

## 1: CHECK DELIVERY

### Check contents of the shipment

- 1) Door leaf & frame + 2 mounting extensions
- 2) Installation kit, 1 no. per door set
- 3) For frame type A, there will also be the wall cover profile (sides and 1 top piece)

## 2: CHECK FIXINGS

### Contents of kitbag

- 1) 16 no. 7.5 x 82mm Torx Head screws (suitable for masonry, steel or timber structures, see fixing pack for drilling sizes). 18 no. screws for fire rated doors and 20 no. for double doors.
- 2) 16 no. Plastic caps, clear 20mm diameter (for screw holes in frame) 18 no. plastic caps for fire rated doors and 20 no. for double doors.
- 3) 1 no. Torx Head driver bit
- 4) 1 no. Installation instructions sheet
- 5) Drill bits
- 6) Allen keys

## 3: CHECK TOOLS

### Tools necessary for installation

- Spirit level
- Screw bit driver (for Torx Head bit)
- 110v Drill
- 12mm Allen key
- Sealant and application gun to bed threshold
- Battery Drill

## 4: CHECK OPENING

Check the structural opening size. If the door is a modular size of eg. 900mm x 2100mm, the structural opening width should be 900mm (tolerance of +15/-5mm), and the structural opening height should be 2100mm (tolerance +/-5mm). If the structural opening size is larger than the indicated maximum width or height, the wall must be built up with the same material as the existing wall to preserve its fire rating (where applicable).

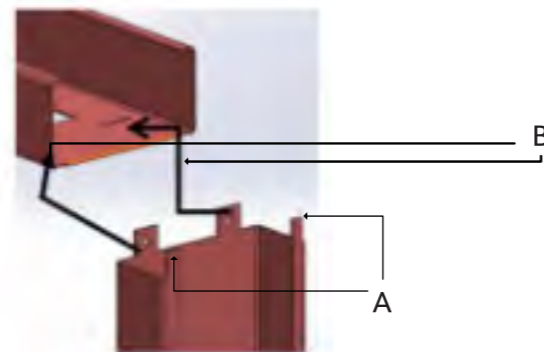
## 5: SEPARATE DOOR/FRAME

Separate the door leaf from the frame. On double doors, unless specifically requested, the frame will be supplied ready for site assembly (see below).

## 6: DOUBLE DOORS

For ease and safety in transit, the double door frame will have been supplied in 4 sections. You should have:

- A) 2 x Hinge Jambs (1 LH and 1 RH)
- B) 1 x Head section
- C) 1 x Threshold (add if required)



- 1) Fit the head section over the tabs marked "B" on the hinge jambs. Then fix in place using the self-tapping screws as shown.
- 2) Using a hammer and flat head screw driver, bend over the tabs marked "A" in the direction shown to finish locking the head section into place.
- 3) Repeat for the opposite hinged post.
- 4) Standard thresholds should be fitted into the bottom of the hinge jambs at this point with rivets Supplied.
- 5) See sheet 2 more details on closer install instructions for cement box, use template threshold for box position or ar700 arrone

## 7: MOUNT THE FRAME

Place the two frame extensions over the outside of the main frame (as shown below). These part are handed so please check that the fixing holes line up.



With both frame extensions on, lift the frame into the opening, placing the door centrally. Using the 12mm Allen key, wind out the fixing feet at the top and bottom corners, you will see the frame extension being pushed out towards the opening. Stop once the frame is tight in the opening. The middle two fixing feet can now be wound out.

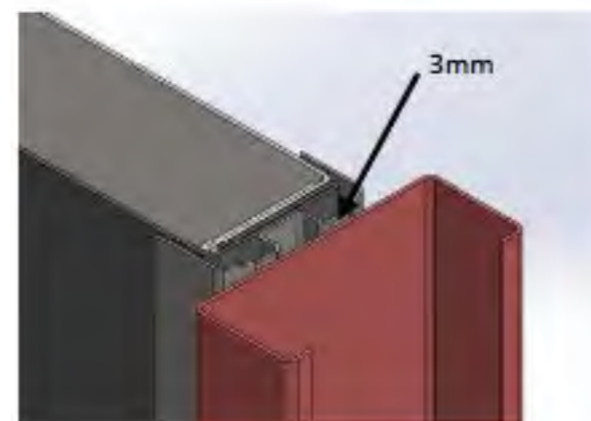
PLEASE NOTE WINDING THE MIDDLE TWO FIXING FEET OUT TOO TIGHT CAN CAUSE THE DOOR TO RUB. These fixing points can be adjusted once the door is hung.

