Kattsafe Height access and fall protection

DAVITS

OH500

Kattsafe's lightweight aluminium davit provides safe rope access to building façades for maintenance.

Product brochure
Davits

Installation manual
Davits

Operation manual
Davits

Find all related products and resources on our website kattsafe.com.au

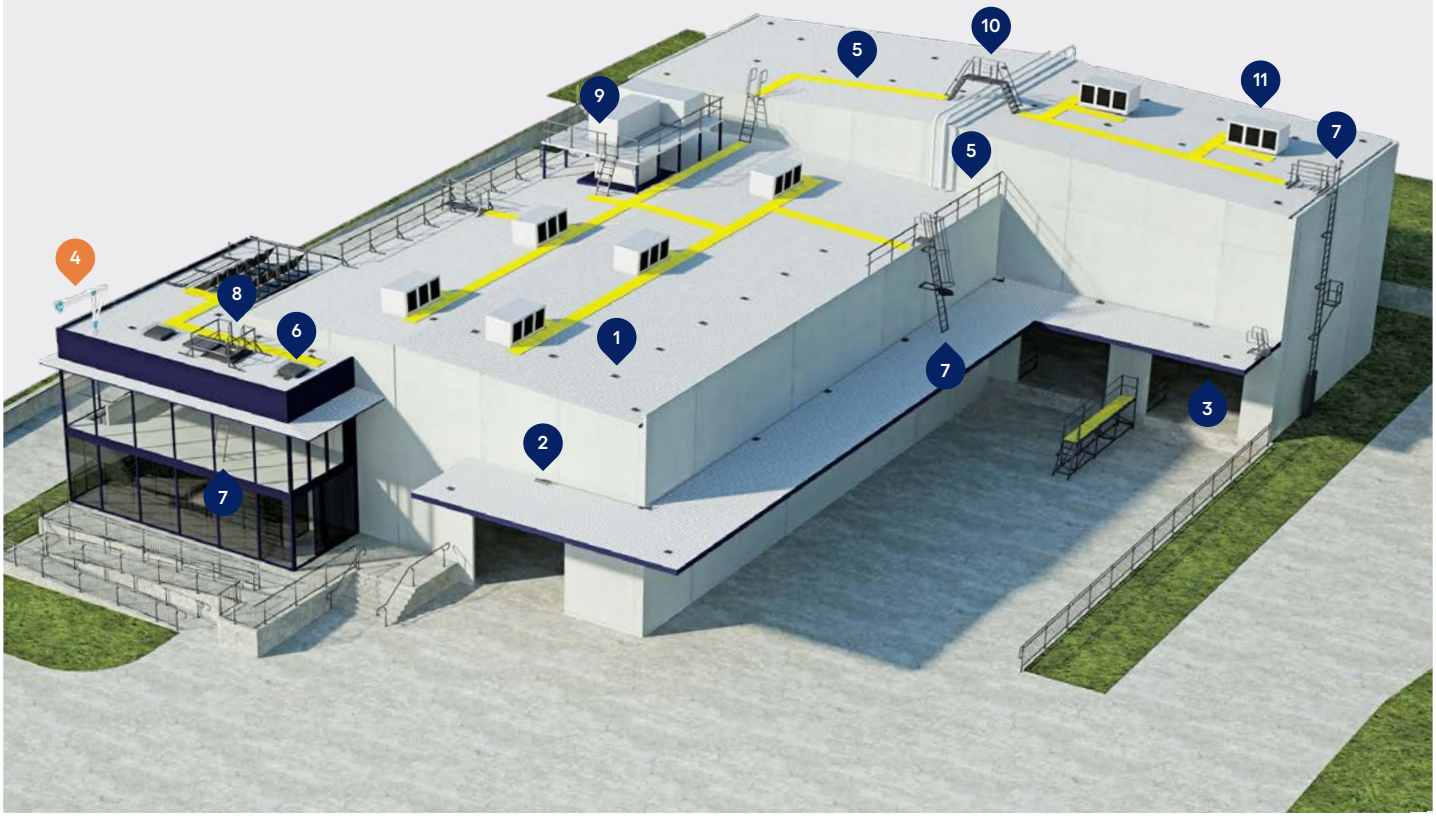
Commercial building height access and fall protection requirements

Kattsafe leads the industry in the design, installation and management of access and fall protection safety systems.

The in-action model demonstrates access and fall protection requirements for a commercial building design. Kattsafe recommendations fulfill current workplace requirements for the safety of building maintenance subcontractors, employees and the general public.

For more information please contact Kattsafe.
kattsafe.com.au

1 Anchor points
2 Static lines
3 Rigid rail
4 Davits and needles
5 Guardrail and walkway
6 Skylight protectors
7 Rung ladders
8 Access hatches
9 Platforms and stairs
10 Step ladders
11 HVAC platforms



DAVIT SYSTEM

A proprietary facade rope access system providing access over non load-bearing parapets, balustrades and curtain walls.

Adjustable boom anchor

The anchor is designed to be positioned anywhere along the boom, providing flexibility for the operator.

High strength construction

Manufactured from high grade structural aluminium and powder coated stainless steel.

Easy use locking pins

Providing secure connection of the systems assembly.

Multiple configurations

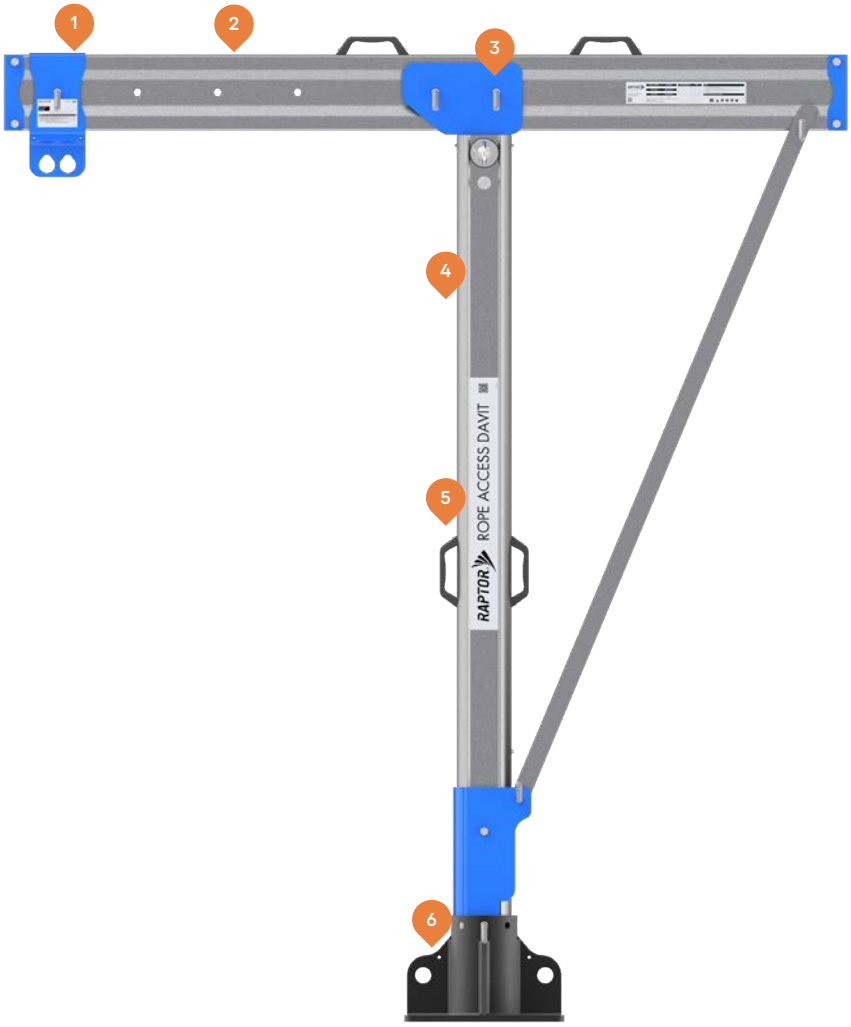
Available in many heights and reaches to suit all facade requirements.

