AIR FRAME X-10 (AF02-X10)

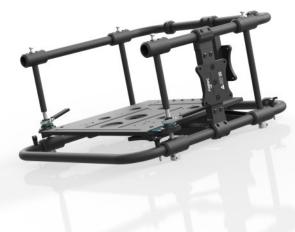
USER GUIDE

Version R1.1

Revision	Date	Revision Details	Revised By		
R1.0	05/05/22	Version renamed from 1.0 to R1.0	ST		
R1.1	05/07/22	Additional Projector Models Added	ST		









Thank you for purchasing a Rigtec Air Frame.

We hope you enjoy using the Air Frame as much as we've enjoyed designing and manufacturing it.

If you have any questions, suggestions or just want to say hello; please contact the team at hello@rigtec.com



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SAFETY INFORMATION

These instructions should be handed over to the person carrying out the installation.

- Only a qualified, trained and competent technician should carry out installation work.
- The device should only be used with approved accessories and spares.
- Do not exceed the Working Load Limit (WWL) when used with other accessories make sure that the Working Load Limit of any component is not exceeded.
- Care should be taken when lifting and moving the combined weight of the device and any accessory should be within safe manual handling limits.
- Care should be taken when transporting that injury is not caused make sure the device and any attached accessory is correctly secured.
- All equipment should be visually inspected before use and in the event of any damage, it must be immediately taken out of service and assessed by a competent person.
- Any suspended accessory must be independently secured with an approved safety wire/s. Local laws or regulations should be consulted regarding the additional safety of hanging equipment
- When working at elevated heights or under a suspended load, make sure that all necessary precautions have been taken.
- Only install the approved projectors into the Air Frame, as listed in the User Guide. Attempting to install projectors other than those listed in the User Guide may result in serious injury.
- Do not use the Air Frame outdoors. The Air Frame should not be installed where it can be exposed to wind or rain.
- Do not expose the Air Frame to moisture or excessive heat.
- Do not install the Air Frame on unstable surfaces.
- Do not hang the Air Frame from unstable, unsafe or inappropriate objects/ structures. Ensure the structure can support the overall weight.
- When stacking Air Frames, ENSURE all four locking pins are securely positioned through the adjoining male and female Air Frame stacking connectors.



SAFETY INFORMATION

These instructions should be handed over to the person carrying out the installation.

- Do not install an Air Frame whilst people are under the hanging area.
- Do not make adjustments to a hanging Air Frame or Atom Grip whilst people are under the hanging area.
- A Minimum of TWO people should be used to lift, carry and install the Air Frame with a projector installed.
- Thorough examination of lifting equipment must take place at least every 12 months by a qualified technician.

In addition to these scheduled examinations, equipment will require a thorough examination following:

- Any accident or dangerous occurrence.
- Any significant change in conditions of use.
- Any long periods of inaction.
- Each time the equipment is used.



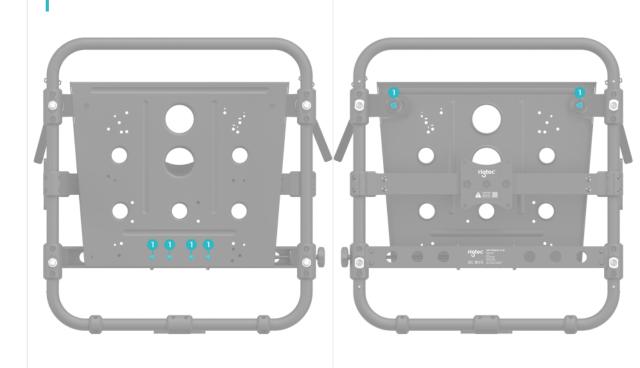
SAFETY INSPECTION

The Air Frame should always be inspected to check for defects and loose bolts or nuts prior to installation or use.

It is important to inspect the Air Frame for damaged, broken, misshapen or missing parts. If any of these issues are found, the product must not be used.

Along with an overall visual check covering the issues above, the following specific parts should be checked before the product is used:

- 1. Ensure the nuts and bolts that connect the projector plate to the rest of the frame are not loose.
- All Atom Grip Attachment Plates must be inspected, it is important to ensure that all threads are intact. If there is any damage to the threads that Atom Grip Attachment Plate must not be used.

