

Installation Instructions

LSL EFA - Lift System Light Electric Flap Actuator

Design Highlights

- Quiet Smooth Action at Approximately 40mm [1.6"] per Second
- Full Cable Management
- Wide Range of Mounting Options
- 24V DC Motor. Suitable for Direct DC Supply
- Marine Suitable Robust Beam



Thank you for choosing
futureautomation

LSL EFA - Lift System Light Electric Flap Actuator



Caution
Warning



Beware of
Moving Parts



Danger
Electricity



Keep Hands
Clear

Safety Disclaimer

Important Safety Instructions

Explanation of graphical symbols

-(Electric Shock Symbol) = The lightning flash within an equilateral triangle is intended to alert you to the presence of un-insulated "dangerous voltage" within the products enclosure that may be of sufficient magnitude to constitute an electric shock to persons

-(Caution Symbol) = The exclamation point within an equilateral triangle is intended to alert you to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product

-(Tools Symbols) = The tools symbol within a coloured square are intended to highlight the required tools necessary for correct and safe installation of the product. These are intended as a guide only, and it is at the installer's discretion as to which tools are used.

WARNING: RISK OF ELECTRIC SHOCK, ONLY AUTHORIZED INSTALLERS TO OPEN THE POWER CONTROL BOX.

WARNING: To reduce the risk of fire or electric shock, do not expose electrical parts to rain or moisture, unless the product has been specifically designed to do so.

WARNING: Failure to provide adequate structural strengthening, prior to installation can result in serious personal injury or damage to the equipment. It is the installer's responsibility to ensure the structure to which the component is affixed can support the four times the weight of the component.

WARNING: Do not exceed the weight capacity. This can result in serious personal injury or damage to the equipment. It is the installer's responsibility to ensure that the total combined weight of all attached components does not exceed that of the maximum figure stated.

WARNING: Failure to provide adequate structural strength for this component can result in serious personal injury or damage to equipment! It is the installer's responsibility to make sure the structure to which this component is attached can support five times the combined weight of all equipment. Reinforce the structure as required before installing the component.

Warnings:

1. **Read all technical instructions fully before installation and use. It is the installer's responsibility to ensure that all documentation is passed on the end user and read fully before operation.**
2. **Keep all documentation.**
3. **Heed all warnings.**
4. **Follow all technical specifications and instructions during installation.**
5. **Do not use near water unless the product has been specifically designed to do so.**
6. **Clean only with a dry cloth.**
7. **Do not defeat the purpose of the polarized or grounding type plug. A polarized plug has two blades, one wider than the other. A grounding type plug has two blades and a grounding prong. The wide blade or third prong are provided for your safety. If the provided plug does not fit your outlet, consult an electrician or contact the manufacturer.**
8. **Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where the exit from the apparatus.**
9. **Unplug the apparatus during lightning storms or when unused for long periods of time.**
10. **Only use attachments/accessories specified by the manufacturer.**
11. **Refer all servicing to qualified personnel. Servicing is required regularly on an annual basis, when the apparatus is damaged in any way, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.**
12. **To completely disconnect the apparatus from the AC mains, disconnect the power cord plug from the AC receptacle on the power control box.**
13. **To prevent overheating, do not cover the apparatus. Install in accordance with the instructions.**
14. **UK, Ireland and Hong Kong only – The power cord is supplied with a 13A plug having an earthing pin. The apparatus is earthed and this pin is not required for safety, merely to operate the safety shutter of mains outlet.**
15. **No naked flames such as lit candles should be placed on the unit.**
16. **Observe and follow the local regulations when disposing of batteries.**
17. **Do not expose the unit to dripping or splashing fluids.**
18. **Do not place objects filled with liquid, such as vases, on the unit.**
19. **Do not expose the batteries to excessive heat such as sunshine, fire or the like.**
20. **For all mounted apparatus, the apparatus should be installed on solid wood, bricks, concrete or solid wood columns and battens.**
21. **Always turn off power at source before putting on or taking off parts and cleaning.**
22. **Do not use outdoors unless marked for outdoor use.**
23. **Exceeding the weight capacity can result in serious personal injury or damage to equipment.**

Future Sound & Vision trading as Future Automation intend to make this and all documentation as accurate as possible. However, Future Automation makes no claim that the information contained herein covers all details, conditions or variations, nor does it provide for every possible contingency in connection with the installation or use of this product. The information contained in this document is subject to change without prior notice or obligation of any kind. Future Automation makes no representation of warranty, expressed or implied, regarding the information contained herein. Future Automation assumes no responsibility for accuracy, completeness or sufficiency of the information contained in this document.

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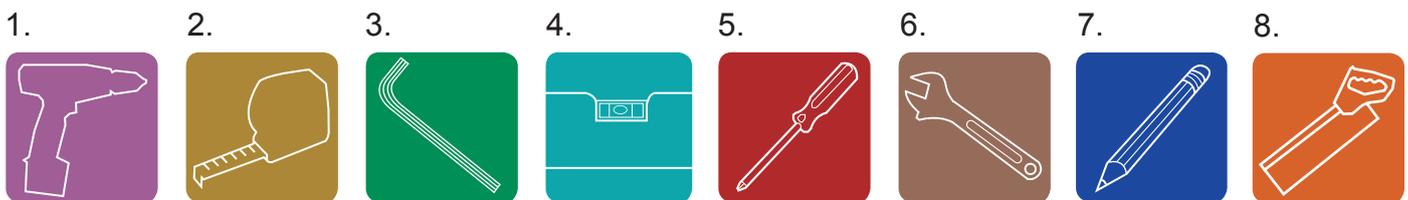
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Tool Indicator Icons



1. - Drill

2. - Tape measure

3. - Allen Keys

4. - Spirit Level

5. - Screwdrivers

6. - Spanners

7. - Pencil

8. - Saw

Product Warranty

This product carries a warranty that covers the cost of labour and spare parts incurred by any defects in materials and workmanship under normal use during a two year period from date of purchase. Support for any problems that are not hardware faults are excluded from the warranty entitlement. This warranty does not affect your statutory consumer rights.

The following is excluded from warranty service:

- Malfunctioning caused by misuse or damage, accidental or otherwise, or service modification by persons not authorised by Future Automation, or the use of any non Future Automation supplied parts;
- Any electrical, or other environmental work external to your Future Automation mechanism including power cuts, surges or lightning strikes;
- Additional items not supplied by Future Automation although they may have been supplied together by the retailer;
- Any 3rd party software products controlling your mechanism;
- Any transfer of ownership. Warranty is provided only to the initial purchaser;
- Compensation for loss of use of the product, and consequential loss of any kind;
- Use of the product over the specified weight capacity;
- Any damage to products during transit that is not checked and notified as "unchecked" or "damaged" upon receipt of delivery.

Any part of your system that needs to be replaced during a warranty repair becomes the property of Future Automation.

