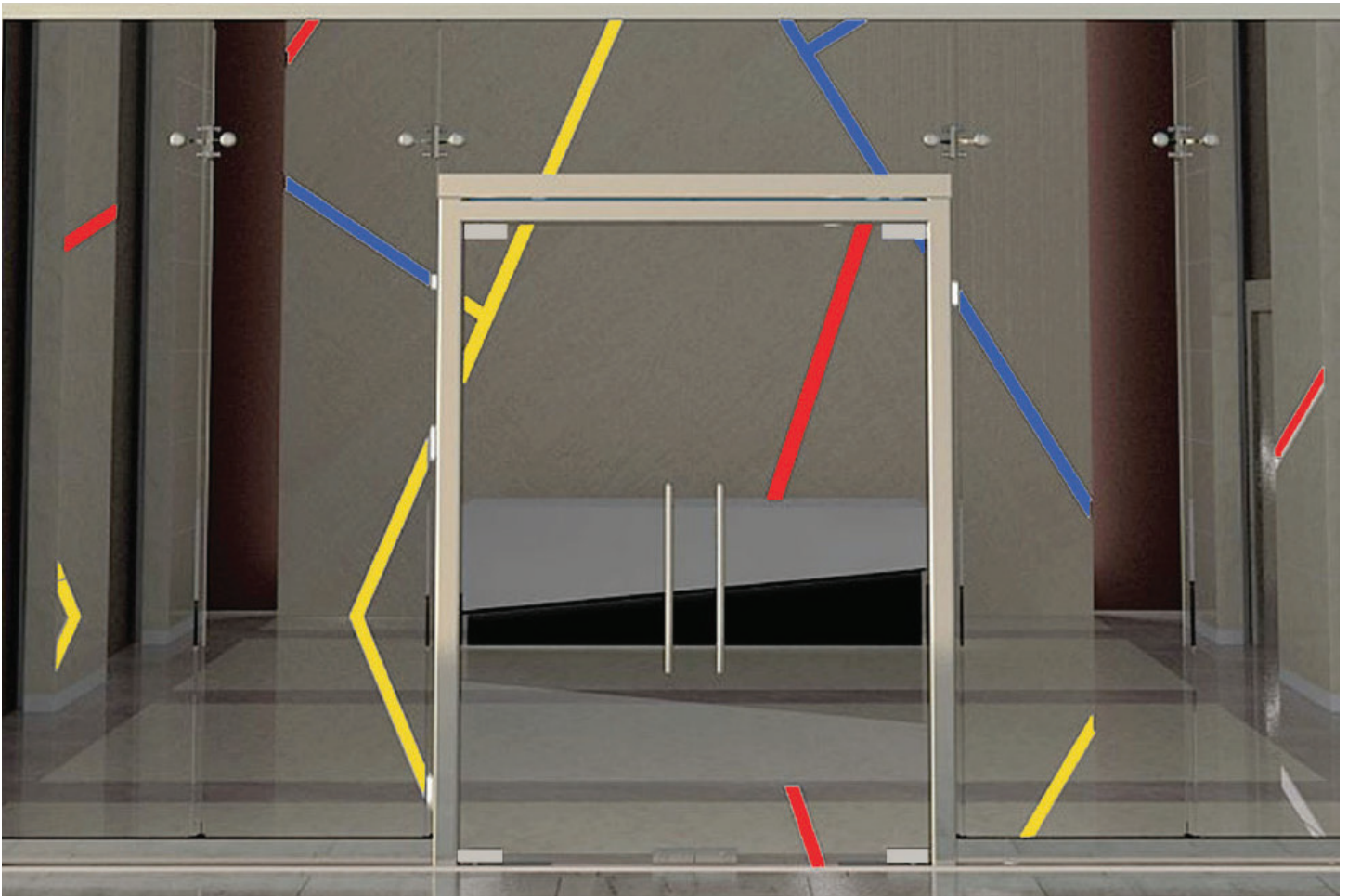


# UNIVERSAL PATCH FITTINGS



## Product Information

- Patch base is made from Aluminum, High Density Casting and T6 aging hardening to enhance the strength of the Patch Base and to avoid threads worn out by tighten screws to meet required clamping force.
- Torque for Fixing Screws M6 should be made from SUS305. A torque up to 30Nm is tested to ensure that the glass doors are properly damped and secured in place. The tightening force of (3) M6 screws will be up to 90Nm per Patch Base.
- EPCO Fin Patch Fitting shall be properly welded and T5 aging hardening to better support glass panels due to glass deflection under wind loading. And to gain its maximum strength of loading.

## Product Finishes

- ALN- Clear Anodized
- ALBZ78-Dark Bronze Anodized
- BK-Black Anodized
- DU-Stainless Dark Bronze Effect
- MB-Matte Black Effect
- SA-Clear Anodized Effect
- SP-Stainless Polished
- SS-Stainless Satin

## Hardware Code

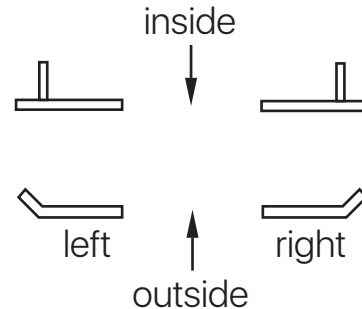
- 18 = Studio N-American Levers
- 80 = Overhead concealed closer
- 86 = Floor closer
- 96 = Heavy duty floor closer
- PF= Patch fitting
- PL = Patch lock
- PK = Patch lock keeper
- SOE/SOG = Lever handle
- ST = Stainless Ladder Pulls

## Double Acting Door



## If angle fittings or fin fittings are used:

"Left" or "Right" have to be determined in any case by view from outside and above.



## Glass Use

10mm (3/8") and 12mm (1/2") tempered glass

\* Safety Glazing Standard: ANSI Z97.1,

CPSC 16 CFR 1201, ASTM C 1036, and ASTM C 1040

## Capacity

- Maximum door weight: 100 kg (220 lb)
- Maximum door width: 1065 mm (42")  
For door weight up to 150KG (330LB) and width up to 1219mm (48IN), full width door rails should be used.
- \* Please comply with the Glass Association of North America's Fully Tempered Heavy Glass Door and Entrance systems Design Guid

## Torque for Fixing Screws

- Screws M6: 10 Nm / 7.5 lb-ft (4mm\*)
- Screws M6: 15 Nm / 11 lb-ft (5mm\*)
- Screws M8: 20 Nm / 15 lb-ft (5mm\*)

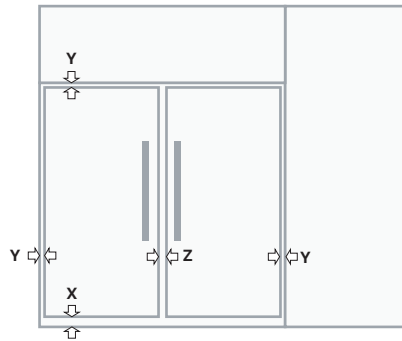
\* Allen key size

## Typical Examples of Tempered Glass

entrance assemblies

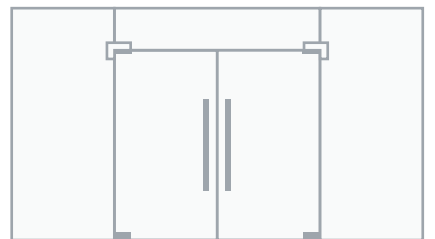
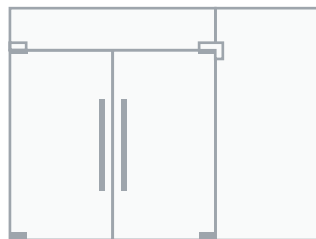
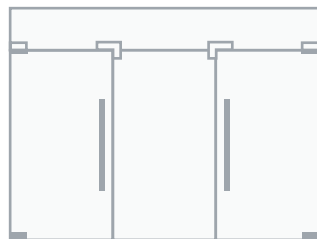
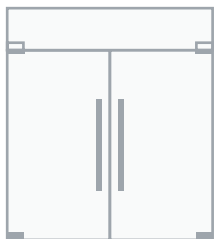
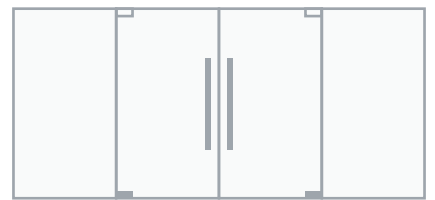
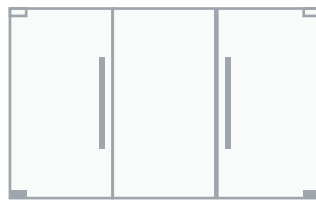
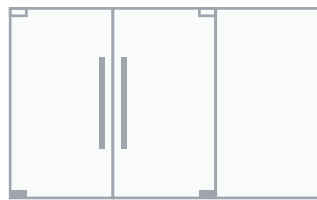
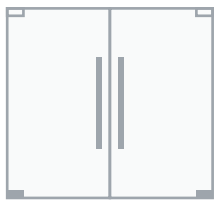
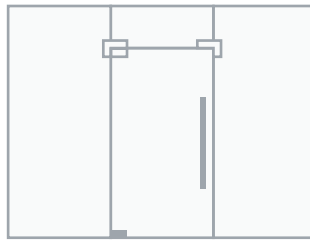
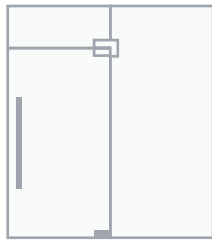
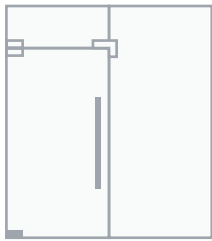
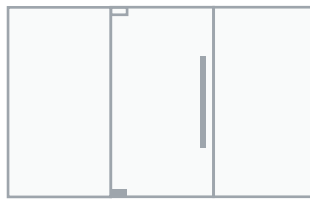
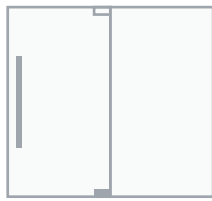
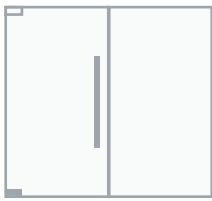


