

Technical Information

The following issues should be considered during the hinge selection process in order to prevent damage and/or hinge failure. All CEAM hinges come with a 2 year manufacturer's guarantee subject to following points:

- Place of use and frequency of opening
- Weight of the door leaf
- Door closer internal or external side
- Automatic or semi-automatic opening systems
- Door dimensions
- Placement and installation of the hinges
- Coating or baseboard
- Direction of use & installation

In public buildings, due to the high opening & closing frequencies of the doors, it is recommended to always calculate the door to be heavier than it actually is. Better to over spec the door than under spec it, even if the weight and size of the door does not require a third or fourth hinge. CEAM hinges conform to the strictest European standards and regulations; they have passed all the necessary stress, corrosion resistance, fire resistance, flow and durability tests in Europe. CEAM tests its hinges on doors that are 2100 x 850mm and 2100 x 1000mm in size. For an ideal performance, it is advisable to lubricate the hinge with a silicon based lubricant once every two years or more, depending on the frequency of opening.

USE OF A DOOR CLOSER

When using a door closer (SLIDE ARM CAM ACTION ONLY), CEAM suggest mounting an additional hinge in the upper part of the door, as these mechanisms modify the opening forces on the door. A door closer will increase the load on the door effectively making the door heavier than it actually is. As a result it may alter or compromise the capacity and integrity of the hinges selected. Please select the correct hinge model with this in mind.

- For door closers without an opening force, CEAM suggest considering the door to be 25% heavier than it actually is.
- For door closers with an opening force (BACKCHECK FUNCTION) the effect is much greater; it is estimated that the door leaf effective mass is 75% heavier than it actually is. Please consult our technical department for more information.

HINGE SELECTION

The information contained within this document is intended as a guide only. In practice, the variables that affect the correct function of an invisible hinge are numerous. Some facts that need to be taken into consideration include: the nature of the door, opening and closing frequency, weight and door size, etc. It is expected that analysis of relevant key points is taken into consideration during the hinge selection process. The customer must be sure the hinge selected is suitable for the door and environment in question, and are appropriate to satisfy even external factors beyond what is indicated by the hinges specification. If necessary, please contact our technical department for more information.

- A fifth hinge does not increase load capacity but it can better guide the door in case of height >3000 mm and in case of door closer use
- For doors wider than 1000mm it is preferable to place a hinge in support of the upper hinge (for doors with 3 asymmetric and 4 hinges), i.e. 3 hinges at the top of the door

TAILOR MADE

For special applications, if none of the published hinges in this catalogue are suitable, please provide us more information about your technical and design needs. The CEAM invisible hinge range is extensive and we may have a model better suited for your requirements.

ADJUSTMENT IN 3 DIMENSIONS

Every adjustment requires adequate attention. The adjustment range indicated MUST be absolutely respected. Excessive force during adjustments may lead to a possible malfunction in the hinge that could cause the hinge to fail.

ZERO POSITION

All CEAM hinges are delivered with all the adjustments centred.

After installation and after each adjustment all components must be tightened firmly.

ADJUSTMENT ON THE THREE INDEPENDENT AXES

Horizontal	from -1.5 mm to + 3.0 mm (see individual specifications)
Vertical	from -3.0 mm to + 3.0 mm (see individual specifications)
Depth	+/- 1.0 mm

Please see page 66 - 67 for instructions on how to make adjustments to the Axes for different hinge types.

Installation: Jig, Templates & Routers

Jig Type 1: Jig, Templates & Router - Purchase Only

Complete installation kit - Suitable for fully upright assembled doors and jambs

Easy on-site installation using CEAM's new complete router kit; suitable for the full range of CEAM concealed hinges (excluding the BAC929 & BAC2010). Installation is a one step operation. Faster, easier, smarter. No need to change templates. No need to measure or mark the door or jamb.