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Package Contents

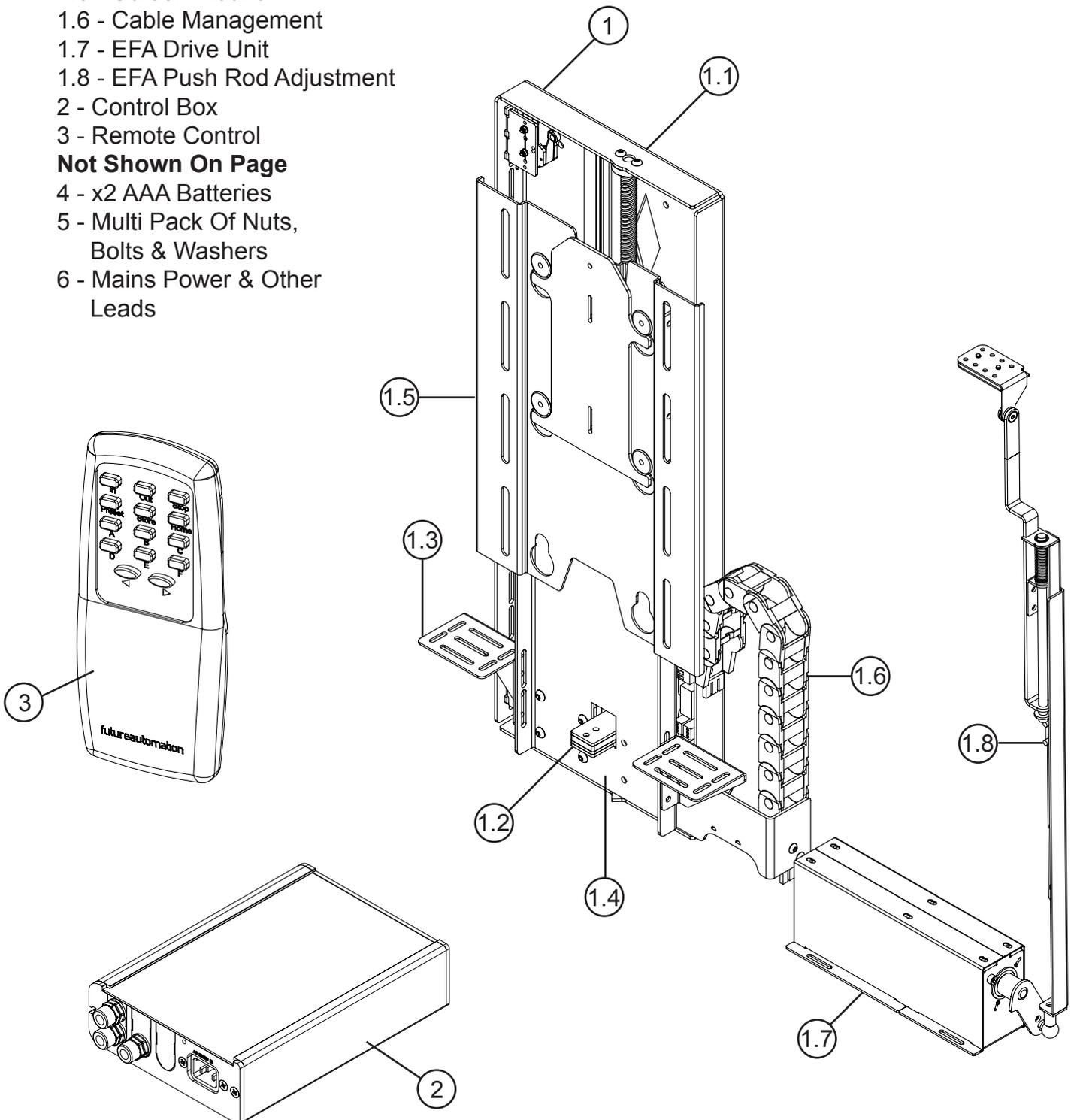
- 1 - Mechanism
- 1.1 - Back Plate
- 1.2 - Lifting Drive
- 1.3 - Base Panel Brackets
- 1.4 - KH Mount Upright
- 1.5 - Screen Mount
- 1.6 - Cable Management
- 1.7 - EFA Drive Unit
- 1.8 - EFA Push Rod Adjustment

Not Shown On Page

- 4 - x2 AAA Batteries
- 5 - Multi Pack Of Nuts, Bolts & Washers
- 6 - Mains Power & Other Leads

Nuts & Bolts Multipack:

A range of nuts, bolts, washers and spacers to help add in the mounting for your screen



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Before You Start

Check the Operation of the Mechanism.

Firstly, remove all the red cable ties which keep the mechanism safe and secure during transit.

Once they have all been removed, the mechanism can be powered up and tested.

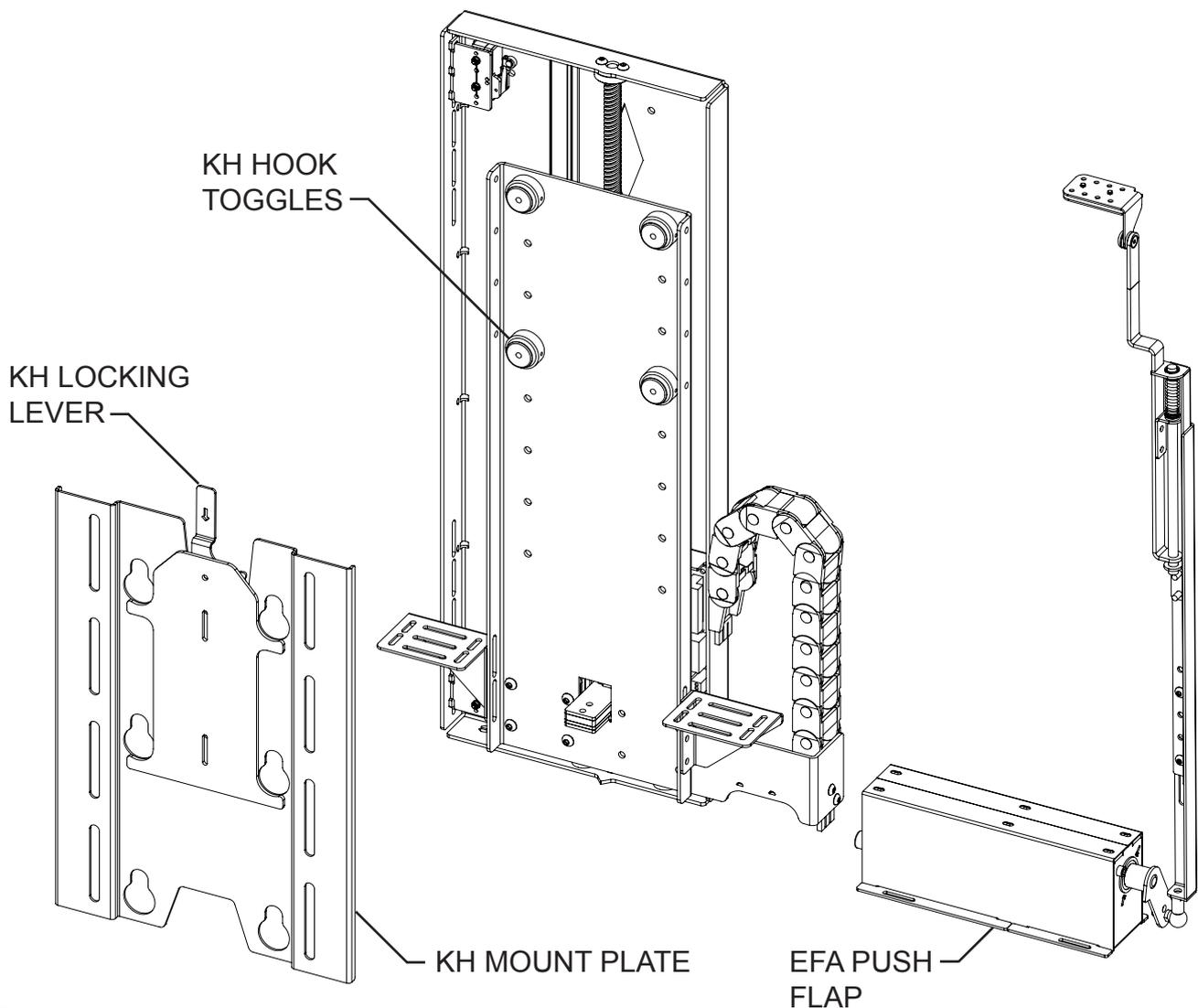
Connect the supplied IR lead and check that the mechanism operates correctly before continuing with the installation.

Remove KH Screen Mount

Un-lock the KH mount plate but turning the locking lever 90 degrees and lift off the hook toggles.



