

moddex installation guide

moddex®

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Safety

Recommendations

IMPORTANT

- > Read all installation instructions carefully before commencing any work.
- > Conduct an initial work/risk assessment, and take all reasonable precautions to eliminate or reduce potential hazards/risks during the installation.
- > Ensure all necessary WHS documentation is completed and up to date, including Job Safety Analysis (JSA), Safe Work Method Statement (SWMS) and valid industry licenses.
- > Obtain consent from site supervisor prior to commencement of any work.
- > Consider all safety requirements when working at heights or near fall edges and use appropriate personal protective equipment (PPE) such as safety footwear, safety glasses & gloves.
- > Ensure support structure to which system is to be attached, will sustain necessary design loads (prior approval may be required from a qualified engineer, unless it is clear to a competent person that the structure is adequate).
- > Do not modify or remove any existing structural components without prior authorization by manufacturer or qualified engineer.
- > Any re-routing services i.e. electrical, gas or water must be carried out by qualified or authorized personnel.
- > Work safely at all times.

Disclaimer

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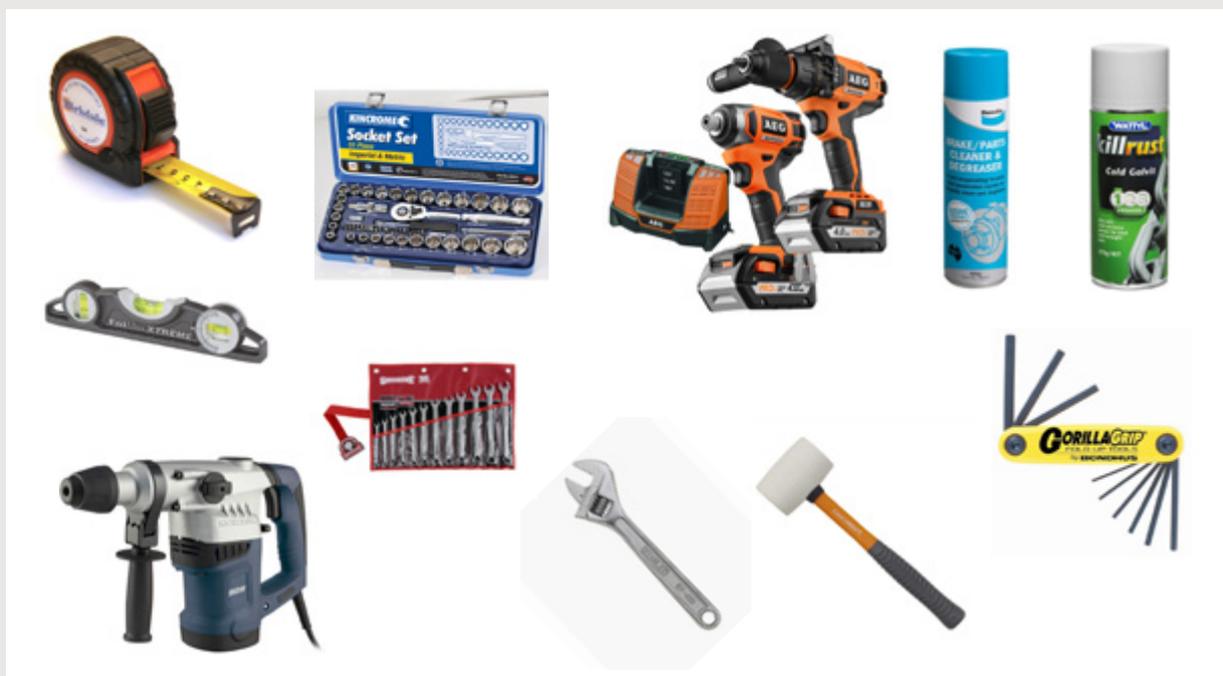
relation to product selection and installation, Moddex is not liable for any inaccuracy or misinterpretation whatsoever. Moddex cannot warrant structural integrity or suitability to which any product or system is attached to and must be assessed by a qualified design engineer. Failure of the customer to follow or adhere to applicable Australian Standards, Building Codes, WHS Acts & Regulations, Codes of Practice & Guidelines, site installation requirements may result in serious injury or death.

Tools & Equipment Recommendations

- > Tape measure, Spirit level, Allen keys, Rubber mallet
- > Sockets, Spanners or Shifters
- > Impact drill/driver, DEXX drive bits (included) & 5/16" nutsetter
- > Hammer drill & Masonry drill bits
- > 5" Angle grinder with cutting & grinding discs
- > Suitable packers & cold Galv. Touch up paint

Specialist tools you find useful

- > Stud finder
- > Onsite pipe/tube bender
- > Magnetic Base Drill



Installation Requirements

NOTE: Use DEXX or similar drive bits with an impact drill/driver for quicker installation

- > Ensure all cut pipe ends are checked and any burrs removed using a file or deburrer.
- > All cut and/or unprotected pipe ends must have cold galv. rust inhibitor paint applied.
- > Ensure locking setscrews are adequately tightened and rails are not unduly deformed (30Nm max torque for M12 DEXX & 40Nm max torque for 3/8" BSP).
- > When installing double Assistrail (AR120 etc.) be sure to fix the top rail first as the lower/bottom rail will restrict access to fixings.
- > Ensure setscrews are facing the same way for better presentation.
- > Be sure to cut off any excess threads of fixings on base mounts (5mm max. protruding) and apply cold galv. paint.
- > Remove any paint marks/writing on pipe using suitable solvent or brake cleaner. Touch up any scratches or markings using color coded touch up paint for powder coated jobs.

INSTALLATION CHECKLIST

- > It is a Moddex requirement that the installation checklist is filled out by the installer upon completion of the install.

