



Polar Star™ Series

Ambient Light Rejecting Fixed Frame

Screen

Spring tension version - 3.9" (99mm)

USER'S GUIDE



Product Description:

The **Polar Star™ Series** is a fixed frame projection screen from EPV Screens. It has a robust 3.9" width frame and a tension system for attaching the material for improved flatness.

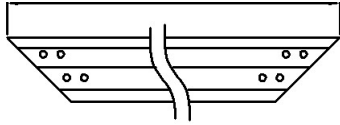
The screen material included is our *award winning* and *ISF Certified* Polar Star™ which is a reference quality front projection material, precisely formulated for environments with minimal control over room lighting. It was designed to *enhance picture brightness, offer accurate color fidelity*, and *improve contrast levels*. The Polar Star™ is best for family rooms, educational facilities, conference rooms, house of worship or any applications in which incident light is a factor.

In order for the **Polar Star™** material to maintain its projection qualities and optimum performance please refer to the list below for proper maintenance and cleaning.

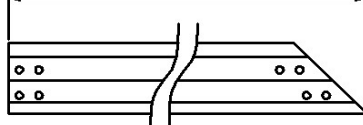
- Use a dry microfiber cloth to remove dust from the screen's surface.
- When cleaning, use a damp microfiber cloth with warm water to remove any marks.
- Never rub or apply pressure when cleaning the surface.
- Never attempt to use any solutions, chemicals or abrasive cleaners on the screen.
- In order to avoid damaging the screen, avoid touching it directly with your fingers, pens/pencils or any other sharp or abrasive objects

Frame Parts List

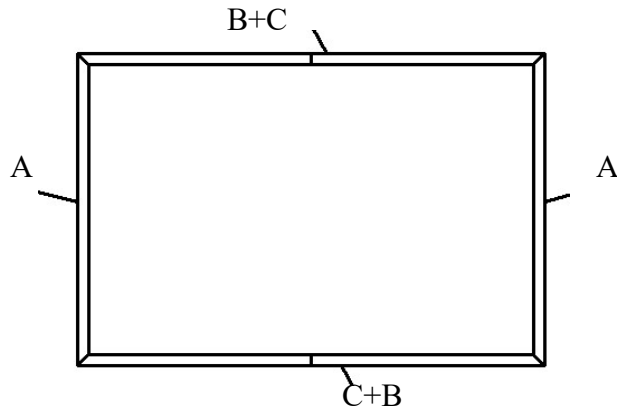
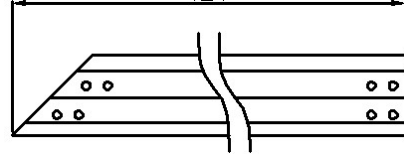
A. Vertical Frame x 2pcs



B. ½ Horizontal Frame x2 pcs

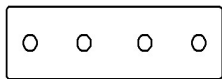


C. ½ Horizontal Frame x 2 pcs

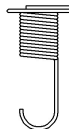


Hardware Parts List

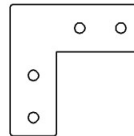
a.



b.



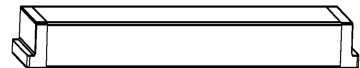
c.



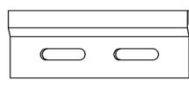
d.



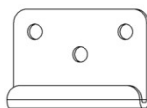
e.



f.



g.



h.



i.



j.



k.



