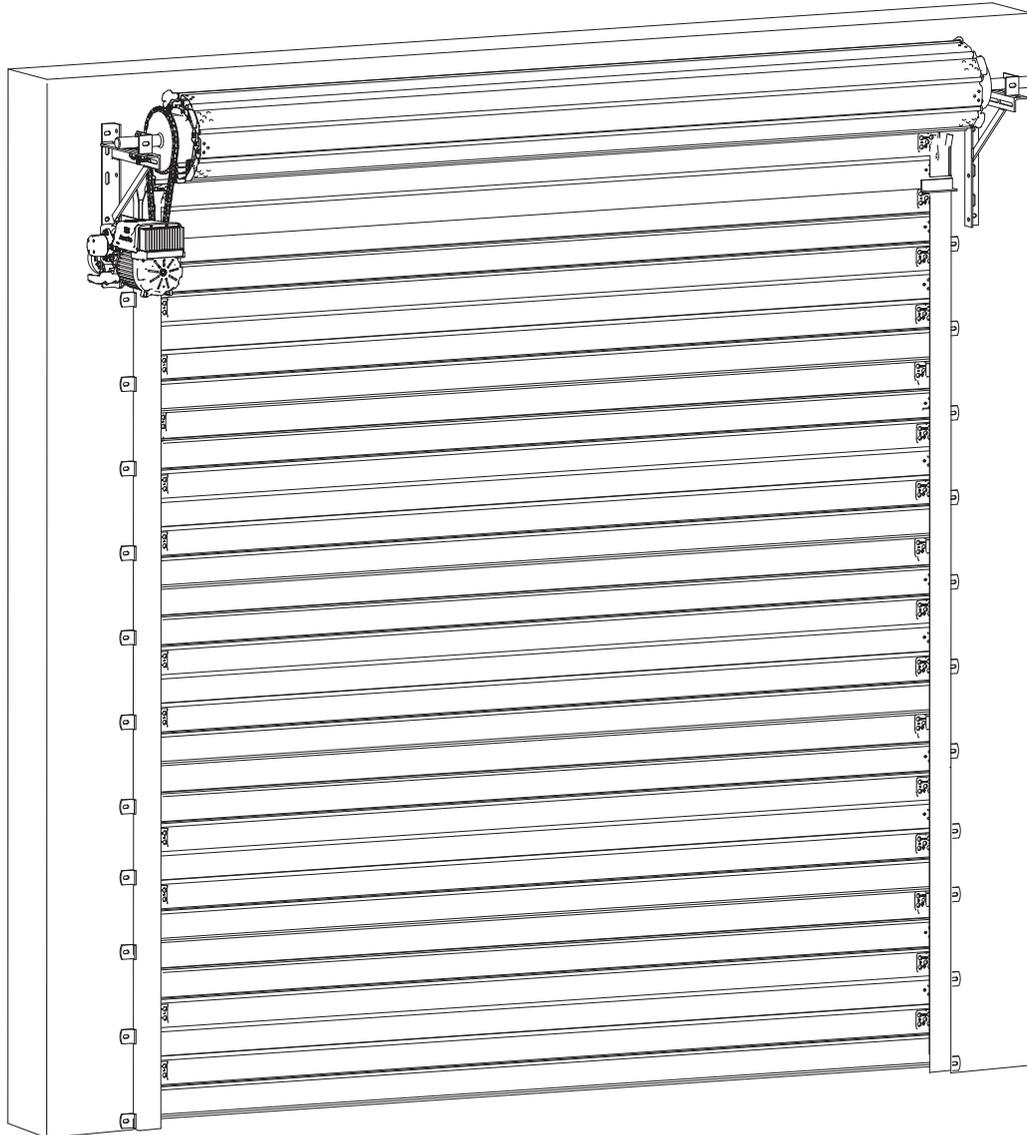


b&d

Roll-A-Shutter®

Steel Sprung 6, 8 & 10/100 Series
installation instructions



These instructions are intended for professional garage door installers. All references are taken from inside looking out.

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www.bnd.com.au

b&d

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1.0 before you start

1.1 installation safety warnings

This B&D Roll-A-Shutter is designed and tested to provide security, attractive appearance and smooth, low effort operation provided it is installed and operated in strict accordance with the following safety warnings. Failure to comply with the following instructions may result in death, serious personal injury or property damage.