Installation Checklist

It is a Moddex requirement that the installation checklist is filled out by the installer upon completion of the install.

Company: _____ Company Contact: _____

Installed By: _____ Supervisor: _____

Project Name: _____ Moddex Job #: _____

Check	Date Complete	Initial/Name
Pipes cleaned with brake cleaner (or similar) to remove paint markings		
Check for no sharp edges		
Check all cut sections are treated with Cold Gal spray to product spec – minimise overspray.		
Fixing to substrate double checked and firm, check all grub screws are tightened		
Check structure is straight, level & plumb		
Check all critical dimensions – Refer to relevant Australian Standards		
Check pipe insertion of rails is no less the minimum shown in image on page 8		
Ensure rivets are in place on all internal connecting fittings as per image detail on page 8		
Any extra thread cut off base mount fixings – 5mm above top of nut (if applicable)		
No gaps greater than 125mm (balustrade), no pinch points less than 50mm		
Minimum 5 x photos clearly showing completed install		
Site clean and all rubbish removed		
Variations to installation drawings;		
Notes/Comments/Issues;		

- Please ensure completed checklist & any supporting info & photos are filed or saved with other relevant job documentation.
- It is the installers responsibility to ensure all points in checklist are completed (where applicable).
- Refer to the 'Moddex Handrail and Balustrade Install Guide' for more information.

Client Contact Signature

Installer Signature

Client Contact Print Name

Date

Installer Print Name

Date

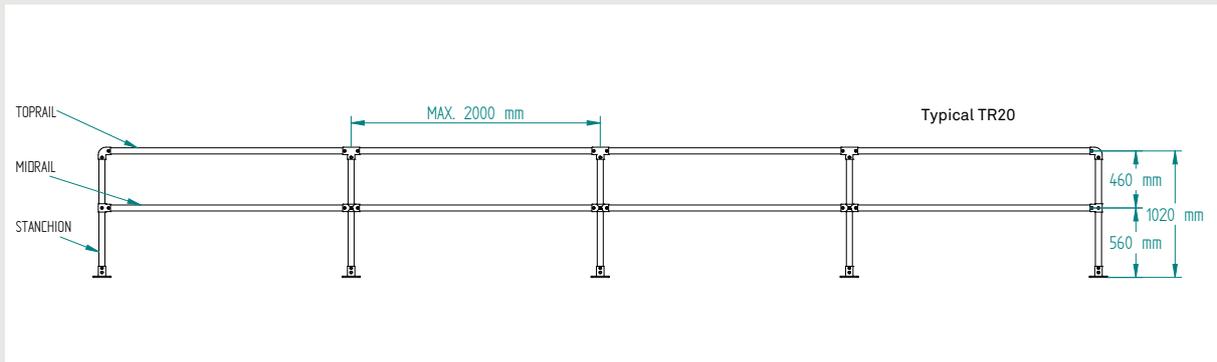
Key Measurements

NOTE: Preassembled stanchions will be supplied at correct height (application specific).

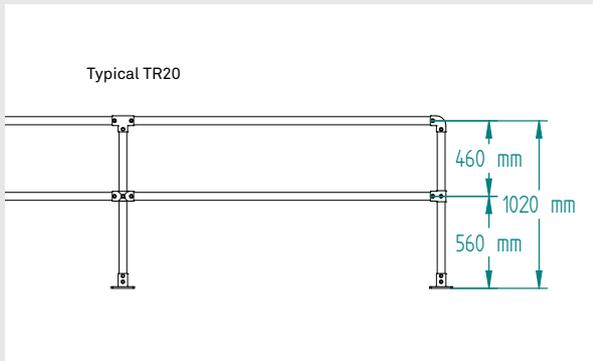
- > **Height of Top rail:** Between 900 - 1100mm from ground to top of handrail (refer to Australian Standards or NCC for job specific requirements)
 - > Maximum 1000mm for disability handrails on ramps/stairs (Assistral applications). Moddex standard set to 925mm to centreline.
 - > Minimum 1000mm for balustrades (Conectabal applications).
- > **Top & Mid rail Spacing:** Maximum 450mm gap between top & midrail (refer to Australian Standards or Ncc for job specific requirements)
- > **Stanchion Spacings:** 2000mm maximum
- > **Openings on Balustrade:** Maximum 125mm openings anywhere (125mm sphere must not pass through), refer sketch overleaf.
- > **Hand Clearance:** Minimum 50mm clearance between fixed point and handrails (pinch point) as per AS & NCC requirements.
- > **Height above Stair Nosing:** Minimum 865mm & maximum 1000mm from top of stair nosing to underside of handrail. Moddex standard set to 925mm to centreline.
- > **Edge Distance of Fixings:** Allow minimum 5x times diameter of fixing, from edge hole to edge of concrete (6x times diameter of fixing is recommended).

Refer to diagrams on page 7.

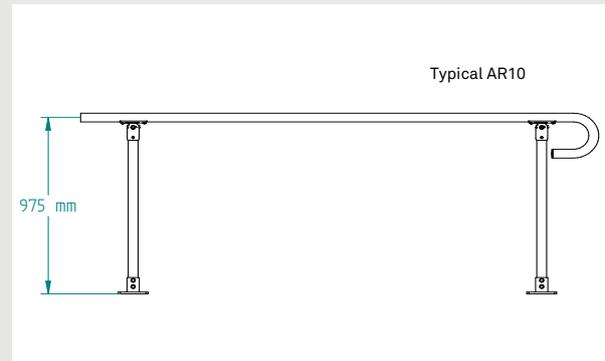
Stanchion & Rail Spacing



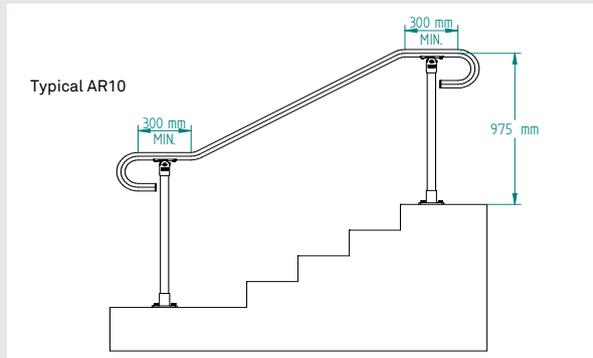
Rail Height (for Guardrails AS 1657)