Main Features:

- Designed for on-site installation
- Includes all hinge templates (excluding the BAC929 & BAC2010)
- Double Insulation
- Input Power 1000W
- No-load speed: 14000 - 27000/ mm
- Chuck collet: 8mm
- Max. Bit diameter 32mm
- Max. Drilling dimension: 165 x 74mm
- Max. Drilling depth: 40mm
- Clamp opening: 33 - 200mm
- Weight: 4.3Kg



JIG Type 1

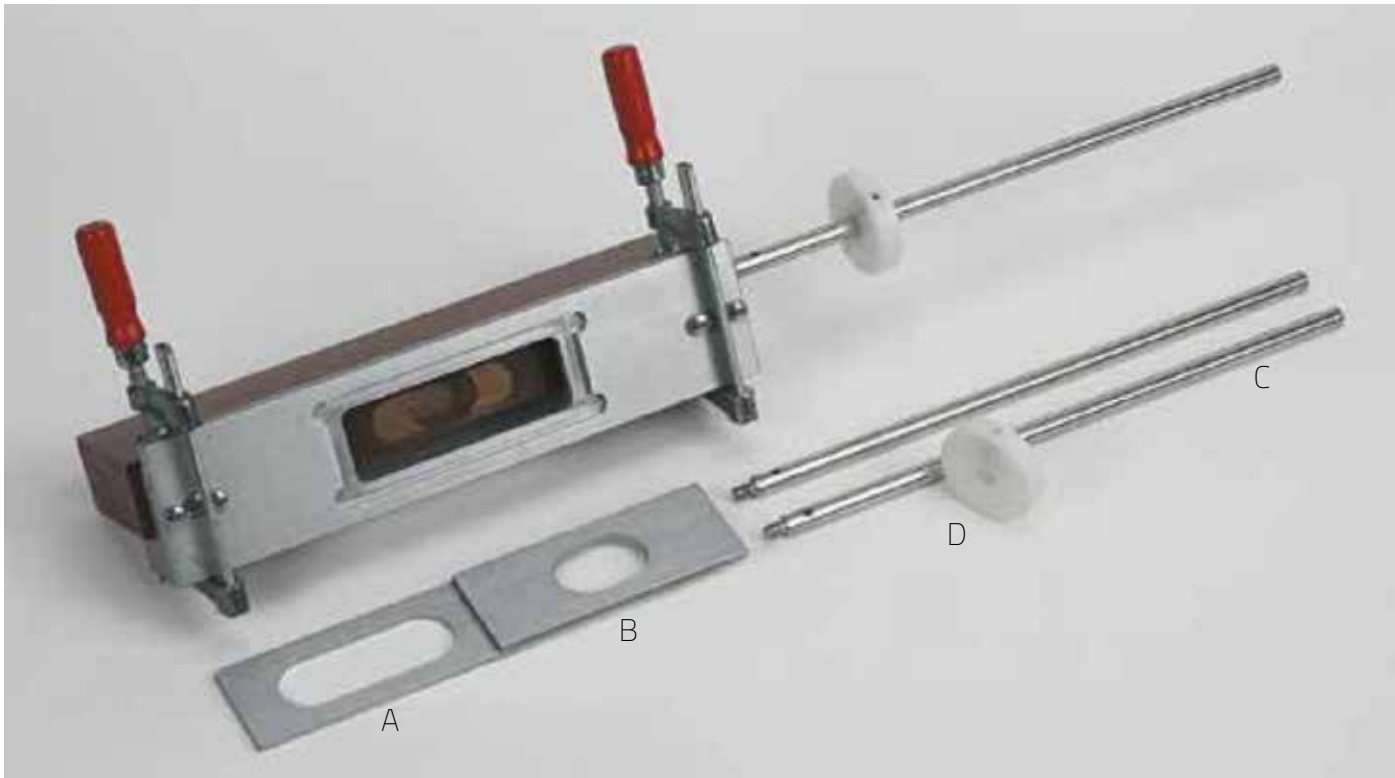
BACJIGX1B	Purchase of complete kit
Kit Contents	Router, jig and all hinge templates - ex. BAC929 & BAC2010

A complete video of the installation process using both jig types is available on the Bellevue Architectural website - www.bellevuearch.com.au/videos

Installation: Jig, Templates & Routers

Jig Type 2: Jig & Template Only - Rent or Purchase

Use your own router and template guide - Suitable for unassembled doors and jambs



The routing templates (A & B), which comprise of a frame and two inserts, enables the drilling/routing of two slots for the invisible hinges body. The templates are made from 5mm thick aluminium plates.

The strength of the template material guarantees precise execution of the rebates when used with a manual router. A 16mm diam. router bit is required to create the correct size hinge rebate in the Timber. It is used in-conjunction with a 27mm external router template guide. Without the router template guide, the rebate will not be the correct dimensions, the router bit will damage the templates, and the hinge will not fit the cut-out.