LIFT WILL NOT WORK UNLESS EFA IS ALSO CONNECTED TO THE CONTROL BOX

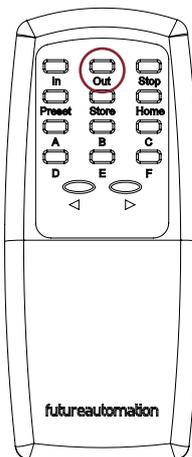
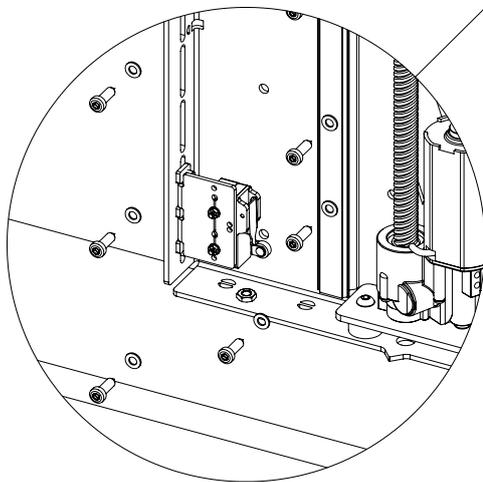
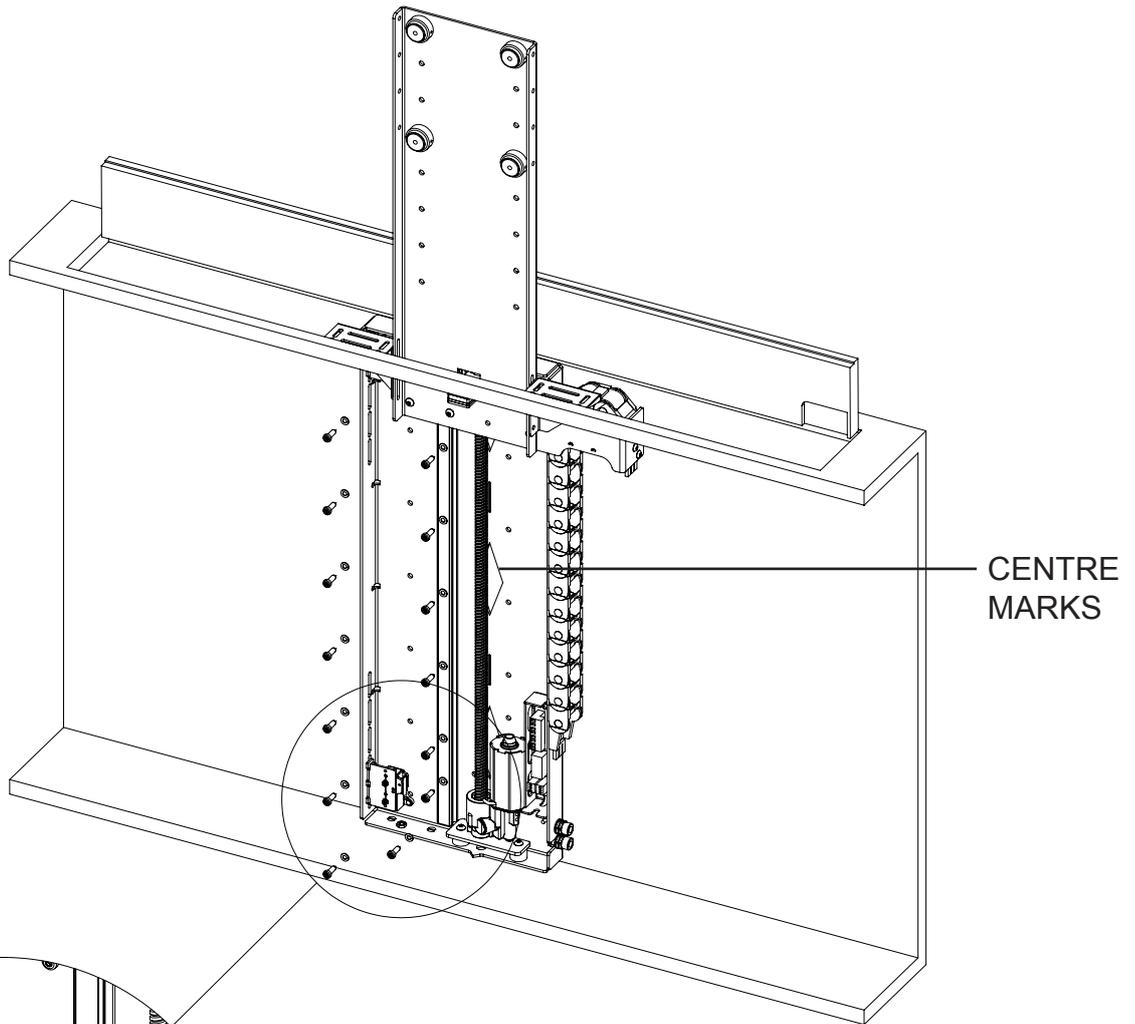


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Fixing the Lift in the Cabinet

Place the mechanism within the cabinet. Fix the lift where possible down the back face. Make sure that the lifting plate is central by using the centre line marks on the back of the back face.