Carry handles

For aid in assembly and transport.

Mounting options

Designed to work with many different davit bases including floor, wall and cast in options.



The Kattsafe davit is a lightweight high strength rope access system providing safe and easy relocation between mounting bases.

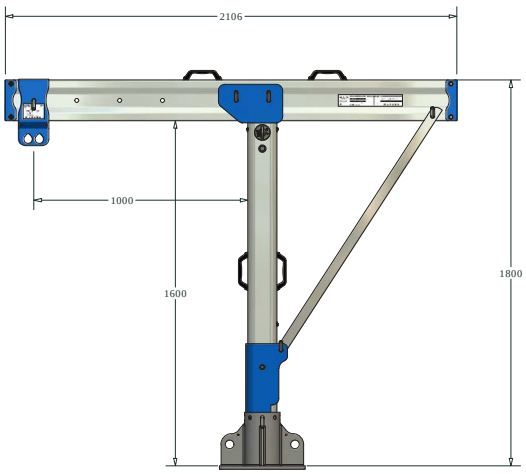
Kattsafe davits are designed as a cantilevered anchorage device over balustrades, parapets and curtain walls for rope access work where workers are required to maintain building façades and equipment mounted on the external face of a structure. Engineered as a single person device able to withstand a 12kN rope access load or safe working load of 400kg.

The davit system mostly connects to the primary structure of the building which includes, wall mount, floor mount and concrete cast-in options, depending on the structure available and the intended use of the system.

As these systems are required to safely suspend personnel, the system must only be used by a certified rope access operator.

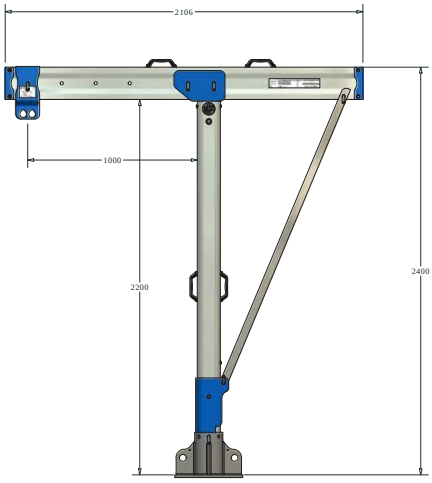
DAVIT CONFIGURATIONS

OH510.1600



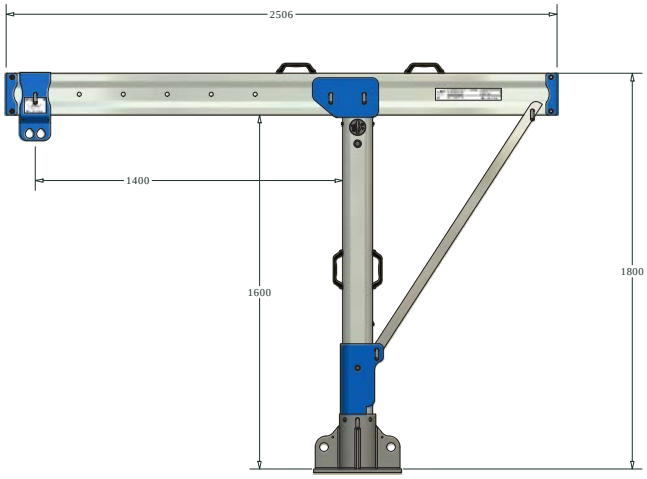
Reach (mm)	1000
Height (mm)	1600
Rating (kN)	12 (Tested to 15)
Safe working load (kg)	400
Operational angle (deg.)	360° with 45° locking pin increments
Mast weight (kg)	22
Boom weight (kg)	15
Brace weight (kg)	4
Total weight (kg)	41 (excluding base)

OH510.2200



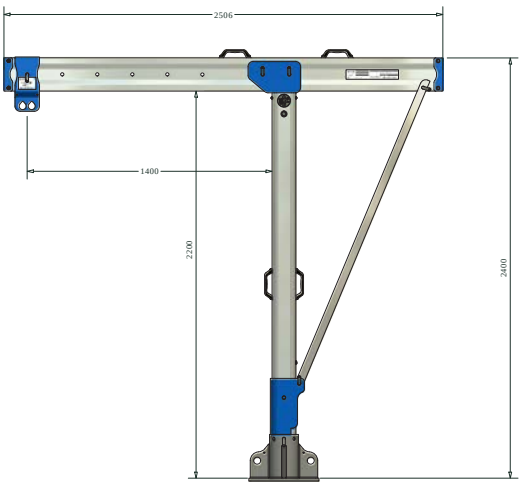
Reach (mm)	1000
Height (mm)	2200
Rating (kN)	12 (Tested to 15)
Safe working load (kg)	400
Operational angle (deg.)	360° with 45° locking pin increments
Mast weight (kg)	26
Boom weight (kg)	15
Brace weight (kg)	7
Total weight (kg)	48 (excluding base)

OH514.1600



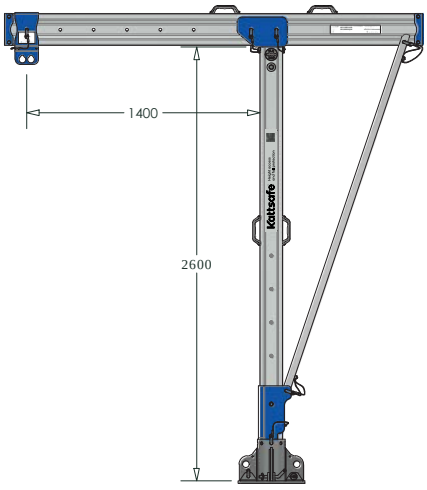
Reach (mm)	1400
Height (mm)	1600
Rating (kN)	12 (Tested to 15)
Safe working load (kg)	400
Operational angle (deg.)	360° with 45° locking pin increments
Mast weight (kg)	22
Boom weight (kg)	17
Brace weight (kg)	4
Total weight (kg)	43 (excluding base)

OH514.2200



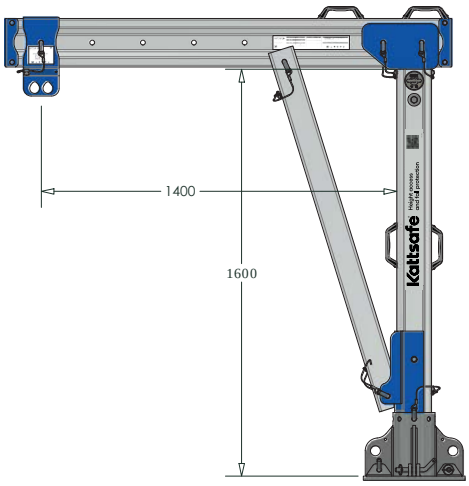
Reach (mm)	1400
Height (mm)	2200
Rating (kN)	12 (Tested to 15)
Safe working load (kg)	400
Operational angle (deg.)	360° with 45° locking pin increments
Mast weight (kg)	26
Boom weight (kg)	17
Brace weight (kg)	7
Total weight (kg)	50 (excluding base)