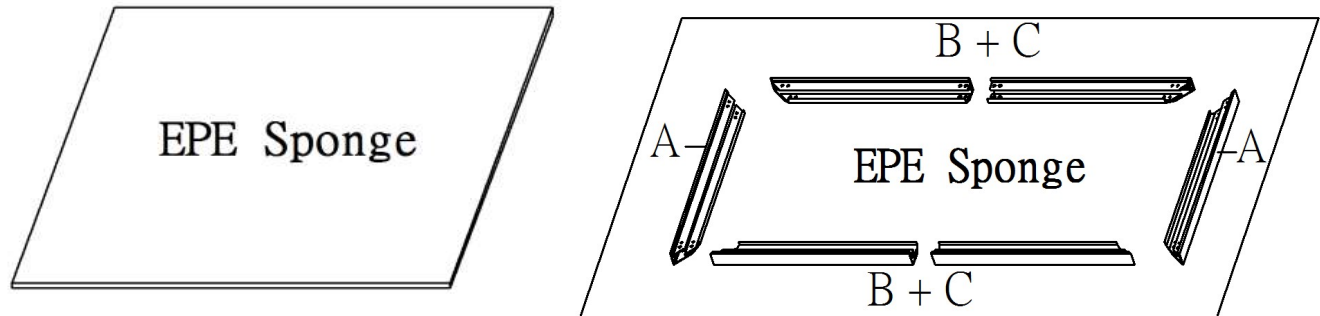
Item	Parts List	92" Screen	100" Screen	110" Screen	120" Screen	135" Screen	150" Screen	180" Screen	200" Screen
a.	Center Joints	4	4	4	4	4	4	4	4
b.	Spring	84	92	100	112	124	136	160	180
c.	Elbow Joints	8	8	8	8	8	8	8	8
d.	Screws M4x6	48	48	48	48	48	48	48	48
e.	Center Support Bar	1	1	1	1	1	1	2	2

f.	Top hanging brackets	2	2	2	2	2	2	2	2
g.	Bottom brackets	2	2	2	2	2	2	2	2
h.	Wall Screws $\Phi 5 \times 50$	8	8	8	8	8	8	8	8
i.	Hollow Wall anchors	8	8	8	8	8	8	8	8
j.	Pull Hook	2	2	2	2	2	2	2	2
k.	White gloves	2	2	2	2	2	2	2	2

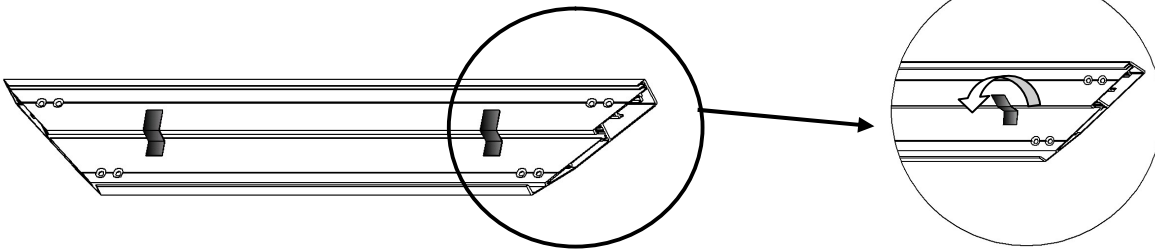
Frame Assembly

Step 1. Place a soft-clean cloth on the ground of the area where the screen will be assembled.

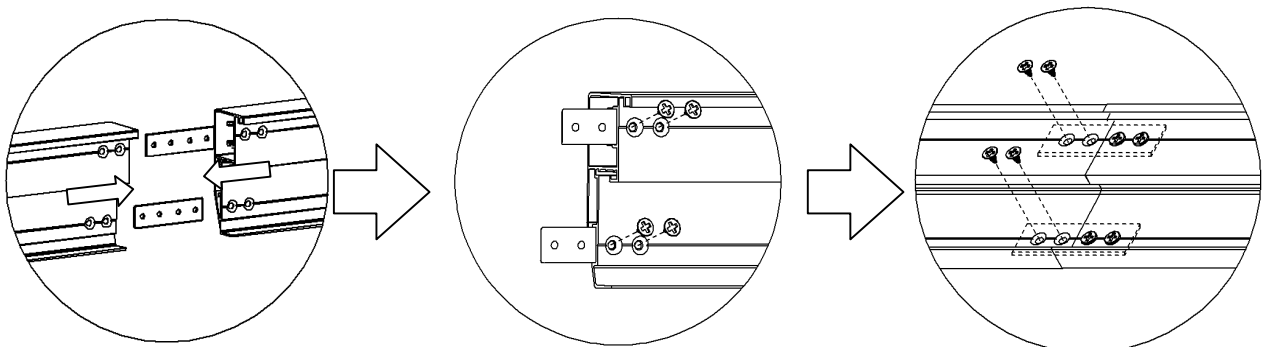
Step 2. Position the pieces of the frame on the soft-clean cloth in the arrangement shown below.