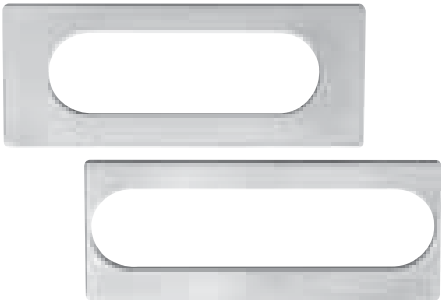
The 16mm diameter router drill bit and the 27mm external router guide are not supplied with the templates or the jig. These items are specific to the brand of router used.

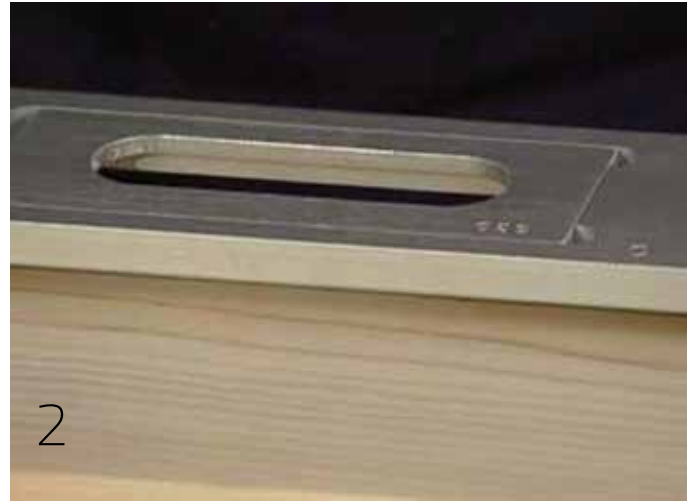
For each hinge model, two types of insertions (easily replaceable) are used: one (A) to route the hinge wing slots and the other (B) to cater for the internal depth of the hinge.

The equipment is completed with:
Extension arms (C) with a nylon ring (D), they allow to establish the desired distance between slots on the door - both left and right - and on the frame.

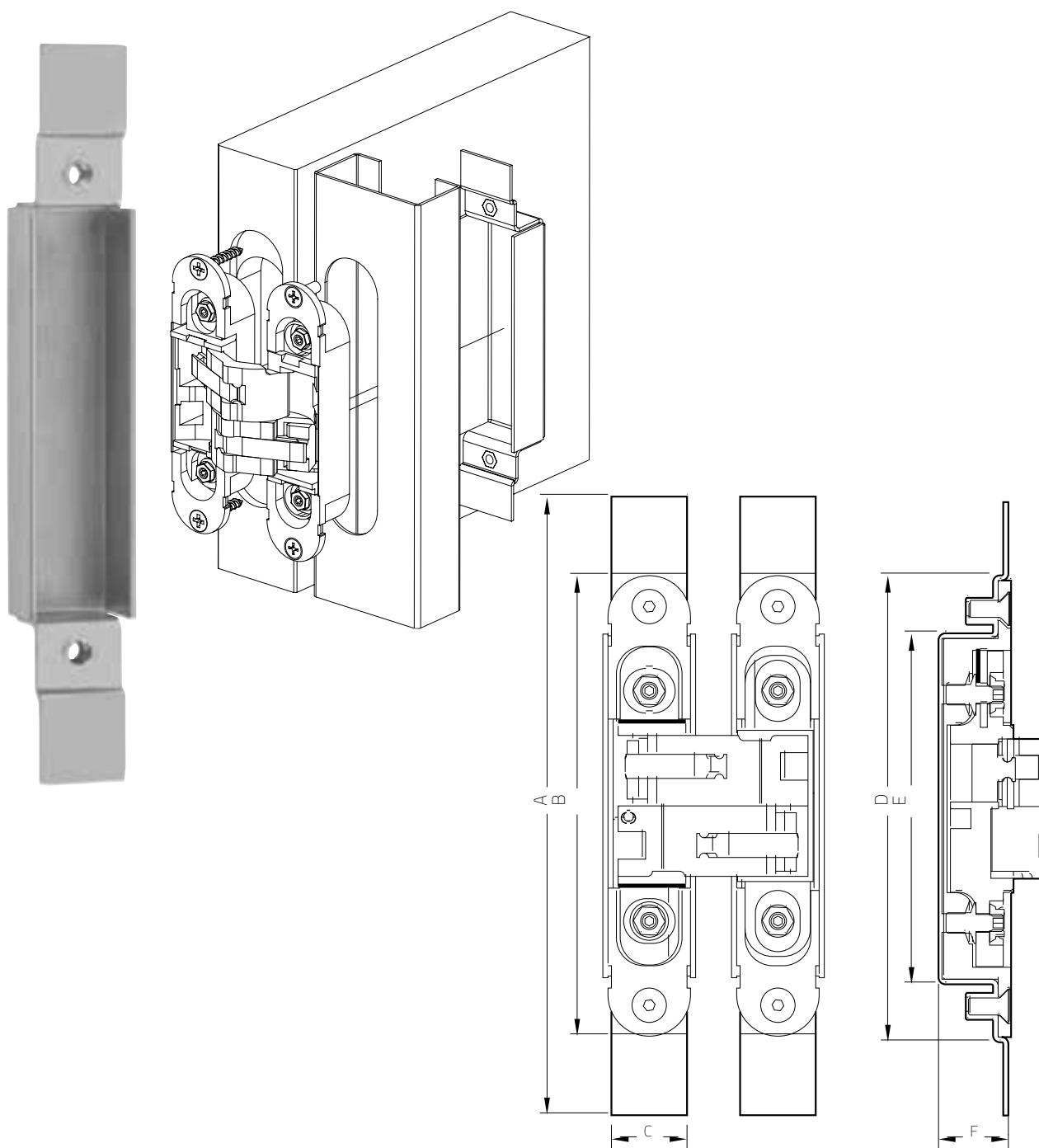
Templates *
These are very important, as they must match the hinge model being used. The reference number for both the templates are stamped on each. If the incorrect template, router bit or guide is used, the hinge will not fit into the rebate which has been routed into the door and jamb.

