1 x right carrier set (C) 1 x hinge set (J) 1 x half offset hinge set (I) 4 x dropbolt (P)
5R	inside outside	1 x pivot set (F) 1 x wall pivot set (G) 2 x intermediate carrier set (B) 1 x hinge set (J) 1 x half offset hinge set (I) 4 x dropbolt (P)
3L4R	inside outside	2 x pivot set (F) 2 x wall pivot set (G) 2 x intermediate carrier set (B) 1 x left carrier set (C) 3 x half offset hinge set (I) 6 x dropbolt (P)
7R	inside outside	1 x pivot set (F) 1 x wall pivot set (G) 3 x intermediate carrier set (B) 2 x hinge set (J) 1 x half offset hinge set (I) 6 x dropbolt (P)
2L5R	inside outside	2 x pivot set (F) 2 x wall pivot set (G) 2 x intermediate carrier set (B) 1 x right carrier set (C) 2 x hinge set (J) 1 x half offset hinge set (I) 6 x dropbolt (P)
8R	inside outside <b>not accessible from exterior</b>	1 x pivot set (F) 1 x wall pivot set (G) 3 x intermediate carrier set (B) 1 x left carrier set (C) 2 x hinge set (J) 2 x half offset hinge set (I) 8 x dropbolt (P)

**E3 Component Parts**

Stainless steel carriers, wall pivots and hinges with aluminium tracks, channels and drop bolts



**Outside opening configuration**



**A Top track**

Anodised aluminium

Length	2330 mm	2930 mm
Silver	943.44.923	943.44.929
Gold	943.44.823	943.44.829

Order qty: 1 pc (2330 mm or 2930 mm length)

**B Intermediate carrier set, concealed**

Stainless steel

Finish	Cat. No.
Satin stainless steel	943.44.120
Titanium gold	943.44.128

Order qty: 1 set

**C End carrier set**

Handed. Stainless steel

Finish	Left handed	Right handed
Satin stainless steel	943.44.130	943.44.140
Titanium gold	943.44.138	943.44.148

Order qty: 1 set

**D Bottom channel**

Anodised aluminium

Length	2400 mm	3000 mm
Silver	943.45.923	943.45.929
Gold	943.45.823	943.45.829

Order qty: 1 pc (2400 mm or 3000 mm length)

**E Bottom channel insert**

For insertion in channel **D** or sill **V**. Black plastic

Length	Cat. No.
2400 mm	943.45.723
3000 mm	943.45.729

Order qty: 1 pc (2400 mm or 3000 mm length)

**F Pivot set, concealed**

Stainless steel

Finish	Cat. No.
Satin stainless steel	943.44.100
Titanium gold	943.44.108

Order qty: 1 set

**G Wall pivot set**

We would recommend use of wall pivot set on all sized door panels but must be used on door panels over 2150 mm. Stainless steel