OH514.2600



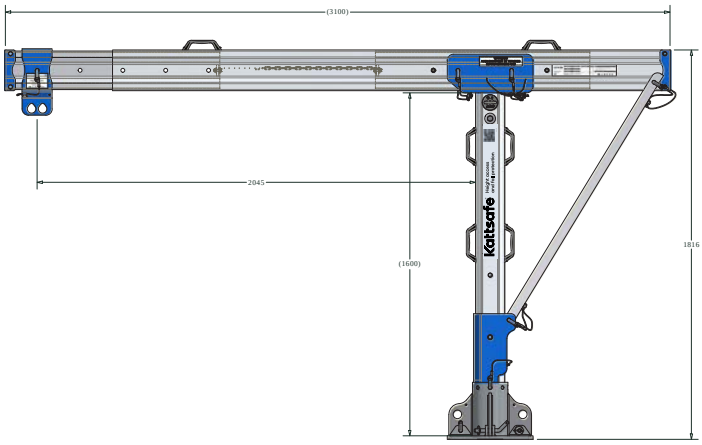
Reach (mm)	1400
Height (mm)	2600
Rating (kN)	12 (Tested to 15)
Safe working load (kg)	400
Operational angle (deg.)	360° with 45° locking pin increments
Mast weight (kg)	42
Boom weight (kg)	17
Brace weight (kg)	9
Total weight (kg)	68 (excluding base)

OH514F.1600



Reach (mm)	1400
Height (mm)	1600
Rating (kN)	12 (Tested to 15)
Safe working load (kg)	400
Operational angle (deg.)	360° with 45° locking pin increments
Mast weight (kg)	22
Boom weight (kg)	18
Brace weight (kg)	8
Total weight (kg)	48 (excluding base)

OH520.1600



Reach (mm)	2000
Height (mm)	1600
Rating (kN)	12 (Tested to 15)
Safe working load (kg)	400
Operational angle (deg.)	360° with 45° locking pin increments
Mast weight (kg)	40
Boom weight (kg)	29
Brace weight (kg)	5
Total weight (kg)	74 (excluding base)

Important

– If a cast-in cage is required, the AP162 must be used.

– Take not of concrete and fixing depth requirements on page 13.

DAVIT COMPONENTS

Aluminium boom

- High grade structrual aluminium.
- Anodised finish for increased durability.

Mast super structure

- High grade structural aluminium.
- Anodised finish for increased durability.

Primary rigging anchor

- Powder coated stainless steel.
- Allows adjustable positioning on boom with a lockable pin.

Davit base

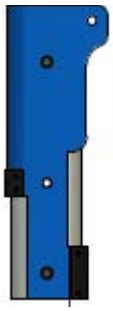
- Galvanised steel.
- Additional rigging anchor points.
- Davit can be rotated in any direction depending on positional requirements.

Support brace

- High grade structural aluminium.
- Transfers the system loads onto the steel base.

Mast support bracket

- Powder coated profiled stainless steel.
- Distributes the system loads applied to the mast.
- The OH250.1600 has an additional steel hollow section inside for increased strength.



Locking pins

- Galvanised steel.
- Designed with a quick release locking system.

Carry handles

- High density nylon.
- Ensuring easy handling and system use.

MOUNTING OPTIONS

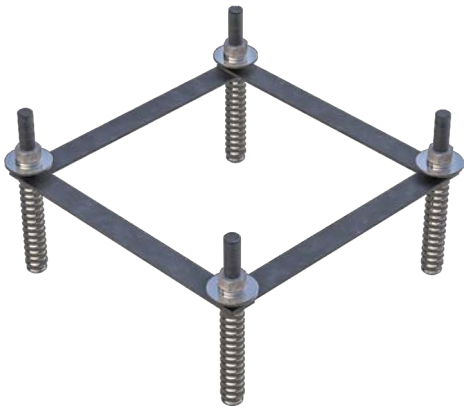
AP160 Cast-in cage bolt kit

- The cast-in cage bolt option allows the fixings to be cast into the concrete providing a strong connection to the concrete structure.
- No pull testing is required with this fixing method.

OH520.1600 requires a AP162 kit

AP161 Epoxy adhesive mounting kit

- Used where there is little to no space underneath the concrete pavers for a permanent davit base or cast-in cage.
- M16 Ferrules to be chemically anchored into the slab.
- M16 studs with nut to secure removable base when in use.
- Pull testing required every 12 months.



OH530F Davit base - floor mount

- The floor mount base plate attaches directly to the floor slab using cast-in or chemical anchor fixings.
- Galvanised steel finish & incorporates safety anchorage attachment points.
- Certification label included.
- Unit weight: 31kg

OH530W Davit base - wall mount

- The wall mount base plate is designed for vertical parapet connections where the structure has been designed for rope access loads using a cast-in or chemical anchor attachment.
- Galvanised steel finish.
- Certification label included.
- Unit weight : 31kg

OH530C Davit base - cast in

- Used in applications where the base is designed to be flush with surface area and is cast into the concrete slab during construction. This method of installation does not require ongoing load testing to the base.
- Minimum slab requirements: 300mm at 32mPa.
- Galvanised steel finish.
- Certification label included.
- Unit weight: 31kg

OH531LB Davit base - low profile and
OH531LS Davit base - low profile sleeve

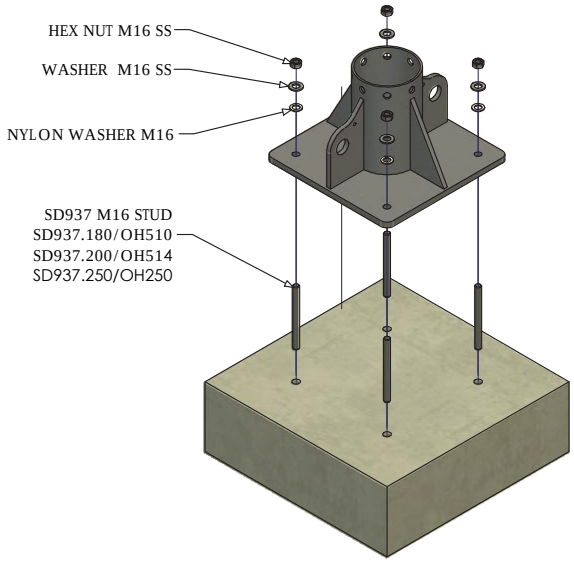
- Used in applications where base is required to be mounted beneath removable paving such as balconies, where visual aesthetics are of importance.
- The base plate is connected directly to the floor slab using cast-in or chemical anchor attachment.
- Galvanised steel finish.
- Certification label included.
- Base weight: 23kg
- Tube weight: 10kg

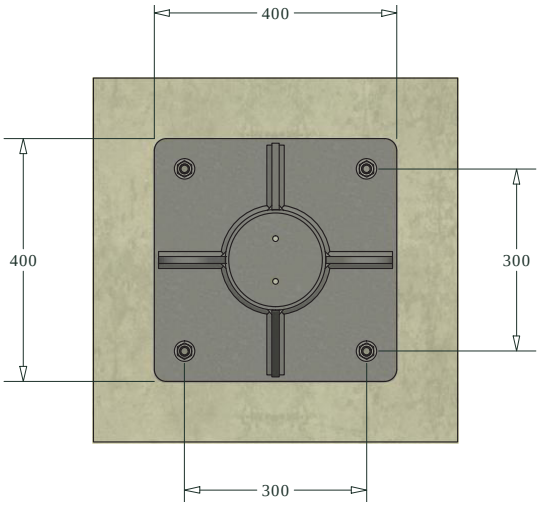
Note: Used in removable paving type applications. Only one OH531LS sleeve required per davit assembly.