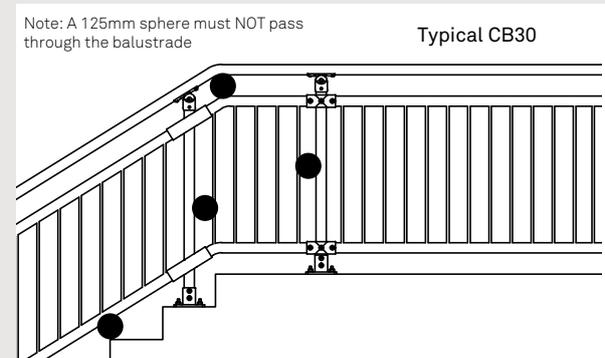
Rail Height (for Disability Handrails AS 1428)



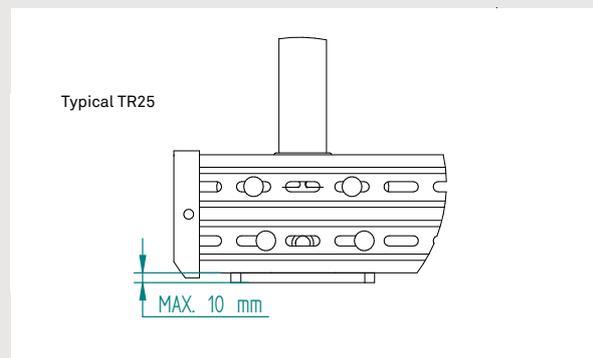
Height above Stair Nosing



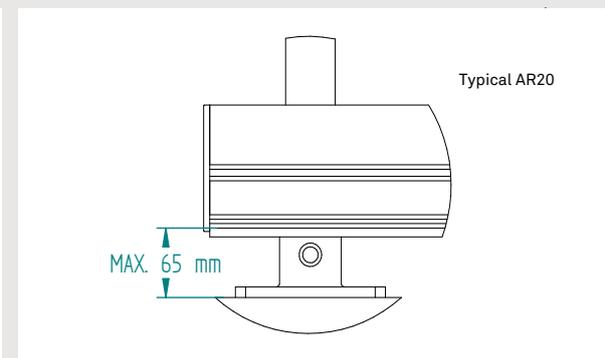
Openings on Balustrade



Height of Toeboard (AS 1657)

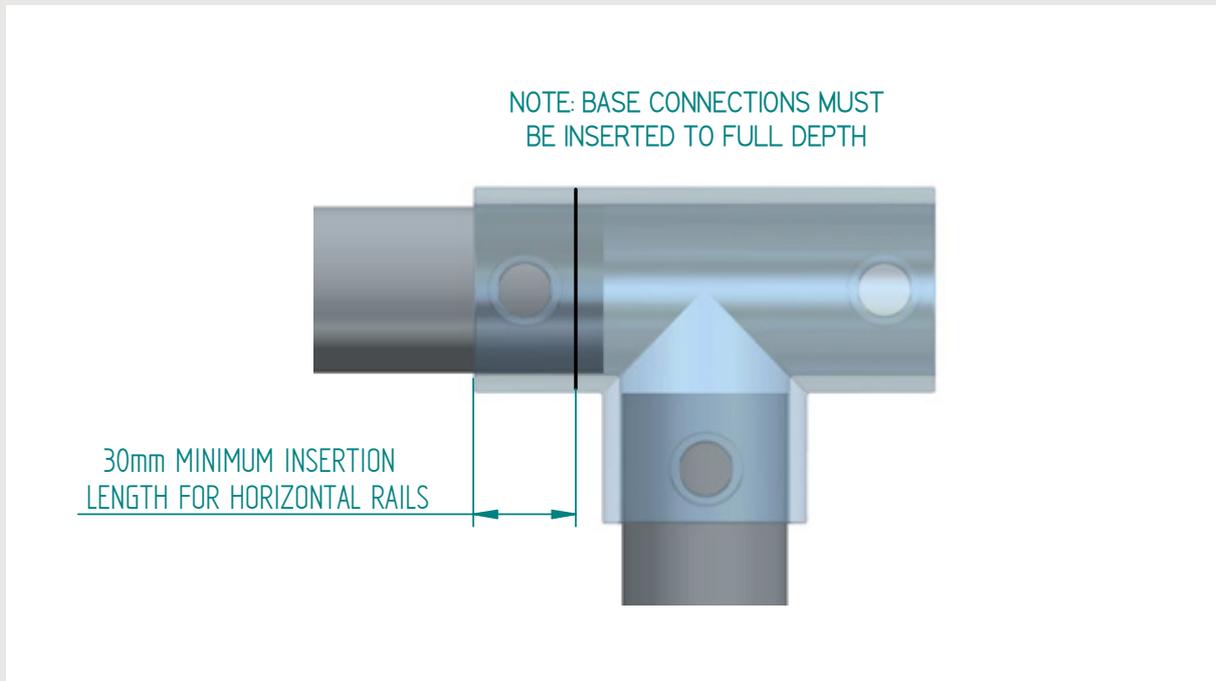


Height of Kerbrail (AS 1428)