Finish	Cat. No.
Satin stainless steel	943.44.110
Titanium gold	943.44.118

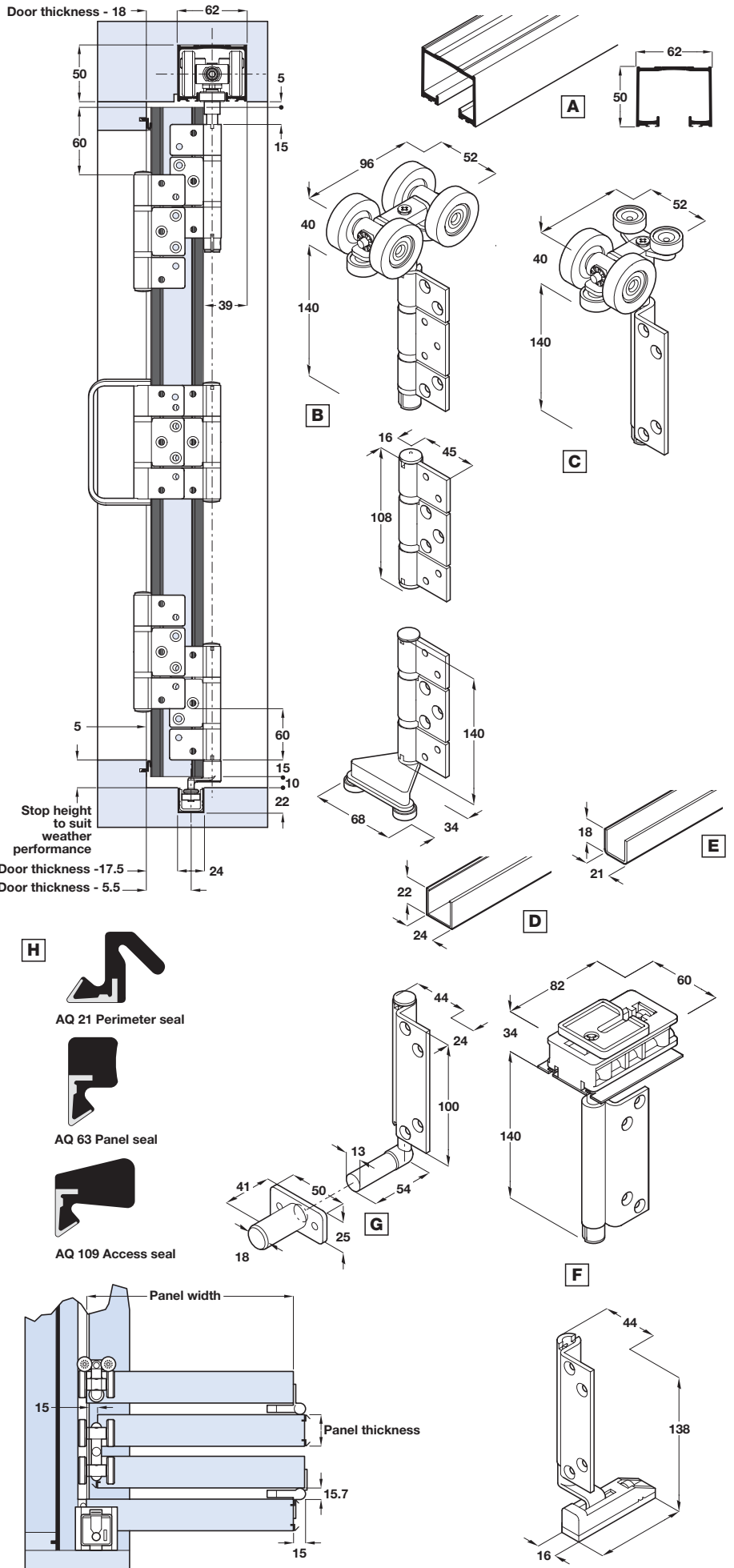
Order qty: 1 set

**H Seal**

Rubber

Type	Roll length	Brown	White
AQ 21 Perimeter	15 m	950.03.001	950.03.007
AQ 63 Panel	6 m	950.03.011	950.03.017
AQ 109 Access	6 m	950.03.021	950.03.027

Order qty: 1 roll



**I Hinge set, half offset**

Stainless steel

Finish	Cat. No.
Satin stainless steel	943.44.200
Titanium gold	943.44.208

Order qty: 1 set

**J Hinge set, straight**

Stainless steel

Finish	Cat. No.
Satin stainless steel	943.44.210
Titanium gold	943.44.218

Order qty: 1 set

**K Half hinge set, half offset, without handles**

Stainless steel

Finish	Cat. No.
Satin stainless steel	943.44.220
Titanium gold	943.44.228

Order qty: 1 set

**L Hinge set, straight, without handles**

Stainless steel

Finish	Supp. Ref.
Satin stainless steel	943.44.230
Titanium gold	943.44.238

Order qty: 1 set

**M Hinge, half offset, single**

Stainless steel

Finish	Cat. No.
Satin stainless steel	943.44.240
Titanium gold	943.44.248

Order qty: 1 pc

**N Hinge, straight, single**

Stainless steel

Finish	Cat. No.
Satin stainless steel	943.44.250
Titanium gold	943.44.258

Order qty: 1 pc

**O External single handle**

Stainless steel

Finish	Cat. No.
Satin stainless steel	943.44.150
Titanium gold	943.44.158

Order qty: 1 pc

**P Drop bolt, outward opening**

For bottom applications use with box keeper **U** shown on page 9. Aluminium

<b>Keyed</b>	Cat. No.	
Length	Silver anodised	Gold anodised
200 mm	943.44.401	943.44.451
<b>Non-keyed</b>		
200 mm	943.44.400	943.44.450
400 mm	943.44.410	943.44.460
600 mm	943.44.420	943.44.470