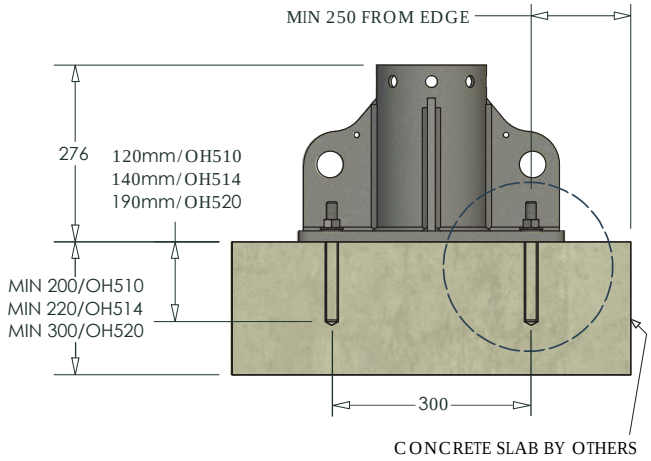
MOUNTING DETAILS

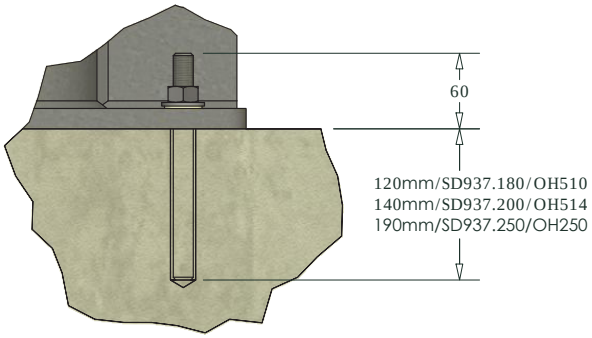
Epoxy adhesive mounting kit

- Installation to existing concrete verified by structural engineer as suitable for required loads.
- Load testing of any friction fit fixing is required every 12 months.
- All floor base types can be fixed to adhesive/epoxy fix studs with a minimum embedment into concrete, see table below.
- Where access to the fixings for pull testing is difficult, it is recommended that the cast-in fixing method is used where possible.









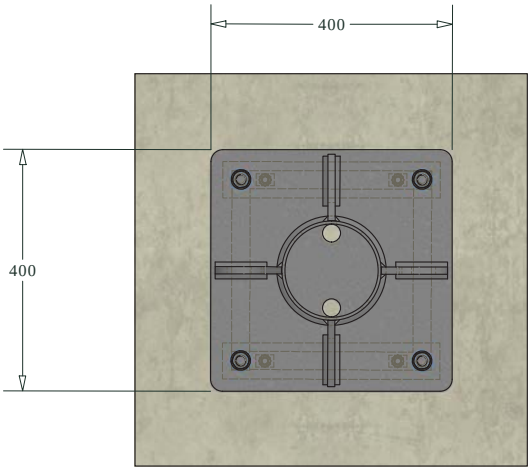
DETAIL A (1 : 5)

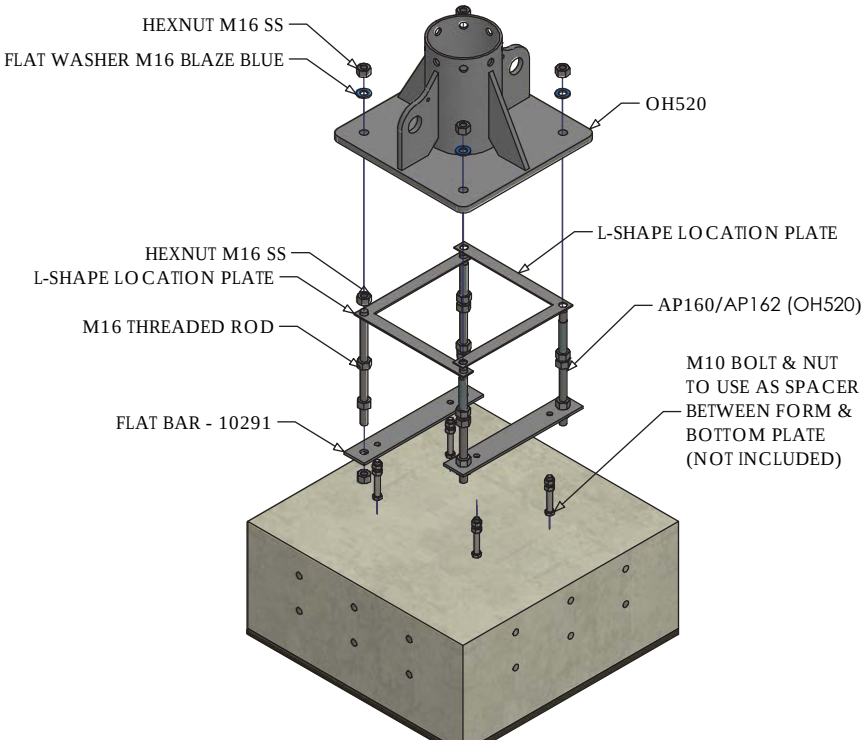
Davit	Fixing	Minimum hole depth (mm)	Minimum slab thickness (mm)
OH510.1600	SD937.180	120	200
OH510.2200	SD937.180	120	200
OH514.1600	SD937.200	140	220
OH514.2200	SD937.200	140	220
OH520.1600	SD937.250	190	300

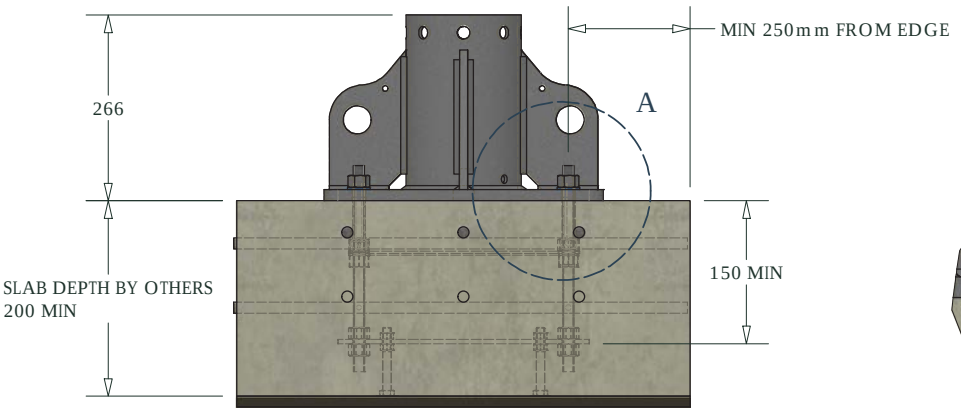
Cast-in cage bolt kit

- Concrete slab fixing method using AP160 cast-in cage bolt kit.
- All base types can be fixed to cast-in cage bolt kit.
- No load testing of the cage bolt fixing required.
- Concrete slab to be engineered, suitable for required loads.
- 200mm minimum slab thickness required.

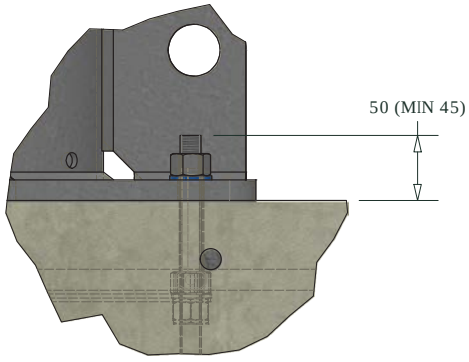
OH520.1600 davit requires a AP162 kit.