## 8: FRAME FIXING



## 9: HANG DOOR LEAF

Hang the door leaf into the frame. Check the function of the door and the gaps between the door leaf and frame. These should 4mm at the side and 3mm at the top. All screws must rest on the pins of the hinges.

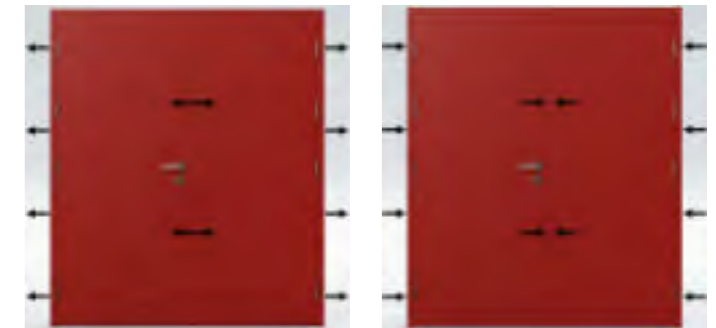


## 9: HANG DOOR LEAF

Hang the door leaf into the frame. Check the function of the door and the gaps between the door leaf and frame. These should 4mm at the side and 3mm at the top. All screws must rest on the pins of the hinges.

## 10: CHECK DOOR GAPS

The gaps on a double door between the leaves at the centre point can be made wider or narrower by adjusting the frame. Please see diagrams and instructions overleaf for clarification. See sheet 2 for closer instructions

Wider  
Centre GapNarrower  
Centre Gap

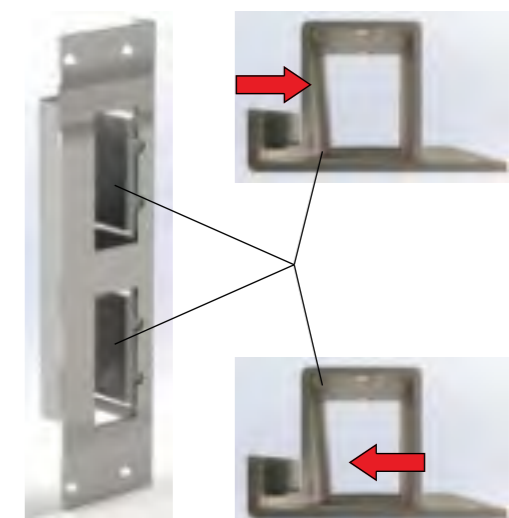
## 11: FIT CAPS

Fit the plastic cover caps to cover up the holes for the mounting bolts.



## 12: ADJUST KEEP (if locking fitted)

Adjust by bending forwards or backwards to allow door to latch/lock correctly.



Move in this direction to tighten Latch engagement. Careful not to over adjust and to make sure latch going into slot and not resting on top of adjustable.

Move in this direction to slacken Latch engagement. If over adjusted door will move and rattle.

# ARRONE® 700 SERIES FLOOR SPRINGS

## The Complete Range

Floor springs are sold in four separate packs comprising units, double action pack, single action pack and covers. They will vary according to whether the door is double swing or single swing and the amount of offset. All floor spring unit double swing or single swing doors of both hands with opening up to 130°.