Type A

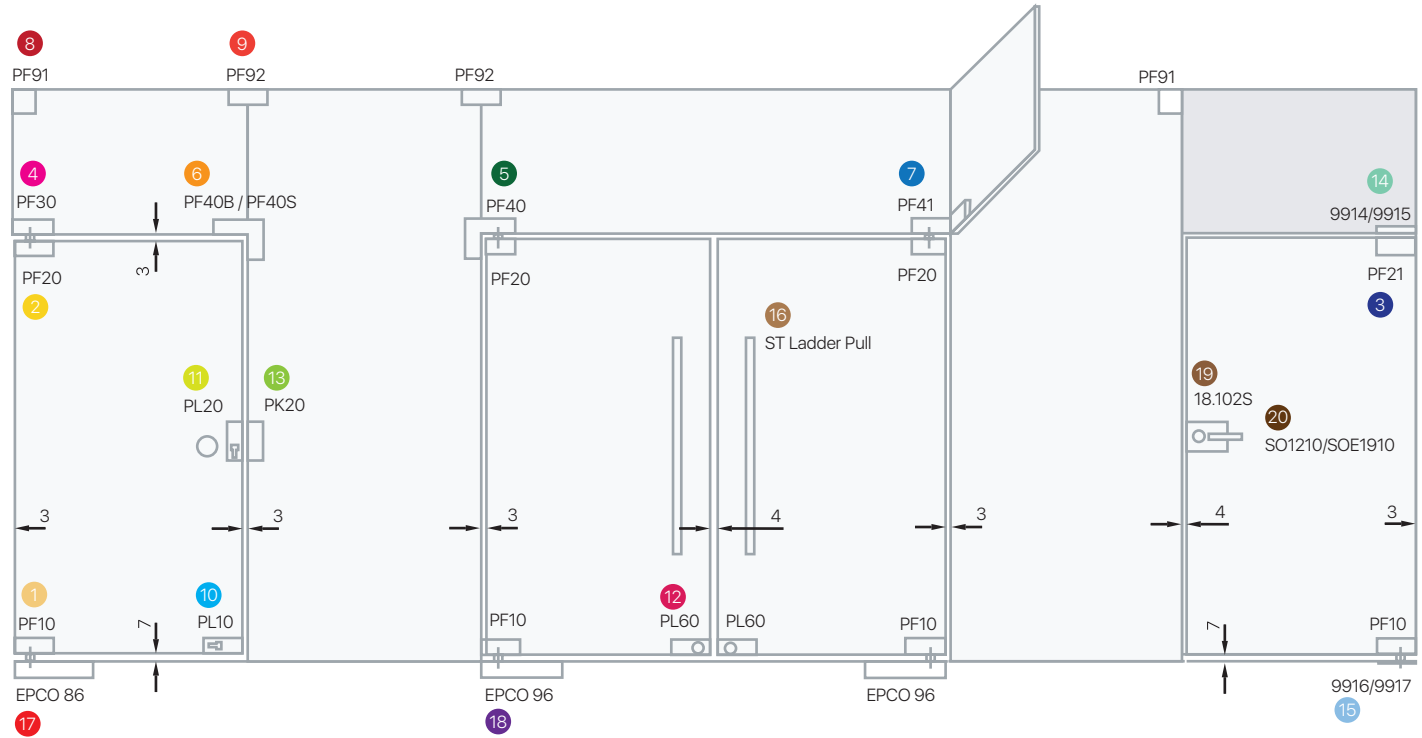


- X: 7-10 mm (9/32")
- Y: 2-4 mm (1/16")
- Z: 3-5 mm (1/8")

## Door Type

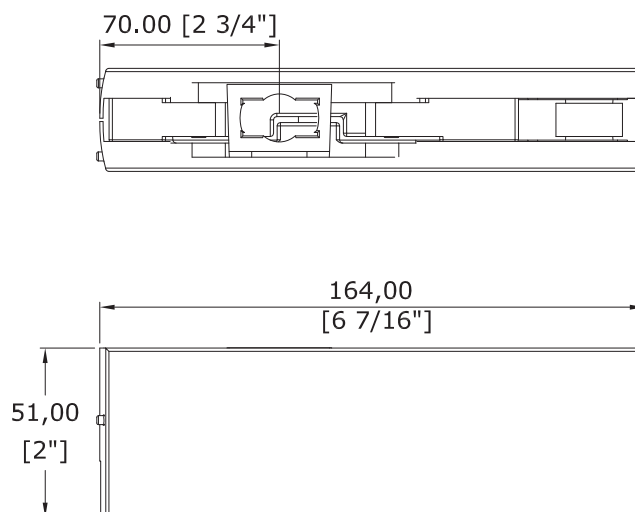
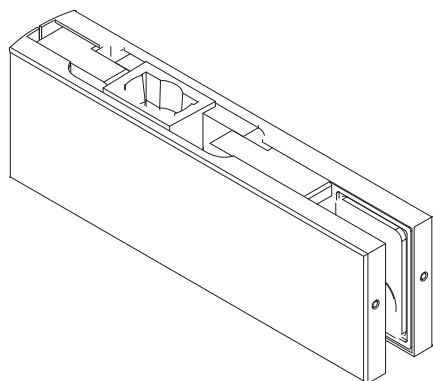


## Hardware Selection

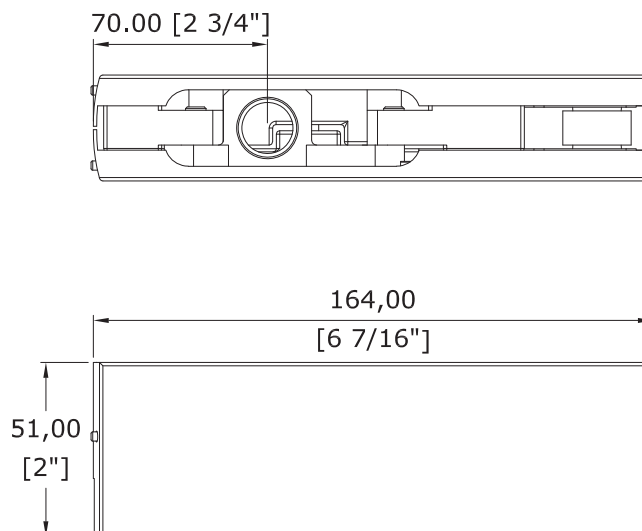
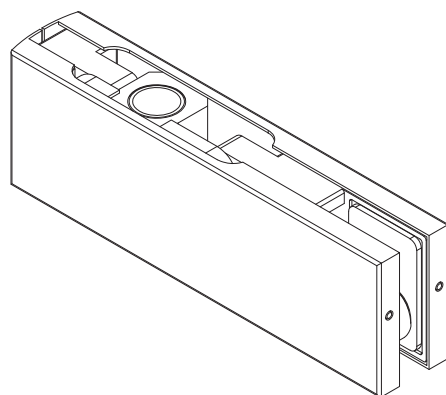


- 1 PF10 Bottom patch fitting with insert 9903 for floor closer or floor pivot
- 2 PF20 Top patch fitting with insert 9905 for 15mm pivot pin
- 3 PF21 Top patch fitting with insert 9906 for Overhead Concealed Closer
- 4 PF30 Transom patch fitting with pivot 9909 for PF20
- 5 PF40 Sidelite Transom patch fitting with pivot 9909 for PF20
- 6 PF40B Sidelite Transom patch fitting with blank insert 9930 or PF40S with stop insert 9929
- 7 PF41 Sidelite Transom patch fitting with support fin bracket and insert 9909, left or right hand
- 8 PF91 Corner bracket
- 9 PF92 Side connector with fixing plate
- 10 PL10 Corner lock with European cylinder
- 11 PL20 Centre patch lock with European cylinder
- 12 PL60 Corner lock with American mortise cylinder
- 13 PK20 Centre lock keeper for PL20
- 14 9914 Walking Beam Or 9915 Top Pivot
- 15 9916 heavy duty floor pivot bearing or 9917 floor pivot bearing
- 16 ST stainless ladder pull
- 17 EPCO 86 series floor closer
- 18 EPCO 96 series heavy duty floor closer
- 19 18.102S Lever latch with lock and mortise cylinder
- 20 SO1210 or SOE1910 lever handle for lever latch series

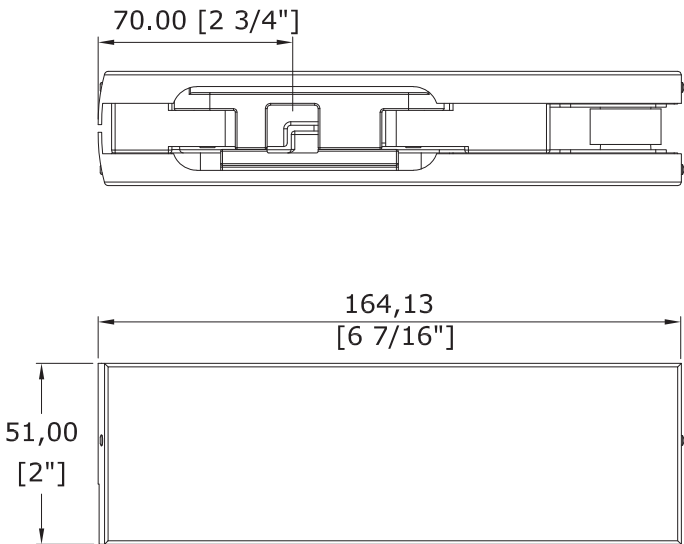
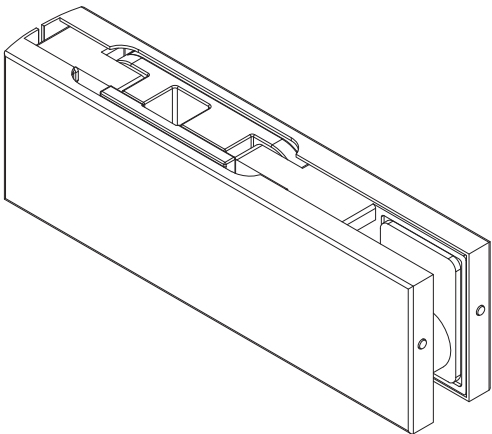
1 PF10 Bottom patch fitting with insert 9903 for floor closer or floor pivot