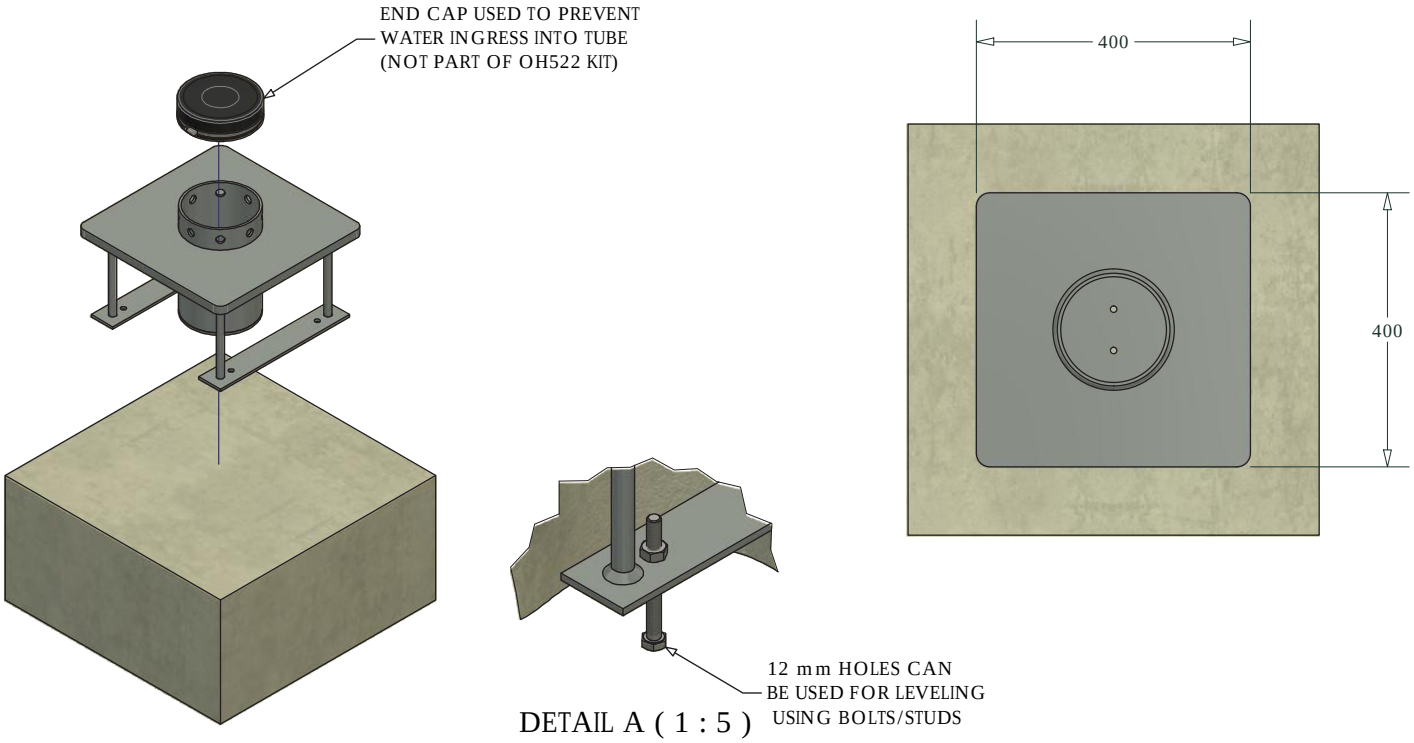
CONCRETE SLAB BY OTHERS
MIN f`c=32 MPa

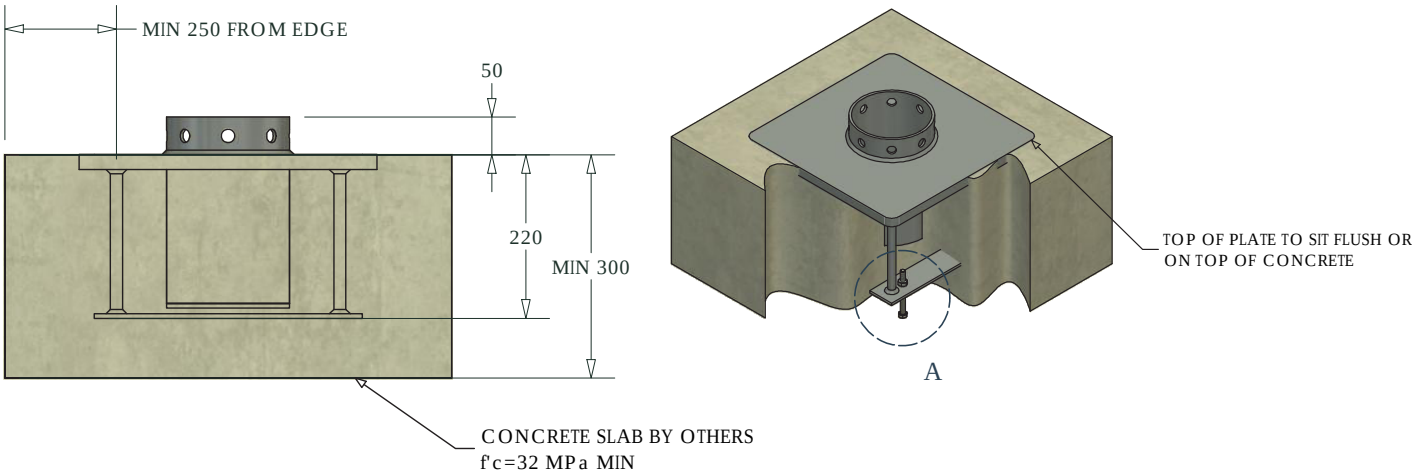


DETAIL A (1 : 5)

Davit base - cast-in

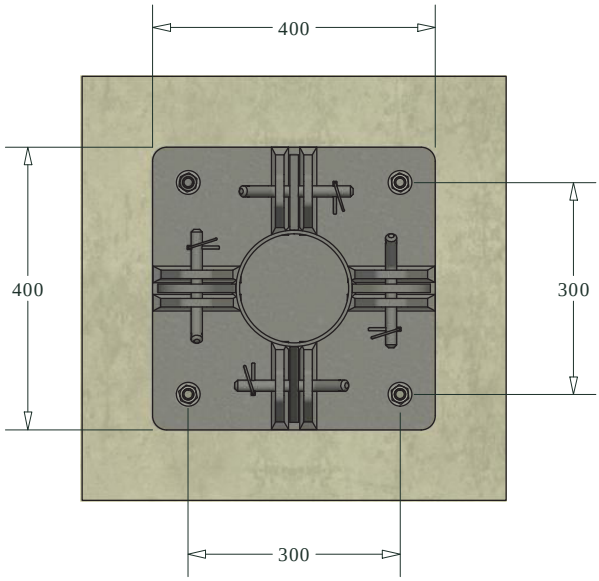
- Flush mount concrete cast-in method using 32MPa minimum.
- No load testing to cast-in davit base required, label shall be clearly marked.
- Concrete slab to be engineered to achieve required loads.
- Minimum concrete thickness, 300mm.
- OH533 rubber end cap is required to prevent water ingress.
- **For OH520.1600 davit, a specialised plate thickness is needed. Contact the team before ordering.**