Closer Size	Closing Force	Max. Door Width	Max. Door Weight	Power Size
Medium Duty	25N.m	Max. 950mm	60 kg	EN 3 for 950mm doors
Heavy Duty	33N.m	Max. 1100mm	80 kg	EN 4 for 1100mm doors

### Maintenance

The internal mechanism of the floor spring is immersed in oil and has been designed so that it requires no maintenance. It is protected from misuse by an overload safety feature. **On no account should any attempt be made to dismantle a floor spring since it contains a pre-stressed spring which could be dangerous.** Once the floor spring has been installed and adjusted to suit local conditions no further maintenance

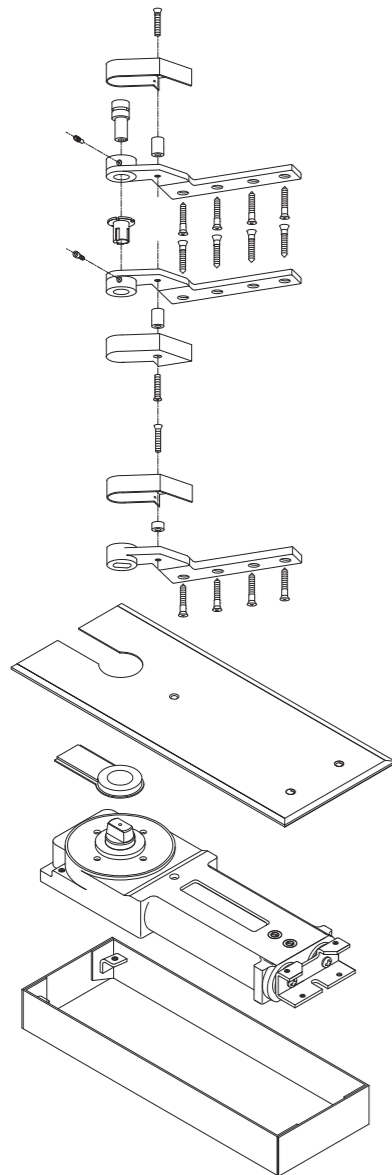
should be necessary. However, an annual check should ensure that:

- the door leaf closes freely and positively into its frame from any angle without slamming.
- all fixing screws to the units and accessories are tight.

Any failure to close the door leaf should be investigated. Spring requires adjustment or that.

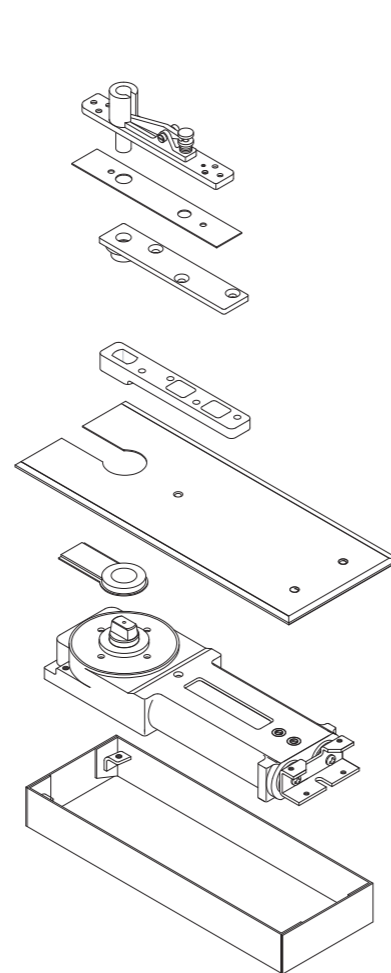
### Single action floor spring

#### Exploded View



### Double action floor spring

#### Exploded View



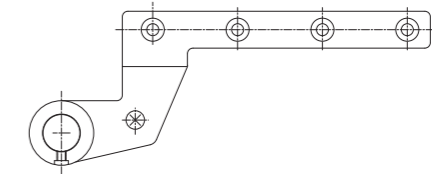
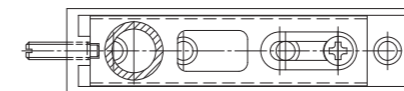
### Floor Spring Packages