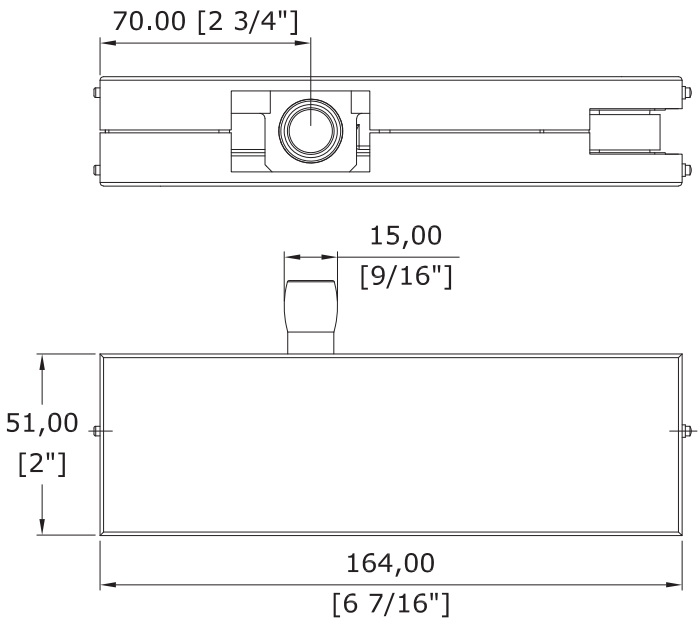
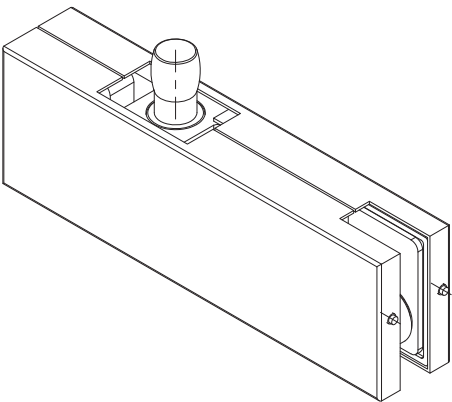
2 PF20 Top patch fitting with insert 9905 for 15mm pivot pin



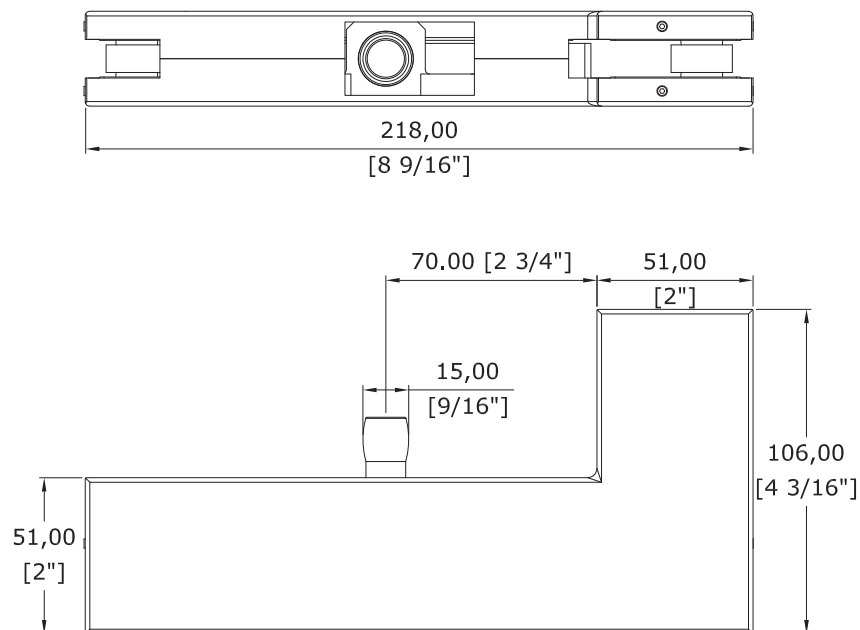
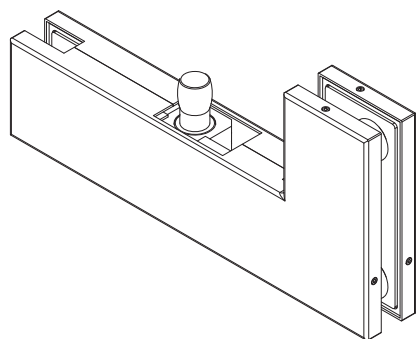
3 PF21 Top patch fitting with insert 9906 for Overhead Concealed Closer



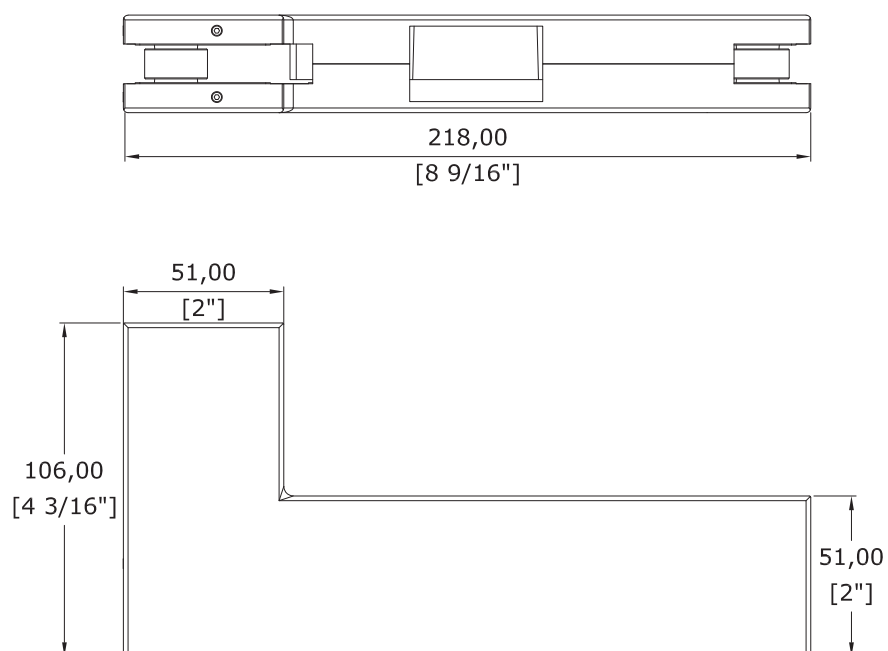
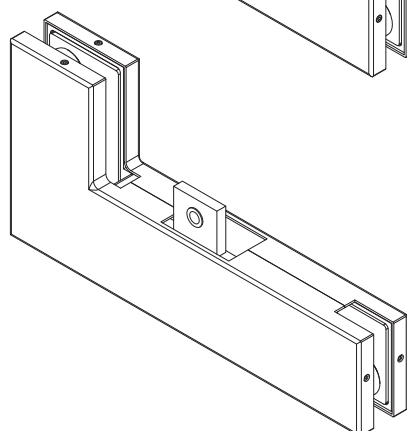
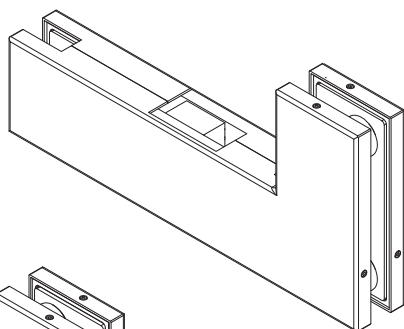
4 PF30 Transom patch fitting with pivot 9909 for PF20



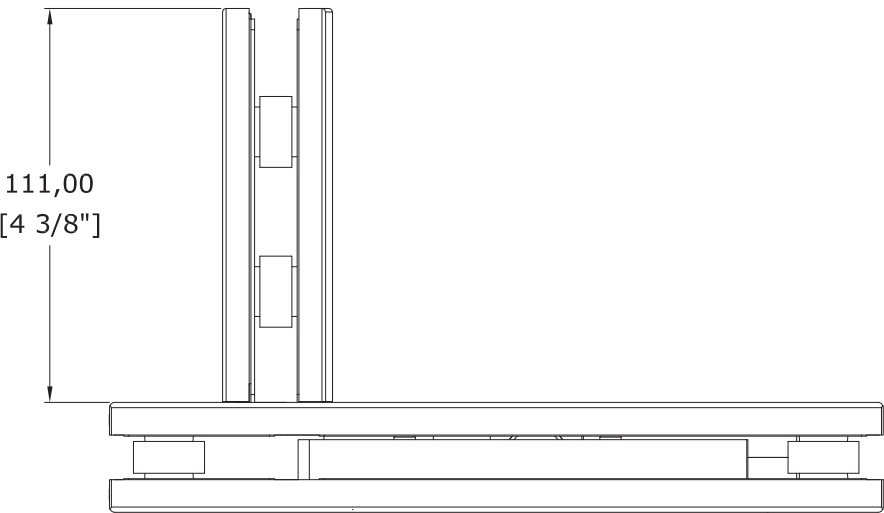
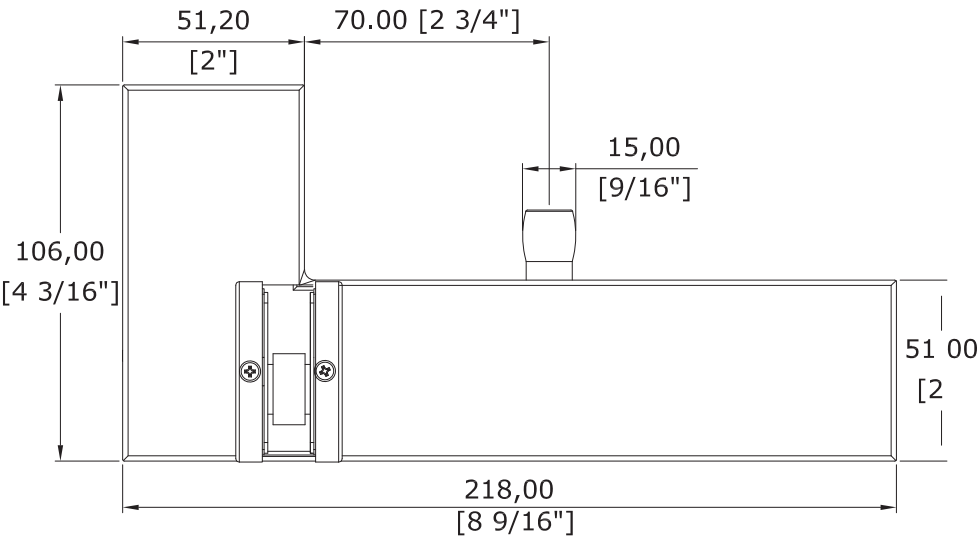
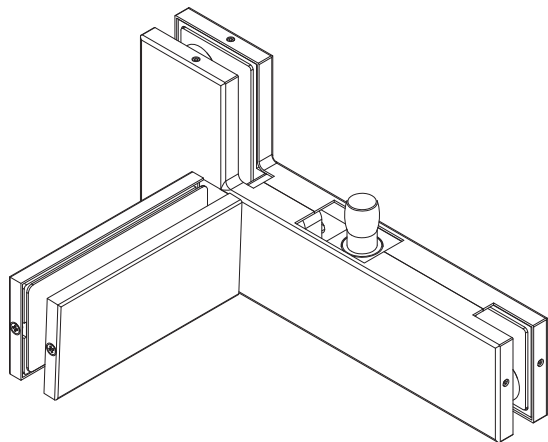
## 5 PF40 Sidelite Transom patch fitting with pivot 9909 for PF20



