Technical Manual

Eclipse® Classic Library shelving system

Access Office Industries

INSPIRING SPACES

Contents

Introduction

"The Eclipse Classic system is a flexible and economical shelving system tested and certified to AS 2273 and GECA 28-2010 v2.1"

ALIA "Standards and Guidelines for Australian Public Libraries" Section G3; 3.2 states that "Library spaces, fittings and furniture should comply with relevant standards, including those for:

- **Shelving**

Passion for excellence

For more than 25 years, Eclipse has worked with Architects and Designers supplying and installing library shelving and furniture in Public Libraries and a range of Educational facilities. We're committed to ensuring that Eclipse is the strongest, most functional, stable and environmentally friendly system available, flexible and versatile enough to meet your needs today and in the future.

The development of the Eclipse Classic System was as much a consultative process as it was an engineering exercise. We would like to acknowledge the cooperation of many librarians and collection managers that have worked with us over the years to ensure our shelving meets the needs of the modern library and its patrons. Our shelving is specifically designed for efficient storage and display of library collections. With the changing landscape that is the modern library, proper planning, layout and selection of shelving units and component accessories is a very important aspect of today's library design.

Why not take advantage of our FREE library design service? We offer a creative service from concept to installation to help you achieve a dynamic and inspiring library design. Our design service is without obligation, so you have nothing to lose by giving us a call.

If you have any questions about your shelving system, other products in our range or the information in this technical manual please get in touch with us using the contact details below. We would be happy to hear from you.

SGS
ISO 14001
SYSTEM CERTIFICATION
Lic: AU11/3889

Intertek
Australian Standards
CERTIFIED

ENVIRONMENTAL CHOICE
AUSTRALIA

Product Guarantee for Eclipse® Classic Shelving System

Eclipse guarantees your new Eclipse product for Five years from the date of the original purchase. This guarantee applies to non-moveable parts at normal usage.

The guarantee covers faults in material and production, subject to the product being used in accordance with the Eclipse User Guide.

It is also subject to the product assembly being carried out according to Eclipse assembly instructions.

With regard to castors, bays of shelving must be moved in accordance with the user guide instructions. Eclipse decides on a case-to-case basis whether to deliver a replacement product or carry out a repair.

NOTICE ⚠️

This Technical Manual is the property of Global (WA). This document has been prepared for the use of Architects, Designers and Specifiers to assist in making the best choice for their projects.

It must not be copied in whole or in part, transmitted or distributed to any third party without the express permission of Global (WA).

The information presented within the document is current at time of printing. Due to our policy of continuous improvement, all drawings, diagrams and technical details are subject to change without notice. Please contact Eclipse to request the current revision.

Eclipse Classic shelving - Unique Features

Eclipse Classic Library Shelving has a number of unique features for optimal flexibility and structural integrity that you won't find in any other Library Shelving system. To ensure the strength and quality we had it tested and certified to AS2273 by Intertek, an international testing authority.

The following features make Eclipse Classic the best choice:

1. Reinforced shelves with a 50mm upturned back and a folded section welded under the front edge which doubles the weight bearing capacity, you won't see any bent shelves on our system!

2. The shelf support brackets have a full length return fold that supports the shelf right to the front edge. The prevents the shelves from tipping forward (e.g. somebody leaning on the shelf to help them stand up). The combination of this and the welded support under the shelf front means that an adult could actually climb the up shelves without causing any damage! Obviously for OHS reasons we don't recommend it.

3. 18mm of cut steel thread where it really counts. 1 loaded bay of shelving can can weigh up to 600Kg. All of this is ultimately supported by the threads for the adjustable feet or castors. Most other systems have no more than 7mm of thread which is not enough to support these loads.

4. Bolt fixed and MIG welded horizontal braces eliminating the need for extra "locking devices". Have a look at any library that doesn't have the bolt fixed brace and see how loose they are after only a few months of being installed!

5. 2mm thick kick plates as standard. These form an aesthetic enclosed base on a static unit and an extremely rigid base frame on a mobile unit.

6. 150Kg heavy duty castors for mobile bays that spreads the weight of the unit over a larger area of floor. We use 1 free wheel castor and 1 braked castor on each post, the braked castor not only stops the wheels from turning but also locks directionally stopping the castor from pivoting, keeping your bays in line.
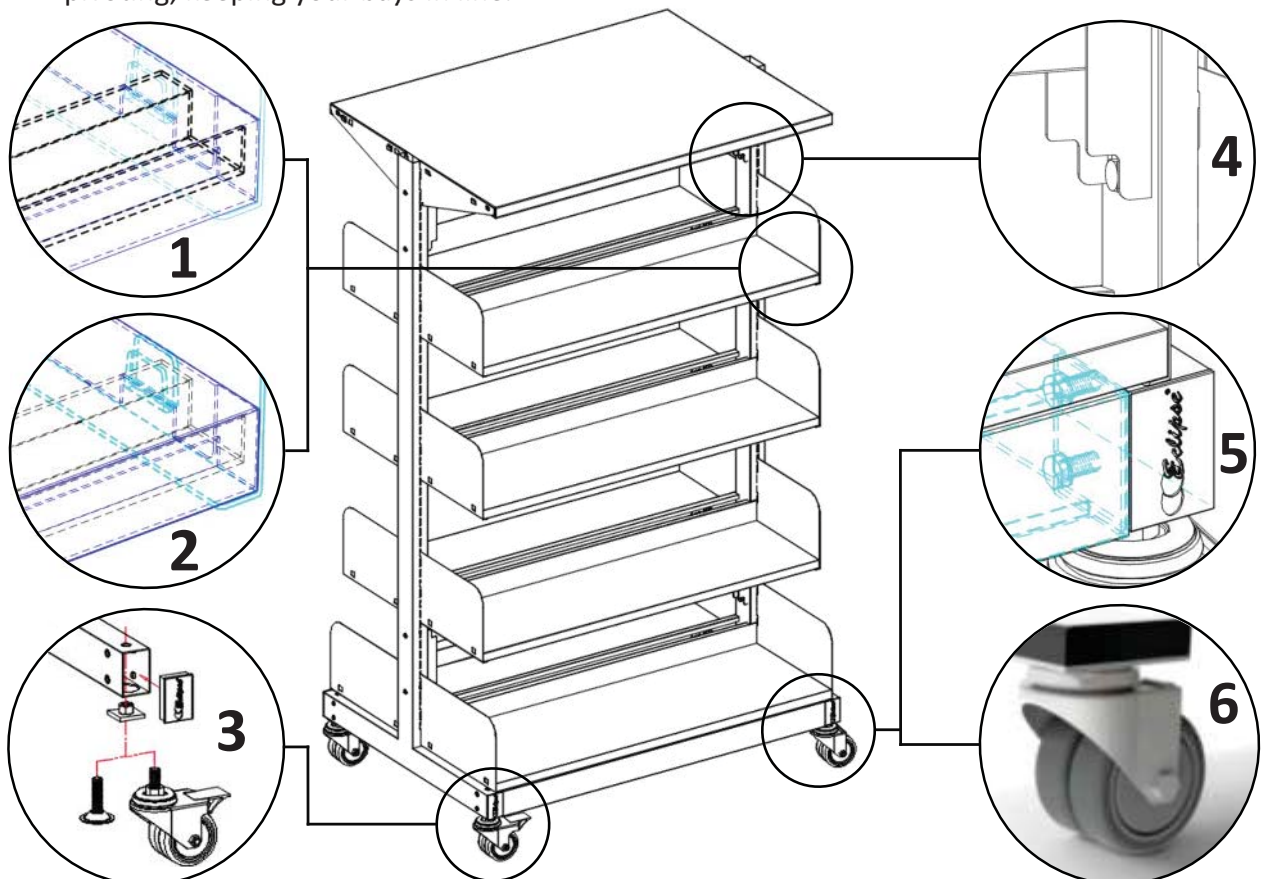
Space Planning Considerations

Measuring Storage Capacity

Shelving Bays can occupy over 50% of a library's floorspace therefore, calculating space allocation for shelving and shelving capacity are an integral part of any library renovation or construction. Shelving height, depth, material, placement and accessories are all factors in the overall appearance and function of a library. Understanding the storage capacity of Library shelving is fundamental to space planning and shelving layout. Storage capacity is generally expressed in linear metres. For standard shelving units the following formula is used to calculate linear metres of storage:

$$\frac{900mm \times No. \text{ of shelves}}{1000mm} = \text{Linear metres}$$

For simplicity, shelf capacities in this manual will be expressed number of volumes per shelf.