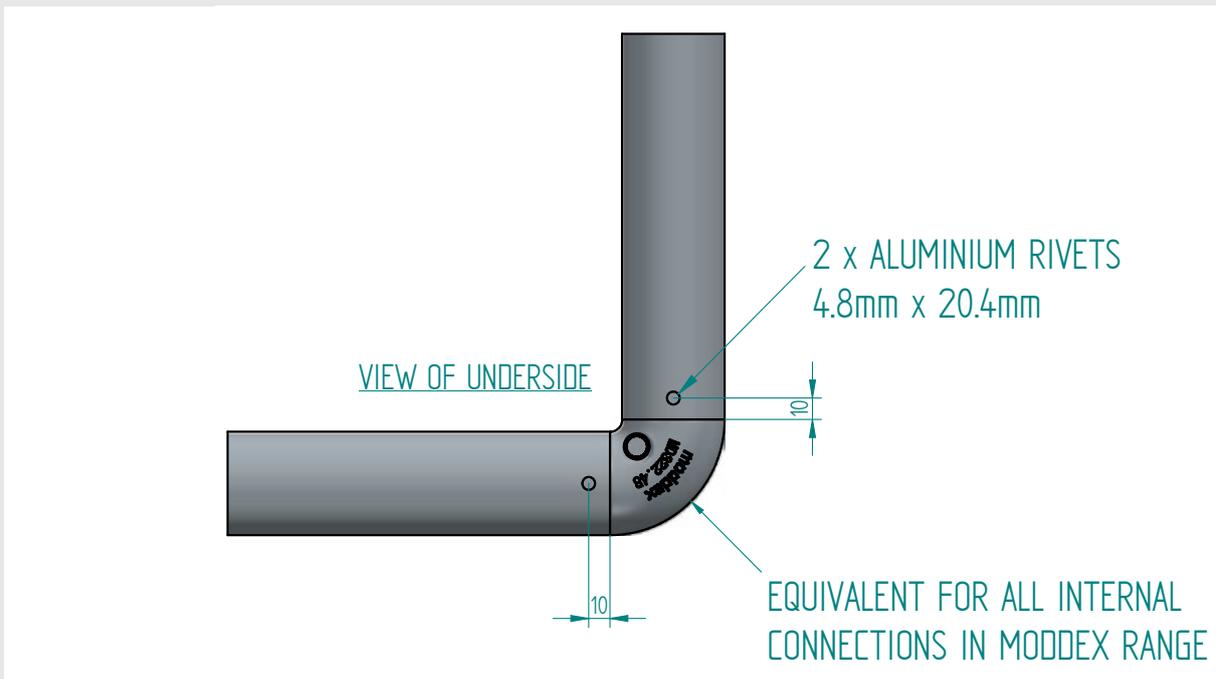
Minimum Rail Insertion

- > **Minimum Rail Insertion:** The minimum rail insertion length for all horizontal or angled rails is 30mm (Refer image below). Pipe must be inserted to full depth for all base mounting connections.



Rivets for Internally Connecting Fittings

- > **Rivets for Internally Connecting Fittings:** Drill and fix a 4.8mm x 20.4mm aluminium rivet on each side of the connection as shown in image below.

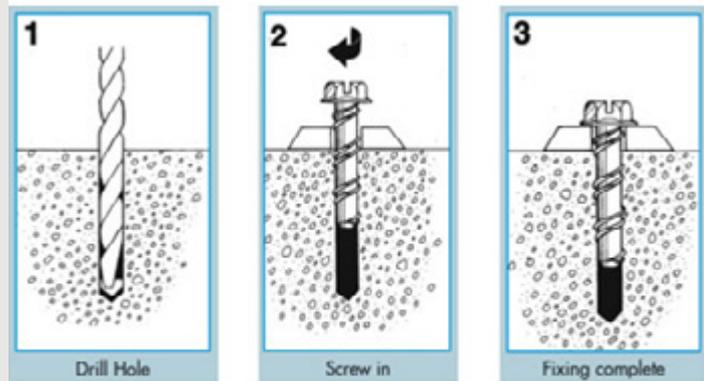


M12 Screwbolt Install Instructions

Hole Preparation - Specific for use of EXCALIBUR HSB12-100-Gal in Moddex application

Use the right drill

Check that the drill bit diameter is correct for the EXCALIBUR Bolt size M12
Check the length of the Drill flute must exceed 120 mm then plus the length required to fit into the drill.
Flute length = the maximum hole depth capacity of drill



Recommended Drill Bit by Moddex is Sutton/Diager Booster Plus (Part No: 029477)

CLEAN THE DUST FROM THE HOLE

Important _DO NOT USE any drill bit with a hole depth capability less than 120mm

It is essential to drill deep and perpendicular - At 90° to the substrate.

Note: Moddex application - Hole depth recommended is required to be a minimum of 115mm in concrete.

This applies to perfectly clean holes after excess dust is removed.

For easier Moddex installation always drill the hole deeper than the minimum.

EXCALIBUR Screwbolts are designed to function correctly within DIN standards. Drill bits must not be below normal tolerance levels. This may result in stressing or over torquing a fastener product on insertion.

Screwbolt Installation when setting by hand or power tool

Use a good socket - Preferably a single hex socket rather than a multi point Socket.

Requirement for Excalibur M12 bolts 'across flats' 19mm socket.

We recommend the use of a quality full hexagon socket with a ratchet spanner.

Alternatively, where the substrate allows, a **torque controlled** impact wrench can be used.