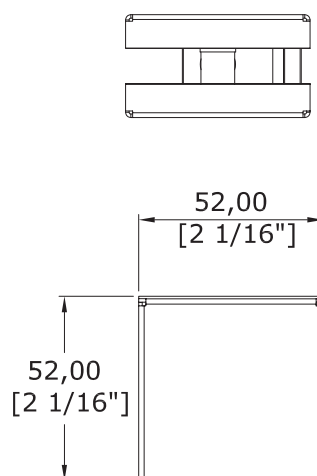
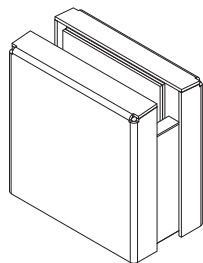
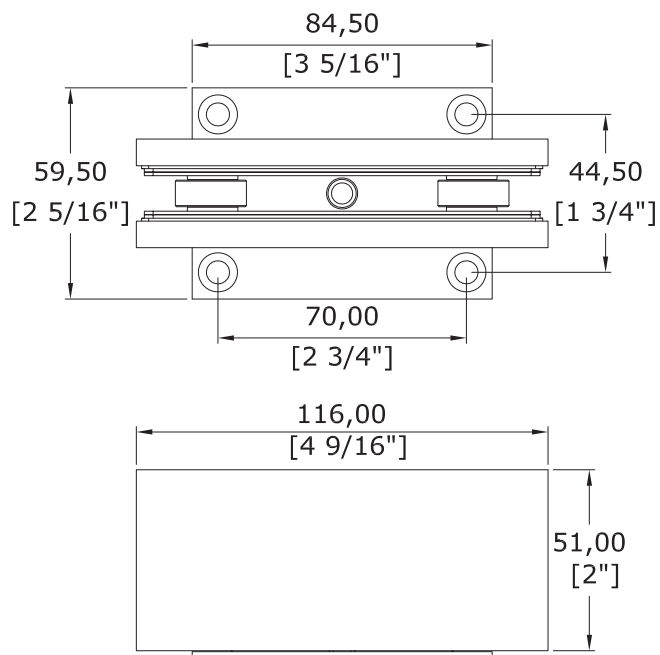
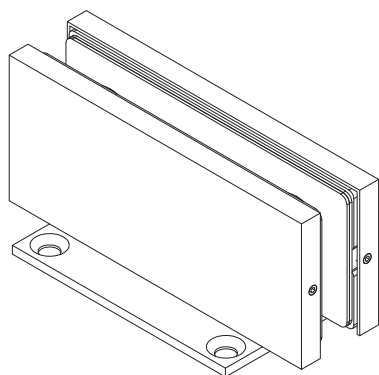
## 6 PF40B Sidelite Transom patch fitting with blank insert 9930 or PF40S with stop insert 9929



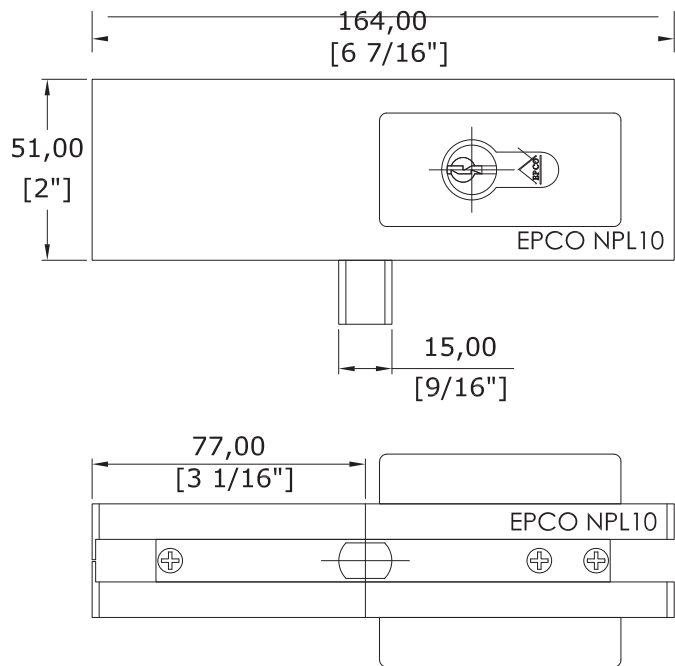
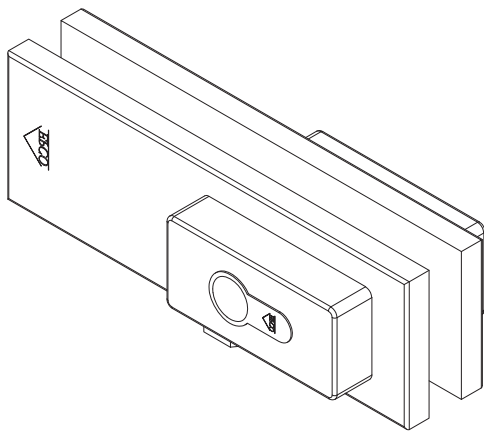
7 PF41 Sidelite Transom patch fitting with support fin bracket and insert 9909, left or right hand



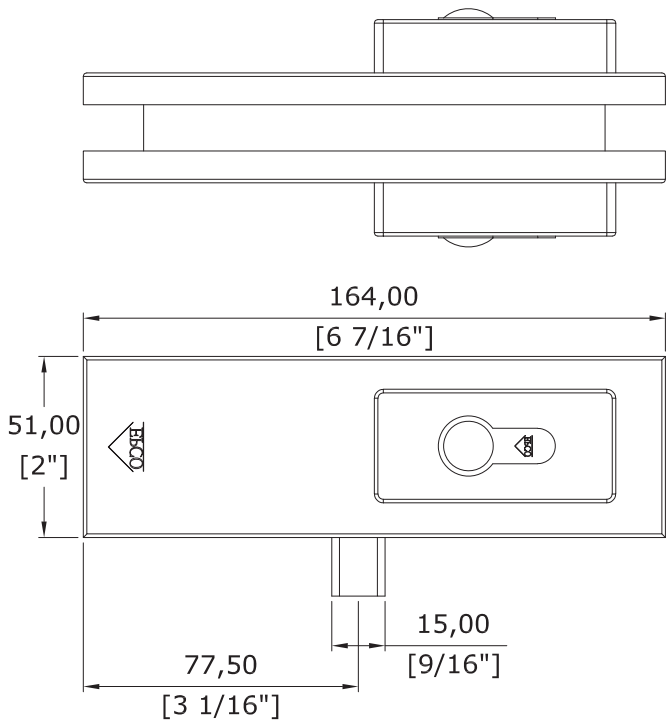
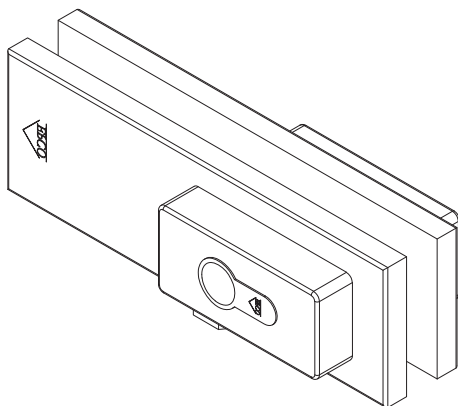


**8** PF91 Corner bracket**9** PF92 Side connector with fixing plate

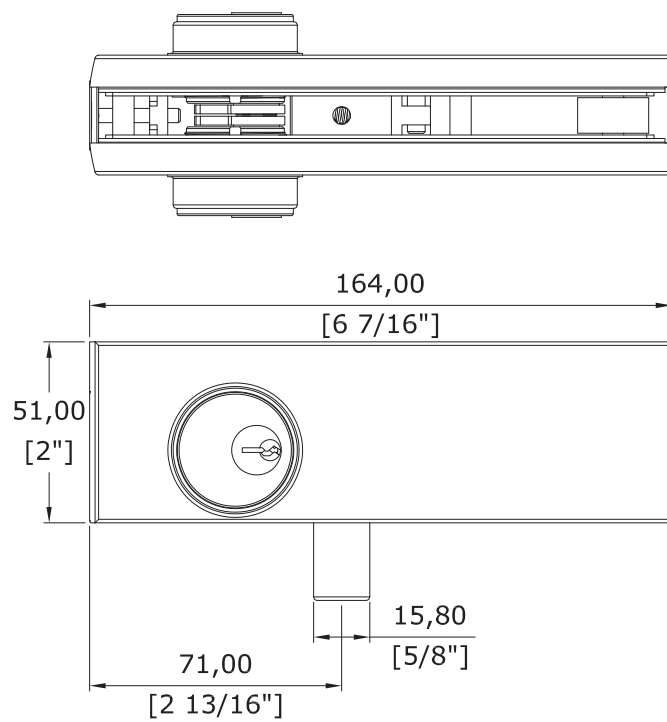
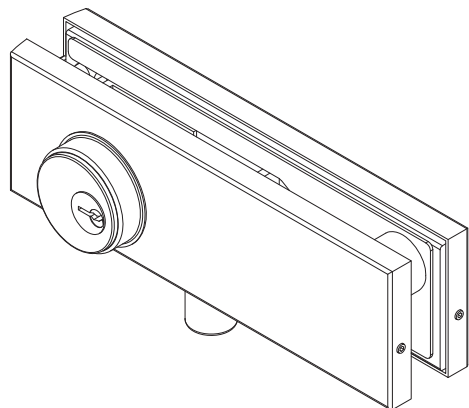
10 PL10 Corner lock with European cylinder



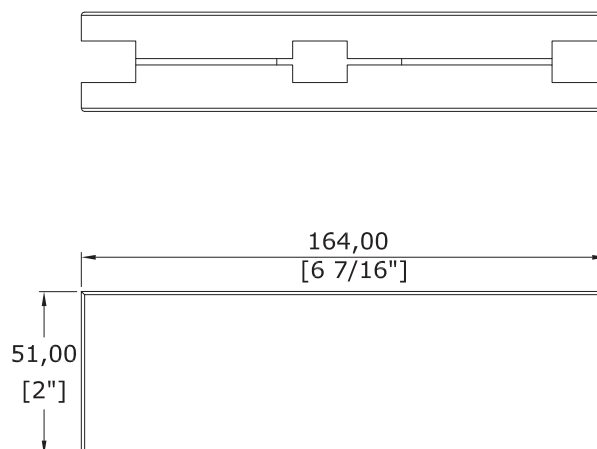
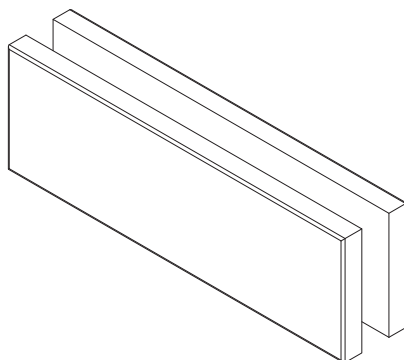
11 PL20 Centre patch lock with European cylinder