Standard Shelving Sizes

The shelf sizes and number of shelving Units selected will depend on the type of books and media being shelved. The standard shelf depths are 200, 250 & 300mm. Custom depths are available. The following table indicates the recommended shelf depth and average number of volumes which can be stored per 900mm long shelf for various types of books and media.
Please note: This chart represents the maximum capacity of a shelf and not necessarily the typical working capacity. Working capacity will be between 2/3 and 3/4 of the maximum capacities shown, depending on the type of library.

Book Capacity Planning Guide - Per Shelf

The chart below shows the capacity of our standard 900mm long shelves.

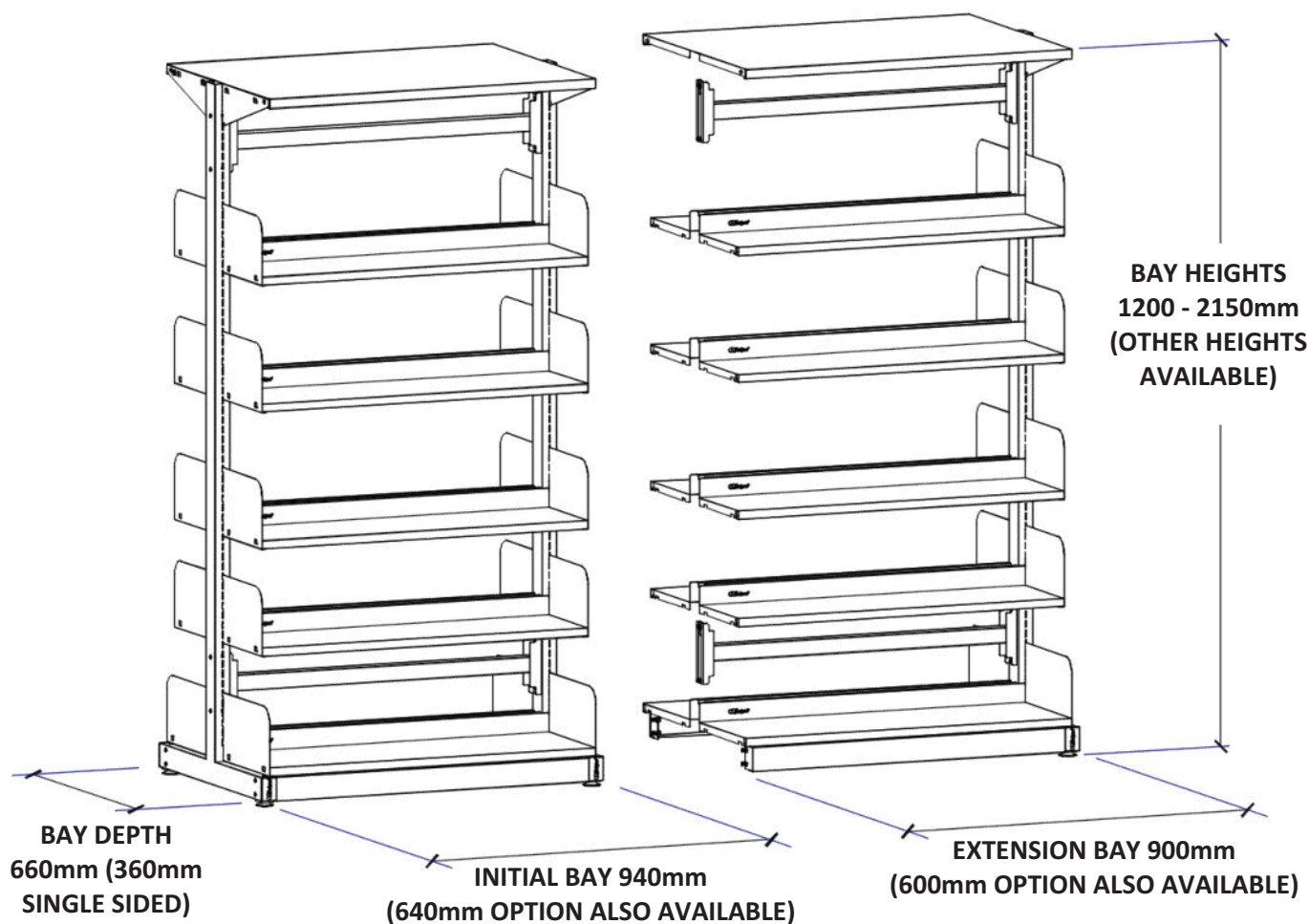| Types of Volumes	Number of Volumes Per 900mm Shelf	Recommended Shelf Depth
Circulation (non-fiction)	24	250mm
Fiction	24	250mm
General Literature	23	250mm
Economics	24	250mm
Reference	19	250/300mm
History	21	250mm
Technical & Scientific	19	250/300mm
Law	15	250mm
Medical	15	250/300mm
Bound Periodicals	15	250/300mm
Art (Quartos & Folios)	21	250/300mm
Junior (octavos)	30	250mm
Junior (folios)	35	250/300mm
Magazines	90	300mm
Microfilm	20	200mm
VHS Tapes	26	200mm
CD's	75	200mm
DVD's	54	200mm
As a guide, an average library will require about 80% - 85% of its total shelving as 250mm deep, with the balance in 300mm deep.		

Space Planning Considerations

Book Capacity Planning Guide - Per 1500 High Bay

The chart below shows approximate capacity based on an average of 24 books per shelf. This assumes 900m long shelves and 4 shelves high (on our 1500mm high post, our most popular height.

Run Length		Book Capacity Single Side	Book Capacity Double Side
# of Bays	Metres		
1	0.94	96	192
2	1.84	192	384
3	2.74	288	576
4	3.64	384	768
5	4.54	480	960
6	5.44	576	1152
7	6.34	672	1344
8	7.24	768	1536
9	8.14	864	1728
10	9.04	960	1920

Dimensions - Bay Heights

The standard post heights are 1200, 1500 1800 & 2150mm. Custom heights are available.