#### Double Swing

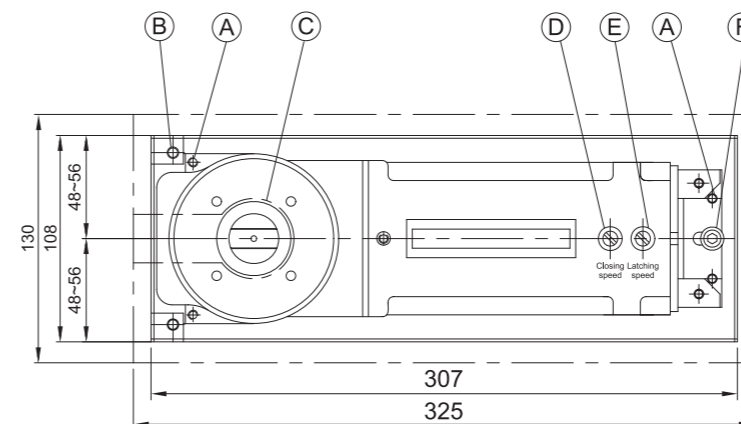
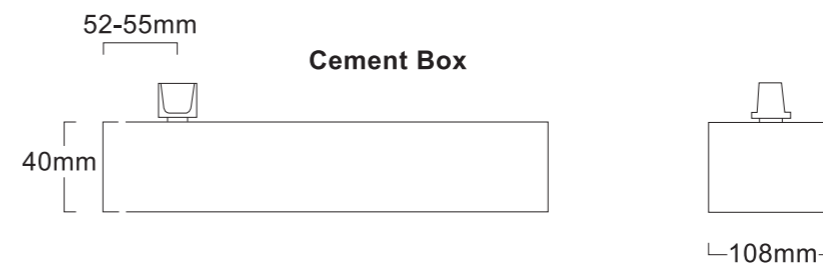
#### Single swing 36mm offset

1. Floor spring, cement box and spindle.
2. Bottom strap.
3. Top centre.
4. Coverplate and top centre covers (state finish).

1. Floor spring, cement box and spindle.
2. 36mm offset bottom strap (state finish).
3. 36mm offset top centre (state finish).
4. Coverplate (state finish).



### Dimensions



- (A) Height adjustment screws(4)
- (B) Fixed clamp screws(2)
- (C) Spindle dust plate
- (D) Closing speed
- (E) Latching speed
- (F) Removable clamp screw (1)

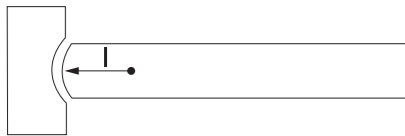
# ARRONE® 700 SERIES FLOOR SPRINGS

The Complete Range

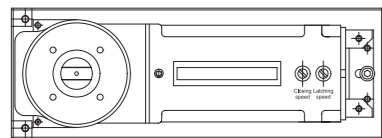
## For Double Swing Doors.

CE	HOPPE UK LIMITED GAILEY PARK GRAVELLY WAY WOLVERHAMPTON ENGLAND WV10 7GW	
	BS EN1154:1997 + A1:2002	11
	1121-CPD-AD0287	3 8 4 1 1 3
	1121-CPD-AD0314	3 8 3 1 1 3

1. Determine the heel radius of the door (dimension I).

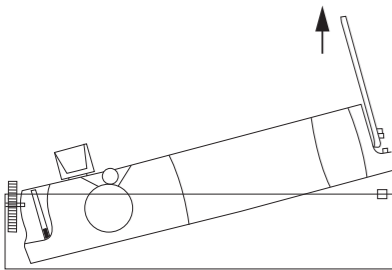


2. Note the minimum to maximum spindle position of the mechanism.



52 - 55mm

3. Remove the mechanism from the cement box. The screws for the removable clamps (F) should be unscrewed 10 turns each. Tap the clamps down to remove them from the sockets in the cement box. Lift the front of the unit using the adjustment spanner.



4. Set the cement box in the floor with the fixed clamps (B) nearest to the frame, taking care to align the spindle position with centre of the heel radius of the door. Allow a 3mm gap behind the door.



5. Mortise into the door on the pivot centre line the bottom strap and the bearing half of the top centre. Mortise into the transom the pivot half of the top centre.

6. Replace the mechanism in the cement box. Ensure the removable clamps are engaged in their sockets and tighten the clamp screws. Place spindle dust plate before hanging door.

7. Position the door over the floor spring and locate the strap over the spindle.

8. Preparatory work

Mill or route out door frame to accept the relevant top centre parts.

Fixing of top centre frame portion

Put end of pivot beam in hole A, B or C, depending on length of throw required for door type.