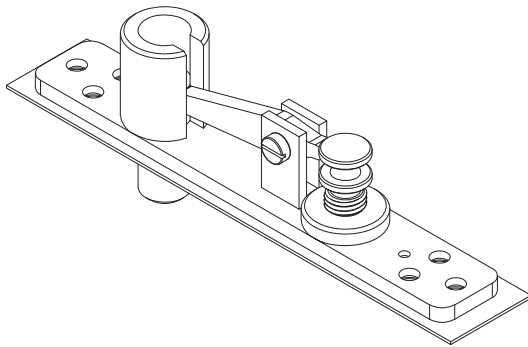
## 12 PL60 Corner lock with American mortise cylinder



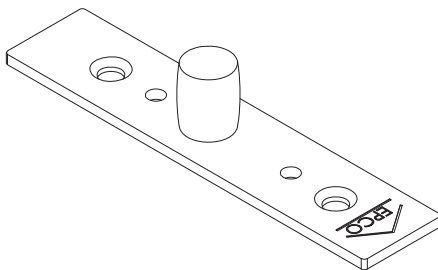
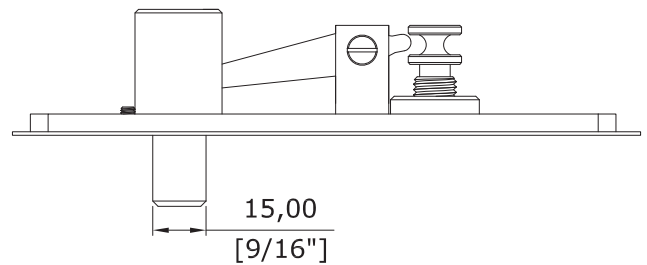
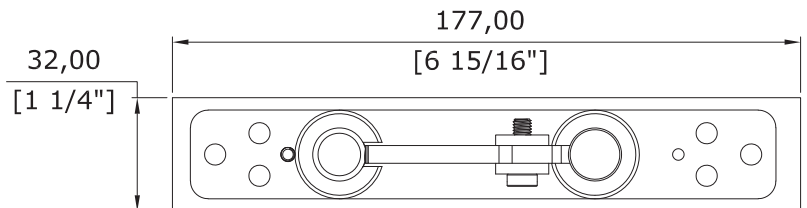
## 13 PK20 Centre lock keeper for PL20



14 9914 Walking Beam or 9915 Top Pivot



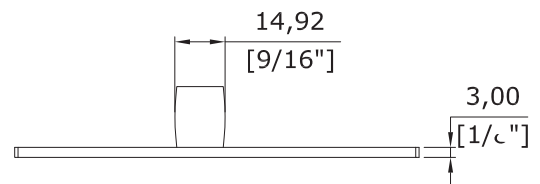
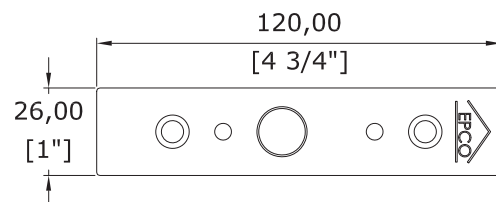
**9914** Walking Beam with top center pivot



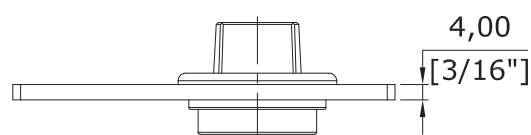
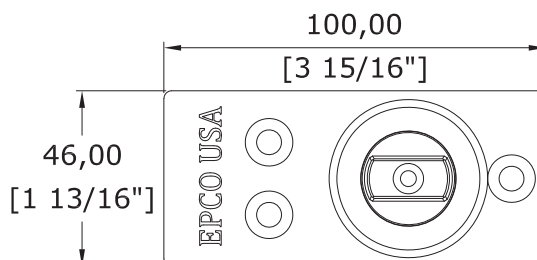
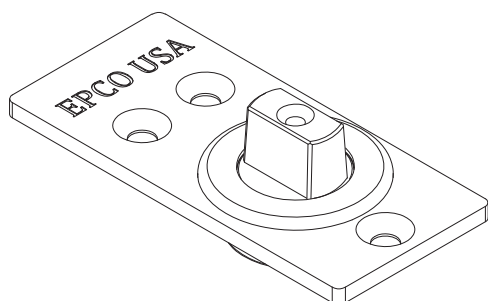
**9915** Top Pivot with fixing plate & 18mm(11/16") pin

**9915-22L** Top Pivot with fixing plate & 22mm(7/8") pin\*

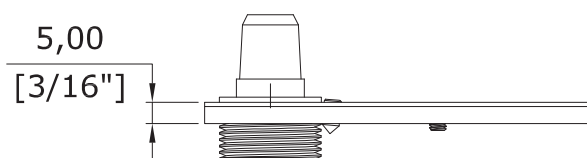
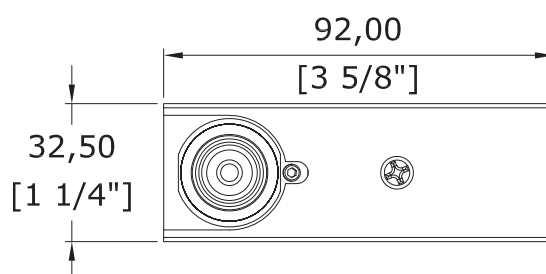
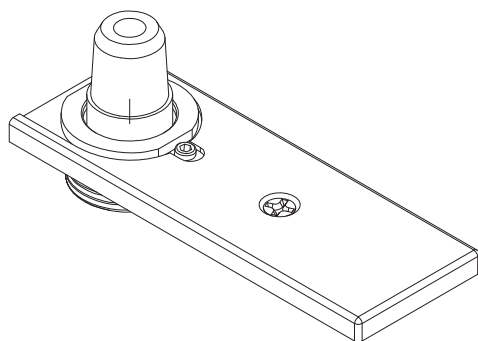
\* Extended pin upon request



15 9916 heavy duty floor pivot bearing or 9917 floor pivot bearing

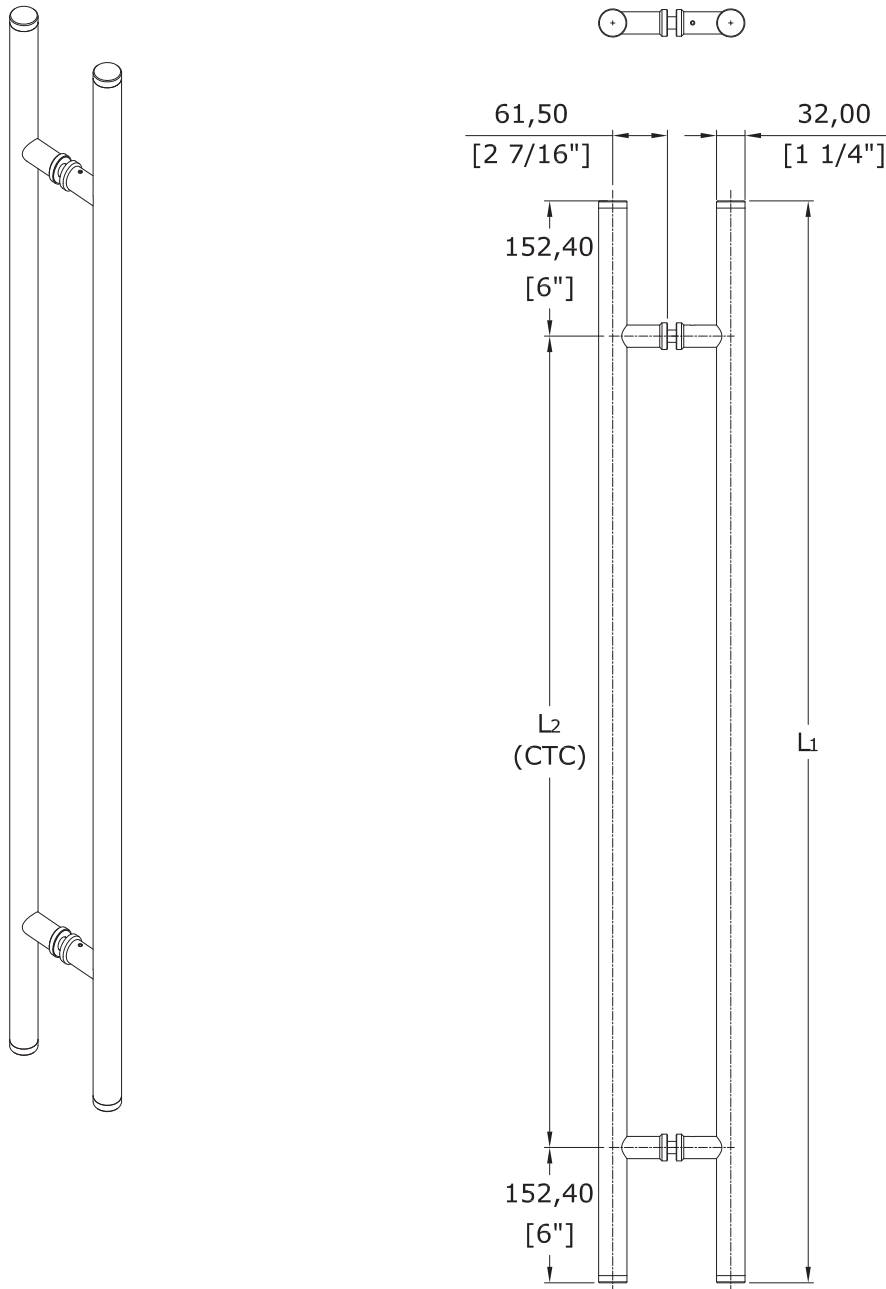


**9916** Heavy duty floor pivot bearing  
For door weight up to 200kg [440lbs]



**9917** floor pivot bearing  
Height adjustment by 5mm(3/16")  
For door weight up to 100kg [220lbs]

16 ST stainless ladder pull



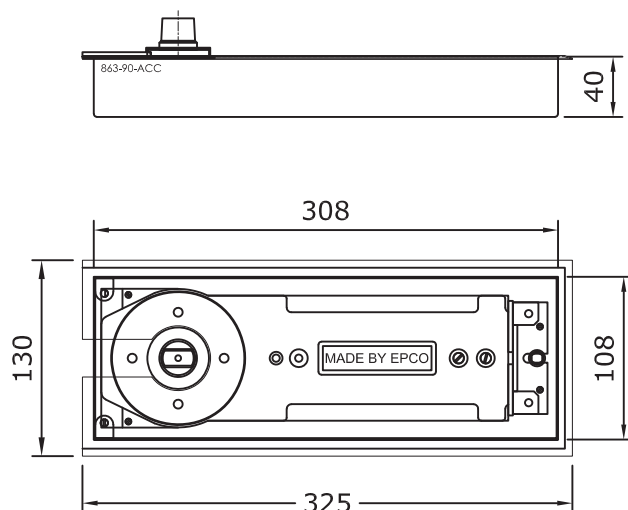
**Standard Sizes:**

L1: 24"/36"/48"/60"

L2: L1-12" (CTC)

\* Custom Sizes upon request

## 17 EPCO 86 series floor closer



### Product Information

The EPCO 86 is a double action floor spring which has been specially developed for the aluminium and tempered glass door industries. The 86 requires less depth for installation and has an array of new accessories designed for aluminium door fabricator and tempered glass door manufacturer.