BAY HEIGHTS 1200 - 2150mm (OTHER HEIGHTS AVAILABLE)

BAY DEPTH 660mm (360mm SINGLE SIDED)

INITIAL BAY 940mm (640mm OPTION ALSO AVAILABLE)

EXTENSION BAY 900mm (600mm OPTION ALSO AVAILABLE)
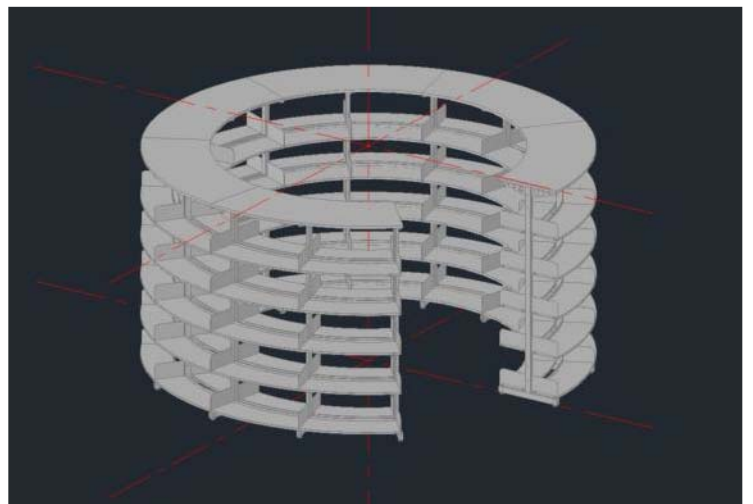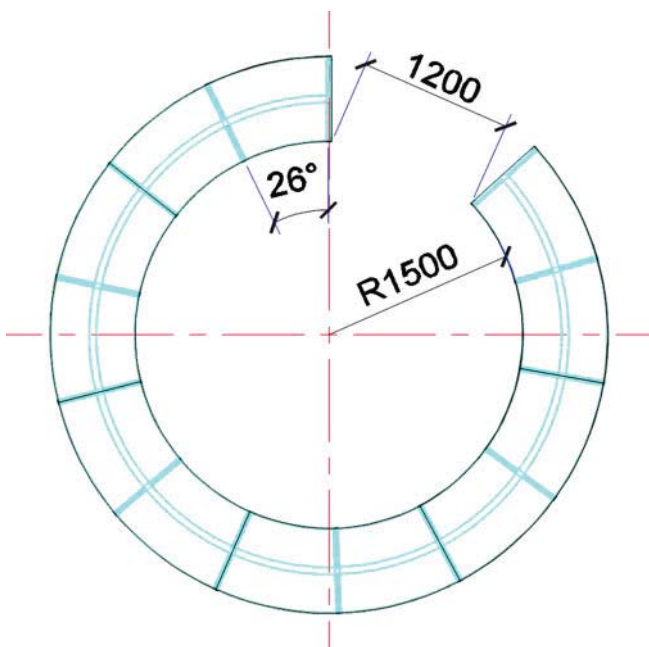
Space Planning Considerations

Dimensions - Overall Run Lengths

A run of bays is an initial bay with a number of extension bays. The initial bay is a total of 940mm long and each extension bay adds 900mm to the total length as per the example plan views below. As per Australian Standards, posts are 900mm centre to centre. There is no limit to the number of extension bays that can be added. Please note that 600mm long bays are also available.

INITIAL BAY **INITIAL BAY + 1 x EXTENSION** **INITIAL BAY + 2 x EXTENSIONS**

INITIAL BAY + 3 x EXTENSIONS **INITIAL BAY + 4 x EXTENSIONS**
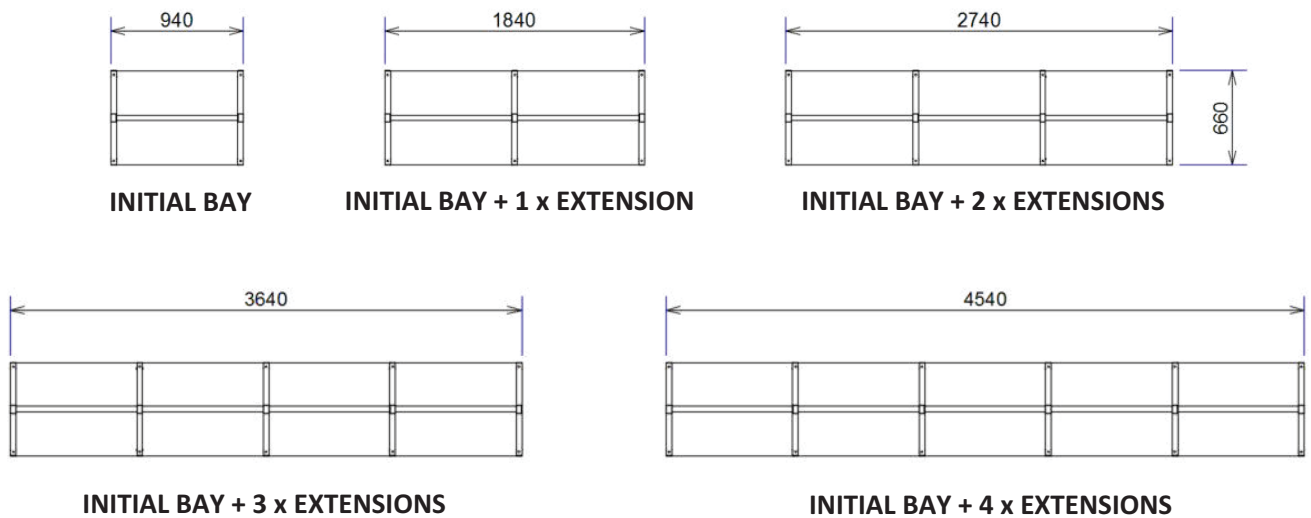
Dimensions - Overall Size, 12 Bay Curved Steel Unit

Standard curved steel shelves are pressed to suit a 3 metre inside diameter run of shelving. Eclipse curved steel can be made to a custom radius to suit the individual need of your project. The standard bay angle is 26º to keep the length of outer shelf to a stable and manageable size. This angle can be increased by as much as 19º to a total of 45º when a smaller radius is used.

Space Planning Considerations

Number of Shelves and Post Heights - Minimum Useable Clearance

Shelf spacing is easily adjustable in 25mm increments. The chart below is a guide as to how many upturned back shelves you can fit on our standard post heights with the minimum useable clearance between shelves per shelf type.
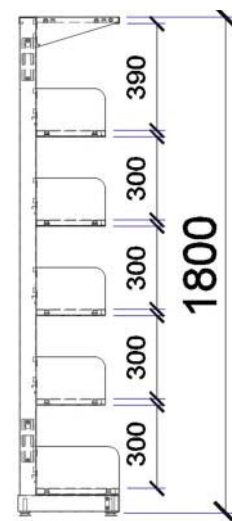
Shelf Type	Minimum Clear Space Between Shelves (mm)	Number of Shelves without Canopy Top fitted				Number of Shelves with Canopy Top fitted			
		1200	1500	1800	2150	1200	1500	1800	2150
250mm Display Shelf	275	4	5	6	8	4	5	6	7
300mm Display Shelf	325	3	4	5	7	3	4	5	6
Standard Upturned Back Shelf	179	5	7	8	10	5	7	8	10
Book Tub	350	3	4	5	6	3	4	5	5
CD/DVD Shelf	220	5	6	8	9	4	6	7	9
1 Tier Magazine Shelf	250	4	5	7	9	4	5	6	8
2 Tier Magazine Shelf	550	2	2	3	4	2	2	3	4
3 Tier Magazine Shelf	750	1	2	2	3	1	2	2	2
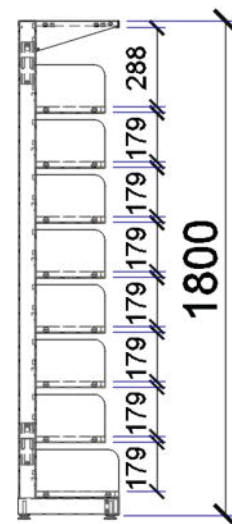
Number of Shelves and Post Heights - Nominated Preferred Clearance

The chart below is a guide as to how many upturned back shelves you can fit on our standard post heights with a nominated preferred minimum clearance between shelves.