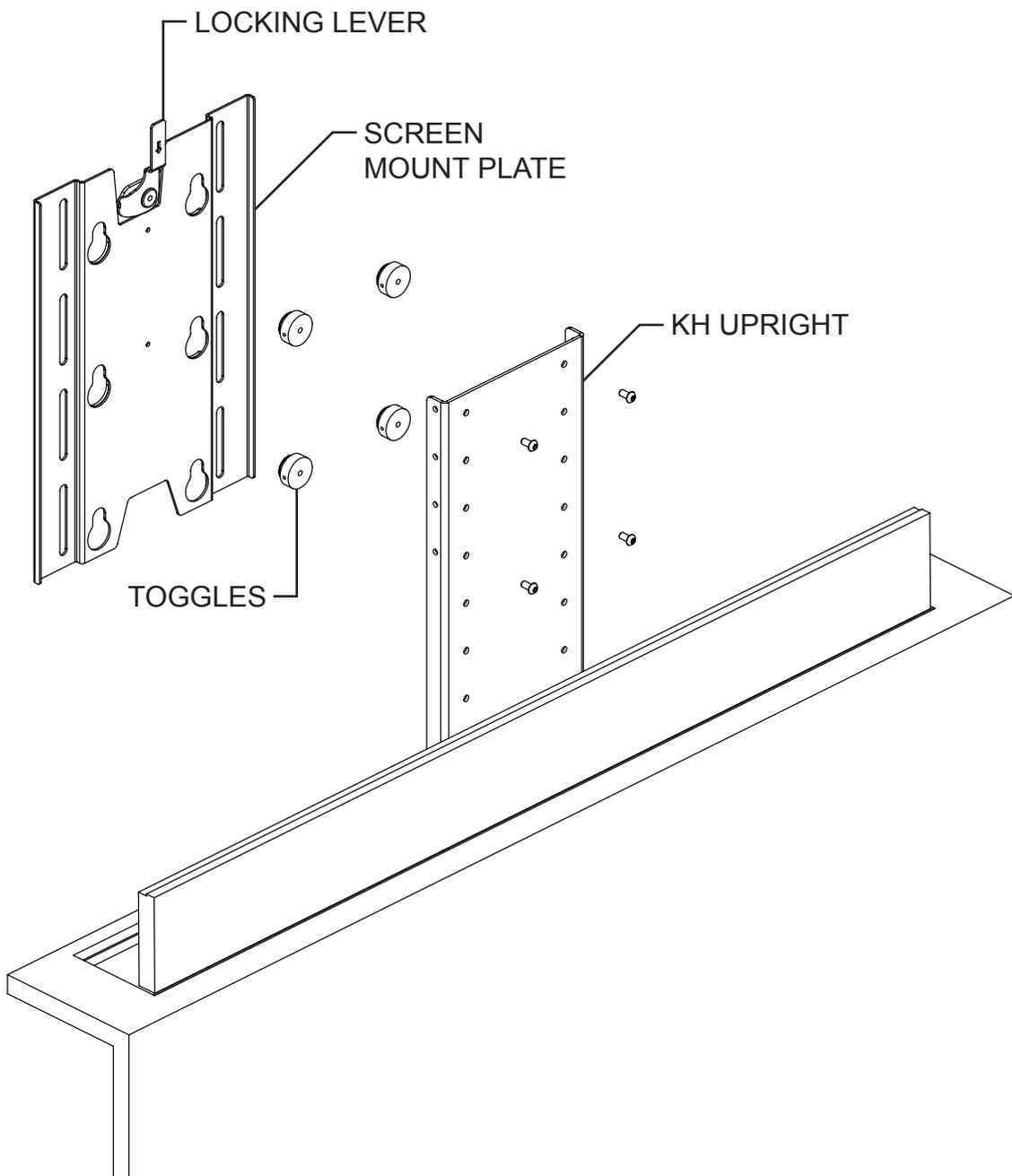


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KH Upright Assembly

Below shows the KH UPRIGHT assembly. To release the SCREEN MOUNT PLATE rotate the top LOCKING LEVER and lift off the TOGGLES. The TOGGLES can adjust the height by moving up or down the KH UPRIGHT.



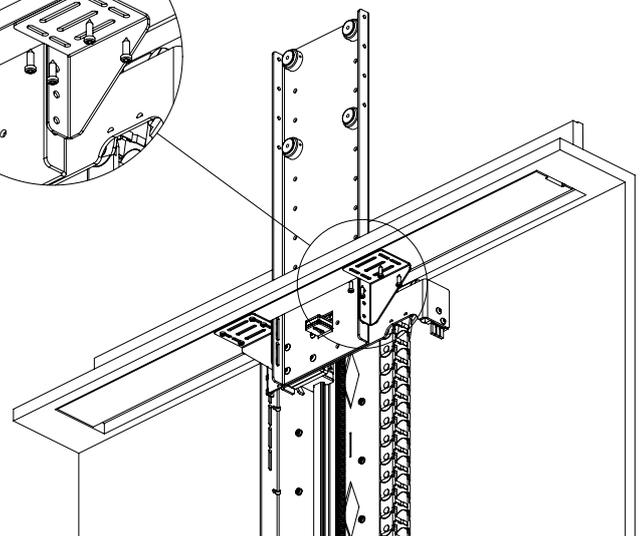
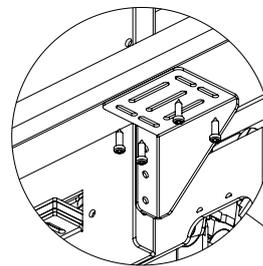
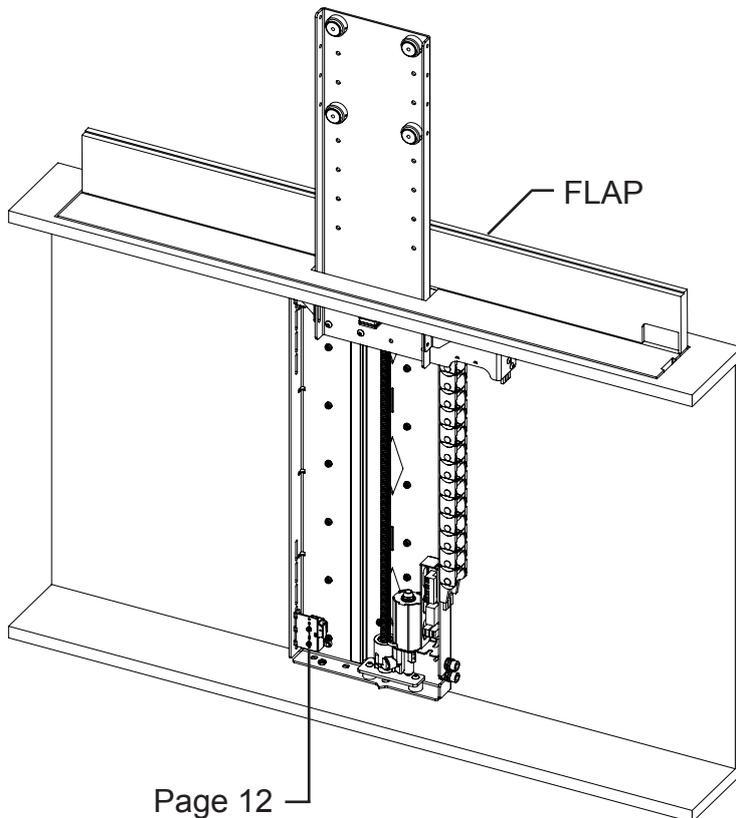
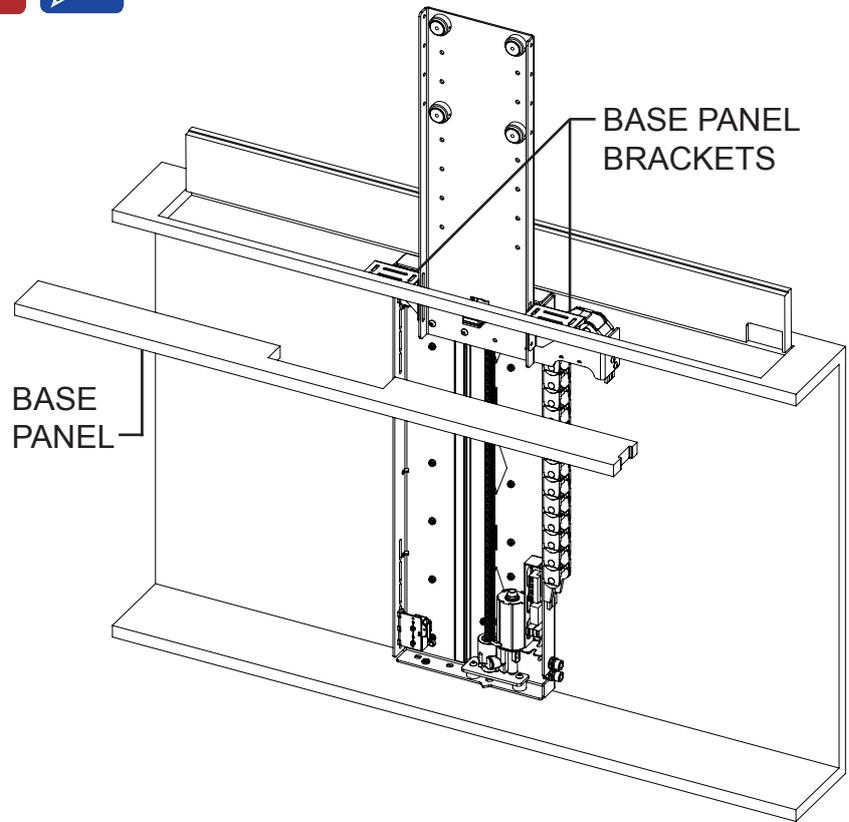
Installation: Stage 3

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Mounting the Base Panel

After the mechanism is in the correct position the next step is to lower the BASE PANEL into place and fix from the underside through the BASE PANEL BRACKETS. A good tip is to place the BASE PANEL in place and draw marks from the underside through the BASE PANEL BRACKETS, then fix using a wood screw and a large penny washer, this will allow you to adjust the position.