### Product Features

- **ADJUSTABLE CLOSING SPEED**

Closing range:  $130^{\circ} \sim 0^{\circ}$

Latch range:  $15^{\circ} \sim 0^{\circ}$

- **BACKCHECK ZONE**

Prevent Damage to outward opening doors or swing is limited to  $90^{\circ}$

- **ADJUSTMENT**

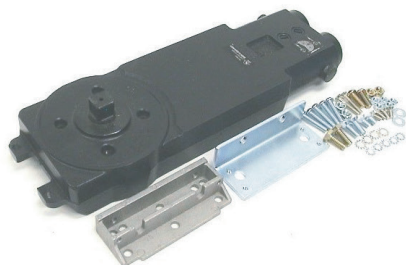
Withing zinc plated cement box length 7mm, width 10mm, height 4mm

- **SPINDLE ORDER OPTIONS**

Hold open  $85^{\circ}$ ,  $90^{\circ}$ ,  $105^{\circ}$

## EPCO 800 Series Overhead Consealed Closer

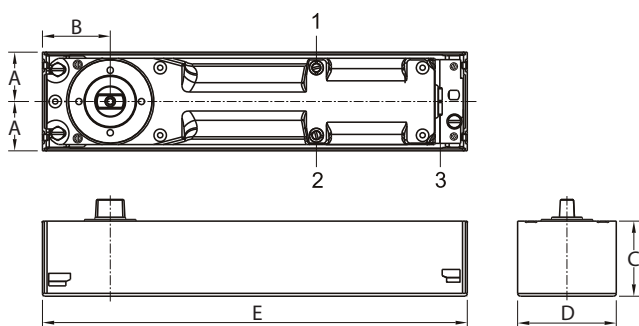
Closer body with mounting kit



Accessories



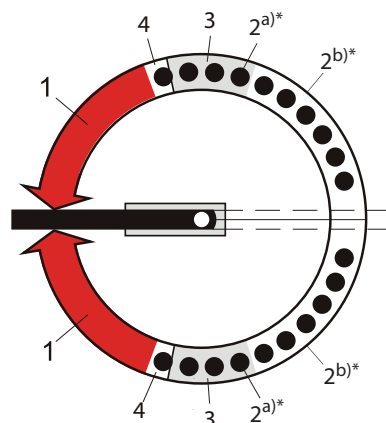
## 18 EPCO 96 series heavy duty floor closer



|             | A                 | B         | C     | D     | E       |
|-------------|-------------------|-----------|-------|-------|---------|
| Inches      | 1-13/32 – 1-21/32 | 2 – 2-1/4 | 2-3/8 | 3-1/8 | 13-7/16 |
| Millimeters | 36-42             | 51-57     | 60    | 79    | 341     |

## Product Information

- For doors weighing up to 660 lbs (300 kg).  
54" (1371 mm) wide interior and 48" (1219 mm) wide exterior
- Universally suitable for rebated and double swing doors
- Compact closer body and cement case
- Interchangeable Spindles
- Certified to the requirements of ANSI/BHMA A156.4 Grade 2
- 10-Year Limited Warranty



## SIZE SELECTION CHART

| EPCO 96 Series | ANSI Size | Exterior                     | Interior                     |
|----------------|-----------|------------------------------|------------------------------|
| EPCO 963       | 3         | 30" – 36"<br>(762mm-914mm)   | 30" – 42"<br>(762mm-1066mm)  |
| EPCO 964       | 4         | 30" – 42"<br>(762mm-1066mm)  | 30" – 48"<br>(762mm-1219mm)  |
| EPCO 966       | 6         | 42" – 48"<br>(1066mm-1219mm) | 48" – 54"<br>(1219mm-1371mm) |

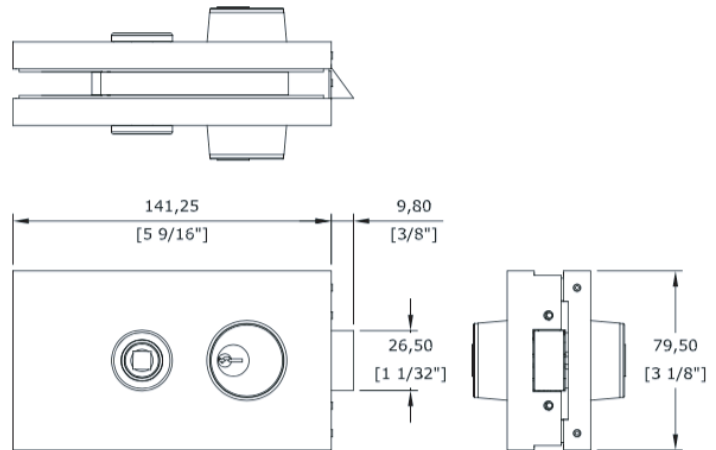
The door width usually determines the spring strength. If there are unusual site conditions, e.g. high or exceptionally heavy doors or wind pressure, the next stronger spring size should be selected.

1. Valve adjustment for closing speed from approx 70° to 0°
2. Valve adjustment in the zone 175° to approx 75°\*
  - a) Selective hold-open between approx 75° and 175°
  - b) Selectable delayed action between 175° and 75°
3. Start of hold open/End of delayed action range adjustment. Adjustable from approx 75° to approx 105°
4. Mechanical backcheck at approx 70°

\* Turning valve to the right creates a longer delay time and slows down the closing speed. Turning valve completely to the right creates hold-open and eliminates delayed action.