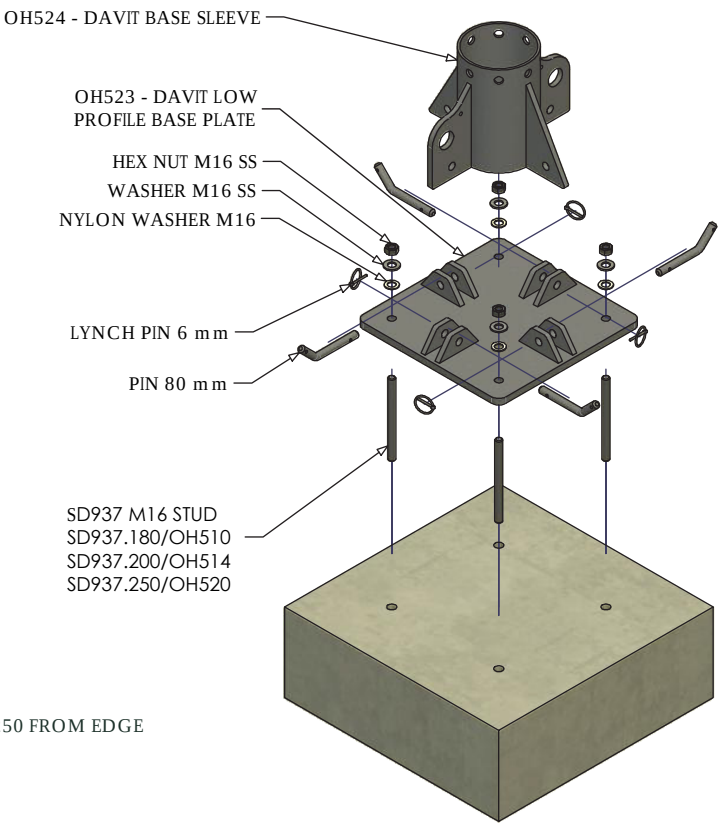


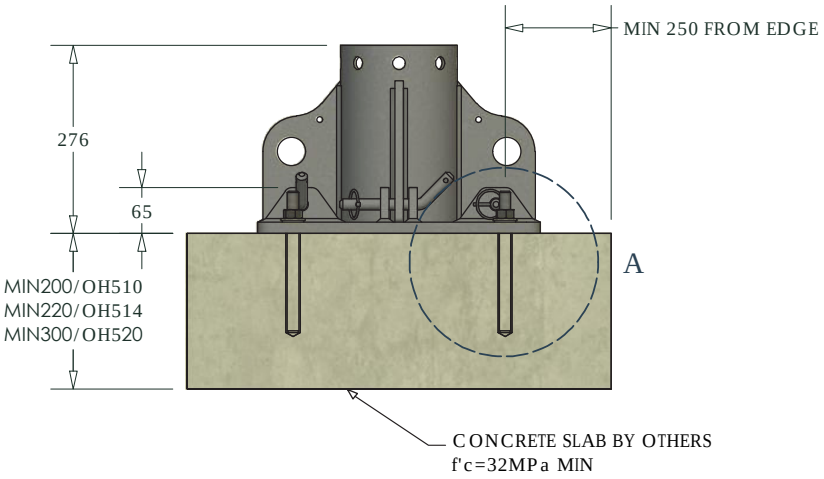


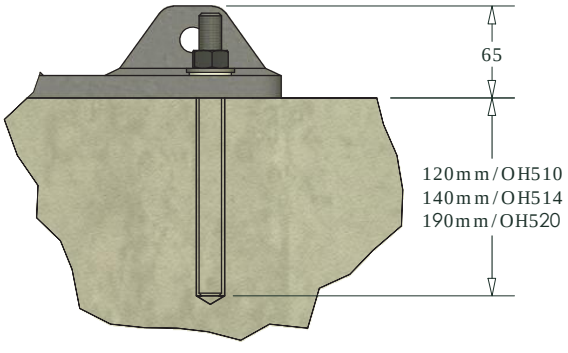
Davit base - low profile

- Allows for placing under raised tiles.
- Installation to existing concrete using M16 threaded stud or into new concrete slab using the AP160 cast-in cage bolt kit.
- Requires 4 locking pins to secure davit base sleeve to the base plate.
- Load testing of any friction fit fixing is required every 12 months. No load testing is required using the cast-in cage bolt kit.
- Concrete slab to be engineered, suitable for required loads.