Preferred Clear Space Required Between Standard Upturned Back Shelves									
Preferred Clear Space ↓	Post Height →	Number of Shelves without Canopy Top fitted				Number of Shelves with Canopy Top fitted			
		1200	1500	1800	2150	1200	1500	1800	2150
200mm		5	6	8	9	5	6	7	9
225mm		4	6	7	8	4	5	7	8
250mm		4	5	6	8	4	5	6	7
300mm		3	4	5	6	3	4	5	6
350mm		3	4	4	5	3	3	4	5
375mm		3	3	4	5	2	3	4	5
400mm		2	3	4	5	2	3	4	5
425mm		2	3	4	4	2	3	3	4

Space Planning Considerations

Number of Shelves and Post Heights - Recommended number of shelves by post height

The drawings below show the number of shelves that you would typically use in most single or double sided shelving applications. The clearance between shelves illustrated here is 325mm.
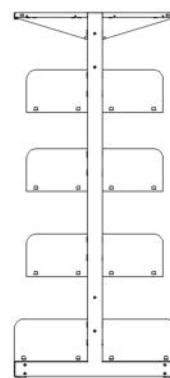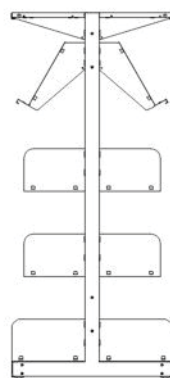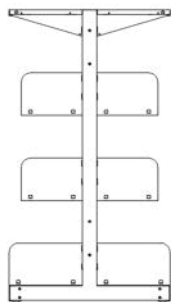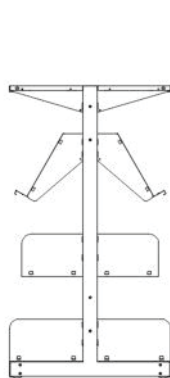
1200H

1500H
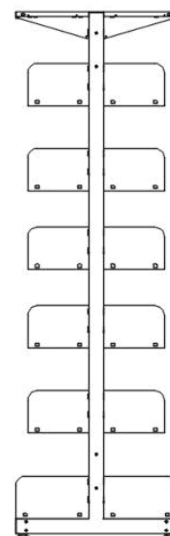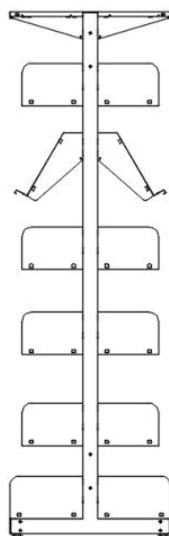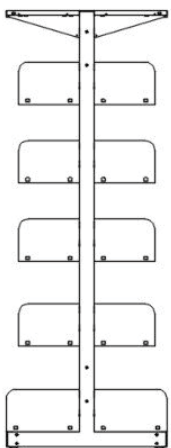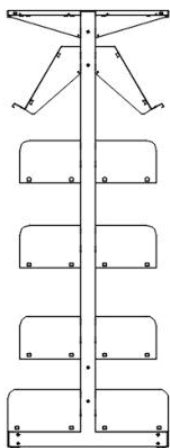
1800H

2150H

Dimensions - Component Specifications

Part	Dimensions in mm			Steel Thickness (mm)
	H	D	L	
Posts	60	40	1200-2150	1.8 & 5.0
Horizontal Braces	40	40	860	1.0 & 1.5
Kick Plates	63	48	860	1.0 & 2.0
Shelf End Plates	175	200,250&300	-	1.2
Shelves	70	200,250&300	598 & 898	1.0
Canopies	25	360 & 660	598 & 898	1.0

Space Planning Considerations

Aisle Widths - General Guidelines

Along with width and depth of shelving, the aisle space between runs of shelving is a big factor in determining the space allocation for each unit. Libraries must also decide how many shelving bays are used to make up one run. Many libraries limit the number of units per run to five to make it easier for users to find materials.

Some of the main considerations for determining aisle width are:

- Traffic Flow - Minimize the constrictions / blocks to smooth traffic flow. Place furniture and shelving to allow free, easy access
- Lines of sight - For aesthetic reasons and to allow visual supervision of spaces. Eliminate blind areas that cannot be controlled.
- Lighting - Ensure that overhead lighting will illuminate the aisles.

Access for people with disabilities

Wherever reasonable, runs of shelving should be positioned so that there is adequate aisle space between for wheelchair access.

Australian Standard AS1428.1-2009/Amendment 1-2010 currently indicates that:

- Accessways are required to be a minimum of 1000mm, but 1200mm is preferred.
- Clearance required for a stationary wheelchair is 800mm.
- Space at the end of aisle for circulation around the shelves is required to be 1500mm (1740mm is preferred) and requires 2070mm in the direction of travel.
    - o Passing space for 2 persons using wheelchairs shall be a minimum width of 1800 mm for a minimum length of 2000 mm.
- A corridor less than 1500mm wide requires widening at the turn.
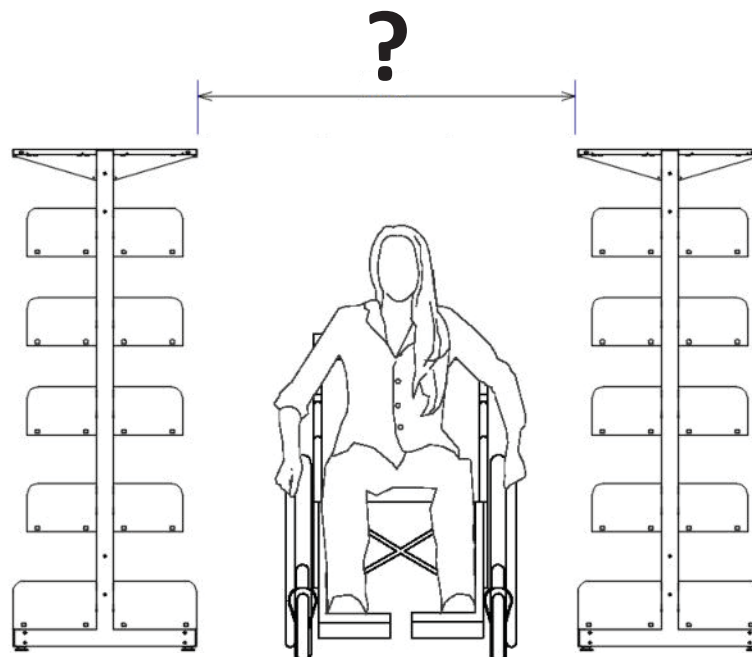
Space Planning Considerations - Floor Loading & Layout

Proper planning, layout and selection of shelving and component accessories is a very important aspect of today's library design. In most libraries the shelving is the basis for creating zones and functional areas and also help define routes through the library. The position and type of shelving is essential to the smooth operation of the library and needs to be positioned carefully in relation to the walls, columns doors and circulation desk. The layout of the shelving also dictates the layout of seating, tables and the position of booths and workstations. The Eclipse Classic system gives you the flexibility to create the perfect layout for your library.

Floor Loading

To estimate floor loading, the weight of a double sided shelving unit filled with books to typical working capacity, may be figured at 550Kg per cubic metre of shelving. Normally, the floor load for shelving units and books can be safely figured at 700Kg per square metre.