19 18.102S Lever latch with lock and mortise cylinder



For more info please refer to 18S Studio Lever Lock brochure

20 SO1210 or SOE1910 lever handle for lever latch series



**Art No. SO1210**

- Tubular Stainless Steel Lever
- Handle with 5/16" Square Spindle

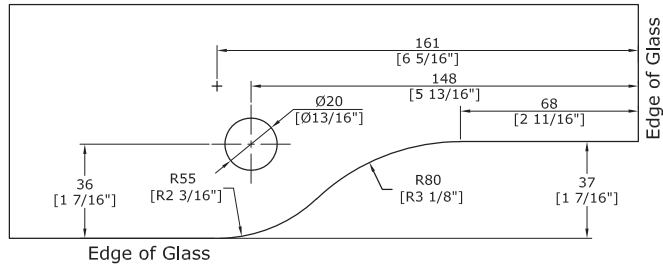


**Art No. SO1910**

- Tubular Stainless Steel Lever
- Handle with 5/16" Square Spindle

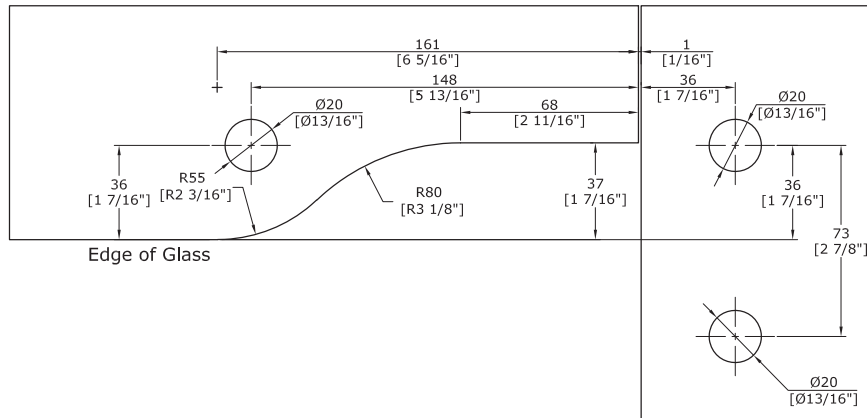
# Glass Preparation

PF10 PF20 PF21 PF30



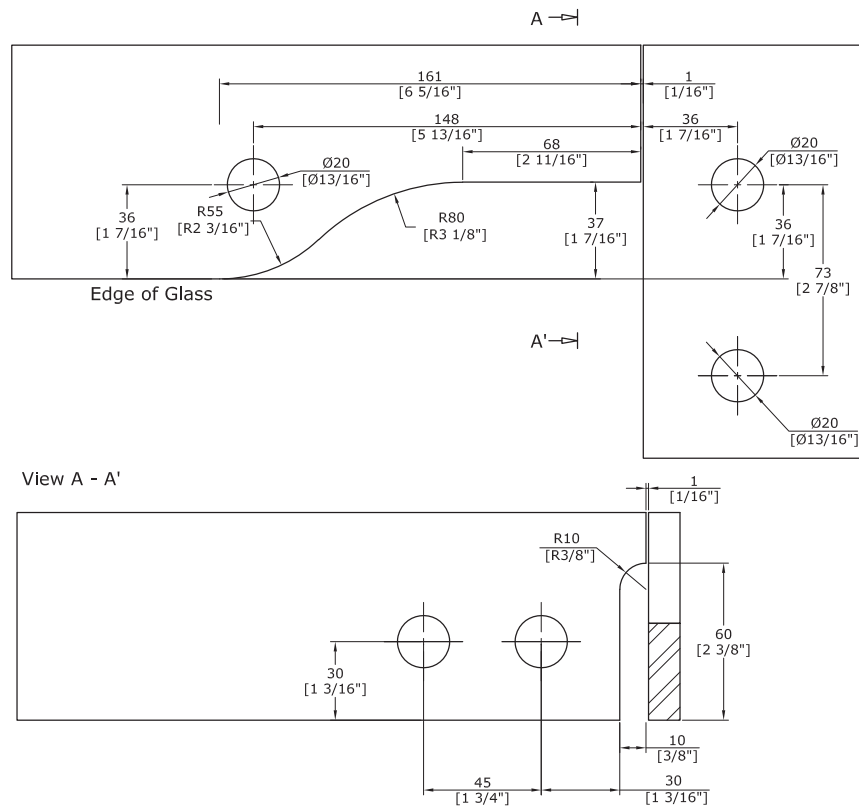
NOT TO SCALE

PF40 PF40B PF40S



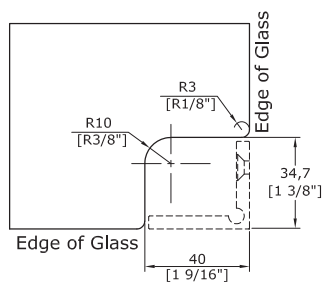
NOT TO SCALE

PF41



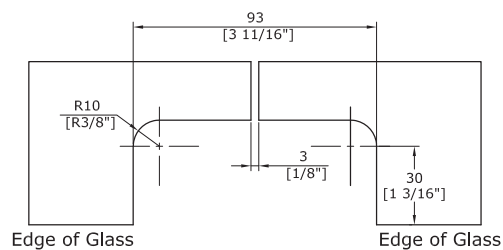
NOT TO SCALE

PF91



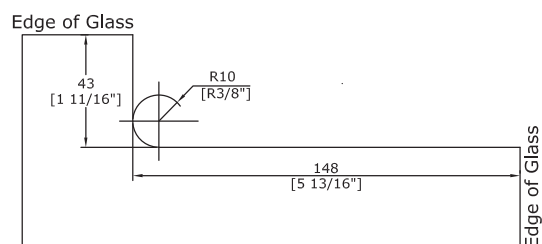
NOT TO SCALE

PF92



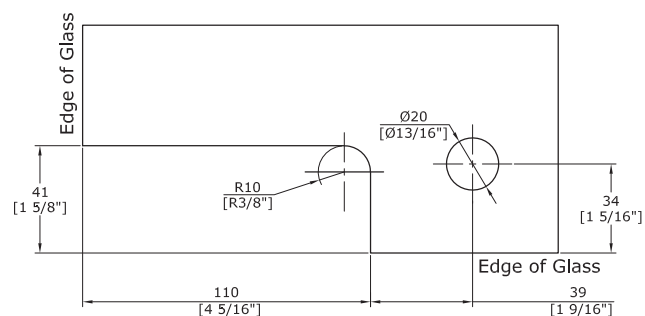
NOT TO SCALE