Step 3. Remove all of the tape strips before assembling the frame.



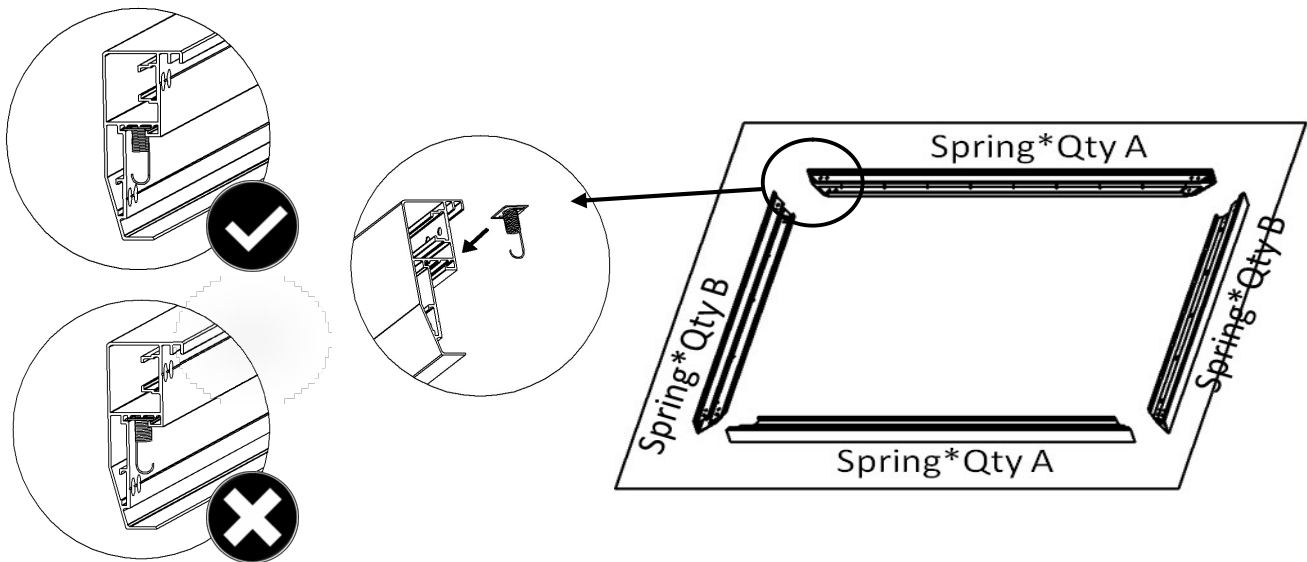
Step 4. Insert the center joint connectors into one-half of the horizontal frame and secure with the M4x6 screws (2 for both top and bottom). Once secure, connect the other half of the horizontal frame and fasten with the M4x6 screws (2 for both top and bottom).



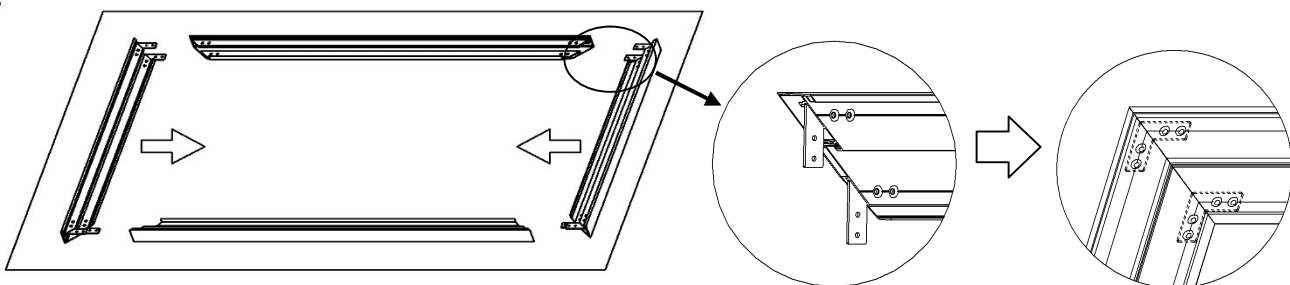
Step 5. Insert the springs into the grooves of the frame. The spring hooks should be facing the front side of the frame. For the correct amount of springs to place into the frame, please refer to the table listed below.