JIG Type 2	
BACJIGX3B	Purchase jig only (for use with all models of hinges except BAC929)
BACJIGX3R	Rent Per Week jig only (for use with all models of hinges except BAC929)
BACJIG929B	Purchase BAC929 jig only
BACJIG929R	Rent Per Week BAC929 jig only
BACTXXXXB	Purchase template to suit model of hinge
BACTXXXXR	Rent Per Week template to suit model of hinge





Fixing Box for Metal Jambs & Doors



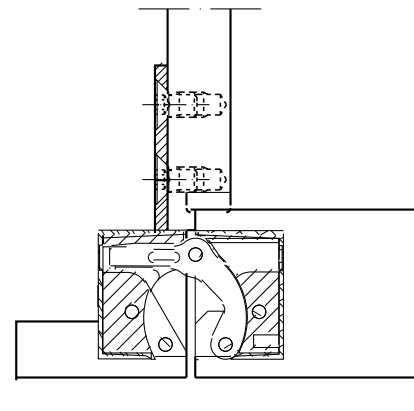
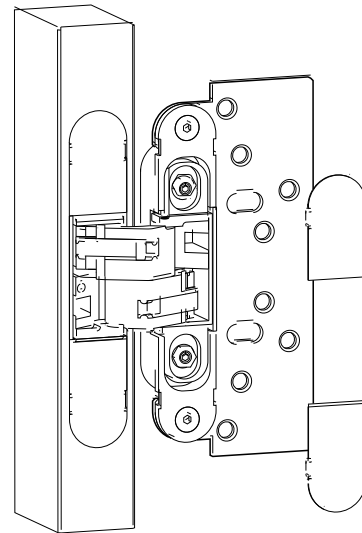
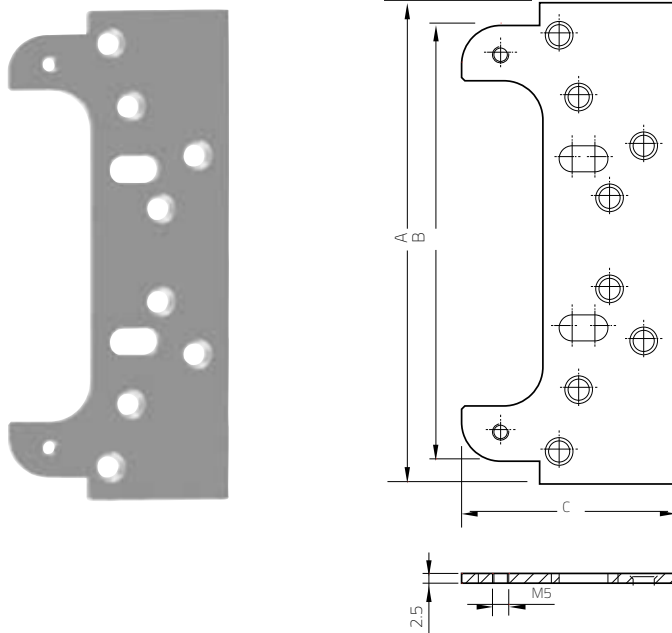
Fixing Box Dimensions