Layout Ideas   SOME POPULAR SHELVING LAYOUTS

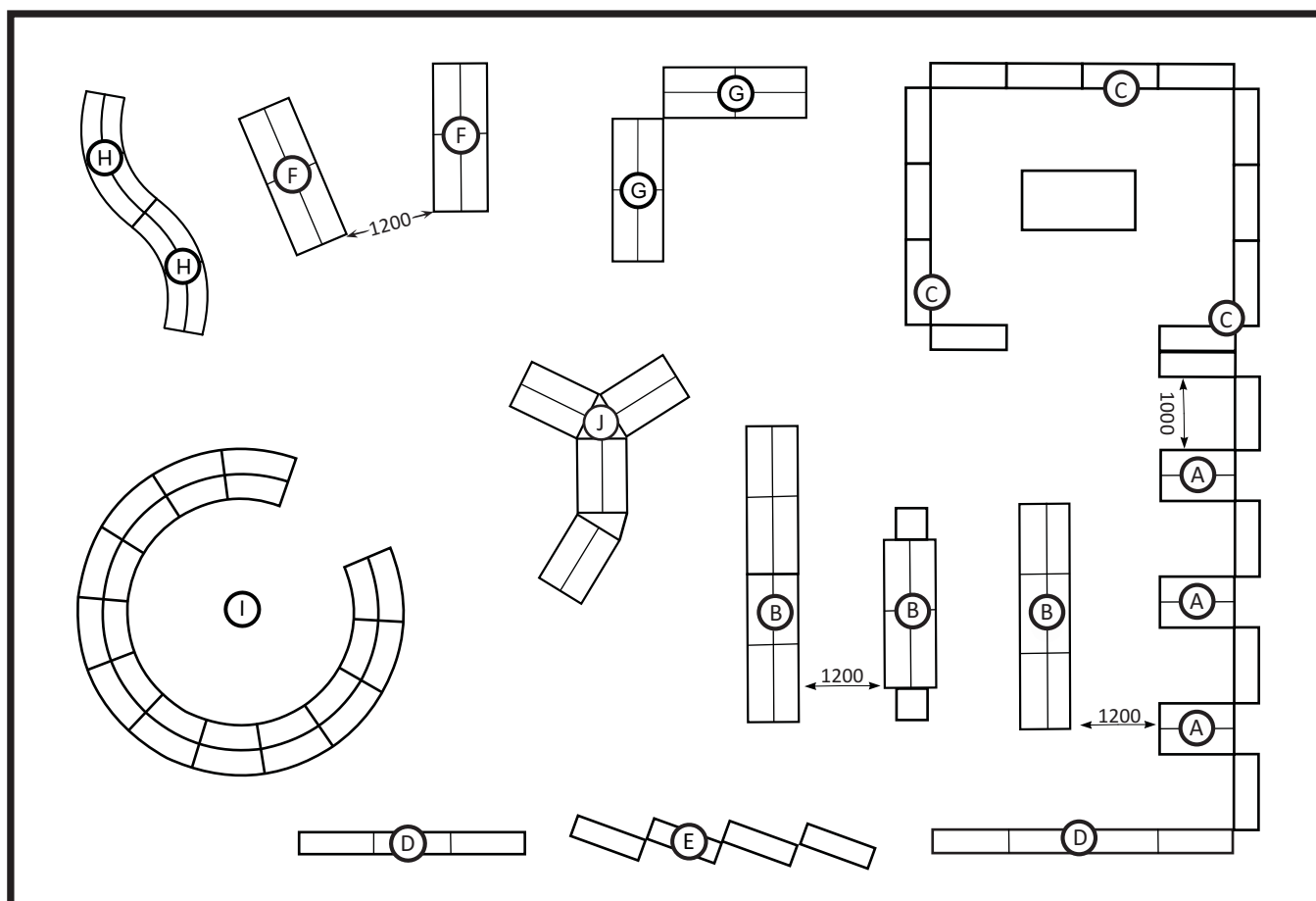**A: Comb-like**   **D: In Line**   **G: L-Shaped**

B: Block Rows   **E: Diagonally Stepped** **H & I: Curved**

C: Wall Mounted Perimeter **F: Fan**   **J: Cluster**

Shelving - Accessories

Accessories

A wide range of accessories are available to ensure Eclipse Classic Shelving delivers the highest level of functionality. Eclipse Classic Library Shelving comes in a comprehensive range of sizes that can accommodate all your large, diverse and constantly changing collections.

Canopy Brackets to suit Steel and Wood Canopies

30° Face out display shelves, available 250 & 300mm high.

Picture Book Tubs with removable dividers, available 250 & 300mm deep

Posts, available single or double sided, 1200, 1500, 1800 & 2150 high as standard, other heights available in 25mm increments

150Kg capacity Twin casters with brake accessible from standing position

660mm Deep Double Sided Canopy (Single Sided is 360mm Deep)

Bag Hanging Rail

Upturned back shelves, 90Kg capacity, Available 200, 250 & 300mm deep (Pictured with accessory roll out reference shelf)

Flick Thru DVD & CD shelves

DVD & CD tub with adjustable dividers

1,2 & 3 tier magazine shelves

Zig Zag Displayer

"L" Shaped Bookend

30° Face out display shelves, available 250 & 300mm high.

Divided 300mm deep shelves with adjustable dividers

15° Upturned Base Shelf, 300mm deep with 100mm high back

Adjustable Feet

Kick Plate

Shelving - Accessories

Curved Steel Shelves

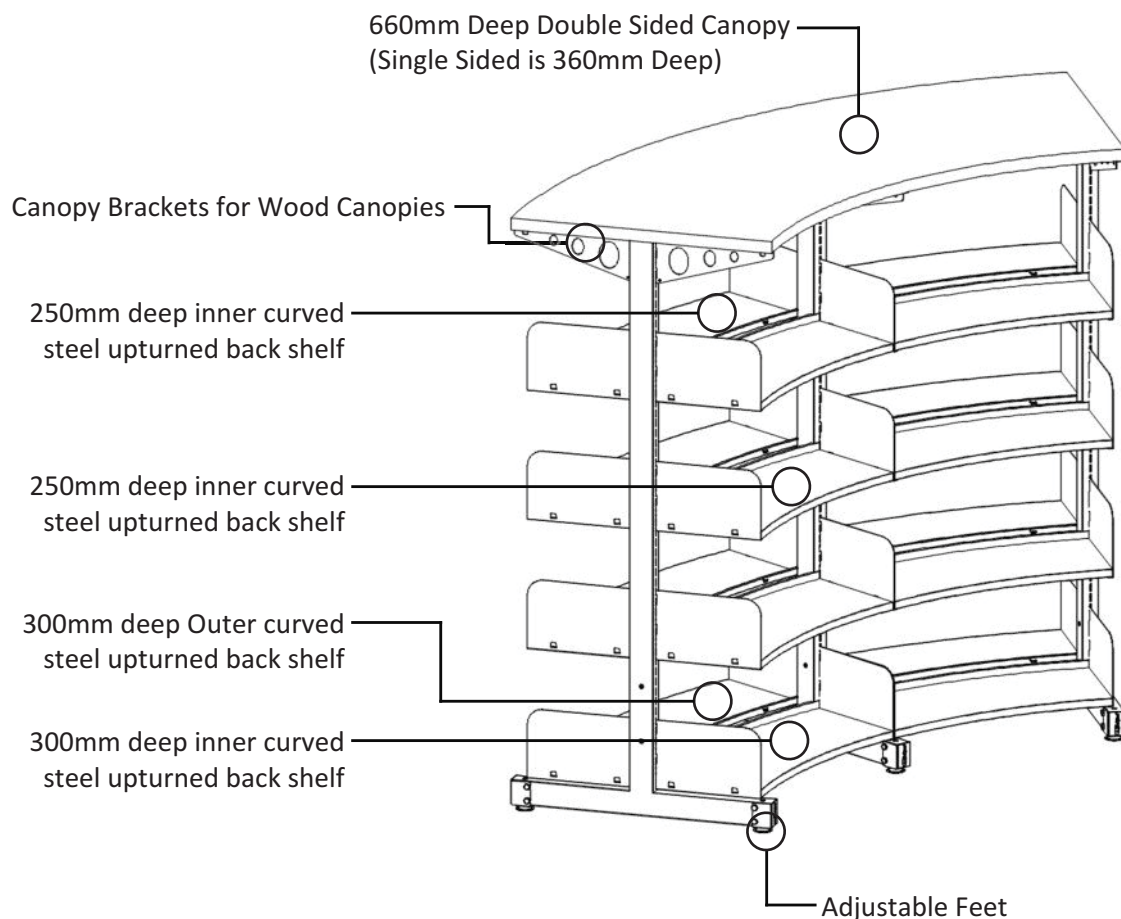Eclipse Classic Shelving is also available with curved steel upright back shelves. Libraries are typically furnished with straight rows of shelving that organise the space in a hard rectilinear grid. There is an abrupt delineation between these structured spaces and the more open communal areas of the library: the entryways and the sitting and service areas.