Note: The springs are pre-installed into the grooves of the frame.

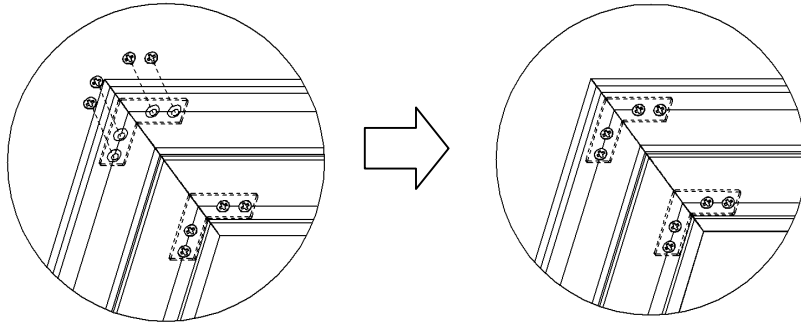
Screen Size		92"	100"	110"	120"	135"	150"	180"	200"
Qty	A (spring)	27	29	31	35	39	43	51	57
	B (spring)	15	17	19	21	23	25	29	33



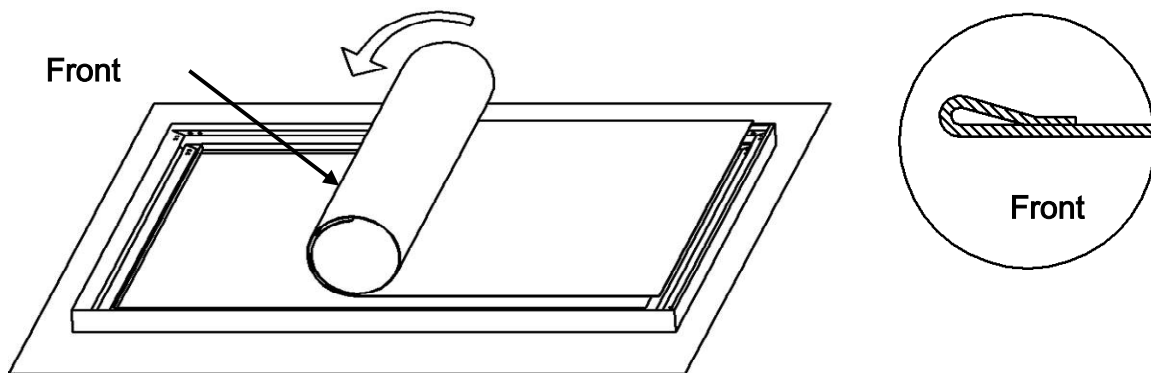
Step 6. Connect the elbow joints to top and bottom sections of the vertical frame. Once inserted, connect the vertical sections to the horizontal frame sections. Make sure all the holes are in alignment and the frames pieces are flush (no gaps). They should form perfect right angles.