NOTE: No guarantee will be given or responsibility accepted by the manufacturers if the door is not installed as instructed.



WARNING!

Crush injury from unsecured door

Tension Springs

- Place a 2 metre exclusion zone around area under the garage opening while installing shutter. If sufficient area is not available DO NOT install shutter.
- Do not move under a shutter while it is on the lifting device.
- Follow the installation instructions.
- Fit lifting device snugly under shutter before lifting.
- Ensure lifting device is on flat ground.
- Ensure the drum is immediately fastened to the bracket with bearings provided.
- Ensure no-one walks under a shutter sitting on brackets.
- Ensure shutter is correctly secured at all times when making adjustments.
- Ensure the correct length pipe wrench is utilised.
- Ensure that pipe wrench is fitted correctly to the axle and if it is gripped onto the axle do not underestimate the tension in the spring when undoing the clamps.
- Ensure correct bolts are tightened or loosened to ensure there is no release or controlled release of energy from the spring through the pipe wrench.
- Keep head clear of the pipe wrench at all times.



ELECTROCUTION!

- Check risk assessment for any highlighted electrical power concerns.
- Ensure power source is isolated prior to commencement of job.
- Turn off electricity to site when necessary.
- Wear rubber soled footwear.



LACERATION:

- Wear appropriate PPE (Dyneema cut off gloves) and keep hands well clear of pinch points.
- Follow instructions explicitly, particularly for the installation of some parts of the doors, as the unrolled cut out edges presents a very sharp edge.



CAUTION:

Muscular strain

Fall from boom lift

Hand Tools

Entanglement

- Practice correct lifting techniques when required to lift the door.
- Use mechanical aids such as lifting devices, forklift and cranes where possible.
- Avoid twisting.
- Use correct technique of knotted rope installation aids.
- Ensure boom lift is the correct type for job.
- Ensure boom lift is on flat firm ground that will take the weight without the structure sinking.
- Ensure user is connected by harness while on boom lift.
- Do not work outside of the boom lift cage.
- Wear appropriate PPE and utilise operators manual of all tools.
- Use appropriate noise/hearing protection in the form of ear plugs or ear muffs.
- Ensure appropriate fire protection available and housekeeping to ensure that flammable liquids or materials are removed from the area of work.
- Keep hands and loose clothing clear of moving shutte and guides at all times.
- With the use of a mechanical aid this product requires a two person lift to raise onto the brackets. Use proper techniques and equipment to lift the shutter from the trailer and up onto brackets.



TWO PERSON LIFT:

1.2 substrate fastener recommendations

WARNING! The installer must select and use fasteners appropriate to the material into which they are being fixed.

WARNING! Refer to the weight label on the packaging or the B&D Product Guide to ensure the selected fastener is appropriate.

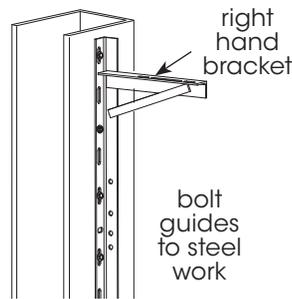
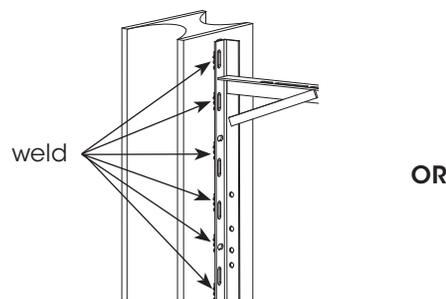
important notes

- a) For installation to materials not covered in the chart, the installer should seek expert advice from a qualified builder.
- b) Minimum length of fastener does not exclude use of longer lengths. Decision must be made by fitter to ensure adequate strength.