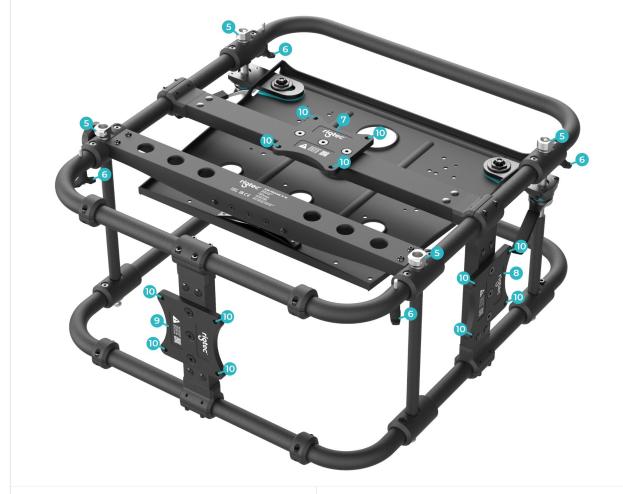




PART NAMES

Use this page as a reference of the various part names throughout this User Guide.

- Ratchet Handle
- Yaw Adjustment Handle
- 3. Projector Plate
- 4. Male Stacking Connector
- 5. Female Stacking Connector
- 6. Locking Pin
- 7. Landscape Atom Grip Attachment Plate
- 8. Portrait Atom Grip Attachment Plate
- 9. Floor Projection Atom Grip Attachment Plate
- 10. M8 Atom Grip Threads
- 11. Upper Side Bar
- 12. Lower Side Bar
- 13. Upper Back Bar
- 14. Lower Back Bar
- 15. Removable Front Bar
- 16. Removable Front Bar Bolts
- 17. Lower Front Bar



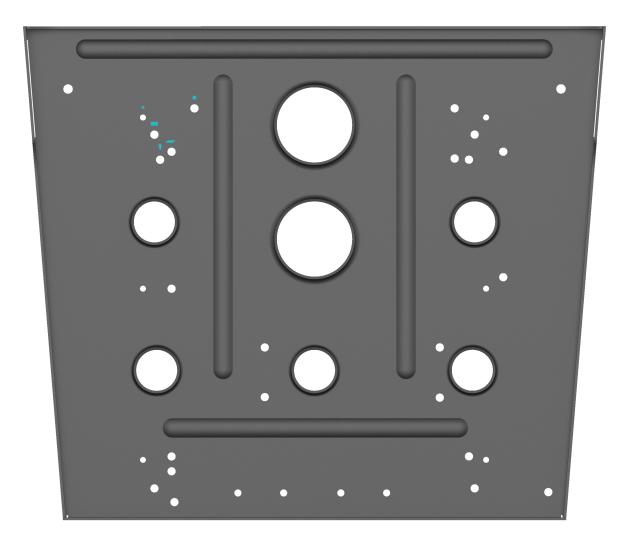




COMPATIBLE PROJECTORS

The Air Frame projector plate has five hole sets. One hole from each set is labelled with a shape to aid the installation process. When installing a projector, begin with the labelled hole which will then line up the other holes in the associated hole set. Please see the compatibility table below for a full list of compatible projectors and an itemisation of each hole set.

Barco G60-W7 Barco G60-W8 Barco G60-W10 Barco G62-W9 Barco G62-W11 Barco G62-W14



INSTALLATION ACCESSORIES

Rigtec Air Frames are provided with all the necessary accessories to install the projector into the Air Frame. Bolts, washers and spacers will be required for all projectors, using the incorrect size could lead to damage to the projector or serious failure of the Air Frame. Please consult this table and the table on page 9 to find the correct bolts, washers and spacers to use with your projector.

The number in brackets following the projector model shows the quantity of bolts, spacers and washers required for that model, this quantity must be used. Failure to use the full amount of spacers, bolts and washers could lead to serious failure of the Air Frame.

Where third party accessories are to be used with the Air Frame, such as a the Dynamic Projection Mirror Head, please contact the team at Rigtec to discuss. Alternative bolts and spacers will be required to accommodate the accessory.

Projector Model	M6 25mm Bolt	M6 35mm Bolt	M6 45mm Bolt	M4 25mm Bolt	10mm Spacer	22mm Spacer	M4 Washer	M6 Washer
Barco G60-W7 [4]		•				•		•
Barco G60-W8 [4]		•				•		•
Barco G60-W10 [4]		•				•		•
Barco G62-W9 [4]		•				•		•
Barco G62-W11 [4]		•				•		•
Barco G62-W14 [4]		•				•		•

The full amount of spacers, bolts & washers MUST be used.