- Turn adjustment screw (1) until head is screwed right down onto pivot plate.

- Put other end of pivot beam into adjustment screw (1) and place on pivot plate, then secure with screw (4).

- Secure cover plate (5) to top centre frame portion by using two (2) M4x7.5 screws provided.

Fixing of top centre door portion

- Insert adjustment screw (6) into top centre bar (7).

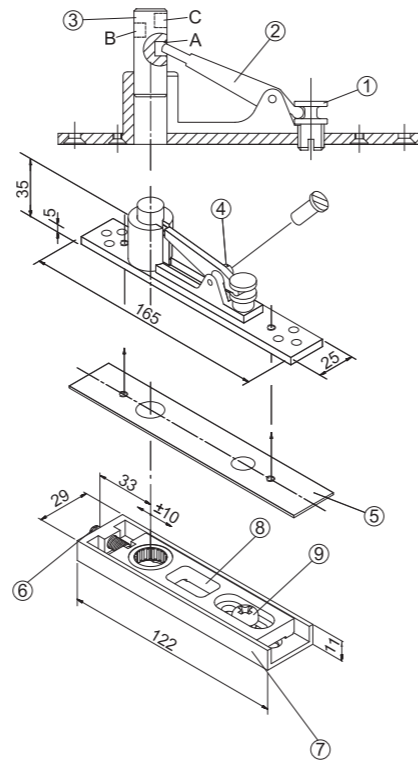
- Insert slide piece (8) adjust with screw (6) and secure with screw (9).

Installation of door

- Offer door leaf onto floor spring and open door slightly.

- Lower pivot into needle bearing in door portion by turning screw (1) clockwise.

To raise or lower nose of door, use adjustment screws (6) and (9). Ensure both are tight before leaving door.



9. Check that the door returns to the correct centre position.

10. Adjust the gap at the top of the door to 3mm using the height adjustment screws (A), slackening the clamp screws (B) and (F) as the mechanism rises. Ensure the mechanism is level. Longer spindle inserts are available if necessary.

11. Fully tighten each clamp screw (B) and (F) and tighten the height adjustment screws (A) for a firm fixing.

12. Adjust the speed control (D) and (E) to give a smooth closing speed of approximately 5 to 7 seconds closing from 90° open.

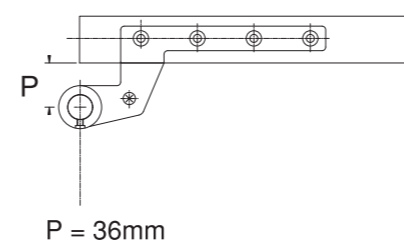
Adjustment of closing speed:

- Two regulating valves (D) and (E).
- (D) decrease closing speed.
- (E) increase closing speed.
- Valve (D): controlled closing range 130° - 15°.
- Valve (E): controlled closing range 15° - 0°.

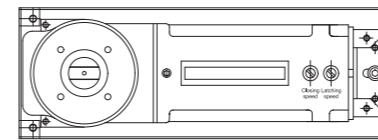
13. Screw on the cover plates of the mechanism and top centre.

## For Single Swing Doors.

1. Note the position of the pivot centre relative to the door.

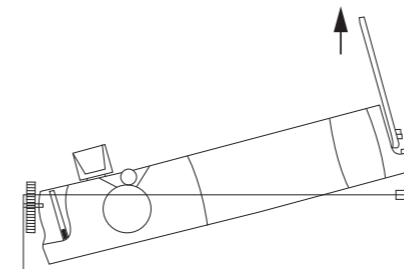


2. Note the minimum to maximum spindle position of the mechanism.

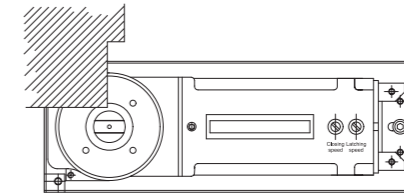


52 - 55mm

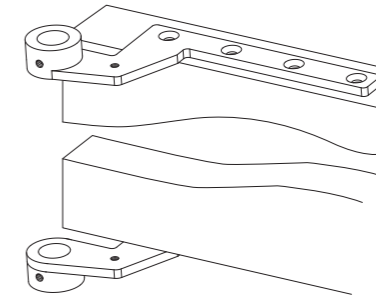
3. Remove the mechanism from the cement box. The screws for the removable clamps (F) should be unscrewed 10 turns each. Tap the clamps down to remove them from the sockets in the cement box. Lift the front of the unit using the adjustment spanner.