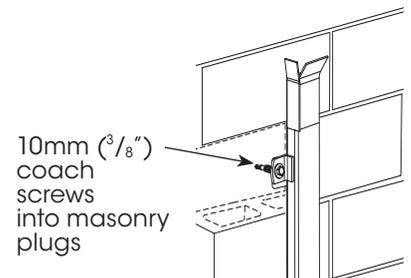
material	fastener type(s)	diameter or type		length of fastener (see note)	BKT	GUIDE
New Hollow Brick (core filled)	HRD-VGK or HGK-VGS (Hex Head) Frame Anchors	10mm	x	60mm	•	•
	Screw masonry (flange hex head)	8mm	x	75mm	•	•
	Screw masonry (flange hex head)	10mm	x	75mm	•	•
New Solid Concrete	Coach Bolts (Hex Lag Screw) - combined with wall plugs	5/16"	x	1½"		•
		3/8"	x	2"	•	•
	Macplugs (wall plugs) to suit above	5/16"	x	50mm		•
		3/8"	x	60mm	•	•
	HLC Sleeve Anchors (Dyna Bolts)	12mm	x	55mm	•	
Screw masonry (flange hex head)	8mm	x	75mm	•	•	
	10mm	x	75mm	•	•	
Steel Framing e.g. BHP Framing (with rear access)	Hex Head Bolt Zinc Plated, Hexagon Nuts Zinc Plated, Washers Zinc Plated	5/16"	x	1"		•
		3/8"	x	1"	•	•
		10mm	x	25mm	•	•
		12mm	x	25mm	•	
Heavy Gauge Steel	Hex Head Tek	14-20	x	22mm	•	•

- c) Recommendations for old materials or materials not in good condition are not included. If in doubt about the strength of the material seek specialist advice.
- d) Fasteners for brackets in masonry should be at least 5/16" x 2.5" long or metric equivalent.

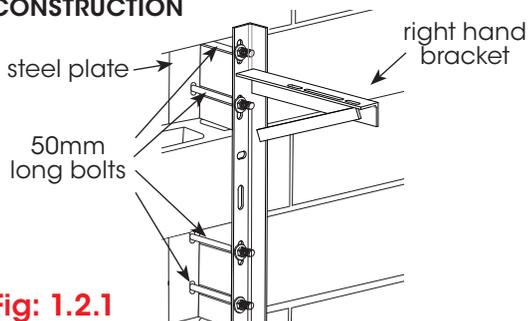
STEEL CONSTRUCTION



SECURE GUIDE



MASONRY BLOCK CONSTRUCTION



WARNING! Masonry blockwork should be properly filled and reinforced if brackets are to be mounted directly to blockwork with masonry anchors. Where the blockwork is not solidly filled but structurally sound, long bolts should be passed through the blockwork using suitable steel plates under bolt heads. Special consideration should be given to brick type and construction of wall, to ensure satisfactory fixing e.g. welding detail if fixed to steel.

Fig: 1.2.1



1.3 preparation



WARNING! If you need to remove an old shutter prior to installing a B&D shutter ensure to:

- Roll the curtain up and secure curtain around the middle.
- Use correct lifting techniques and machinery.
- Fit machinery snugly under shutter before loosening the brackets or locating U bolts.
- Slowly undo bolts to release the spring tension and the shutter from the brackets.
- Slowly lift the shutter from the brackets keeping it balanced as it is lowered to the ground.

1.4 before installation

1.4.1 requirements

mounting - The shutter is designed to be mounted behind the opening.

obstructions - Ensure that the surface where the shutter will be fitted is flush and smooth, and the area behind the opening is free from any protrusions.

structural suitability - Ensure the opening is strong enough to support the shutter. If unsure, consult a builder.

level and plumb - The shutter must be installed in an absolutely level position, if opening is not level and square, appearance and/or sideroom requirements will be affected. The floor should be level or recessed across the opening to avoid gaps.