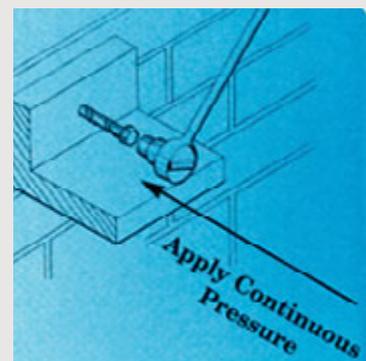
The Excalibur manufactures recommended installing Excalibur Bolts with a **Bosch variable speed GDS 18E** with a torque range of 70Nm – 250Nm. In a clean hole, without variances, it is expected torque required in this Moddex application would be 100Nm but should not exceed 250Nm. Damage to the bolt may occur if Maximum Torque is exceeded.

Apply pressure to start

Ensure that continual pressure is applied (see diagram), particularly when engaging the first thread.

Back off if tight

During installation, debris or dust created by the thread cutting action may cause some resistance to be experienced. This is easily overcome by unscrewing the Screwbolt for one turn or more, and then continuing to fix to full embedment.

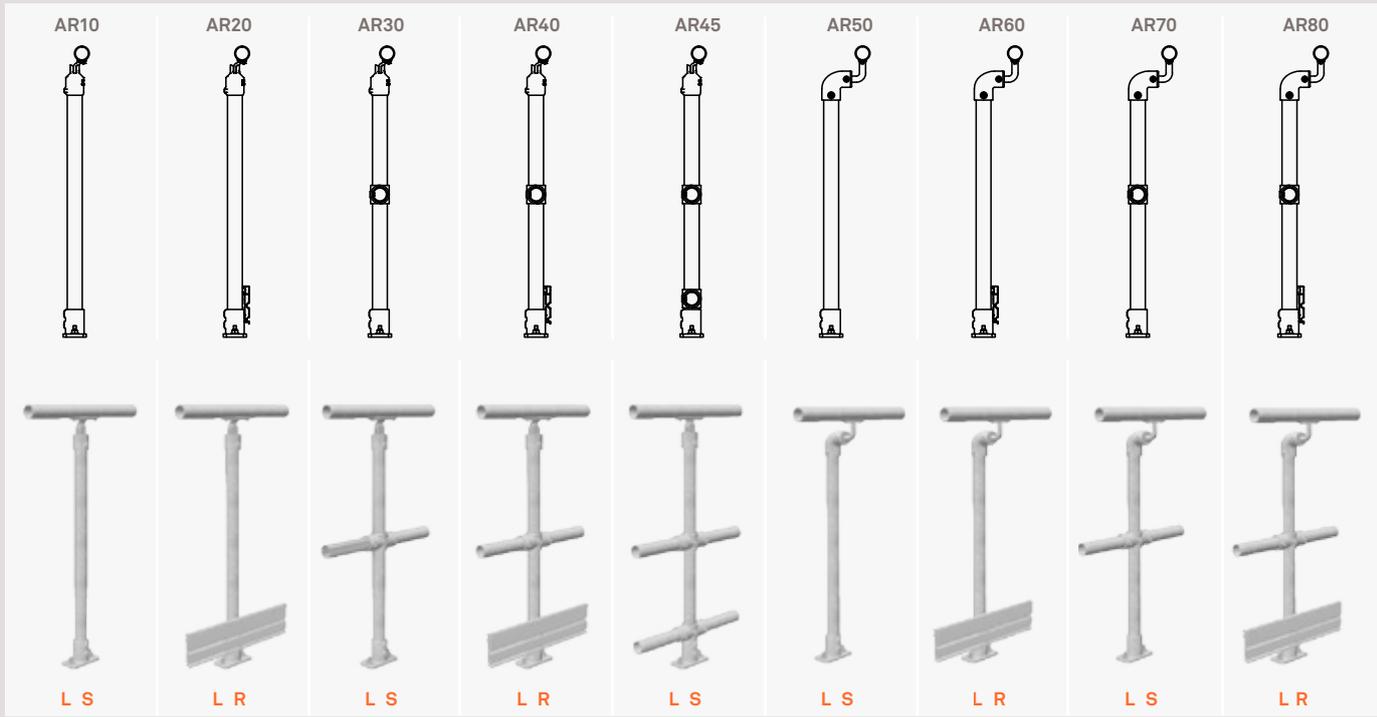


Handrail & Balustrade Configuration Quick Guide

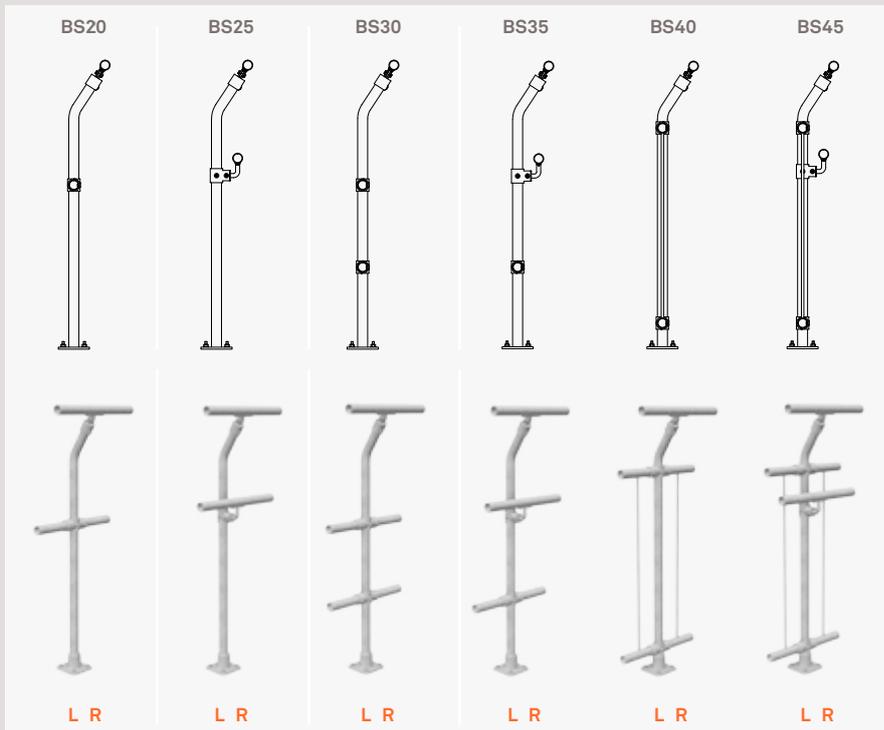
Key

LEVEL, RAKE, STAIR

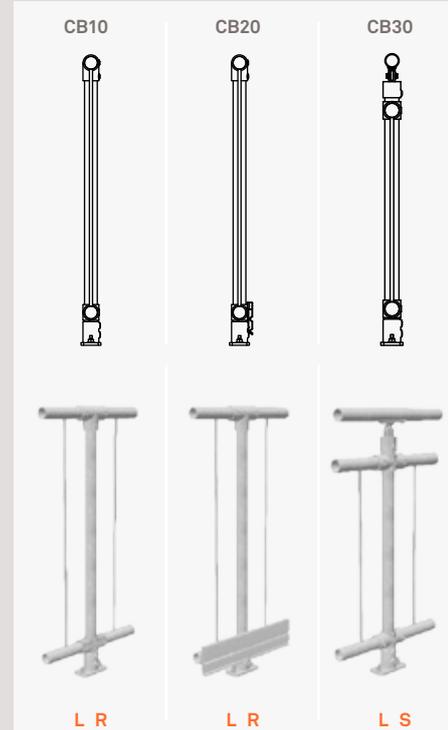
ASSISTRAIL

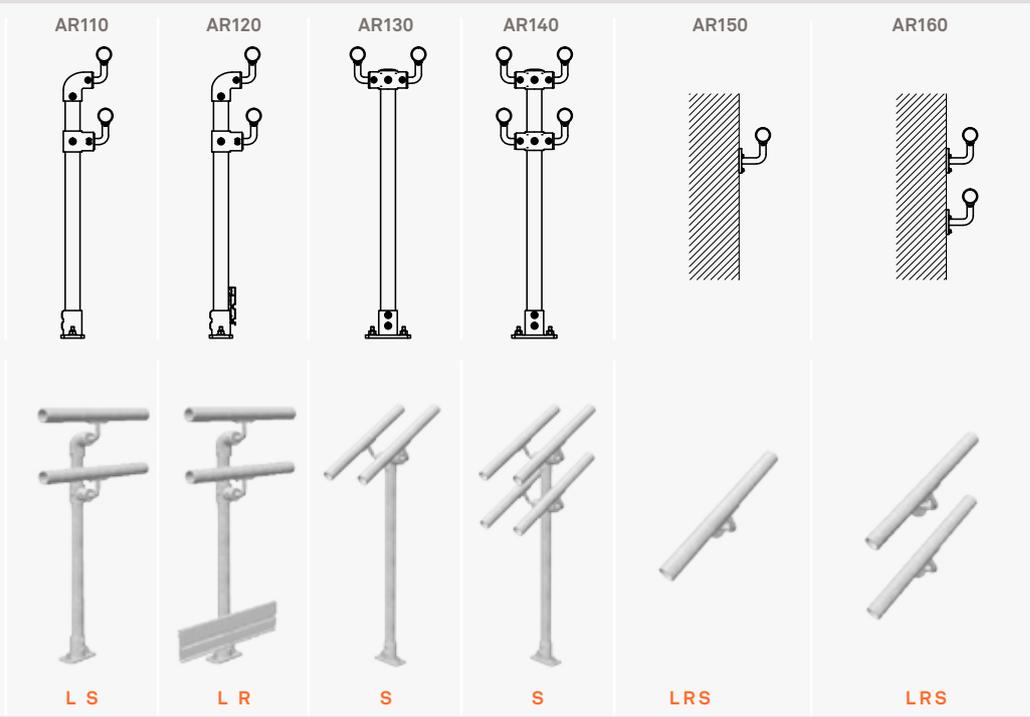


BIKESAFE

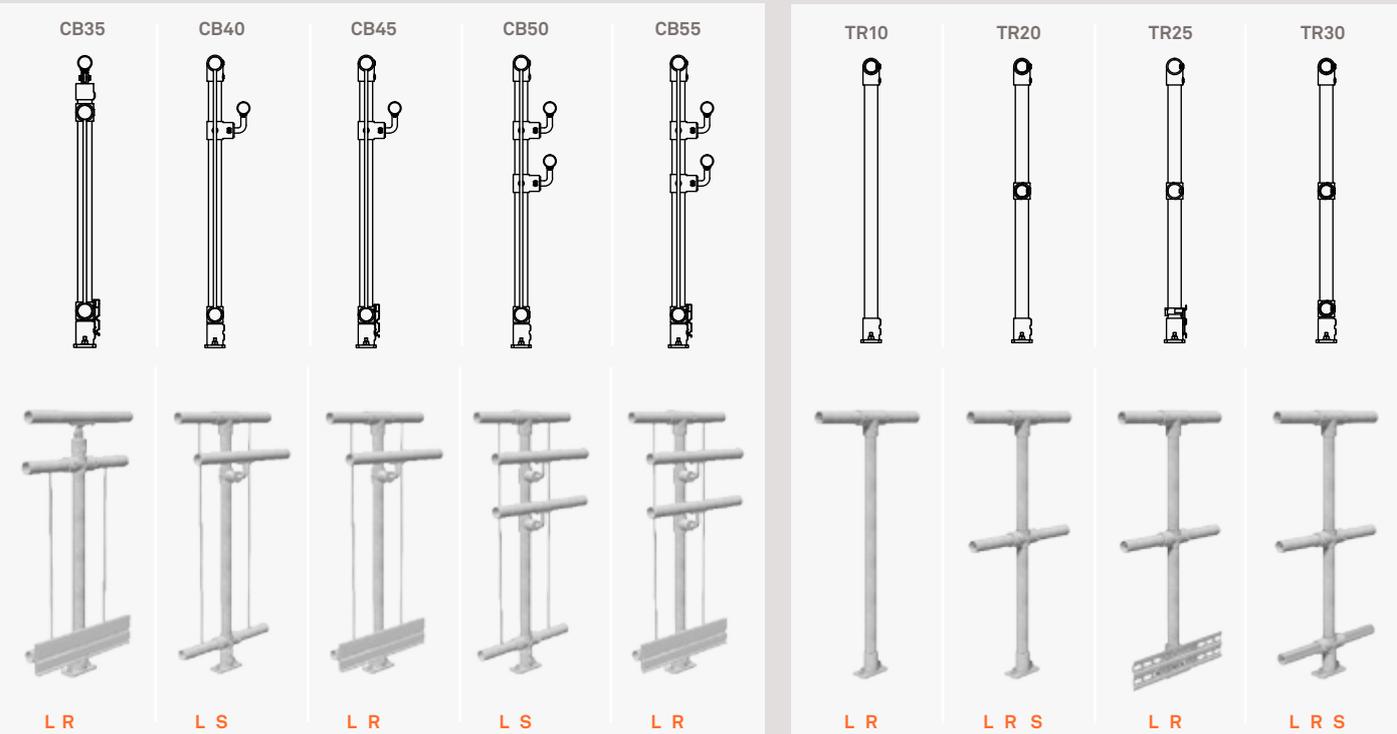


CONECTABAL

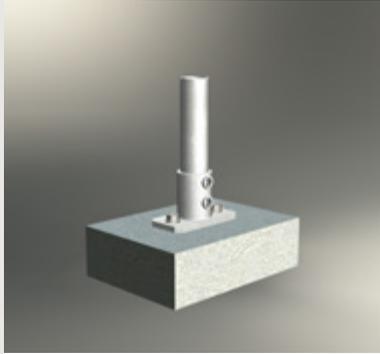




TUFFRAIL



Standard Mount Options