If libraries are to compete for their customers against other institutional and commercial attractions their interior furnishing has a part to play to enhance the library experience.

Our curved steel library shelving is a response the structure of the straight and enclosing shelf systems.

It innovates in a number of ways. The curves can be arranged in a number of different ways to soften the appearance and access to the books. The shelving is see-through as unlike curved Melamine shelving, there are no back panels in the construction.

This allows better light and sight lines and better interaction between library users.

660mm Deep Double Sided Canopy
(Single Sided is 360mm Deep)

Canopy Brackets for Wood Canopies

250mm deep inner curved
steel upturned back shelf

250mm deep inner curved
steel upturned back shelf

300mm deep Outer curved
steel upturned back shelf

300mm deep inner curved
steel upturned back shelf

Adjustable Feet
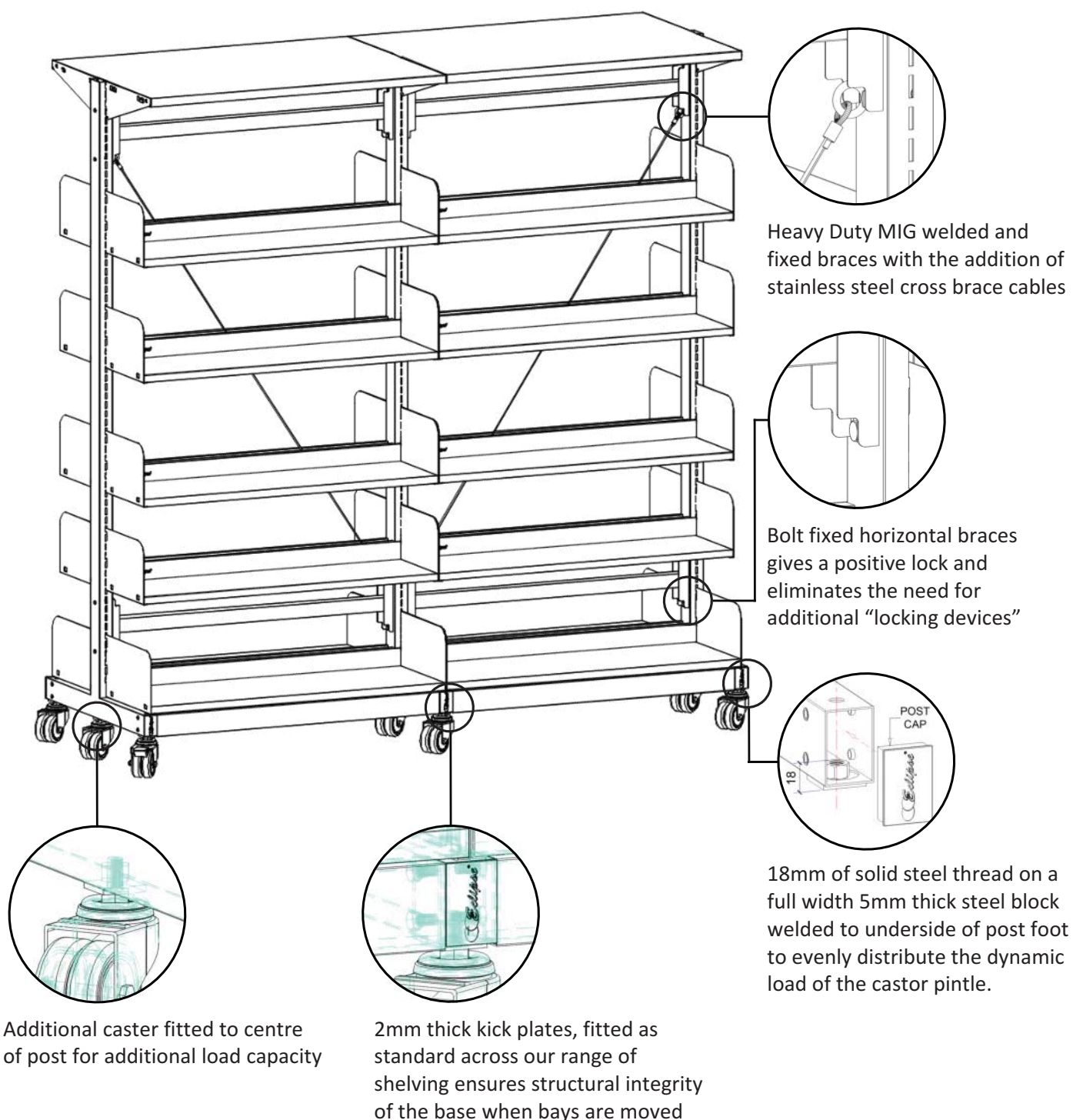
Mobile Bays - with posts up to 1500mm high

Eclipse Classic library shelving can be mounted on our 75mm twin heavy duty castors to give you a mobile solution. We have built a lot of extra features into our standard posts and Horizontal braces to ensure a durable mobile solution for shelving up to 2.3 metres high!

These extra features also allow you to retrofit castors at a later date without the need to add or change any other parts to the shelving, just add the castors. Our standard shelving comes with heavy duty horizontal braces and kick plates. All posts have 18mm of cut thread blocks welded to the base of the posts to deal with the dynamic stress loads of pivoting castors and the weight of the shelving. Always consider (OHS) Occupational Health and Safety when moving loaded bays. Please refer to the section in the back of this design manual "Moving a Mobile Shelving Unit".

Heavy Duty MIG welded and fixed braces

Bolt fixed horizontal braces gives a positive lock and eliminates the need for additional "locking devices"

18mm of solid steel thread on a full width 5mm thick steel block welded to underside of post foot to evenly distribute the dynamic load of the castor pintle.