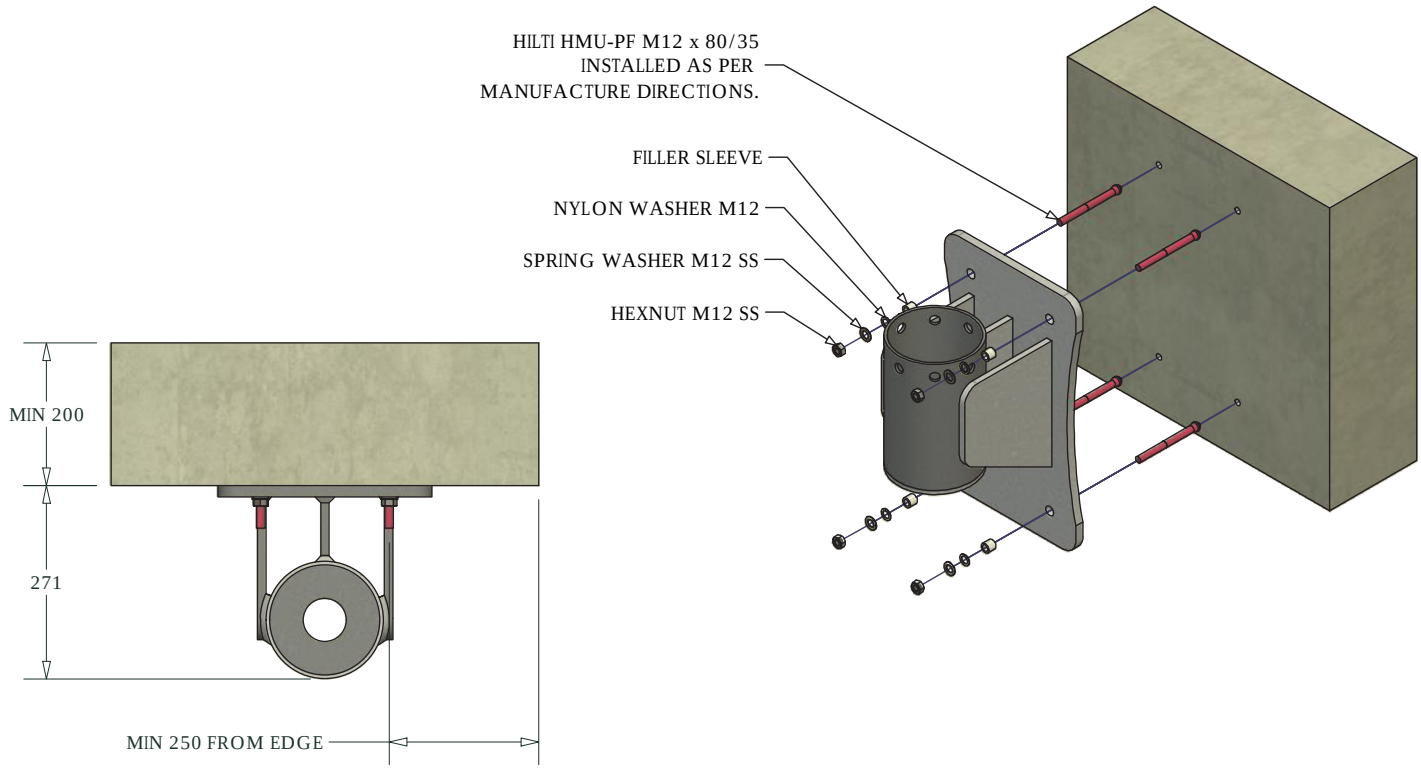


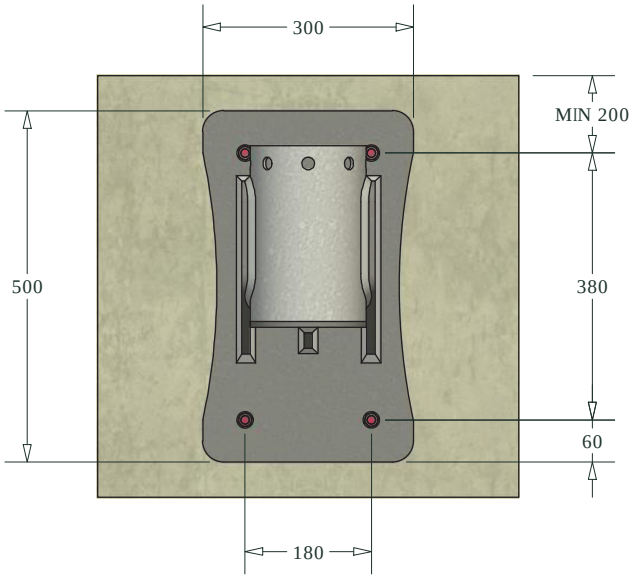


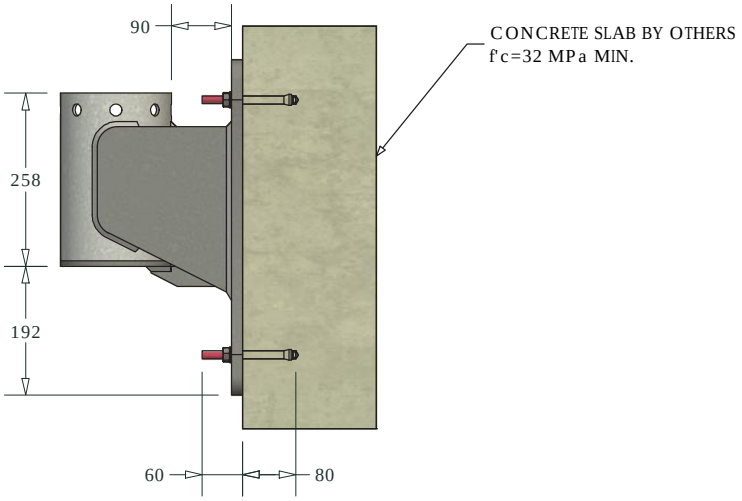
DETAIL A (1 : 5)

Davit base - wall mount

- Can be mounted to concrete wall or steel supports engineered to achieve required loads.
- Mounting to concrete - only HMU-PF M12x80 undercut anchor must be used
- Mounting to steel, M16 bolts must be used.
- **OH520.1600 davit is not suitable for this application.**

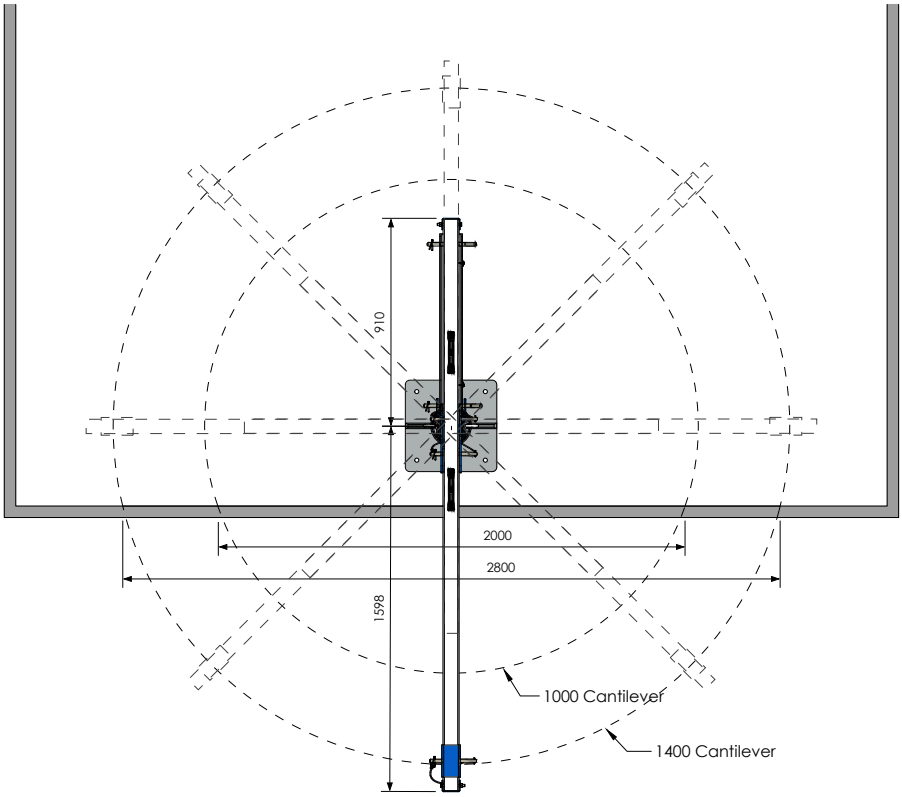




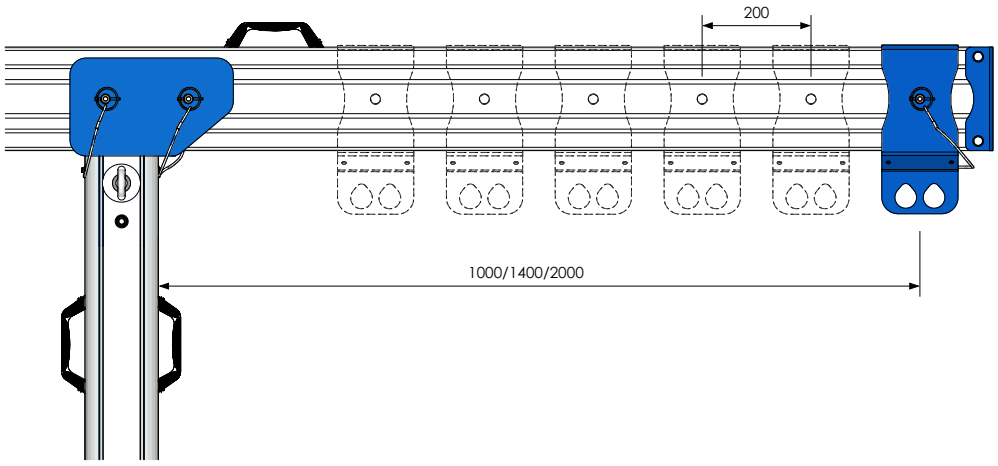


DAVIT OPERATIONAL RANGE

The davit can rotate and operate 360°, with provision for locking at 45° increments. The operating range (dashed line) is a guide only. Site conditions may vary.

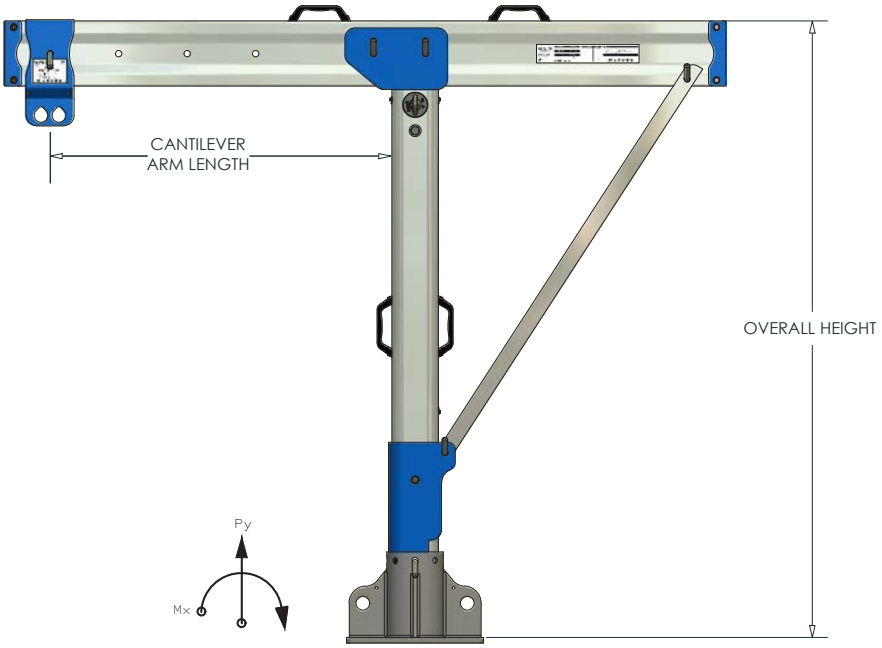


The rigging anchor ultimate load is 12 kN at 1400mm/2000mm. The rigging anchor is able to be positioned at 200mm increments with a maximum outreach of 2000mm. Locking pin to be inserted once rigging anchor in final location.