4. Set the cement box in the floor with the fixed clamps (B) nearest the frame taking care to align the spindle position with the pivot centre of the door. Allow a 3mm gap behind the door.



5. Mortise into the door on the pivot centre line the bottom strap and the bearing half of the top centre. Mortise into the transom the pivot half of the top centre.

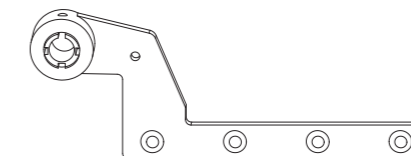
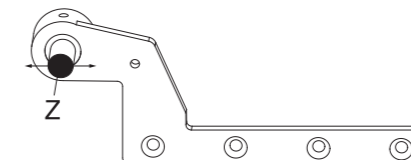


6. Replace the mechanism in the cement box. Ensure the removable clamps are engaged in their sockets and tighten the clamp screws (B) and (F). Place spindle dust plate before hanging door.

7. Position the door over the floor spring and locate the strap over the spindle.

8. Locate the top centre pivot and loosely bolt in place.

9. Adjust the vertical gaps to 3mm between the door and frame using the top centre lateral adjustment and by sliding the mechanism within the cement box. Fully tighten the top centre pivot retaining screw (z).



10. Adjust the gap at the top of the door to 3mm using the height adjustment screws (A). Ensure the mechanism is level. Longer spindle inserts are available if necessary.

11. Fully tighten each clamp screw (B) & (F). For 36mm offset straps it may not be possible to gain access to all four screws. Tighten down the height adjustment screws (A) for a firm fixing.

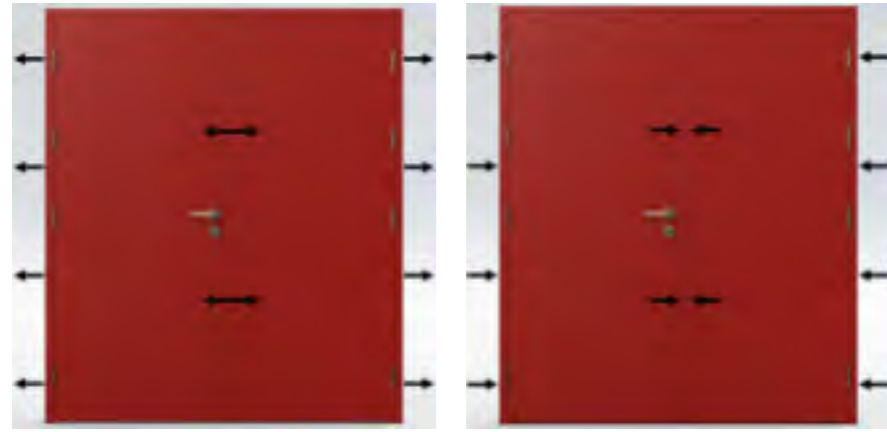
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13. Screw in the cover plate for the mechanism. Fix on the top centre and strap covers.

# DOOR GAPS



The gaps on a double door between the leaves at the center point can be made wider or narrower by adjusting the frame.

Wider Centre Gap

Narrower Centre Gap

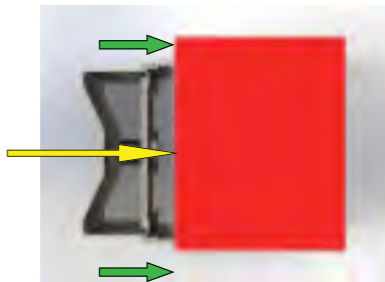
## 1: WIDER CENTRE GAP



Wider Centre Gap



The 4 Screw Jacks on each frame leg need winding back into the frame to open a gap up between the structure and the frame.



The frame fixings screws need to be driven into the structure, thus adjusting the frame outwards towards the structure.