NPL10

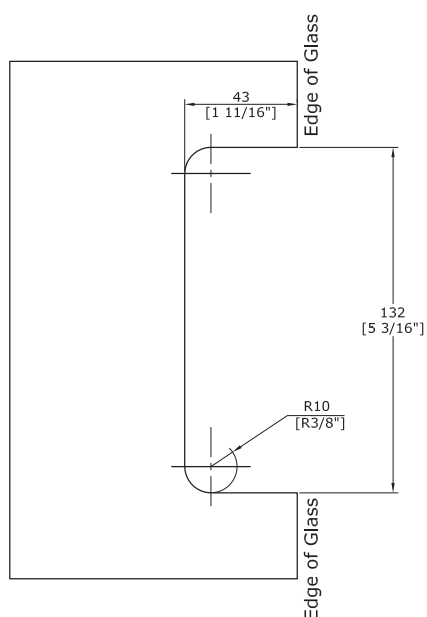


NOT TO SCALE

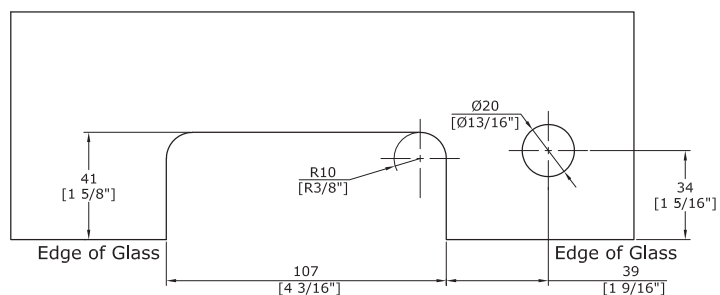
PL60



Cut-out for corner lock position

PL20  
PK20

NOT TO SCALE

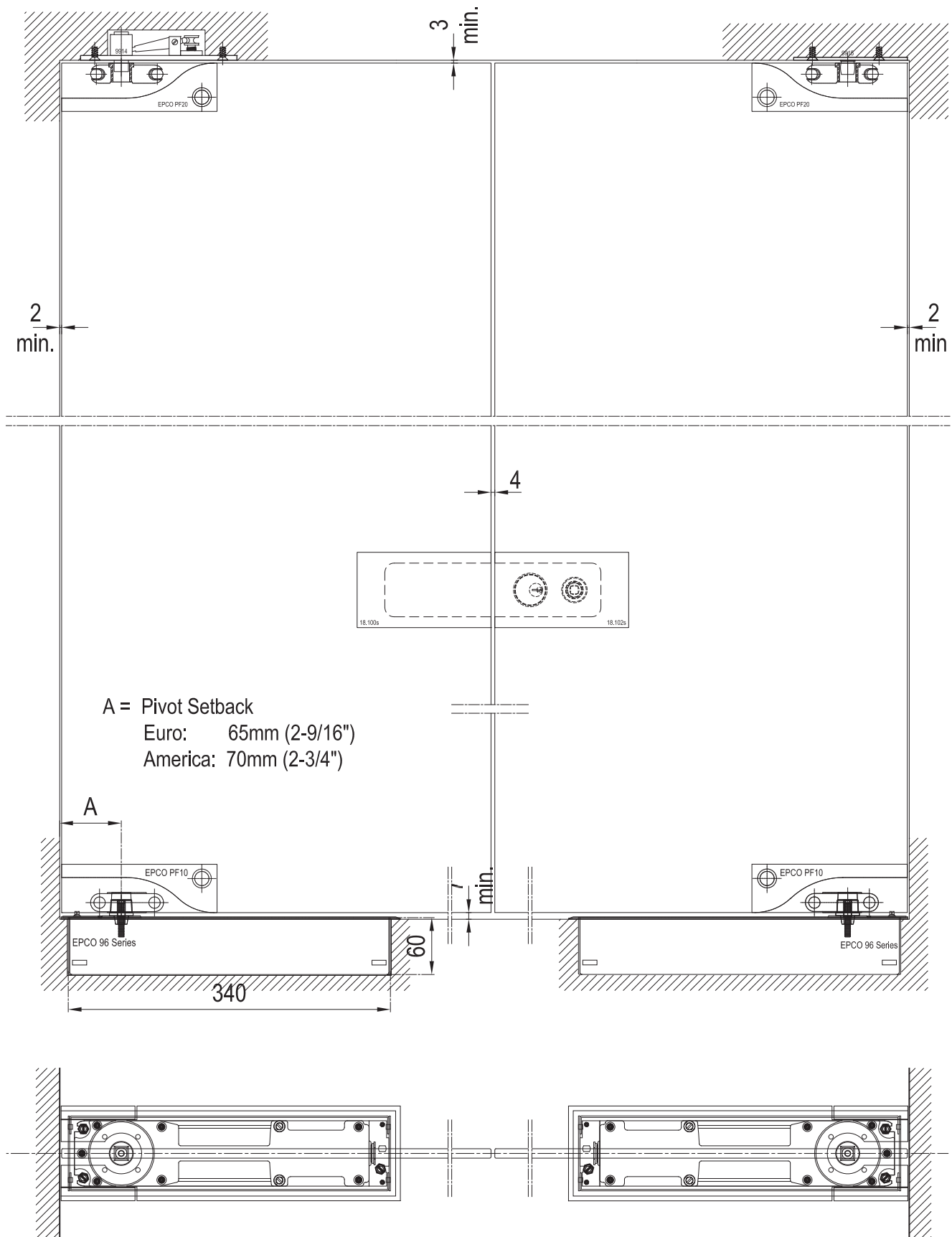


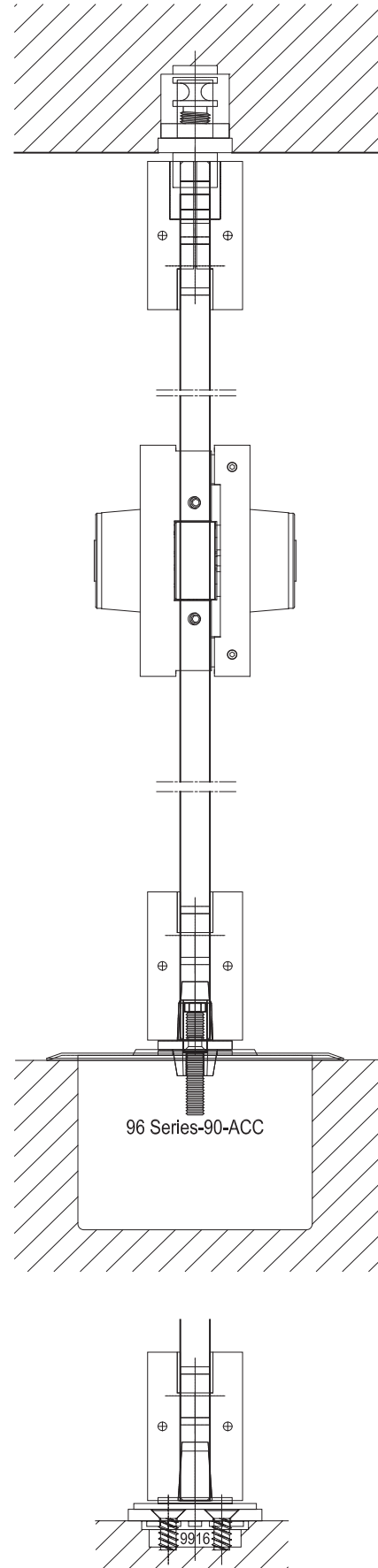
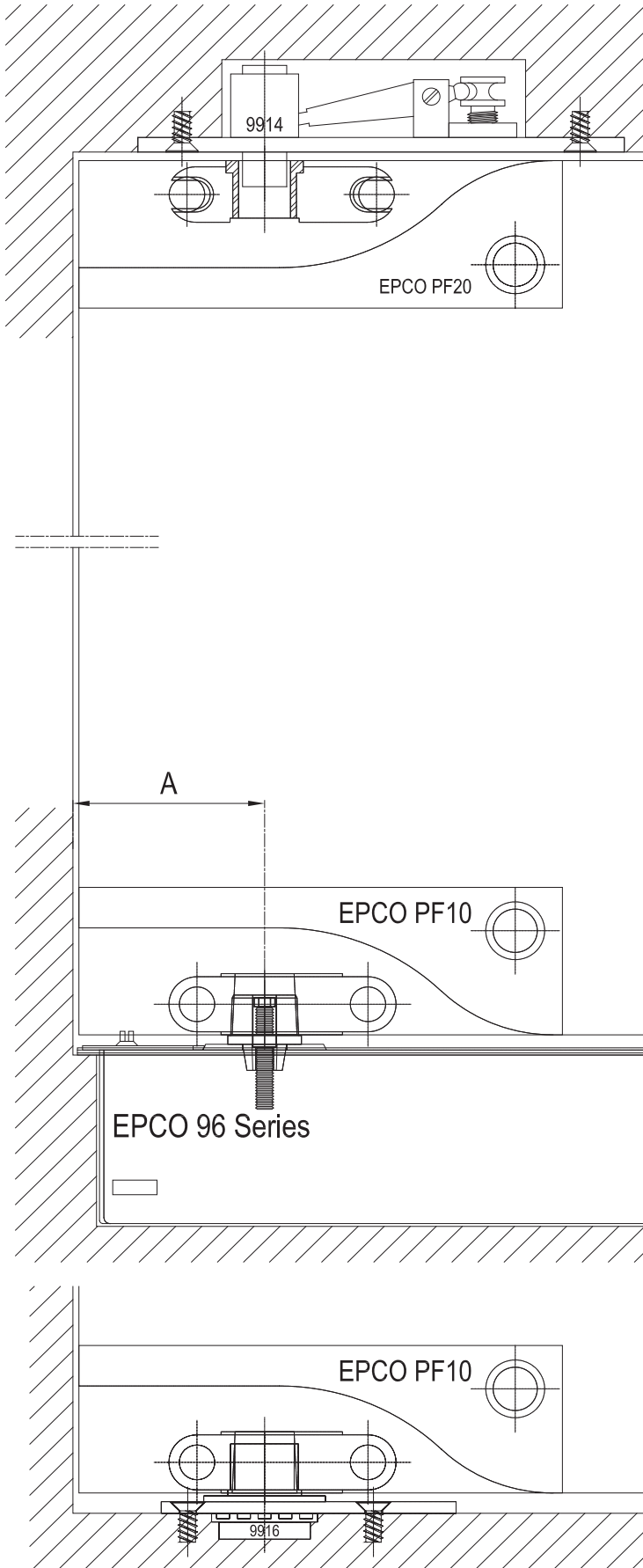
Cut-out for central lock position

NOT TO SCALE

## Planning Details

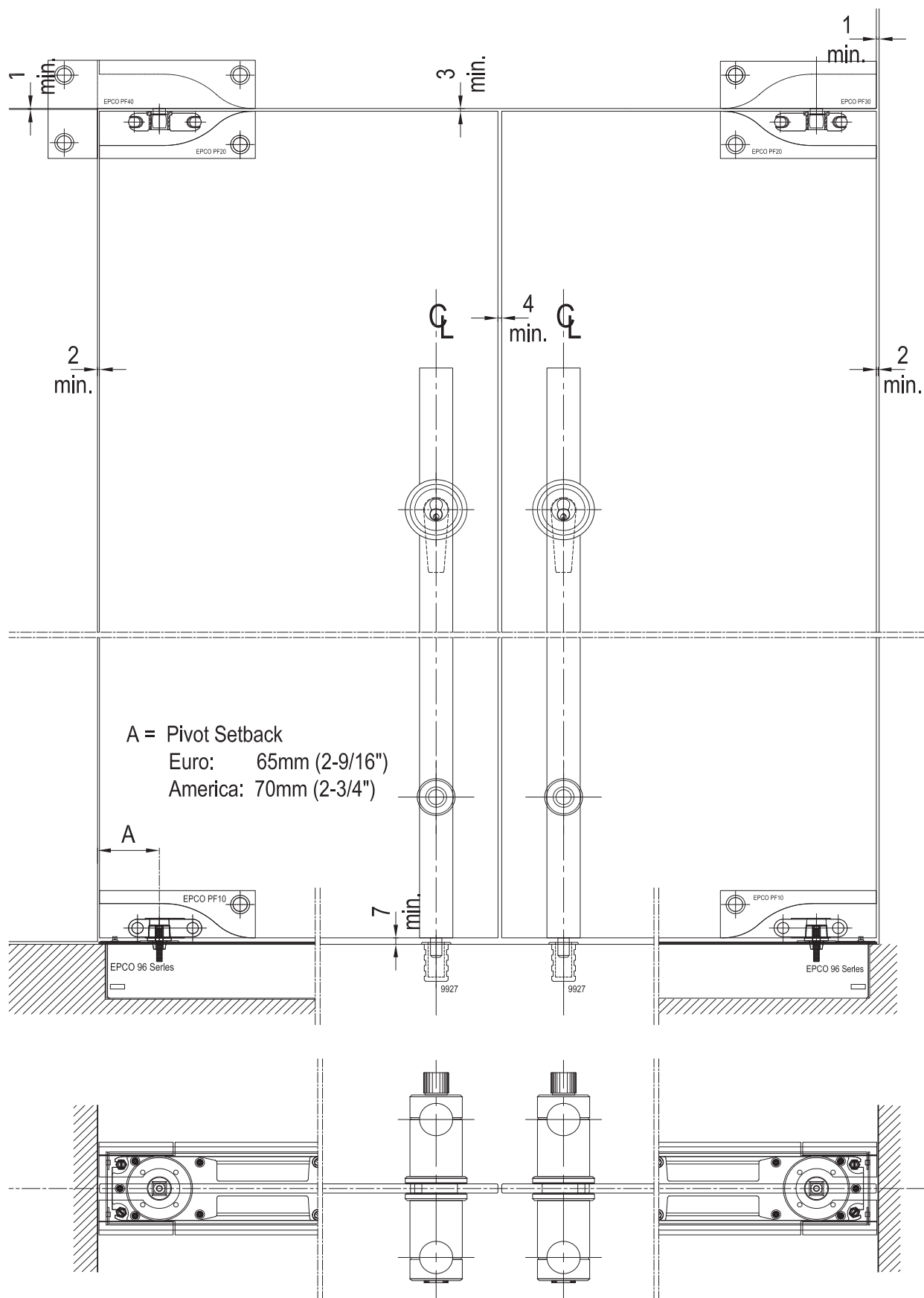
for double acting doors with top pivot/walking beam , top/bottom patch fittings & floor closer/floor pivot

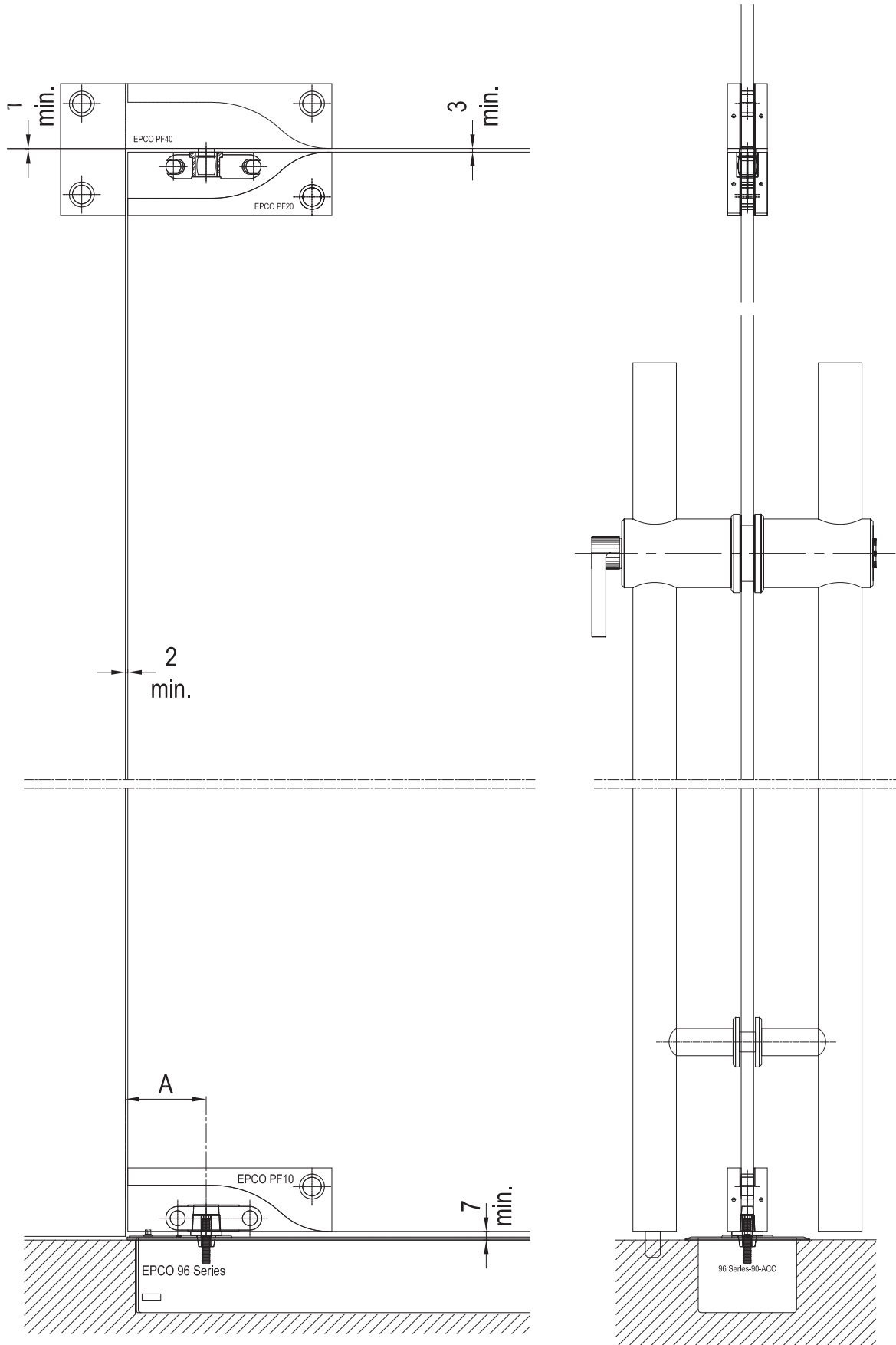




# Planning Details

for double acting doors with transom/sidelite, top/bottom patch fittings & floor closer





# Planning Details

for double acting doors with transom/sidelite/fin, top/bottom patch fittings & floor closer