DAVIT BASE REACTION LOADS

Whilst diagrams indicate minimum edge distances and concrete thickness, in some applications these dimensions may be varied if the building engineer uses the reaction loads shown in the table below and designs these loads into the building structure. Any reduction in edge distance or concrete thickness must be verified by a structural engineer.



Reaction load schedule (1.2G + Ultimate Q)

Overall height (mm)	Cantilever length (mm)	Forces at A (kN)	Moment at A (kN.m)
1600	800	13.00 Py	11.17 Mx
1600	1000	13.01 Py	13.66 Mx
1600	1200	13.03 Py	16.15 Mx
1600	1400	13.04 Py	18.65 Mx
1600	1600	13.30 Py	19.30 Mx
1600	1800	13.30 Py	21.70 Mx
1600	2000	13.30 Py	24.10 Mx
2200	800	13.05 Py	11.16 Mx
2200	1000	13.06 Py	13.66 Mx
2200	1200	13.08 Py	16.15 Mx
2200	1400	13.09 Py	18.65 Mx
2600	1000	13.50 Py	13.65 Mx
2600	1400	13.50 Py	18.65 Mx

Due to the extensive loads the davit will exert on the base attachment, structural suitability of the substructure must be verified by structural engineer prior to installation of the system.

TECHNICAL STATEMENT

Components

Criteria	Data
Base	Mild steel grade 350 (galvanised)
Mast	Aluminium grade 6005A-T5 (anodised)
Boom	Aluminium grade 6005A-T5 (anodised)
Boom mount	Aluminium grade 6005A-T5 (powder coated)
Mast support bracket	Stainless steel grade 350 (powder coated)
Support brace	Aluminium grade 6106A-T6
End caps	Stainless steel grade 304 (powder coated)
Rigging anchor	Stainless steel grade 304 (powder coated)
Locking pins	Mild steel grade 350 (galvanised)
Carry handle	Nylon GF15

Loading

Criteria	Data	Note
Ultimate load	12kN (+ rescue)	As per requirements of AS/NZS1891.4
Hoist load	400kg	If davit is used for hoisting loads, max dynamic load is 400kg - refer to AS1418.13
Maximum height	2200mm	Greater heights may be achievable. To be discussed with Kattsafe.
Maximum cantilever length	2000mm	Maximum height of 2000mm cantilever is 1600mm high.
Boom angle of rotation	360° - lockable with pin at 45° increments	
Wind loading	Not to use under severe wind conditions greater than 37kph/23mph (IRATA)	

Concrete requirements - floor mount, wall mount and low profile bases

Criteria	Data	Note
Concrete grade	F'c = 32 MPa	
Concrete thickness	200/220mm 300mm (OH530C Cast-in davit base)	Concrete thickness varies with different anchor type/davit type. Refer to the fastener details for other types of anchors.
Bolt diameter	16mm	
Base fixing stud	120/140/190mm	Varies with davit type OH510-120mm OH514-140mm

Fastener details

Criteria	Data	Note
SD937 Stainless Steel M16 Stud	Bolt size = Ø16 mm SD937.180 - 180mm SD937.200 - 200mm SD937.250 - 250mm	
Cast-in cage bolt kit	16mm grade 350 steel with 300mm thread	
Cast-in cage bolt kit - OH520	16mm grade AZ70 SS Thread	
Hilti HMU-PF M12 x 80/35 Undercut Anchor	Used for attaching the OH530W wall mount davit base to concrete wall.	Sleeves must be used with M12 fixings (hole diameter 18mm)

TECHNICAL SPECIFICATION

Davit

OH500

The Kattsafe davit is an industrial use, aluminum construction system with rescue and adjustable rigging anchor for access over non load-bearing areas for window cleaning and facade maintenance. System design, supply, layout, installation and certification by a Kattsafe approved installer, as per the manufacturer's installation instructions and current standards.

Materials

- Arm and mast: manufactured from high grade structural aluminium.
- Connection brackets, end caps, supports: powder coated stainless steel.
- Davit base: G350 grade steel, galvanised finish.

Dimensions

Refer to pages 6-8

Substructure requirements

- Minimum concrete thickness
  - OH510, Adhesive fix: 200mm
  - OH514, Adhesive fix: 220mm
  - OH520: 190mm
  - AP160 Cast-in cage bolt kit: 200mm
- OH530C Flush mount cast-in base: 300mm
- Minimum concrete strength: minimum 32 mPa
- Concrete may need to be verified by engineer regarding reaction loads
- Minimum 250mm edge distance

Fixings (refer to installation manual)

Epoxy adhesive

- Stainless or HDG M16 x 180mm allthread stud fixing for 1000mm reach OH510 davit range, min 120mm embedment. Requires 18mm hole size.
- Stainless or HDG M16 x 200mm allthread stud fixing for 1400mm reach OH514 davit range, min 140mm embedment. Requires 18mm hole size.
- Recommended epoxy adhesive - Hilti HIT RE-500

Cast-in

- 300mm x 300mm cage bolt kit
- Minimum concrete thickness: 200/300mm*
- Minimum 150mm embedment of base steel flat bar

(Refer installation manual.) *Concrete specifications depends on davit type.

Rating

- 12kN single person use + rescue
- 400kg safe working load

Compliance

Kattsafe's davit is designed to conform with requirements of the Australian & New Zealand Standards AS/NZS 5532:2013 AS/NZS/ISO22846, AS/NZS1891 and relevant codes of practices and guidelines.

Testing

Testing and performance based on requirements of Australian Standard AS/NZS 1891 and AS/NZS 5532.

- Dynamic load test: 15kN
- Static load test: 12kN

Product warranty

10 years from date of purchase subject to correct installation. Use and maintenance to be in accordance with manufacturer's specifications and recommendations. (This excludes wearing parts).

Inspection and maintenance

Inspection and certification required every 12 months by competent person in accordance with manufacturer's specifications and requirements of Australian Standards AS/NZS 1891 and AS/NZS 5532. (Refer installation manual)

Important note

Failure to supply and/or install proprietary product in accordance with above standards and codes, specifications and instructions voids complete system certification and/or warranty.

WARRANTY INFORMATION

Warranty period on this system:
10 years from date of purchase

Should you have a warranty claim as a result of a defect the following procedure must be followed:

Identify the following information:

- The product/system name and code number.
- The date of purchase/installation.
- Installation company details.
- The installation identification number.
- The name of the company using this system.
- A description of the defect/warranty claim.
- The periodic system maintenance report.

Forward the above information to sales@kattsafe.com.au or contact technical helpline, 1300 301 755.

Terms and conditions

All warranty claims must be made in writing within 14 days of the appearance of the defect.

Incorrect installation or work done by a non accredited Kattsafe system installer will void all warranty rights.

Systems that have been installed using non proprietary equipment will void all warranties.

System roof/cladding and concrete penetration seals are not covered in this warranty.

Systems/components that have not been maintained in accordance with manufacturer's/legislative requirements will void warranty.

Systems used by incompetent persons or use with non compatible accessories ie. harness gear, lanyards, travellers, fall arrestors etc. will void warranty.

Systems/components used for purposes other than their intended use will void warranty.

General wear and tear is expected and will depend on the frequency of use and is not covered by warranty.

Product brochure
Davits

Installation manual
Davits

Operation manual
Davits

QMS Certification
Kattsafe Australia

Find all related products and resources on our website.
kattsafe.com.au

Kattsafe

Height access
and fall protection

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