Please Torque bolts to 4±0.5 Nm (Or as recommended by the Projector Manufacturer in the Projector User guide)

Only use supplied bolts to connect Air Frame and Projector.

Continued.....

INSTALLING A PROJECTOR

Required Tools:

10mm Spanner (for M6 Bolts)

See 'Installation Accessories' (page 8 & 9) for Bolt, Washer & Spacer quantities & sizes.

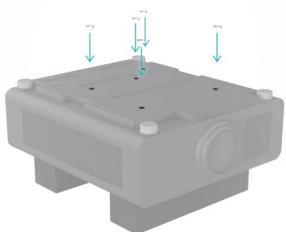
- Turn the projector upside down and place onto a stable flat surface.
 To make the installation as easy as possible it's recommended to place the projector onto an object to raise the projector body around 100mm from the chosen surface. Also raising the Air Frame projector plate as high as possible by adjusting the ratchet handles can simplify the installation.
- 2. Place the provided spacers over the mounting points (threaded holes) of the projector, the chamfered side of the spacer should be facing up away from the projector body.
- 3. Carefully lower the Air Frame over the projector, ensuring the ratchet handles are at the front of the projector. Carefully line the projector threaded holes up with the associated holes in the Air Frame plate.
- 4. Using the provided Bolts, secure the recommended number of bolts (Please Consult the Projector Manufacturer's User Guide) through the provided Washers, then through the Air Frame plate holes, then through the provided Spacers and into the projector's threaded holes. Use a spanner to tighten the bolts.

Please Torque bolts to 4±0.5 Nm (Or as recommended by the Projector Manufacturer in the Projector User guide)

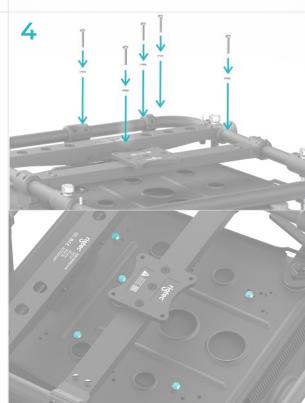
Only use supplied bolts to connect Air Frame and Projector.











ADJUSTMENT SYSTEM

The Air Frame features an adjustment system to fine tune projection set ups. There are 3 controls to make adjustments to the Roll, Pitch and Yaw axes:

Ratchet Handles;

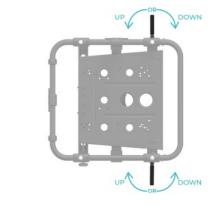
handle features a switch to reverse the direction of the adjustment; position the switch to the left to lower the adjustment plate, position the switch to the right to raise the adjustment plate.

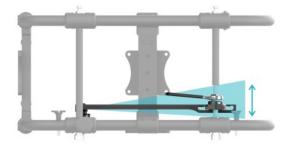
The Yaw Adjustment Handle,

of the frame. Twisting this clockwise moves the projected image to the left, twisting it anti-clockwise moves the projected image to the right.

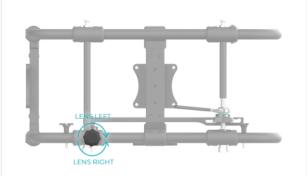
- 1. To control the projector on the Roll Axis, operate the Ratchet Handles in opposite directions (Anti-Clockwise to raise one side, Clockwise to lower the other side).
- To control the projector on the Pitch Axis, operate the Ratchet Handles in the same directions (Anti-Clockwise to raise, Clockwise to lower).
- To control the projector on the Yaw Axis, operate the Yaw Adjustment Handle. Clockwise for movement to the left and Anti-Clockwise for movement to the right.

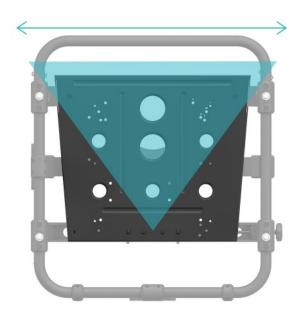
ROLL RIGHT OR ROLL LEFT





3





STACKING

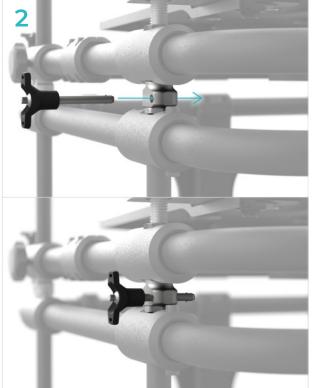
Air Frames can be stacked together for use as a ground stack on a flat surface or a suspended stack from a truss. To stack frames together, choose a safe, even and suitable surface and follow these instructions:

- Lower one frame down on to the other ensuring the four male stacking connectors of one frame locate inside the four female stacking connectors of the lower frame.
- 2. Once the frames are connected; remove the tethered locking pins from their storage positions by pushing the button to release the pins. Whilst pushing and holding the button in, position the locking pin through the hole in the side of the female stacking connector, ensuring it goes all the way through the male stacking connector and out the other side of the female stacking connector.
- 3. Step 2 must be completed for all 4 stacking connectors to safely lock the stacked frames together.