POST CAP

150Kg capacity twin castors distribute the weight of the shelving to a larger surface area of the floor.
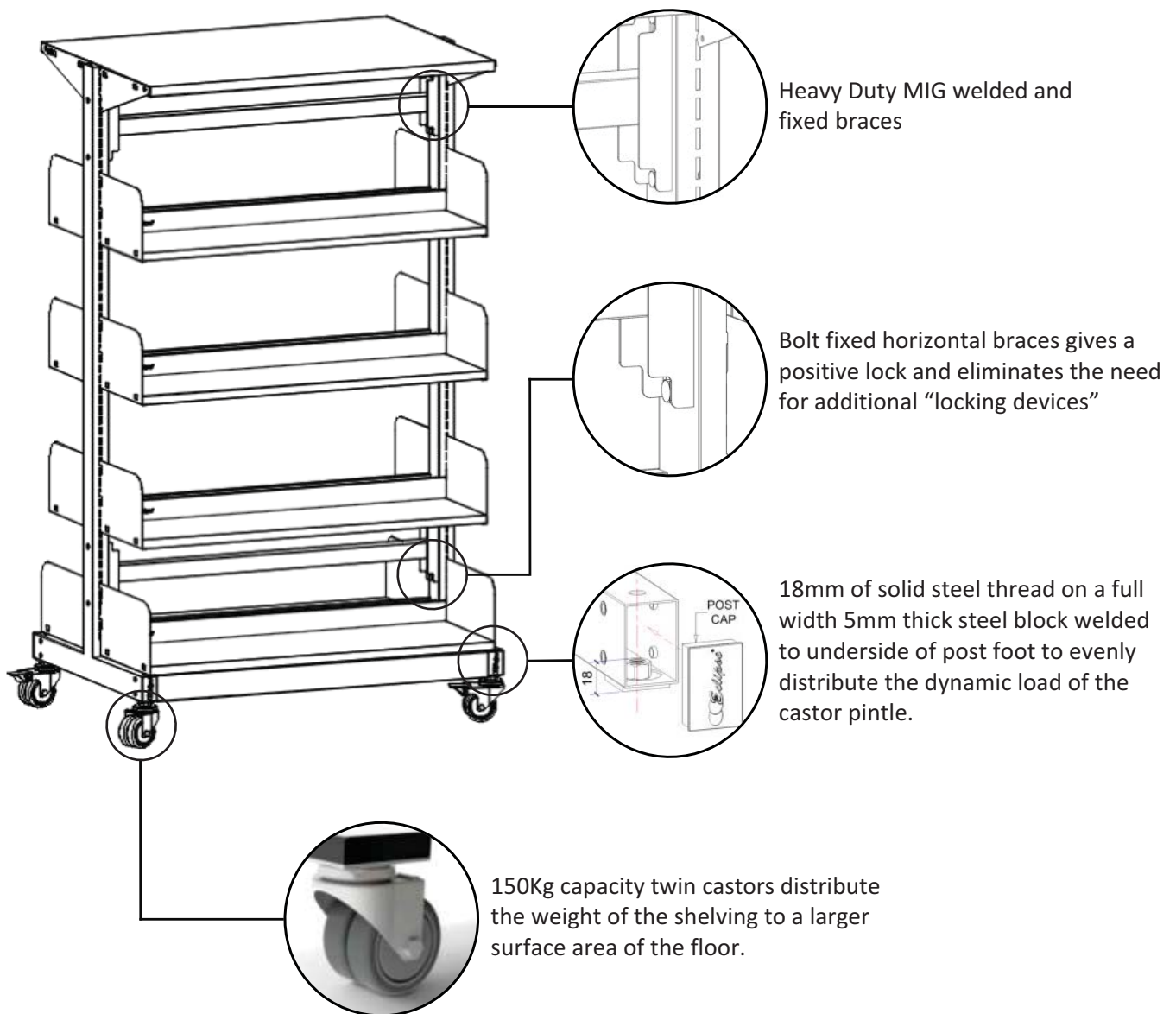
Mobile Bays - with posts up to 2300mm high

Eclipse Classic library shelving can be configured as mobile units with up to 2300mm high posts. With the addition of our optional stainless steel cross bracing cables as well as an extra 75mm twin heavy duty castors to each post, we can offer you a tall mobile solution. Tall mobile shelving can be very heavy when fully loaded, always consider (OHS) Occupational Health and Safety when moving loaded bays. Please refer to the section in the back of this design manual "Moving a Mobile Shelving Unit". We recommend that tall mobile shelving be no more than 2 bays in length. Longer runs of shelving can be achieved by placing multiple units end to end.

Heavy Duty MIG welded and fixed braces with the addition of stainless steel cross brace cables

Bolt fixed horizontal braces gives a positive lock and eliminates the need for additional "locking devices"

18mm of solid steel thread on a full width 5mm thick steel block welded to underside of post foot to evenly distribute the dynamic load of the castor pintle.

Additional caster fitted to centre of post for additional load capacity

2mm thick kick plates, fitted as standard across our range of shelving ensures structural integrity of the base when bays are moved
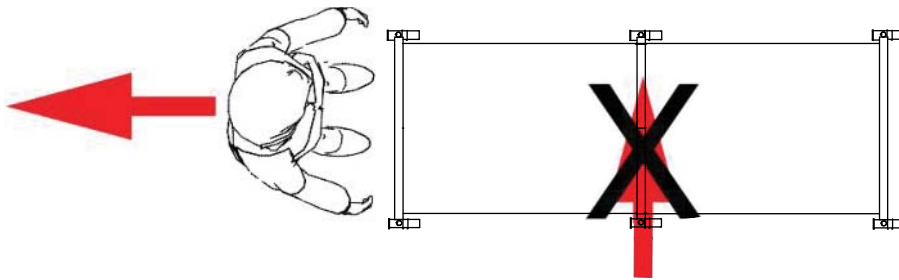
Moving a Mobile Shelving Unit

Moving a shelving unit on castors must be done with extreme caution and by two people. A typical loaded 2 bay shelving unit (<1600H) can have a total weight of up to 400 kg and 1600 - 2300mmH up to 1400 Kg.
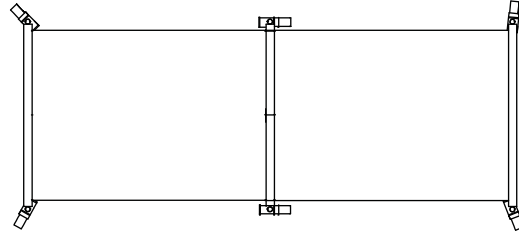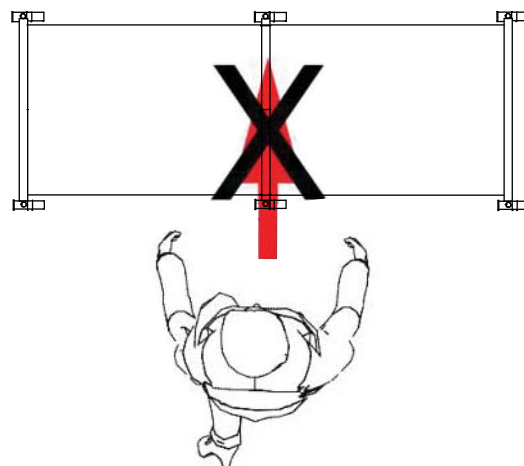

Before you start to move the unit, ensure that all castors are standing in the same direction and are not set on the brake position.

First, grip the unit at the end panel. Drag it towards you until all castors stand in the same direction.
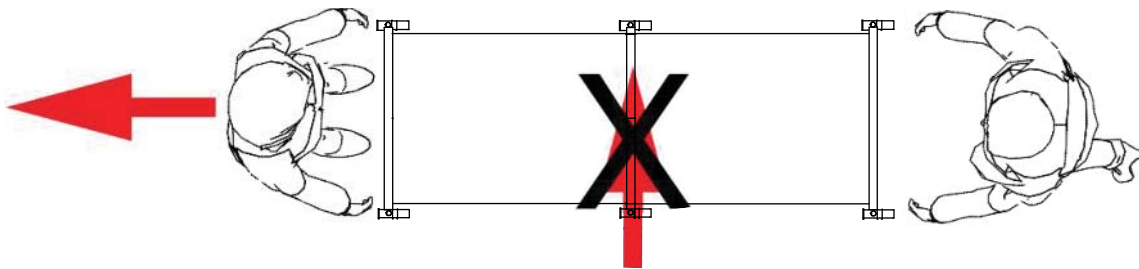
Now the second person can help by gently pushing from the opposite side of the unit

IMPORTANT! Never try to move a shelving unit by pushing it from the long side, as this may cause it to tip over and fall.