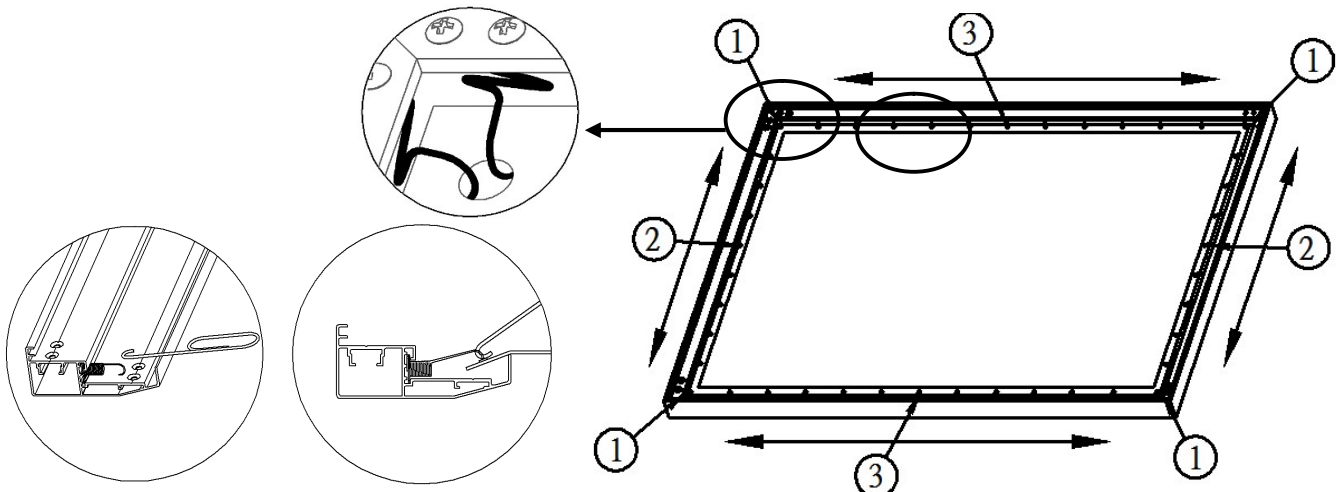
Step 7. Secure the elbow joints by fastening them with 4 M4x6 screws (4 at each corner). Do not tighten completely until all frame pieces are assembled correctly.



Step 8. Put on the **white gloves** (k) and carefully unroll the screen material on a clean surface from the roller to the other side as shown below. The back side of the screen material should be placed upwards.



Step 9. With one end of the spring and secure inside the groove of the frame, hook the spring to the hole located on the screen material's outer edge. Use the pull hook when necessary. Attach the four corners first (1). After those are secure, connect the vertical portions of the material, begin in the center and move towards the corners (2). Lastly, connect the horizontal sections of the material by connecting the center of the material and make your way towards the corners (3).

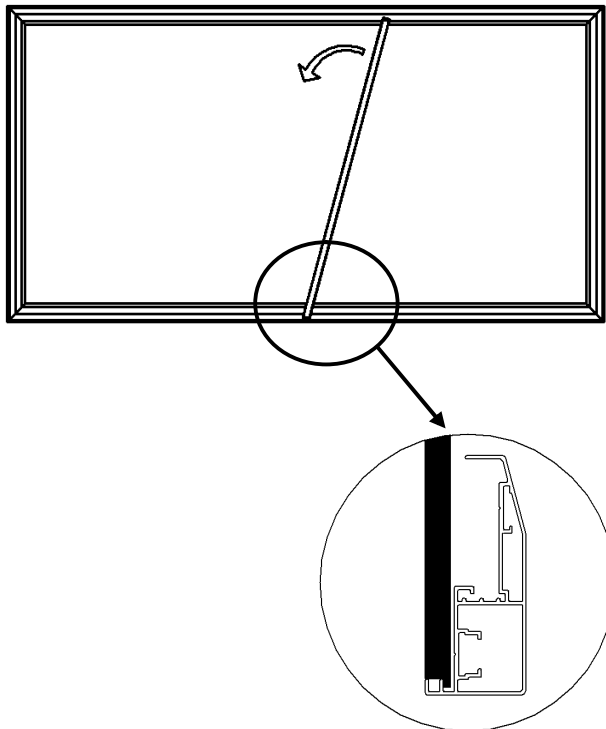


Center Support Bar

Step 10. Insert the Center Support Bar into the upper top groove on the back of the frame (not the one where the spring inserts) with the bottom end near the approximate center point of the frame. Rotate it in at an angle so that both ends of the bar are in alignment with the groove. (See illustrations below for details)