Code.	A	B	C	D	E	F
BAC1130XGP	180mm	134mm	22mm	137mm	103mm	21mm
BAC1230XGP	180mm	130mm	29mm	133mm	105mm	21mm
BAC1131XGP	198mm	161mm	30mm	164mm	133mm	31mm
BAC1430XGP	180mm	129mm	19mm	129mm	100mm	21mm
BAC1431XGP	233mm	184mm	30mm	187mm	153mm	28mm
BAC1432XGP	277mm	230mm	30mm	235mm	203mm	31mm

The BACXGP metal fixing box is used to fit a concealed hinge to a metal hollow section of a post, jamb or door.

Offset Fixing Plate

Suitable for Jamb Fix Only



Offset Fixing Plate Dimensions

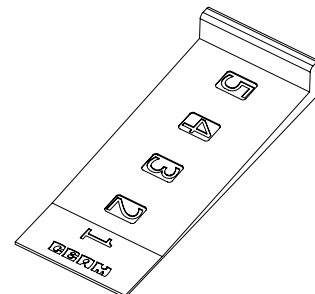
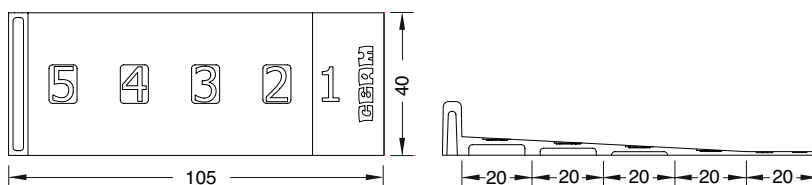
Code	A	B	C	D
BAC1130XFPO	148mm	134mm	134mm	2.5mm
BAC1230XFPO	136mm	136mm	70mm	3mm
BAC1131XFPO	180mm	166mm	74mm	3mm
BAC1430XFPO	134mm	120mm	66mm	3mm

The BAC1XFPO offset fixing plate, when used in conjunction with the concealed hinge, allows a door to be hung offset to a wall or timber/metal post or door jamb where required.

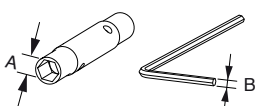
Adjustment Wedge

BACWEG Adjustment Wedge

An aid to assist in positioning the door when hanging using CEAM concealed hinges