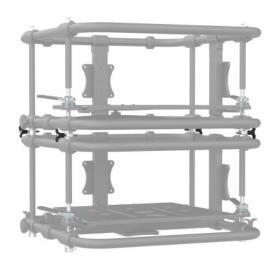
ENSURE all four locking pins are securely positioned through the adjoining male and female Air Frame stacking connectors.

Care should be taken when lifting and moving Air Frames with Projectors installed – the combined weight of the device and any accessory should be within safe manual handling limits.









STACKING LIMITS

Do not exceed the following limits when stacking Air Frames:

1. Ground Stack

A stack to be rested on a flat surface like the floor or a stage; Can contain a MAXIMUM of three Rigtec Air Frames

2. Suspended Stack

A stack to be suspended from a truss or a bar; Can contain a MAXIMUM of two Rigtec Air Frames.

3. Suspended Stack from Swivel Couplers

A stack to be suspended from a truss or a bar with Swivel Couplers;

Should contain a MAXIMUM of three Rigtec Air Frames.

A Stack of Air Frames must only be suspended in a Landscape Orientation, either with an Atom Grip or Rigtec Swivel Couplers - DO NOT suspend a stack of Air Frames in Portrait or Floor Projection Orientation.

When hanging a Stack the total weight of the combined Stack must be taken into consideration when selecting the hanging accessory - DO NOT exceed the WLL of the Hanging Accessory.





REMOVABLE FRONT BAR

Air Frames feature a removable front bar, a feature designed for when using the Air Frame with a projector fitted with an Ultra Short Throw lens.

Required Tools:

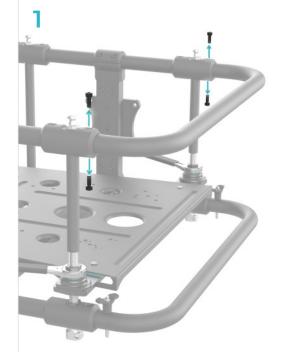
5mm Hex Key (Allen Key)

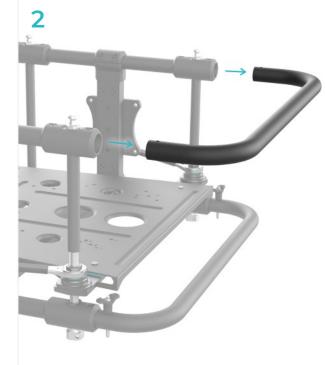
How to Remove the Front Bar:

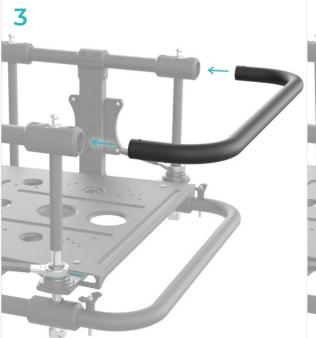
- 1. Locate the four Removable Bar Bolts, using the 5mm Hex Key; loosen and remove the bolts.
- 2. Pull the bar out of the left and right blocks. The removed bolts can be threaded back into the bar for storage.

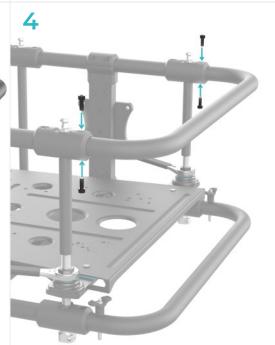
How to Refit the Front Bar:

- 3. If the bolts were kept in the front bar for storage, please remove them first. Then push the bar into the holes in the front of the left and right front blocks.
- 4. Once the front bar is firmly in place, locate the four Removable Bar Bolts back into the holes in the top and bottom of both left and right front blocks and tighten with the 5mm Hex Key.









HANGING ACCESSORIES

There are various methods and accessories to suspend an Air Frame, the next few pages will detail those accessories and the give instructions on how to safely suspend Rigtec Air Frames.