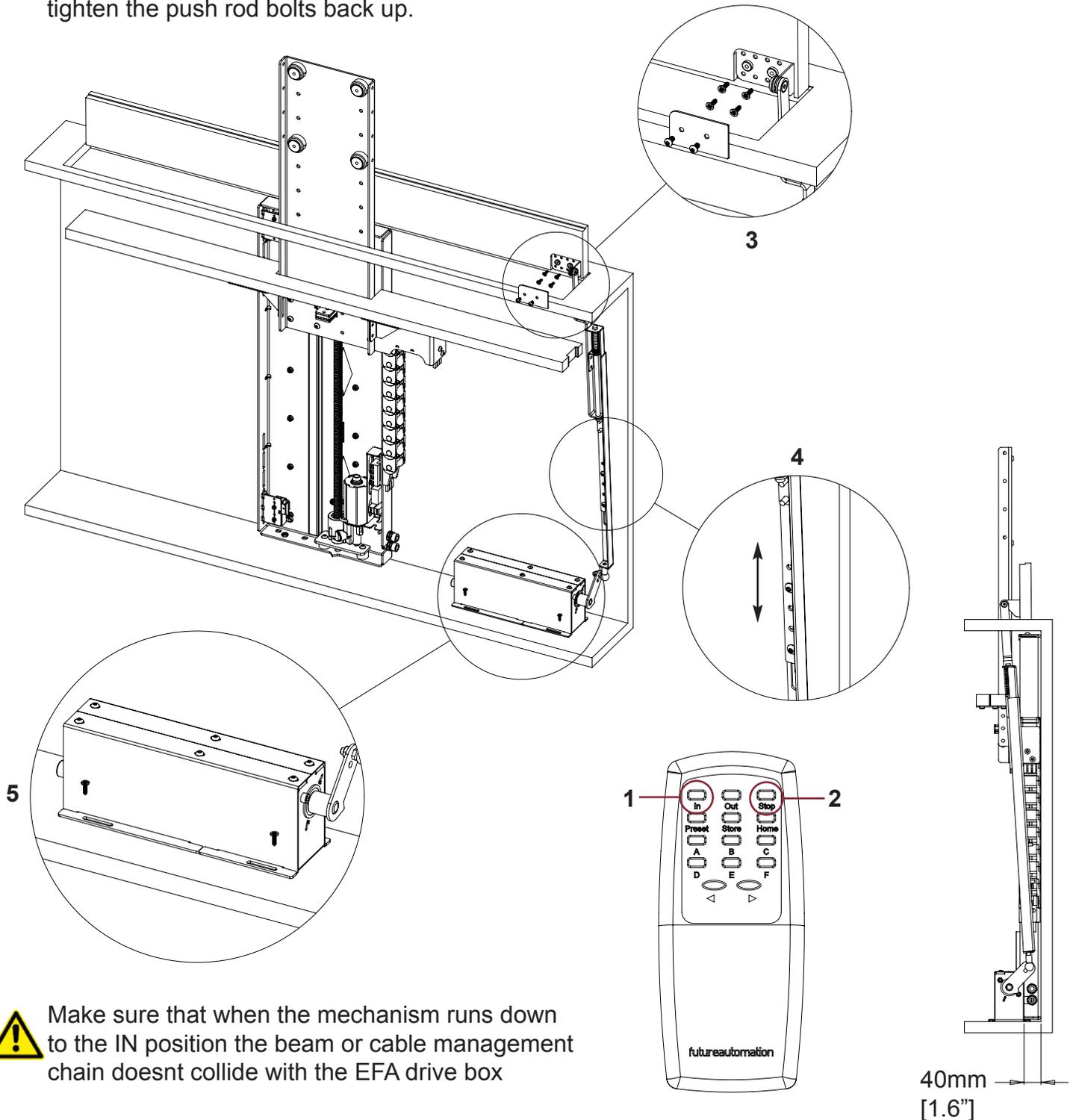
Page 12 —
Stage 8 - Details
on adjusting the
OUT position

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Attaching EFA (Electric Flap Actuator)

Lower the mechanism by pressing IN (1) then STOP (2) after 100mm [4"] approximately, then attach the EFA push rod to the flap as shown in detail 3. Loosen the bolts on the push rod and slide the length to suit the cabinet height, make sure the flap and push rod stands up vertically as shown in detail 4. Finally (5) fix the EFA drive unit to the base of the cabinet and tighten the push rod bolts back up.