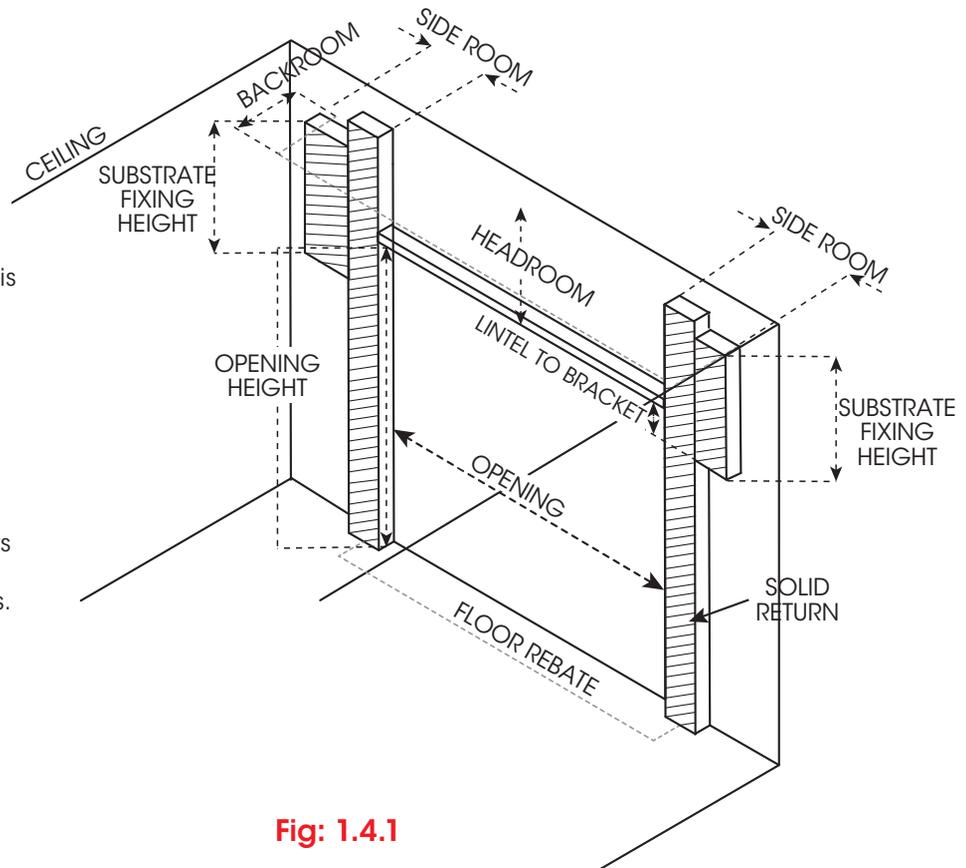


Fig: 1.4.1

1.4.2 measurements

opening width - Check the width of the curtain with the width of the opening and ensure that when the fixing holes in the curtain are lined up with the fixing studs on the drum, the curtain overlaps on each side of the opening by 70mm, therefore shutter curtain, including clips should be 140mm wider. **(Fig 1.4.1)** Position the drum in front of the opening so that the drum tube (excluding the gear wheel) is exactly in the centre of the opening.

opening height - The shutter opening height indicates the distance between the ground and rubber seal at the bottom of the shutter, with shutter fully open.

headroom - A minimum headroom is required for all shutters. Refer to **Fig 1.4.3 - 1.4.4** for measurements. If the shutter is installed lower into the opening than shown in Fig 1.4.2, additional loss of shutter opening height will result.

backroom - A minimum backroom is required for all shutters. Refer to **Fig 1.4.3 - 1.4.4** for measurements. Extra room would be required for installing large shutters.

side room - The minimum required sideroom for shutters is dependent on the drive mechanism installed and whether the shutter has windlock guides. The measurement must extend beyond the top of the opening to provide fixing for the support brackets. Refer to **Fig 1.4.3 - 1.4.4** for measurements.