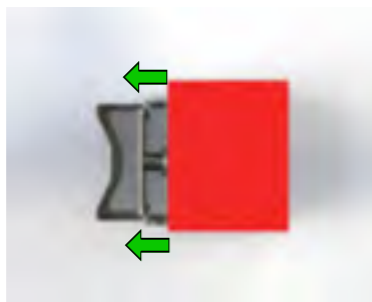
## 2: NARROWER CENTRE GAP



Narrower Centre Gap

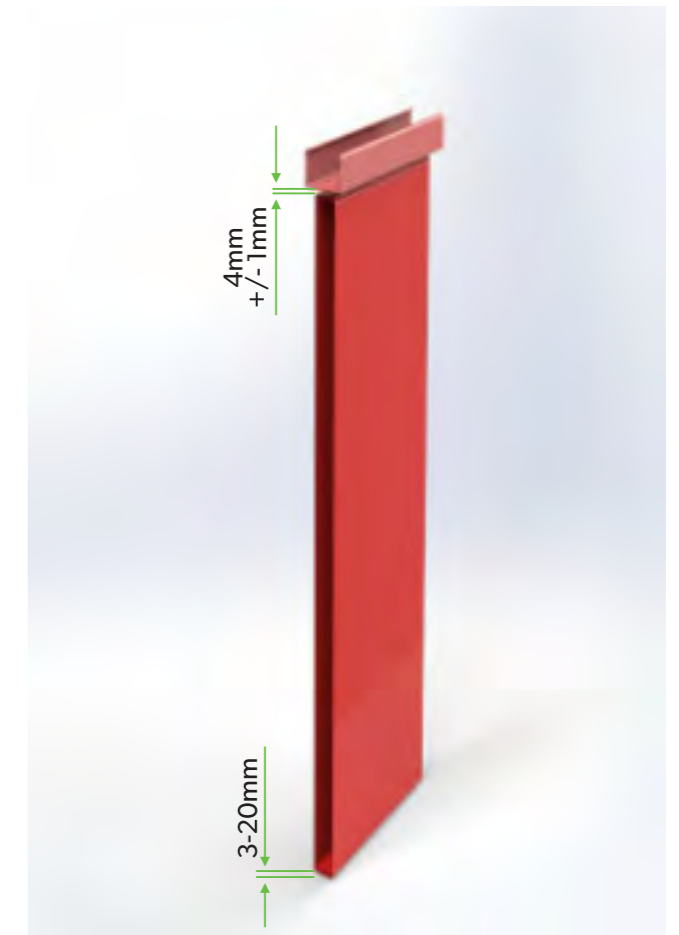


4 Screw Jacks on each frame leg need winding out on to the structure.

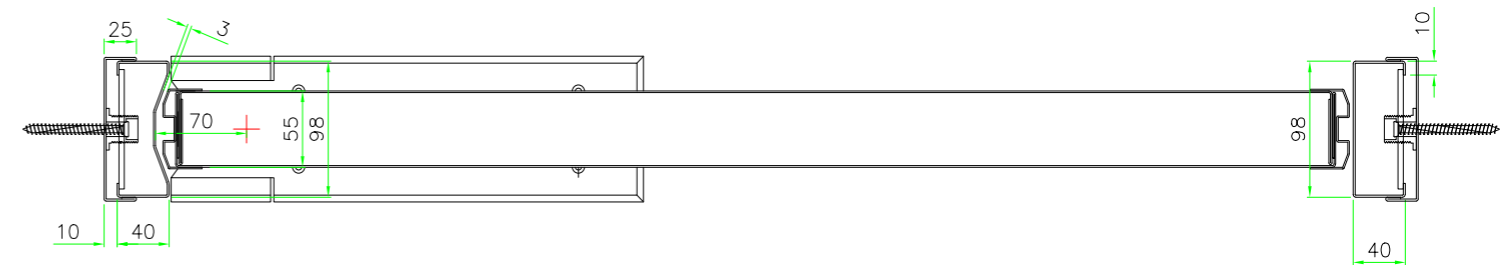


Continuing to wind the Screw Jacks out will adjust the frame away from the structure and push the door blades together.

## Top & Bottom of door



## Single Door



## Double Door