Rigtec Atom Grips

The best solution for hanging an Air Frame is by using a Rigtec Atom Grip, depending on the application there are 3 models to choose from:

Atom Grip (AG02-A): 245kg Single Point Trigger Clamp Atom Grip Duo (AG02-D): 295kg Twin Point Quick Trigger Clamps Atom Grip HD (AG02-H): 370kg Single Point Half Coupler

Air Frames feature three Atom Grip Attachment Plates:

- 1. Landscape Atom Grip Attachment Plate
- 2. Portrait Atom Grip Attachment Plate
- 3. Floor Projection Atom Grip Attachment Plate

Rigtec Swivel Couplers (CWC01)

Alternatively a set of four Swivel Couplers can be used to suspend an Air Frame.









ATTACHING AN ATOM GRIP

To attach an Atom Grip to the Landscape Atom Grip Attachment Plate of the Air Frame please follow these instructions:

Required Tools:

- 6mm Hex Key (Allen Key)
- 1. Place the Atom Grip on to the Landscape Atom Grip Attachment Plate. Line the M8 bolts up with the M8 Atom Grip Threads.
- 2. To help prevent damage to the M8 Atom Grip Threads it is good practice to initially attach the bolts by hand. Attach each bolt loosely, gradually tighten evenly.
- 3. Once all bolts are located in the threads and loosely attached use a 6mm Hex Key to tighten, tighten all four bolts evenly.
- 4. Ensure all four M8 bolts are torqued to 6±0.5 Nm (M8).

Any suspended accessory must be independently secured with an approved safety wire/s. Local laws or regulations should be consulted regarding the additional safety of hanging equipment









ATTACHING AN ATOM GRIP

To attach an Atom Grip to the Portrait Atom Grip Attachment Plate of the Air Frame please follow these instructions:

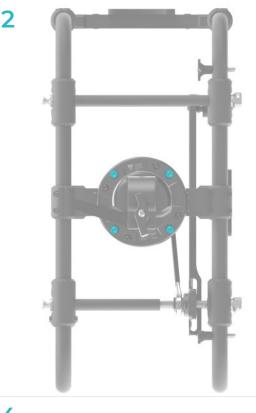
Required Tools:

- 6mm Hex Key (Allen Key)
- Place the Atom Grip on to the Portrait Atom Grip Attachment Plate. Line the M8 bolts up with the M8 Atom Grip Threads.
- 2. To help prevent damage to the M8 Atom Grip Threads it is good practice to initially attach the bolts by hand. Attach each bolt loosely, gradually tighten evenly.
- 3. Once all bolts are located in the threads and loosely attached use a 6mm Hex Key to tighten, tighten all four bolts evenly.
- 4. Ensure all four M8 bolts are torqued to 6±0.5 Nm (M8).

The Removable Front Bar MUST be in place and secured when the Air Frame is hanging in a portrait orientation.

Any suspended accessory must be independently secured with an approved safety wire/s. Local laws or regulations should be consulted regarding the additional safety of hanging equipment









ATTACHING AN ATOM GRIP

To attach an Atom Grip to the Floor Projection Atom Grip Attachment Plate of the Air Frame please follow these instructions:

Required Tools:

- 6mm Hex Key (Allen Key)
- Place the Atom Grip on to the Floor Projection Atom Grip Attachment Plate. Line the M8 bolts up with the M8 Atom Grip Threads.
- 2. To help prevent damage to the M8 Atom Grip Threads it is good practice to initially attach the bolts by hand. Attach each bolt loosely, gradually tighten evenly.
- 3. Once all bolts are located in the threads and loosely attached use a 6mm Hex Key to tighten, tighten all four bolts evenly.
- 4. Ensure all four M8 bolts are torqued to 6±0.5 Nm (M8).

Any suspended accessory must be independently secured with an approved safety wire/s. Local laws or regulations should be consulted regarding the additional safety of hanging equipment







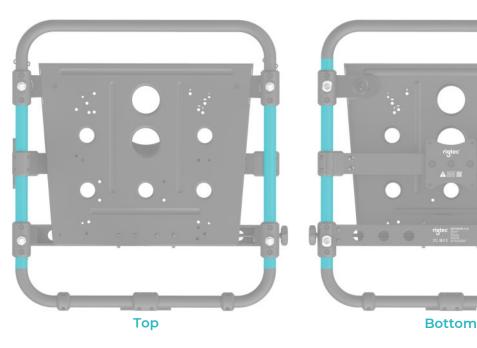


SWIVEL COUPLER SAFETY INFORMATION

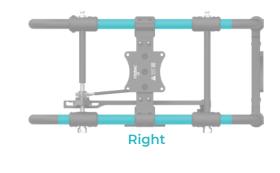
The following three pages detail how to suspend the Air Frame using the Swivel Couplers in all three orientations, before attaching the Swivel Couplers to the Air Frame please read the following safety information:

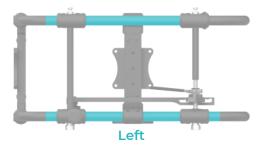
- Swivel Couplers MUST ONLY be attached to the Air Frame in the APPROVED LOCATIONS (Images 1, 2 and 3 display the approved locations highlighted in colour)
- 2. DO NOT attach Swivel Couplers to any other part of the frame other than those highlighted in Images 1, 2 and 3.
- The approved locations should only be used for the correct orientation. Please be aware, not all approved locations can be used in all orientations – DO NOT use the floor projection approved locations for landscape projection.
- Please note, Swivel Couplers MUST NOT be attached to the front removable bar.
- 5. Always use FOUR Swivel Couplers to suspend the Air Frame.
- Any suspended accessory must be independently secured with an approved SAFETY WIRE/S. Local laws or regulations should be consulted regarding the additional safety of hanging equipment.
- 7. Only stack a MAXIMUM of THREE Air Frames (AF02-X10), when suspending with Swivel Couplers.

1. Landscape Projection

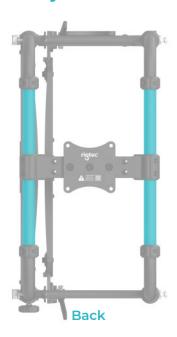


2. Portrait Projection





3. Floor Projection





ATTACHING RIGTEC SWIVEL COUPLERS

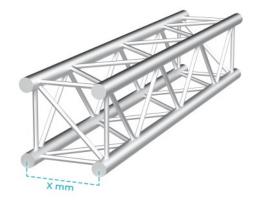
To hang an Air Frame in Landscape Orientation with the Rigtec Swivel Couplers, follow these instructions:

- 1. Measure the distance between the two truss chords that will be used to hang the Air Frame.
- 2. Using the 32mm clamps, attach two Swivel Couplers at the measured distance apart on the upper side bar. Repeat this on the other upper side bar so all FOUR Swivel Couplers are attached.
- 3. Ensure the 32mm clamps are tight and hang the Quick Trigger Clamps from the Truss.
- 4. Ensure all four Quick Trigger Clamps are tightened to grip the Truss chords.

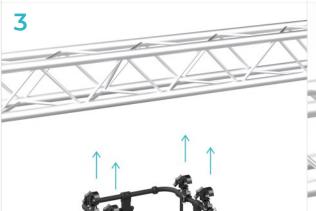
Always use FOUR Swivel Couplers to suspend the Air Frame

Any suspended accessory must be independently secured with an approved safety wire/s. Local laws or regulations should be consulted regarding the additional safety of hanging equipment











ATTACHING RIGTEC SWIVEL COUPLERS

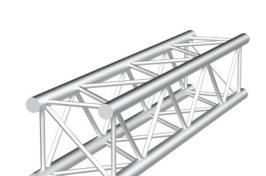
To hang an Air Frame in Portrait Orientation with the Rigtec Swivel Couplers, follow these instructions:

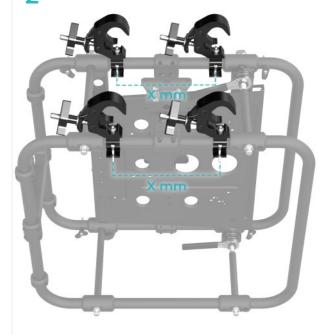
- Measure the distance between the two truss chords that will be used to hang the Air Frame.
- Using the 32mm clamps, attach two Swivel Couplers at the measured distance apart on the upper side bar. Repeat this on the lower side bar so all FOUR Swivel Couplers are attached on the same side of the Air Frame.
- 3. Ensure the 32mm clamps are tight and hang the Quick Trigger Clamps from the Truss.
- Ensure all four Quick Trigger Clamps are tightened to grip the Truss chords.

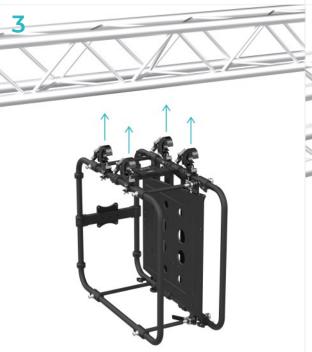
Always use FOUR Swivel Couplers to suspend the Air Frame

The Removable Front Bar MUST be in place and secured when the Air Frame is hanging in a portrait orientation.