Adjustment Keys

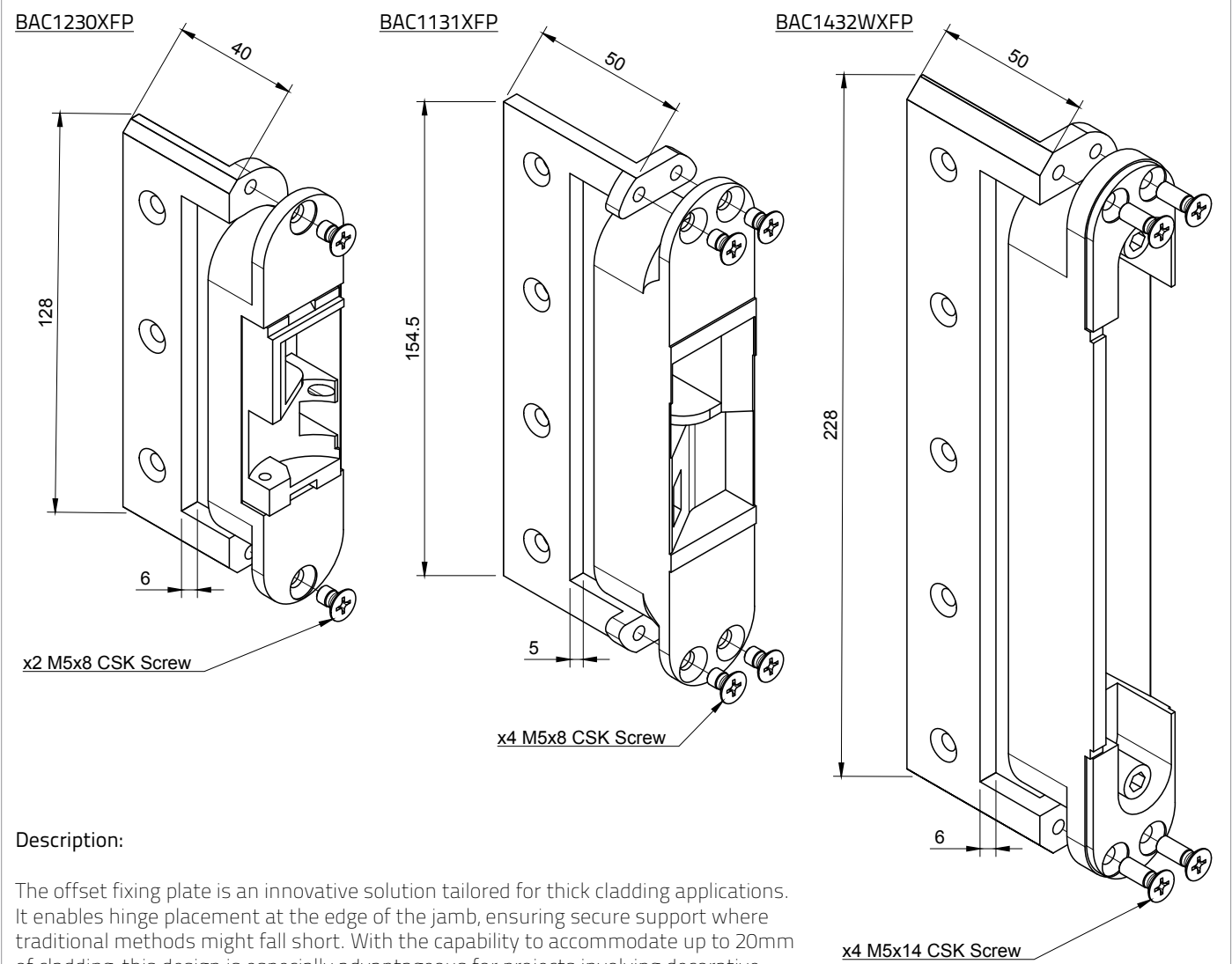


	A	B	Used for Models
BACKEY1	8	2,5	1129, 1080, 1130, 1230S
BACKEY2	10	3	1131S,

BACKEY Adjustment Keys

Used to adjust the position of the door via the hinges 3D adjustment axis points. Used to remove the hinge from its cup so the door can be removed and re-hung.

New Offset Fixing Plate



Description:

The offset fixing plate is an innovative solution tailored for thick cladding applications. It enables hinge placement at the edge of the jamb, ensuring secure support where traditional methods might fall short. With the capability to accommodate up to 20mm of cladding, this design is especially advantageous for projects involving decorative cladding. Its functionality not only enhances structural integrity but also offers versatility in various installation scenarios.

The offset fixing plate can also be recessed / milled into the jamb / door, making it suitable for situations that require narrow cladding, allowing for the use of cladding as thin as 12mm.

Weight Considerations:

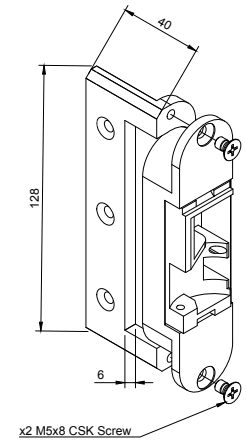
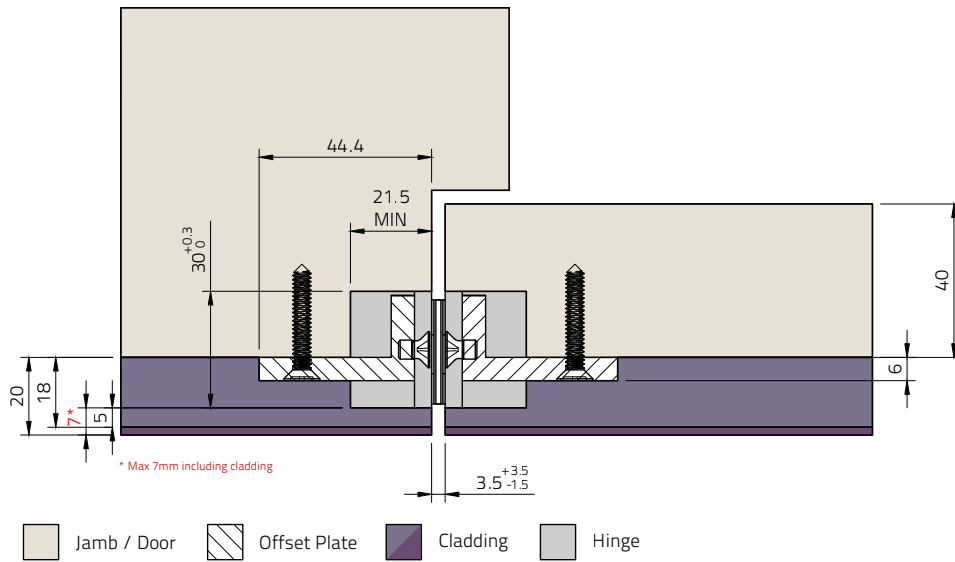
For all hinges excluding the BAC1432W, the supported weight range of the hinge remains unaffected by the use of offset fixing plates. For the BAC1432W refer to the below table for the adjusted weight ranges.