Shelving - Assembly

1 Lay out the posts (1), screw the 4 tie strut bolts (2a) into each post ½ way. Stand the first post up and clip the keyholes of the Tie Strut (2) over the bolt heads. Stand the second post up and repeat. Tighten the bolts by hand.

2 Screw the 4 kick plate bolts (3a) into each post ½ way. Push the kick plates into position between the posts and tighten bolts by hand.

3 Add the required number of posts (1) to make up the desired run of shelving bays, fitting the tie struts and kick plates between them as described above.

4 Adjust the levelling feet (4) through the hole in the top of post legs if required using the spirit level to check the posts.

**5** Tighten all bolts with a 14mm flat spanner or use a battery drill.

6 The shelf brackets (5) can now be added. There are many kinds of shelf brackets depending on the type of shelf used. The brackets are left and right handed. Ensure the locking lugs are facing towards each other (inwards).

7 Attach the canopy brackets (7) if canopies are to be installed.

8 Place the shelves (6) and canopy (8) into their brackets ensuring that they are pushed down into the locking lugs.

CLASSIC FREE STANDING DOUBLE SIDED BAY ASSEMBLY INSTRUCTIONS

18
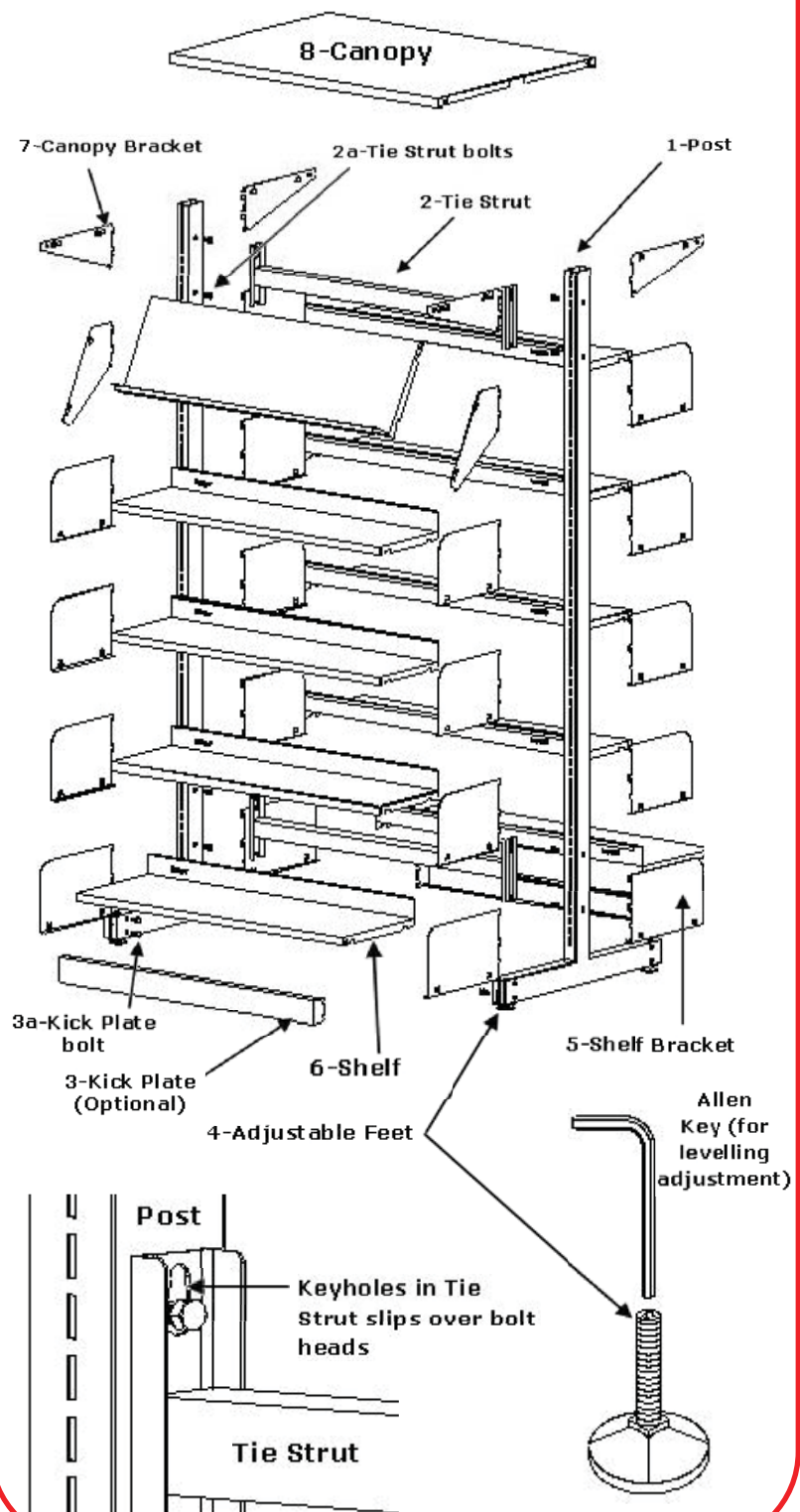
Eclipse® Environmental Policy

Eclipse recognises, like all organisations, that its business activities, products and services impact on the environment. As a result we are committed to managing any action that could potentially harm the environment in a responsible and effective way.

From the earliest development and design stages, environmental concerns are at the forefront of our thinking. This means striving now and in the future to:

• seek to comply with all relevant environmental legislation and other requirements

• use as few components as possible;

• use materials that are environmentally sound;

• make economical use of these materials;

• use effective production methods;

• use recyclable packing; and

• keep our transport emissions low.

Our products are designed to be high quality and long-lasting.

Environmental Management Standards Eclipse Commercial Furniture meets the requirements of the ISO 14001 standard. Our suppliers also work to the same standard.

Materials
We use the following standard materials:

• FSC timber from replanted forests;

• E0 Particle boards;

• Zero VOC powder-coated steel; and

We use no other materials that are environmentally unsustainable.

Reuse and Recycle
All the components that we use in our products are recyclable.
They are also easily re-purposed because our library systems can be built up in different ways, individual components can be adapted and reused.

Transport
We use shared transport with forwarders, to make better use of transport capacity.
Locally, our suppliers are concentrated in a small area and we use low emission transport vehicles.

Packaging
The packaging that we use to deliver our product is reusable and recyclable.

Some other products available from us..

Bayend Panels

A full range of Education Furniture

Soft Seating and Chairs

Display Furniture

www.accessoffice.com.au   Ph: (08) 9493 3776 or 1800 509 499 Email: sales@accessoffice.com.au

Intertek
Valued Quality. Delivered.

Our library shelving is certified to:
- Australian Standard AS2273
- GECA standard 28-2010 v2.1, Furniture and Fittings and Foam

ENVIRONMENTAL CHOICE AUSTRALIA
AOI-2014
GECA 28-2010 v2.2
Furniture, Fittings and Foam

SGS Lic: AU11/3889
As an environmentally responsible company we are proud of our ISO 14001 certification.