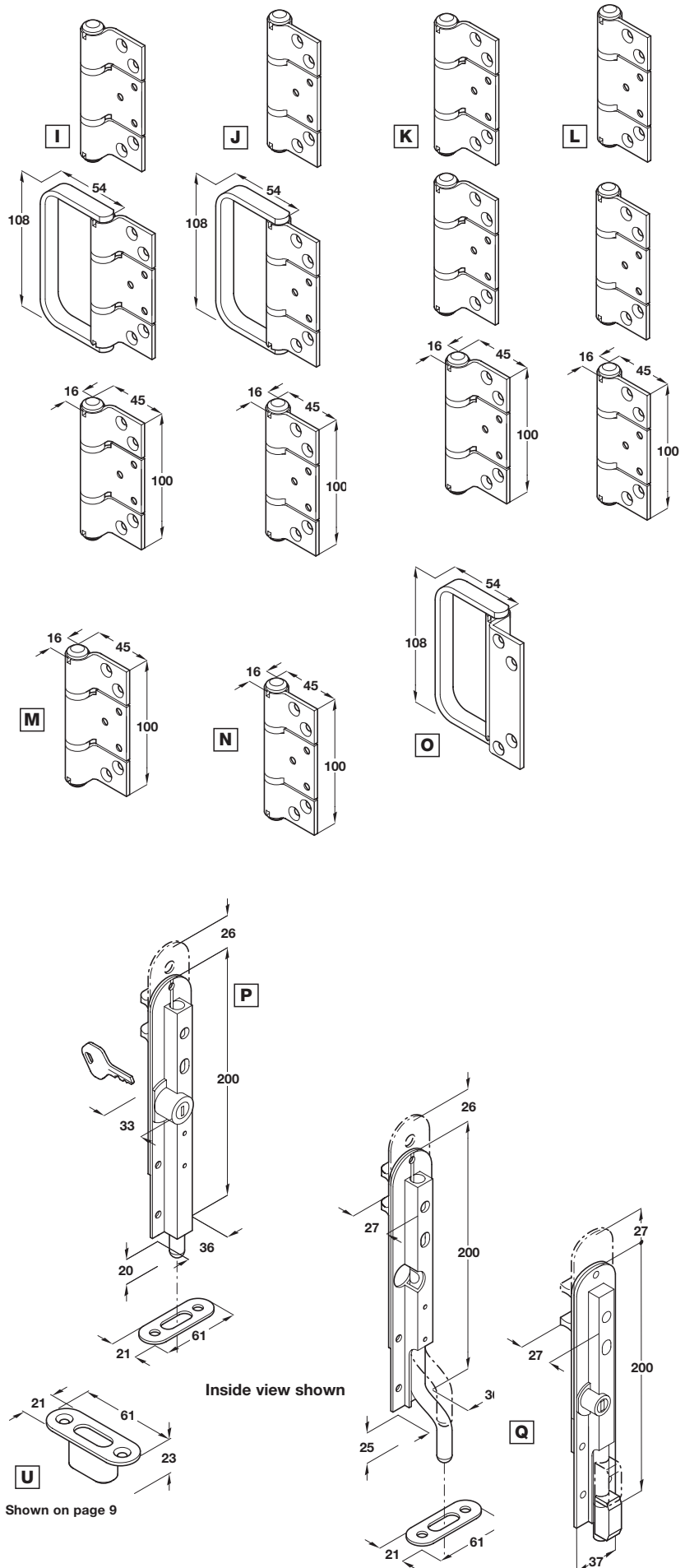
Order qty: 1 pc

**Q Drop bolt, inward opening**

Aluminium

<b>Keyed</b>	Cat. No.	
Length	Silver anodised	Gold anodised
200 mm	943.44.301	943.44.351
<b>Non-keyed</b>		
200 mm	943.44.300	943.44.350
400 mm	943.44.310	943.44.360
600 mm	943.44.320	943.44.370
<b>Concealed</b>		
200 mm	943.44.302	943.44.352