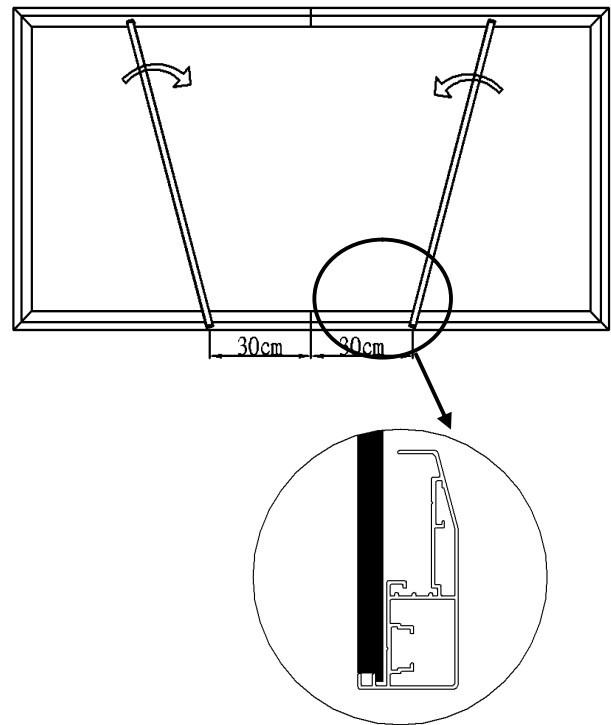
Diagonal Models 150" and below use

1 x Center Support Bar



Diagonal Models above 150" require 2

x Center Support Bars



Notice to Installer:

Please use the following installation instructions to obtain superior optical performance from the Polar Star™ Angular Reflective ALR (Ambient Light Rejecting) Screen.

- **Angular-Reflective material is not compatible with ultra/short-throw projectors**
- Minimum lens throw ratio 1.5x image width
- Ambient light must not come from the same direction as the projector

Since angular-reflective means that the projected image will reflect at the mirror-opposite angle, it is important to position the projector so that the viewer will get the best possible image.

Step 1: Establish the general “eye level” of the viewers

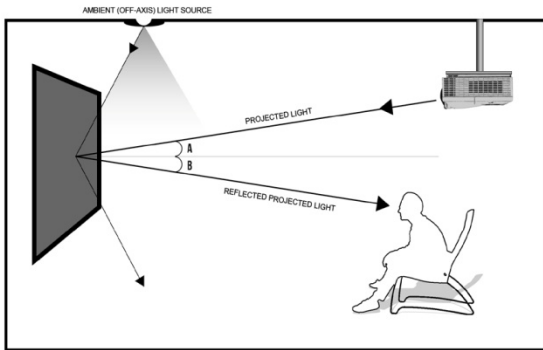
Step 2: Set the appropriate projection level

Step 3: Adjust the screen height level and projection angle

Input Angle (A) = Output Angle (B) aligns with the viewer’s angle

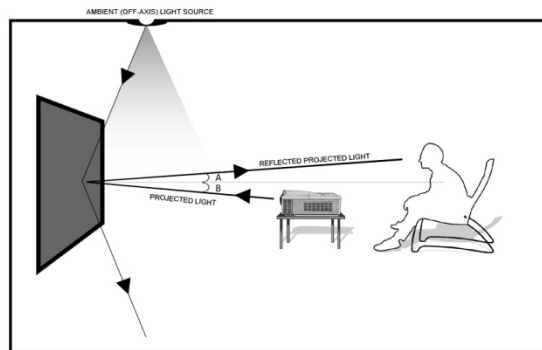
Correct Installation Examples

Projector Ceiling Installation: Make sure the projector (*light in*) is angled (A) to reflect (B) at the mirror-opposite angle (*light out*) to align with the viewer’s eye level.