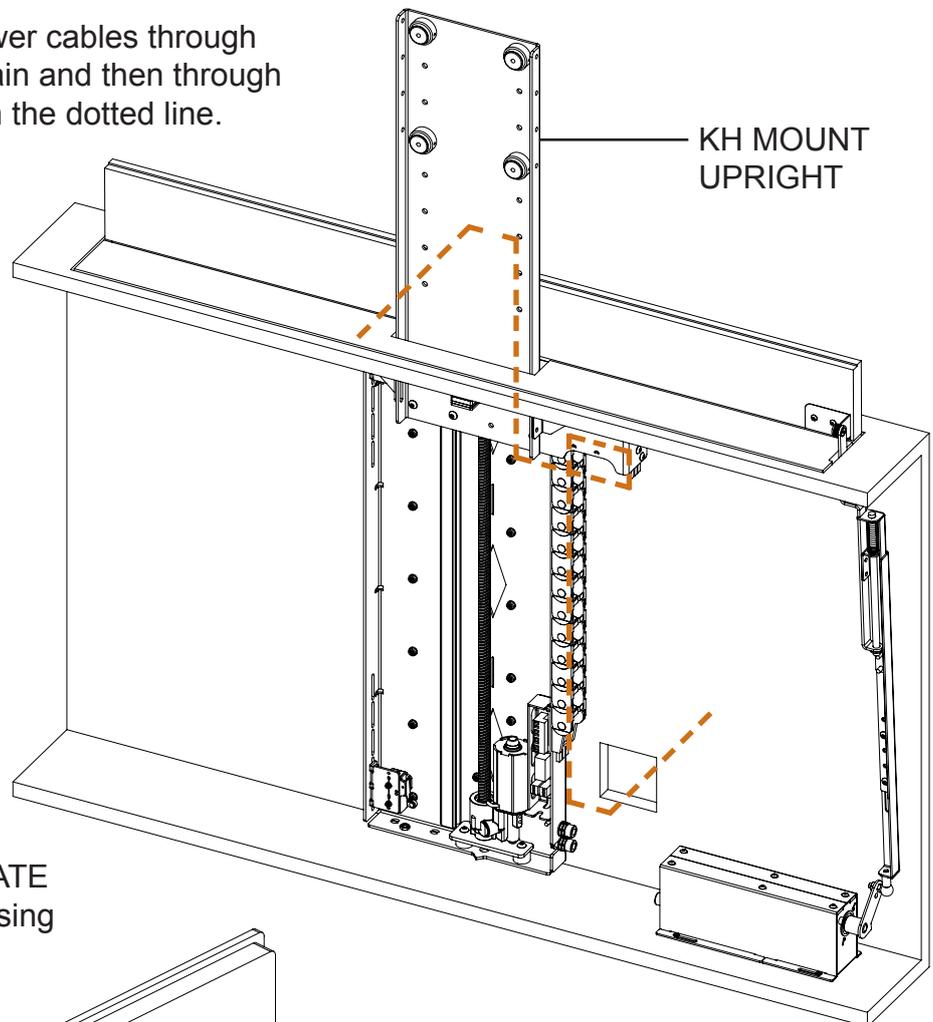


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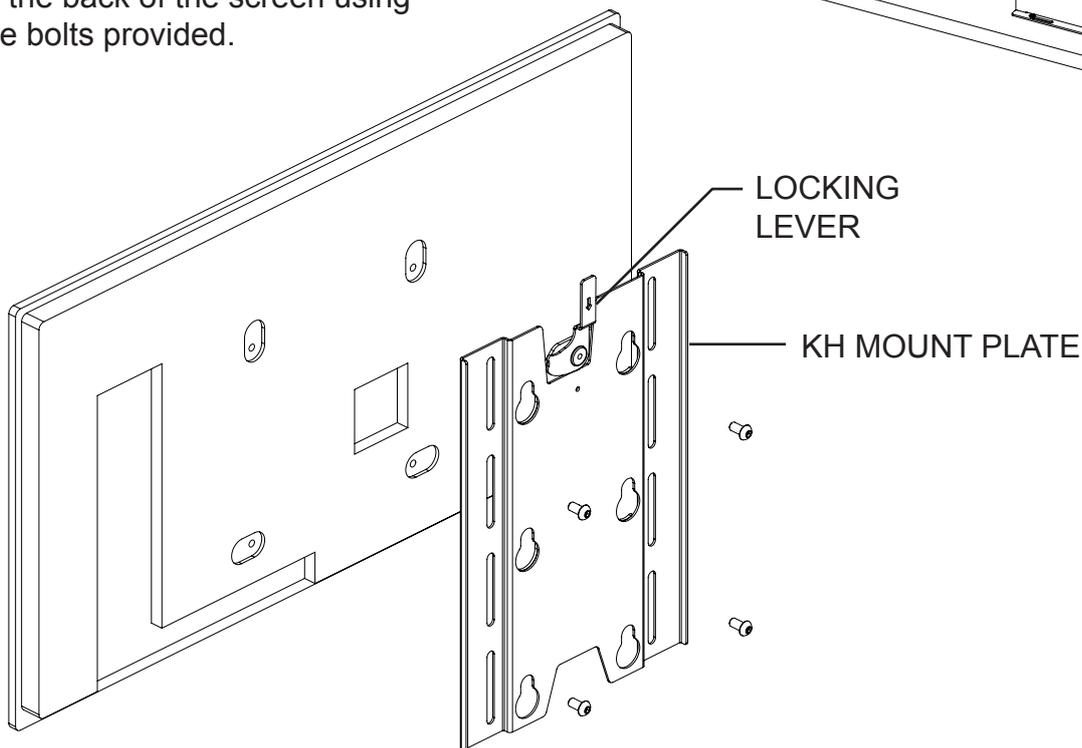


Routing Cables & KH Mount Plate Fixings

Thread the screen and power cables through the cable management chain and then through the lifting beam shown with the dotted line.



Mount the KH MOUNT PLATE to the back of the screen using the bolts provided.



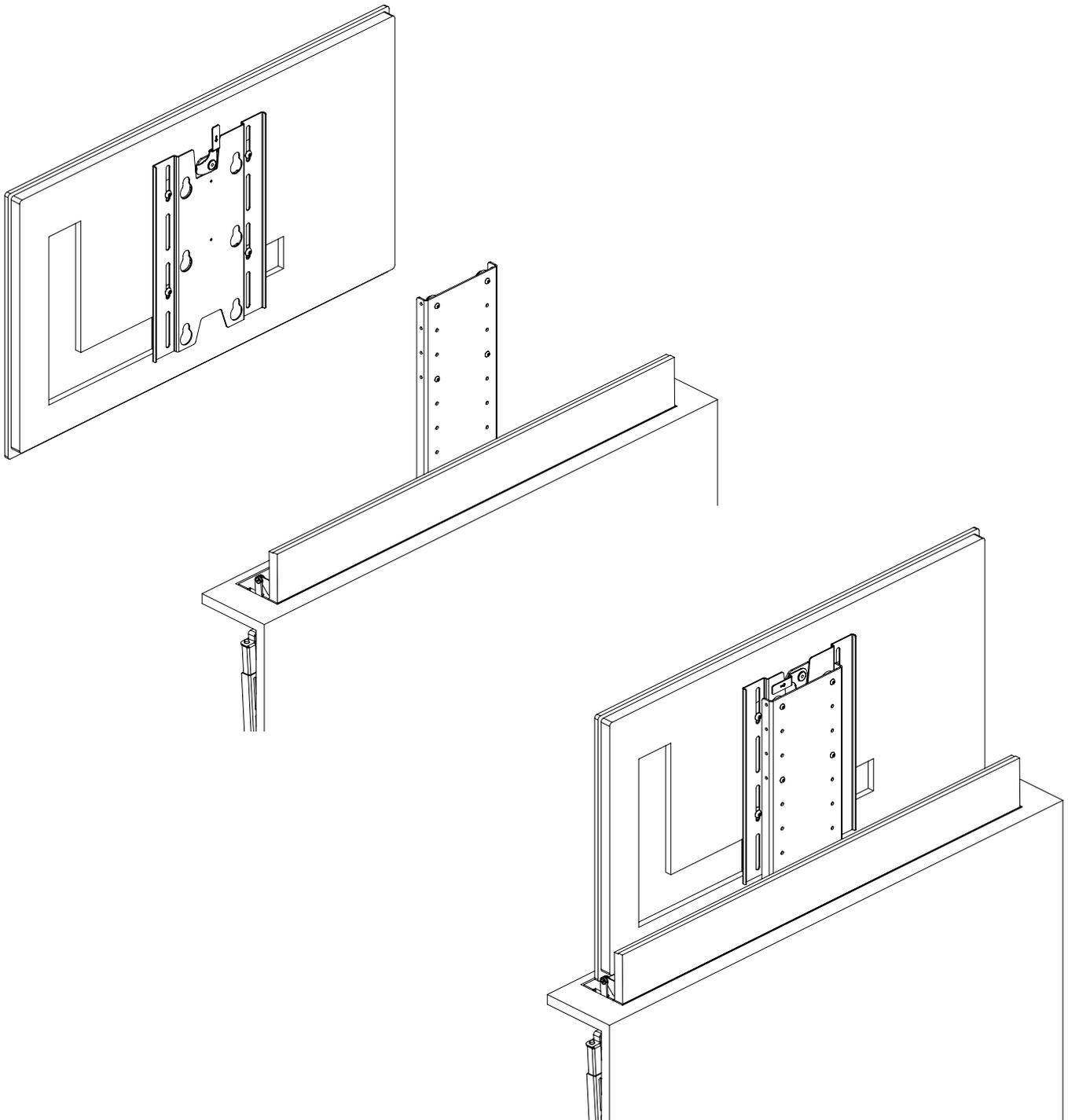
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Screen Mounting

Hook the screen and KH Mount plate on to the KH Upright using the Toggles. Lock in place by pushing the lever down.

Adjust the screen height position using the slots on the Screen Plate and different Toggle positions on the KH upright.