Order qty: 1 pc



**R Drilling jig (optional)**

Aluminium

Cat. No.	943.44.090
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Order qty: 1 pc

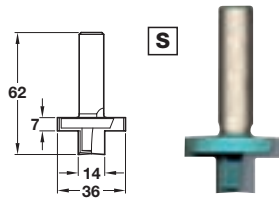


**S Router bit (optional)**

Steel

Cat. No.	943.44.398
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Order qty: 1 pc

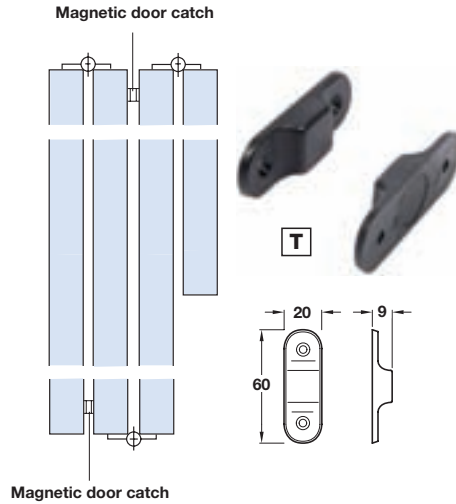


**T Magnetic door catch**

To act as a hold back catch on hinged doors.  
Fixings included. Black plastic

Cat. No.	943.44.080
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Order qty: 1 pc

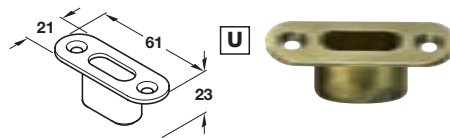


**U Box keeper sill protection cup**

For use with outward opening drop bolt **P**, shown on page **8**, when used with E3 sill **V**. Aluminium

Finish	Cat. No.
Satin chrome	943.44.384
Satin brass	943.44.388

Order qty: 1 pc

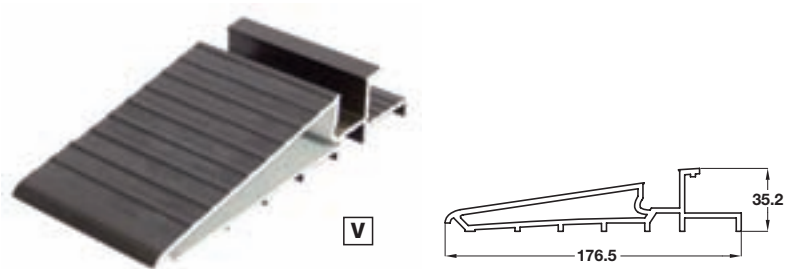


**V E3 concealed disabled sill, machined**

When this profile is used with a weatherstrip height of less than 15 mm, the opening will meet the disability access requirements (BS 8300:2001). 3.6 m length. Aluminium

Finish	Cat. No.
Dark brown	950.03.101
Anodised aluminium	950.03.109

Order qty: 1 pc (3.6 m length)

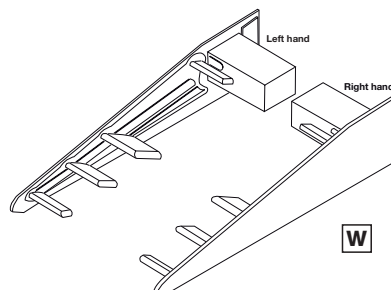


**W E3 concealed disabled sill end cap**

Handed. For use with E3 sill **V**. Black plastic

Hand	Left	Right
Cat. No.	950.03.190	950.03.191

Order qty: 1 pc



# Häfele UK Contact Details

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Because the range of fittings we offer is so comprehensive we have, at Häfele, a Specialist Sales Team to give you expert advice and service. The Team includes Dip GAI certificate holders and Reg. AIs (Registered Ironmongers) who have many years of experience supplying the industry. We offer a comprehensive free scheduling service, a free recommendation and quotation service for all our systems, and technical advice. If you have any queries about your order or our products please contact either the:



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We currently offer the following **free** of charge seminars on:

- The what, why and where of sliding door gear
- Frameless glass fittings for doors, screens and canopies
- Defining electronic access control

For further information please contact us or e-mail [cpd@hafele.co.uk](mailto:cpd@hafele.co.uk)



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