PROJECTOR CEILING INSTALLATION

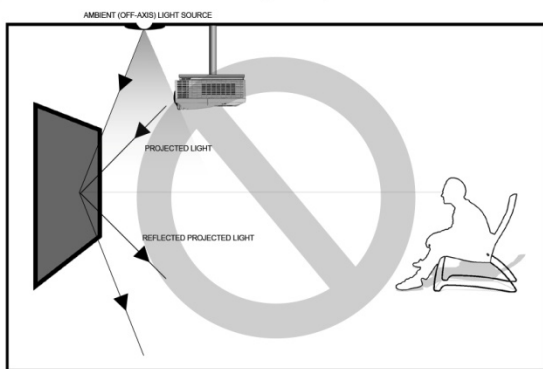
Projector Table Top: Make sure the projector (*light in*) is angled (A) to reflect (B) at the mirror-opposite angle (*light out*) to align with the viewer’s eye level.



PROJECTOR TABLE TOP INSTALLATION

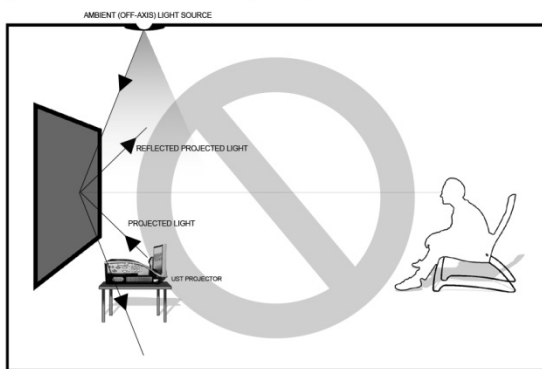
Incorrect Installation Examples

Ceiling Mounted Short-throw Projector



CLOSE UP CEILING PROJECTOR ILLUSTRATION (NOT COMPATIBLE)

Tabletop Ultra-Short throw Projector



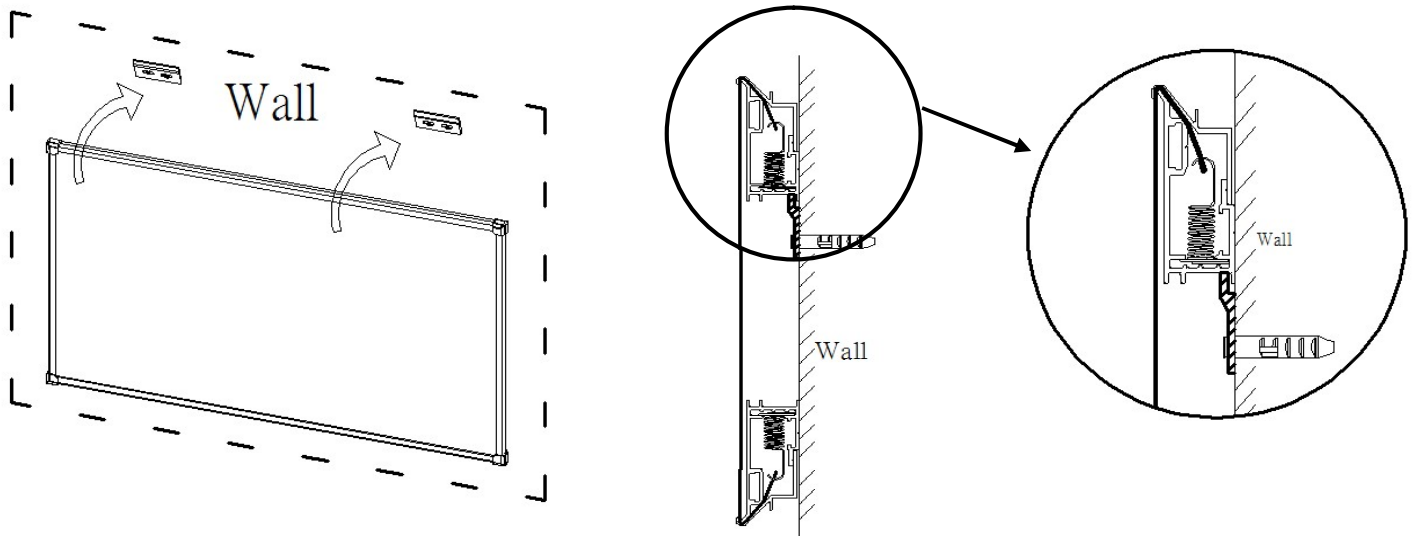
ULTRA SHORT THROW PROJECTOR ILLUSTRATION (NOT COMPATIBLE)

Note: Improper installation will result in light loss and produce a dark image. This is due to the projector’s light reflecting in the wrong direction.