Offset Fixing Plate Models	
Code	Compatible Hinge
BAC1230XFP	BAC1230S
BAC1131XFP	BAC1131S
BAC1432WXFP	BAC1432W

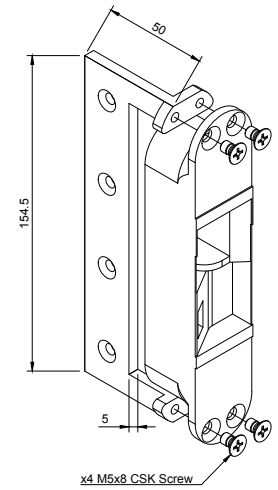
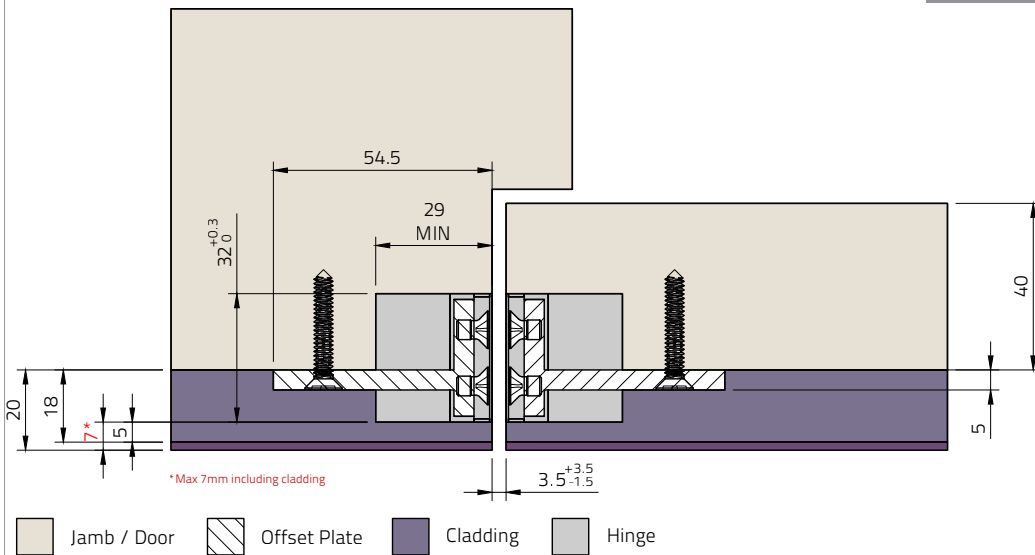
2 x BAC1432W for doors 1900 - 2200mm high							
2200	130	130	130	130	130	119	108
2100	130	130	130	130	125	112	103
2000	130	130	130	130	117	107	99
1900	130	130	130	124	111	102	95
h x w	700	800	900	1000	1100	1200	1300
Height x Width in mm Weight in Kg							