Any suspended accessory must be independently secured with an approved safety wire/s. Local laws or regulations should be consulted regarding the additional safety of hanging equipment









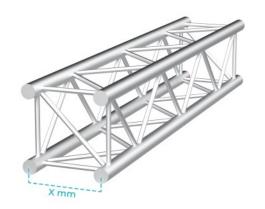
ATTACHING RIGTEC SWIVEL COUPLERS

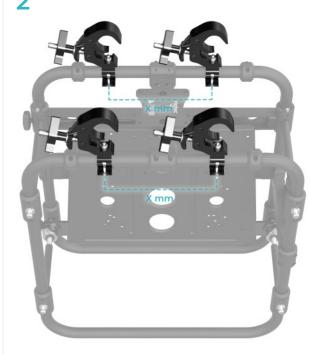
To hang an Air Frame in Floor Projection Orientation with the Rigtec Swivel Couplers, follow these instructions:

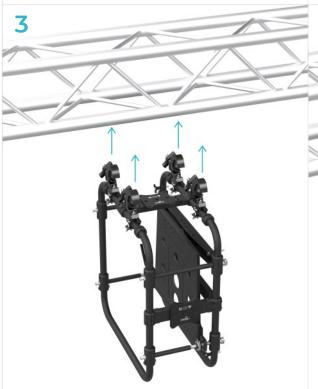
- 1. Measure the distance between the two truss chords that will be used to hang the Air Frame.
- 2. Using the 32mm clamps, attach two Swivel Couplers at the measured distance apart to the upper back bar. Repeat this on the lower back bar so all FOUR Swivel Couplers are attached.
- 3. Ensure the 32mm clamps are tight and hang the Quick Trigger Clamps from the Truss.
- 4. Ensure all four Quick Trigger Clamps are tightened to grip the Truss chords.

Always use FOUR Swivel Couplers to suspend the Air Frame

Any suspended accessory must be independently secured with an approved safety wire/s. Local laws or regulations should be consulted regarding the additional safety of hanging equipment









SAFETY STEEL CABLES

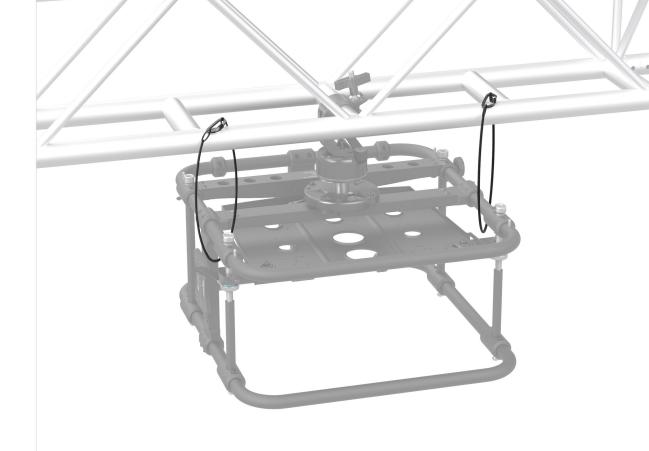
The installer bears the responsibility to ensure the Air Frame is suspended in a safe and secure fashion. Safety Steel Cables must be applied to suspended Air Frames according to local regulations and standards. For more information on safely suspending equipment please consult local laws and regulations.

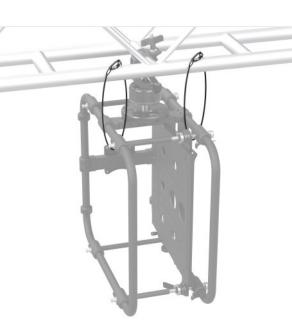
The installer must ensure safety cables are the correct length, format and strength - No drop distance is allowed or must be limited as much as possible.

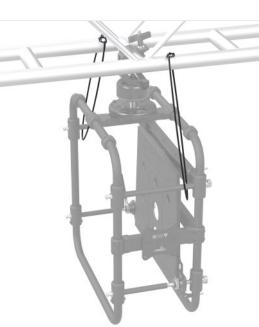
Please follow these instructions and diagrams when choosing where to position Safety Steel Cables on Rigtec Air Frames:

- Landscape Orientation; Please loop safety steel cables around the suspending truss and through the Air Frame, around the Side Bars.
- Portrait Orientation; Please loop safety steel cables around the suspending truss and through the Air Frame, around the Side Bars.
- Floor Projection Orientation; Please loop safety steel cables around the suspending truss and through the Air Frame, around the Back Bars.