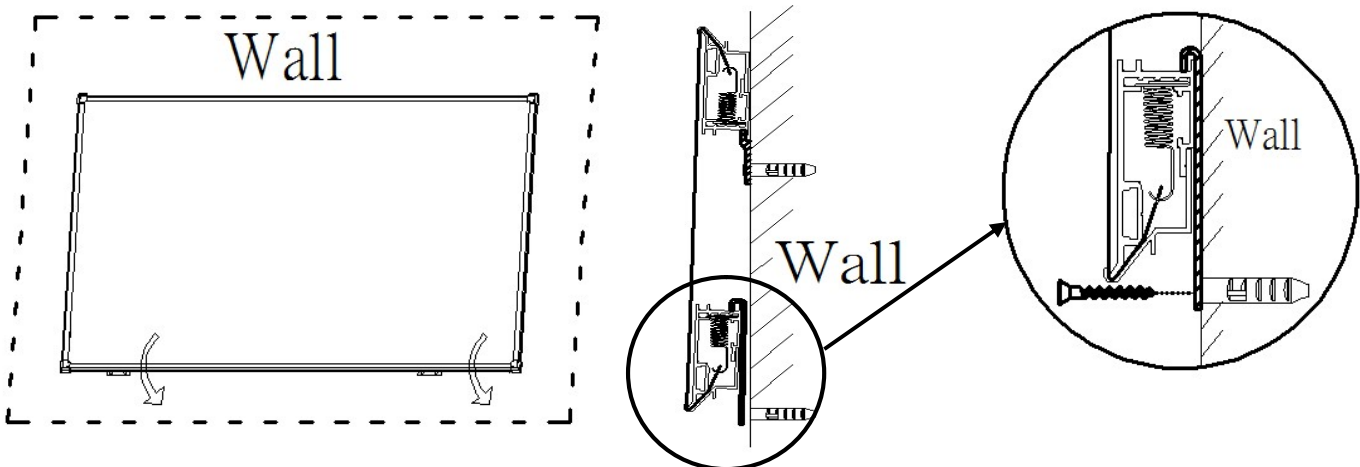
Images are not up to scale and are for illustration purposes only.

Installation

Step 11. Measure the overall length and height of the frame and drill holes for the top brackets. Line up the wall brackets with the drilled holes on the installation location and screw them in using a Phillips screwdriver. If not installing into a structural wood stud, use a hollow wall anchor then screw in the M5x50 wood screws with a screwdriver. Make sure the brackets are leveled.



Step 12. Position the fixed frame screen onto the top wall brackets as shown below and push down at the center of the top of the frame to secure.



Step 13. With the frame slightly tilted outward; connect the bottom brackets onto the bottom groove of the frame. Slowly return the screen to a normal upright position. Once the screen is flush to the wall, secure the brackets to the wall with a screw. If not installing into a structural wood stud, mark the sites where the hollow wall anchors will be placed using the same instructions above. With the wood anchor installed, repeat the process and fasten the brackets with the M5x50 wood screws.

CAUTION

Please follow these instructions carefully to ensure proper maintenance and safety of your Fixed Frame Screen.

1. When hanging the screen up, please make sure that no other objects such as power switches, outlets, furniture, ladders, windows, etc. occupy the space designated for your Fixed-Frame screen.
2. Regardless if the screen is hung on or installed into the wall, make sure that the proper mounting anchors are used and that the weight is supported appropriately by a strong and structurally sound surface just as any large and heavy picture frame should. *(Please consult a home improvement specialist for the best advice on installation)*
3. Frame parts are made of high quality velour-surfaced aluminum and should be handled with care.
4. When not in use, cover over the screen with a furniture sheet to protect it from dirt, grime, paint or any other impurities.
5. Spare Parts should be placed out of reach of small children in accordance with household safety guidelines.

For Technical Support or an EPV Screens contact in your area,

visit www.epvscreens.com