red = value has been adjusted compared to a regular BAC1432W

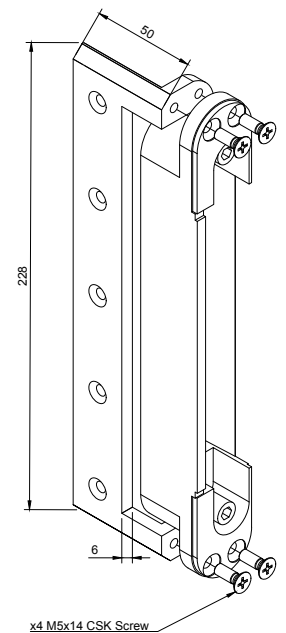
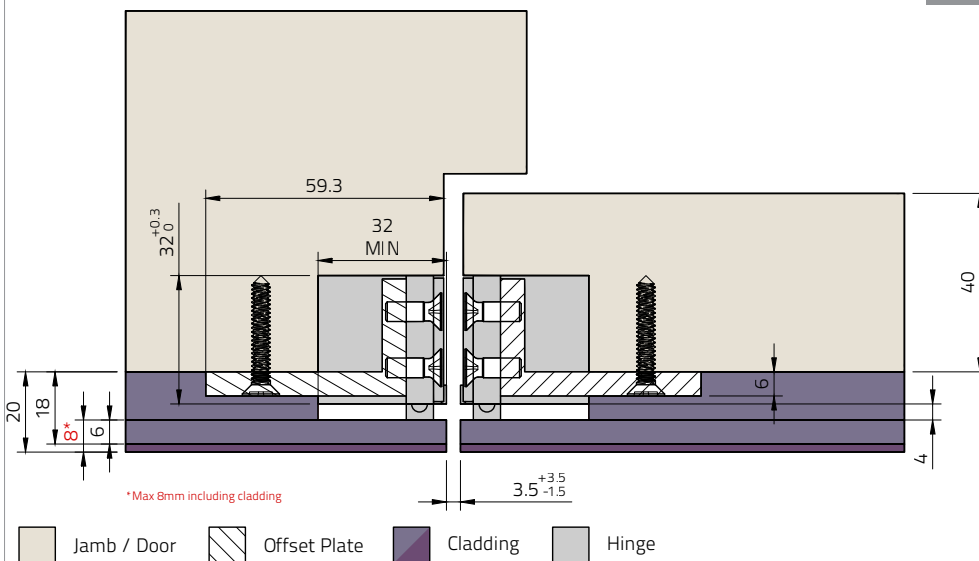
BAC1230XFP



BAC1131XFP



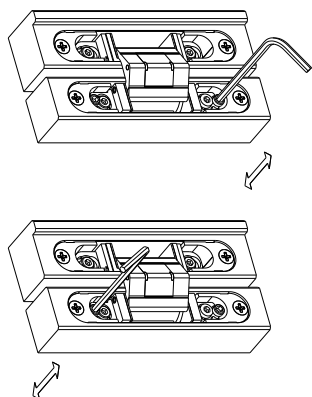
BAC1432WXFP



3D Adjustability Diagram



Depth adjustment



Invisible adjustable hinges for doors



Remove the covers

929

1418

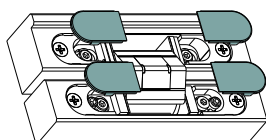
1430

1431

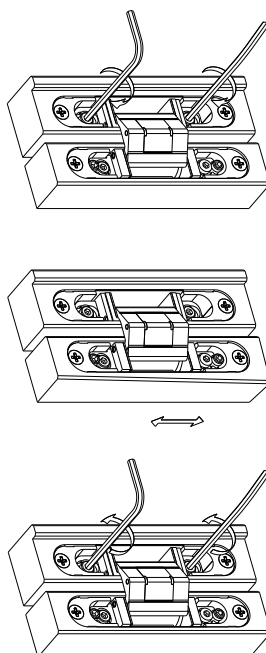
1431SC

1432

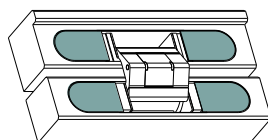
1432W



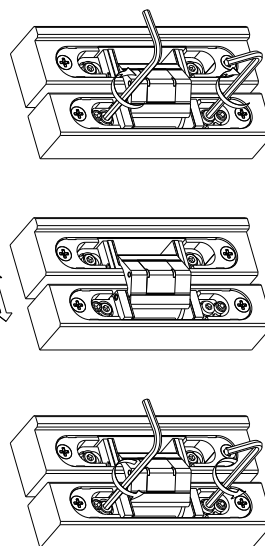
Vertical adjustment



Insert the clip covers



Horizontal adjustment



3D Adjustability Diagram