DO NOT USE THE REMOVABLE FRONT BAR FOR ATTACHING A SAFETY STEEL CABLE







SPECIFICATION

Part Number: AF02-X10

Description: Air Frame X-10

Weight: 17.9kg / 39.46 lbs

Roll Adjustment: ±3.8°

Pitch Adjustment: +3.2° / -3.1°

Yaw Adjustment: ±4.4°

Maximum Projector & Lens Weight: 36kg / 79.36 lbs

Landscape WLL: 108kg / 238.09 lbs

Portrait WLL: 55kg / 121.25 lbs

Floor WLL: 55kg / 121.25 lbs

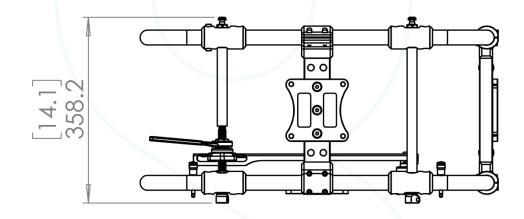
Maximum Ground Stack: 3 Air Frames

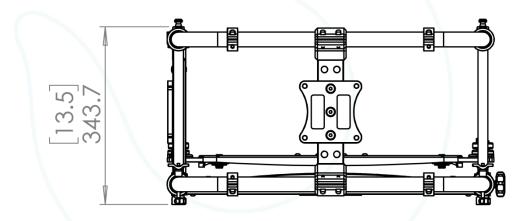
Maximum Suspended Stack with Atom Grip: 2 Air Frames

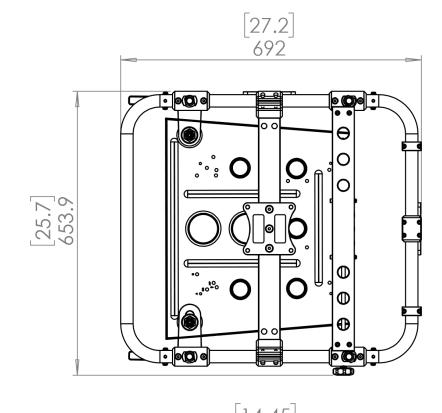
Maximum Suspended Stack with Swivel Couplers: 3 Air Frames

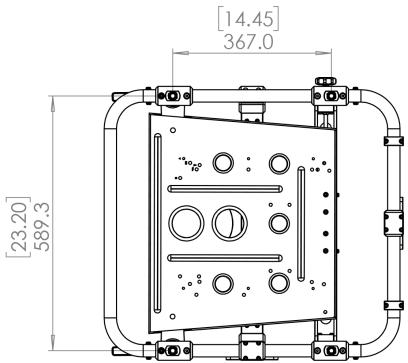


DIMENSIONS











CE DECLARATION OF CONFORMITY



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Description of lifting accessory: Air Frame AF02-X10 Rigging Frame for Projector Part Number: AF02-X10

Is in accordance with the following Directive:

Machinery Directive 2006/42/EC

Harmonised Standards:

EN ISO 12100:2010

Safety of machinery. General principles for design. Risk assessment and risk reduction

I hereby declare that the equipment named above has been designed to comply with the relevant sections of the above referenced specifications. The unit complies with all applicable essential requirements of the EC directives.

Signed:

Matthew Boyse - Authorised Representative

Rigtec Ltd 18/05/2021

Registered Address: Unit B1 Holly Farm Business Park, Honiley, Kenilworth,

Warwickshire, CV8 1NP

Registration Number: 08702138



UKCA DECLARATION OF CONFORMITY

Manufacturer:

Rigtec Ltd Unit B1 Holly Farm Business Park Kenilworth CV8 1NP +44 (0) 1926 290 418 www.rigtec.com



Description of lifting accessory: Air Frame AF02-X10 Rigging Frame for Projector Part Number: AF02-X10

Is in accordance with the following Directive:

Supply of Machinery [Safety] Regulations 2008 and Supply of Machinery [Safety] Regulations [A] 2011

Harmonised Standards:

EN ISO 12100:2010

Safety of machinery. General principles for design. Risk assessment and risk reduction

I hereby declare that the equipment named above has been designed to comply with the relevant sections of the above referenced specifications. The unit complies with all applicable essential requirements of the UKCA directives.

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