T2 - Top Mount (2 Fixings)

Concrete - using M12 x 100mm galvanized screwbolts
Steel - using M16 hi-tensile galvanized bolts



F2 - Face Mount (2 Fixings)

Concrete - using M12 x 100mm galvanized screwbolts
Steel - using M16 hi-tensile galvanized bolts



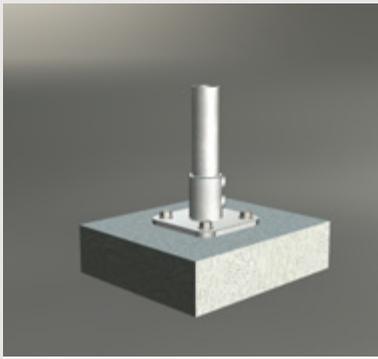
C11 - Channel Mount (2 Fixings)

110 mm Offset
Steel - using M16 hi-tensile galvanized bolts



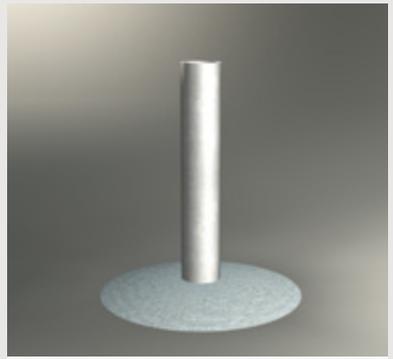
C13 - Channel Mount (2 Fixings)

130 mm Offset
Steel - using M16 hi-tensile galvanized bolts



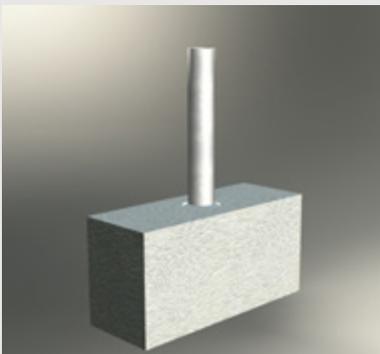
T4 - Top Mount (4 Fixings)

Concrete - using M12 x 100mm galvanized screwbolts
Steel - using M16 hi-tensile galvanized bolts



GD - Inground Mount

As per engineers' specifications



CD - Cored Mount

As per engineers' specifications



AM - Angle Mount (2 Fixings)

Concrete - using M12 x 100mm galvanized screwbolts
Steel - using M16 hi-tensile galvanized bolts



CY - Conveyor Mount (2 Fixings)

Steel - using M16 hi-tensile galvanized bolts

The Moddex Advantage



Modular flexibility

Modular system designs adapt to on-site conditions with the flexibility to retrofit, replace broken sections or can disassemble when no longer required



No-weld assembly

No-weld assembly of components eliminates the need for hot works permits and site shutdowns to deliver a safer, quicker set-up and installation with little or no damage to galvanizing



Available ex-stock

All standard system configurations are available ex-stock from our extensive catalogue for immediate flat pack delivery across Australia and New Zealand



Reduced corrosion

Hot dip galvanized components assembled with stainless steel fixtures and fittings reduces corrosion from welding, cutting and grinding



Flat pack delivery

Flat pack delivery of all components, fixtures and fittings direct to site eliminates delivery of bulky items to site and the need for specialist transport and crange



BIM & CAD support

In-house CAD, BIM and technical design support for more complex projects, with AutoCAD and Revit file downloads available for layout and ordering

assistrail

disability handrails



Engineered for ramps, stairs and walkways, with smooth connections for a safer finish. Standard and fire stair configurations available. AS 1428 compliant.