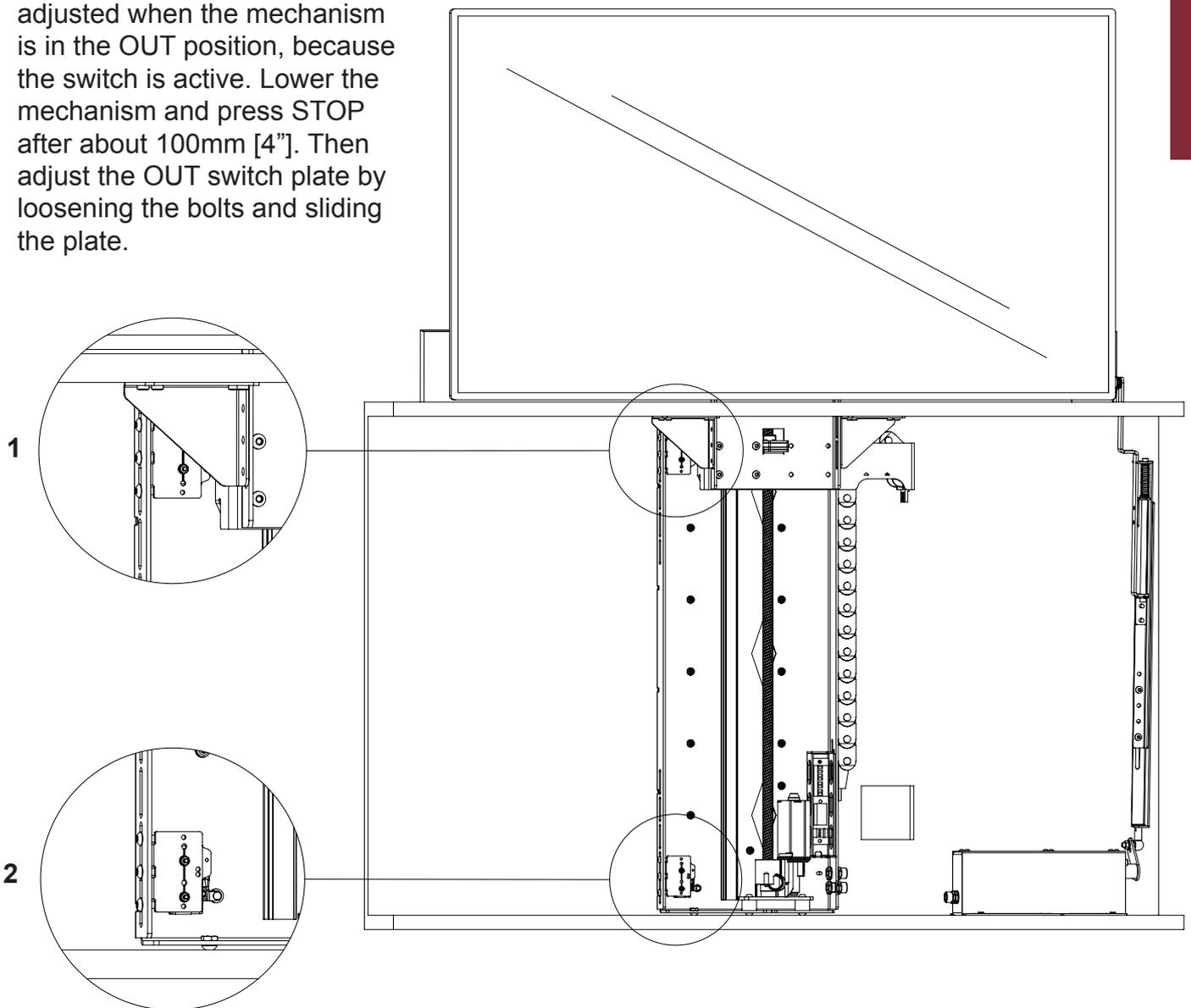
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Switch Adjustments

You can adjust the IN and OUT position of the lifting beam. Detail 1 shows how to adjust the OUT position and detail 2 shows how to adjust the IN position. The IR sensor can be located anywhere outside of the cabinet.

1 - The top switch can't be adjusted when the mechanism is in the OUT position, because the switch is active. Lower the mechanism and press STOP after about 100mm [4"]. Then adjust the OUT switch plate by loosening the bolts and sliding the plate.



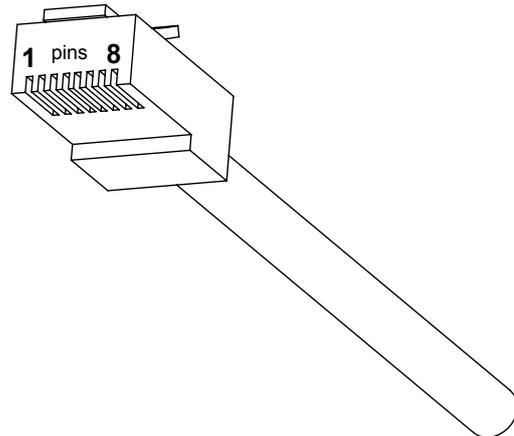
2 - Bottom switch can be adjusted by repeating the first procedure.

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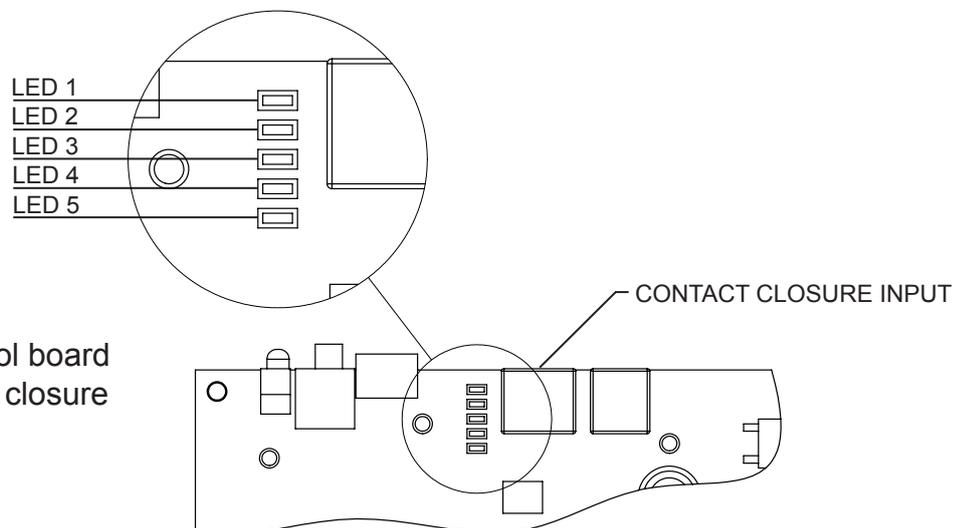


Contact Closure

- Use an RJ45 connector in the CCI socket on the control box to operate via contact closure



PIN	DESCRIPTION	ACTION	WIRE / CABLE		CONTACT CLOSURE LED INDICATOR
			568A	568B	
1	12V SUPPLY	12V SUPPLY - CURRENT LIMITED	W/G	W/O	
2	12V LATCH	When 12V attached, device will go OUT. When 12V removed, device will go IN.	G	O	
3	GROUND	GROUND	W/O	W/G	
4		PIN 4 NOT USED	BL	BL	
5	DEVICE LATCH	Short to GROUND (pin 3), device will go OUT, remove short device will go IN.	W/BL	W/BL	LED 4
6	DEVICE STOP	Momentary short to GROUND (pin 3), stops device in current position.	O	G	LED 3
7	DEVICE OUT	Momentary short to GROUND (pin 3), makes device go OUT.	W/BR	W/BR	LED 2
8	DEVICE IN	Momentary short to GROUND (pin 3), makes device go IN.	BR	BR	LED 1



NOTE:
Earlier versions of the control board may not have these contact closure LED indicators.

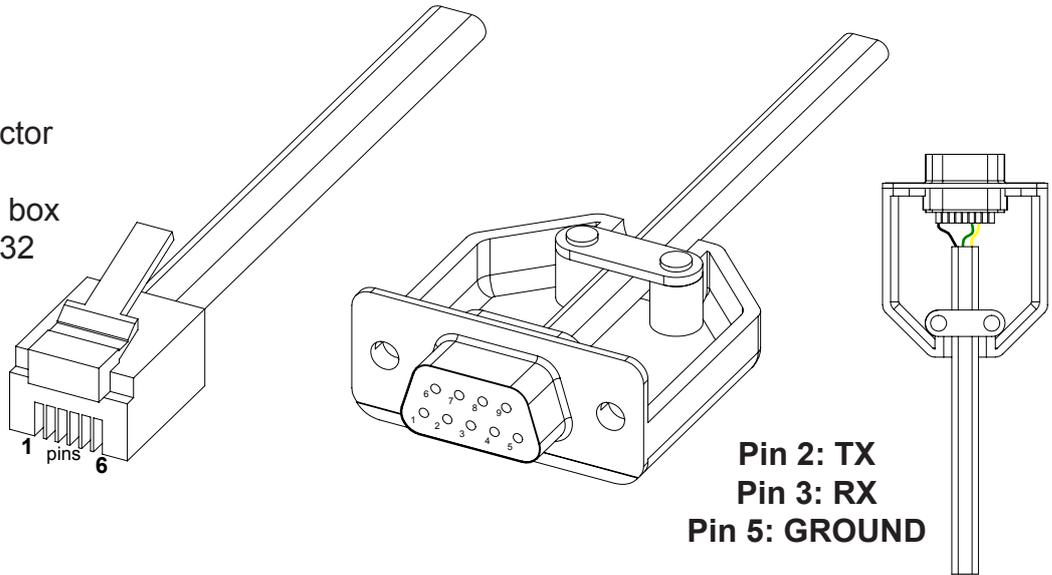
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RS232