bikesafe

bikeway barriers



Engineered for bikeway and footpath safety, providing the ultimate protection for pedestrians and cyclists travelling at speed. Austroads compliant.

conectabal

commercial balustrades



Prevent injuries or falls from retaining walls, elevated areas, ramps and stairs. Standard and fire stair configurations available. NCC / BCA compliant.

nexus

perimeter barriers & bollards



Bollard and rail perimeter demarcation barriers across sports and recreation centres, footpaths and carparks. Custom colours and logo options available.

tuffrail

industrial guardrails



Robust guardrail protection for workers across mezzanines, service platforms, pedestrian walkways and fall edges. Safety Yellow options available. AS 1657 compliant.

tuffstop

trolley bays & safety bollards



Secure storage for trolleys at shopping complexes and airports. Industrial safety bollards for pedestrian and equipment protection.

intac

tactile indicators



Tactile indicators for ramps, stairs and walkways for the blind or visually impaired. Ceramic tile or self-adhesive PVC options available. AS 1428 compliant.

tredmaxx

non slip safety



Non-slip surfacing and stair nosing for internal or external stairs, walkways and platforms. Available in a range of profiles and grits. AS 1428 / AS 4586 & NCC/BCA compliant.

tuffgard

toeboard system



Toeboard systems for protection against falling objects from elevated platforms and mezzanines. Simply retrofitted to new or existing guardrails. AS 1657 compliant.

Call our sales team on 1800 663 339 to discuss a supply and install option.

Australian Codes, Standards & Legislation

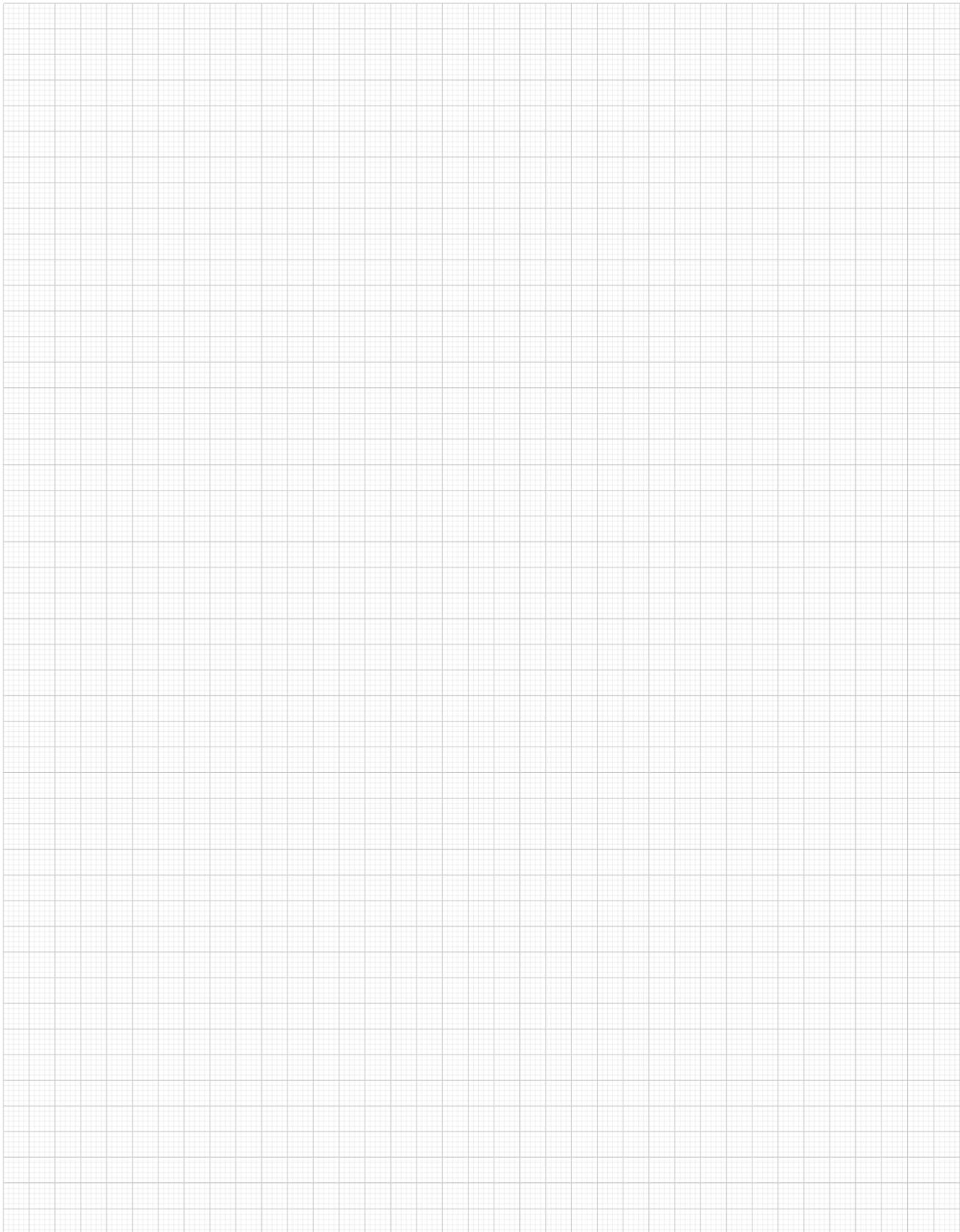
AS/NZS 1170, AS 1428, AS 1657, AS 4586, AS 4994, NCC(BCA), Austroads & WHS/OSH

Protected by international patents & design registrations

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Notes

Project Name	
Project No.	Contact
Date	Contact No.



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