- Use an RJ25 connector in the socket marked RS232 on the control box to operate using RS232

Pin 1: RX
Pin 6 : TX
Pin 3 & 4: GROUND



Details

Baud rate: 9600
Stop bit: 1
Parity: None
Databits: 8

RJ25		9 PIN D
PIN 1: RX	TO	PIN 2: TX
PIN 6: TX	TO	PIN 3: RX
PIN 3: GROUND	TO	PIN 5: GROUND
PIN 4: GROUND	TO	PIN 5: GROUND

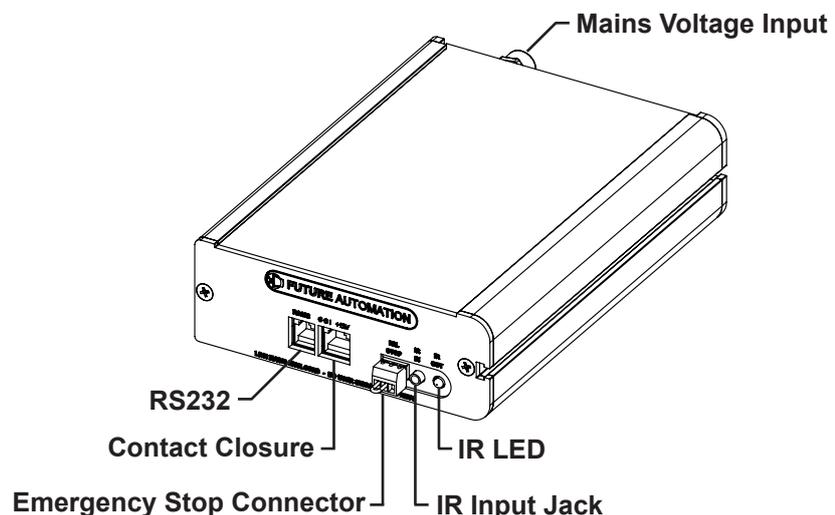


IMPORTANT

Ensure protocol is entered exactly as written, including Carriage Return (Enter / ASCII 13).

Protocol	Action
fa_in Carriage Return (Enter ←↵)	Device IN
fa_out Carriage Return (Enter ←↵)	Device OUT
fa_stop Carriage Return (Enter ←↵)	Device STOP (At any position)

Connection Locations



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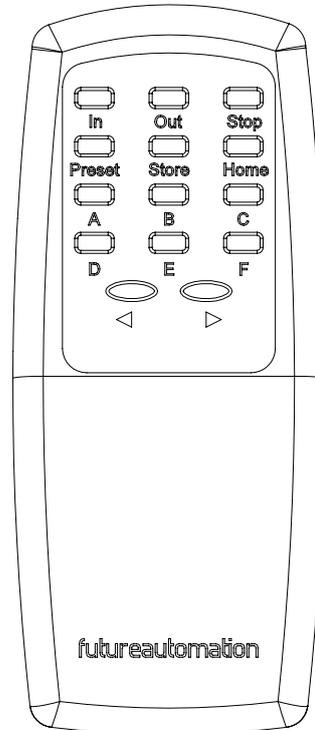


Operation buttons for the IR remote

In - Brings the mechanism inside the cabinet

Out - Brings the mechanism out of the cabinet facing forward

Stop - Will stop the operation at any position



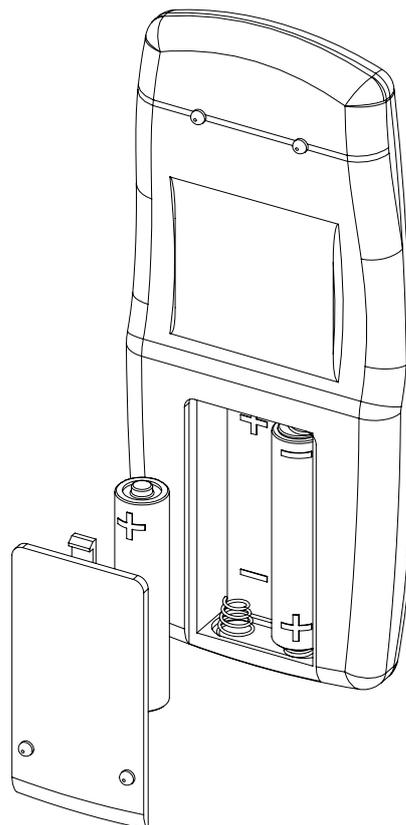
Note

Only buttons indicated are functional with the product. Any button pressed when in motion will stop the mechanism.

Replacing batteries



Future Automation IR Remote Controller needs x2 AAA batteries which are provided within the packaging



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Lift System Light Electric Flap Actuator - Trouble shooting guide

Lift System Light Electric Flap Actuator - Trouble shooting

For information on our products please refer to our web site -
www.futureautomation.co.uk
or for questions on installations and our product range please
phone us on - **+44(0) 1438 833577** and ask for our technical
support department

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Technical Overview

A general technical overview of the LSL EFA lift mechanism range

LSL EFA RANGE			
Product Size Range	LSL EFA 1	LSL EFA 2	LSL EFA 3
Product Dimensions	Width - 394mm [15.5"]	Width - 394mm [15.5"]	Width - 394mm [15.5"]
	Height - 580mm [22.8"]	Height - 694mm [27.3"]	Height - 769mm [30.3"]
	Depth - 114mm [4.5"]	Depth - 114mm [4.5"]	Depth - 114mm [4.5"]
Weight Approx	15Kg [33.0lb]	17Kg [37.5lb]	19Kg [41.9lb]
Power Consumption	250W - 500W	250W - 500W	250W - 500W
Power Consumption On Standby	100mA	100mA	100mA
Lifting Capacity	25Kg [55lb]	25Kg [55lb]	25Kg [55lb]
Lifting Capacity Marine	16Kg [35lb]	16Kg [35lb]	16Kg [35lb]
Standard Screen Mount Colour	Black	Black	Black
Max Television Size	Height - 430mm [16.9"]	Height - 544mm [21.4"]	Height - 619mm [24.4"]
Control	IR Remote, RF Remote, Contact Closure & RS232	IR Remote, RF Remote, Contact Closure & RS232	IR Remote, RF Remote, Contact Closure & RS232
Power Supply	240V or 110V	240V or 110V	240V or 110V
Control Of 3rd Party Product	Yes	Yes	Yes
Output Power Supply	Yes (12V)	Yes (12V)	Yes (12V)
Control Box Size (W,D,H)	150x210x52mm [5.9x8.3x2.0"]	150x210x52mm [5.9x8.3x2.0"]	150x210x52mm [5.9x8.3x2.0"]
Shipping Details	600x300x1000mm [23.6x11.8x39.4"]	600x300x1000mm [23.6x11.8x39.4"]	600x300x1000mm [23.6x11.8x39.4"]
Dimensions Approx (W,D,H)			
Weight Approx	20Kg [44.1lb]	22Kg [48.5lb]	24Kg [52.9lb]

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Notes...



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