1.4.3 parts checklist

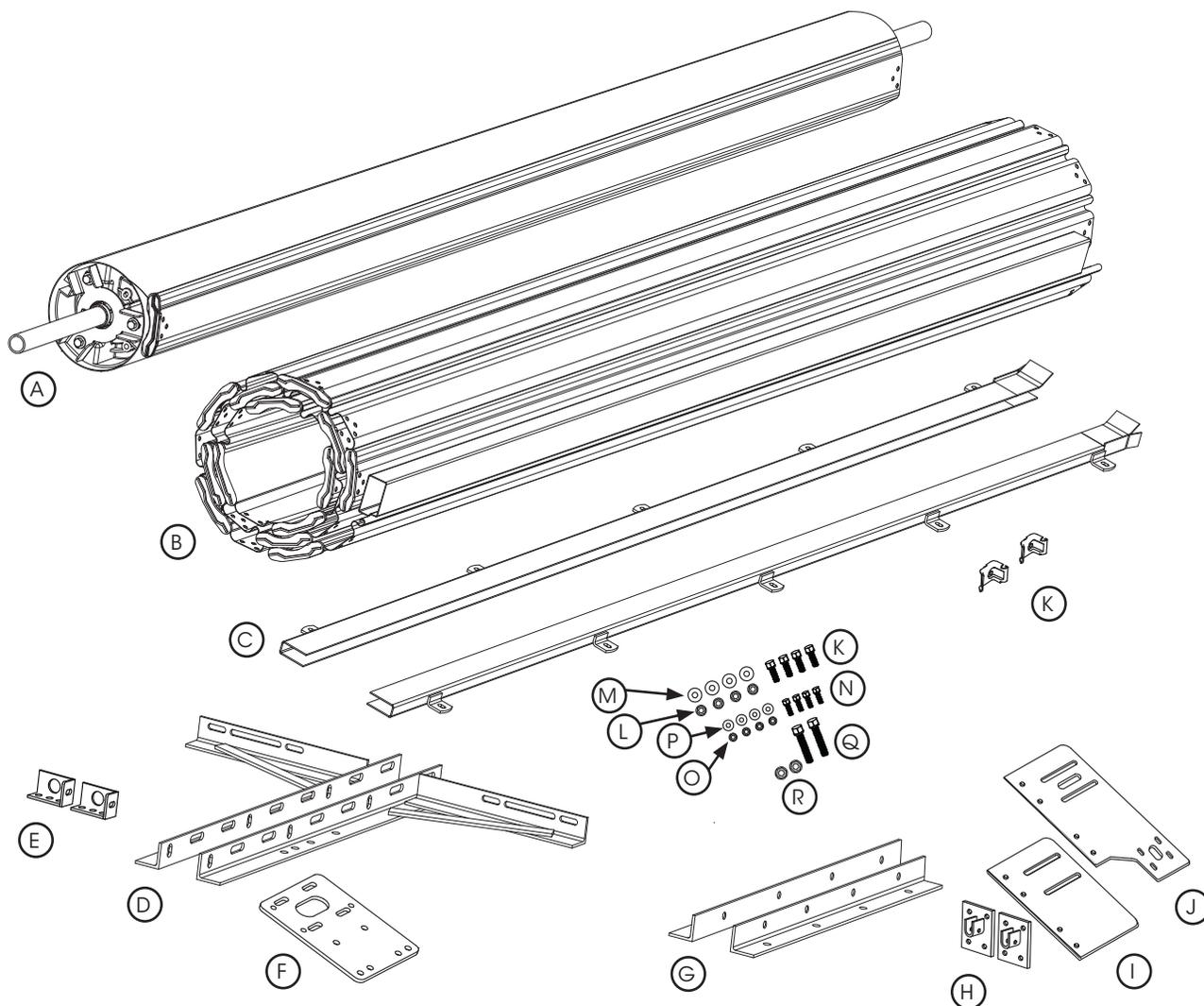


Fig: 1.4.2

ROLL-A-SHUTTER		RAS	RAS HD
ITEM	DESCRIPTION	QTY	QTY
A	STEEL SPRUNG DRUM	1	1
B	STEEL CURTAIN WITH CLIPS	1	1
C	SHUTTER GUIDES LEFT AND RIGHT HANDED	2	2
MOUNTING KITS			
D	LONG BRACKETS, LEFT AND RIGHT HANDED	2	
E	AXLE BRACKETS	2	
F	OPENER MOUNTING PLATE	1	
OR			
G	BRACKETS, LEFT AND RIGHT HANDED		2
H	AXLE BRACKETS		2
I	MOUNTING PLATE (PLAIN SIDE)		1
J	OPENER MOUNTING PLATE		1

ROLL-A-SHUTTER		RAS	RAS HD
ITEM	DESCRIPTION	QTY	QTY
SMALL PARTS BAG CONTAINING			
J	BOTTOM RAIL STOPS AND SCREWS	2	2
K	BOLT HEX HD ZP	2	4
L	NUT ST ZP	2	4
M	WASHER FLAT ZP	2	4
N	BOLT HEX HD ZP SMALL	2	4
O	NUT ST ZP SMALL	2	4
P	WASHER FLAT ZP SMALL	2	4
Q	AXLE BOLT	2	2
R	AXLE BOLT NUT	2	2



1.4.4 measurements steel sprung

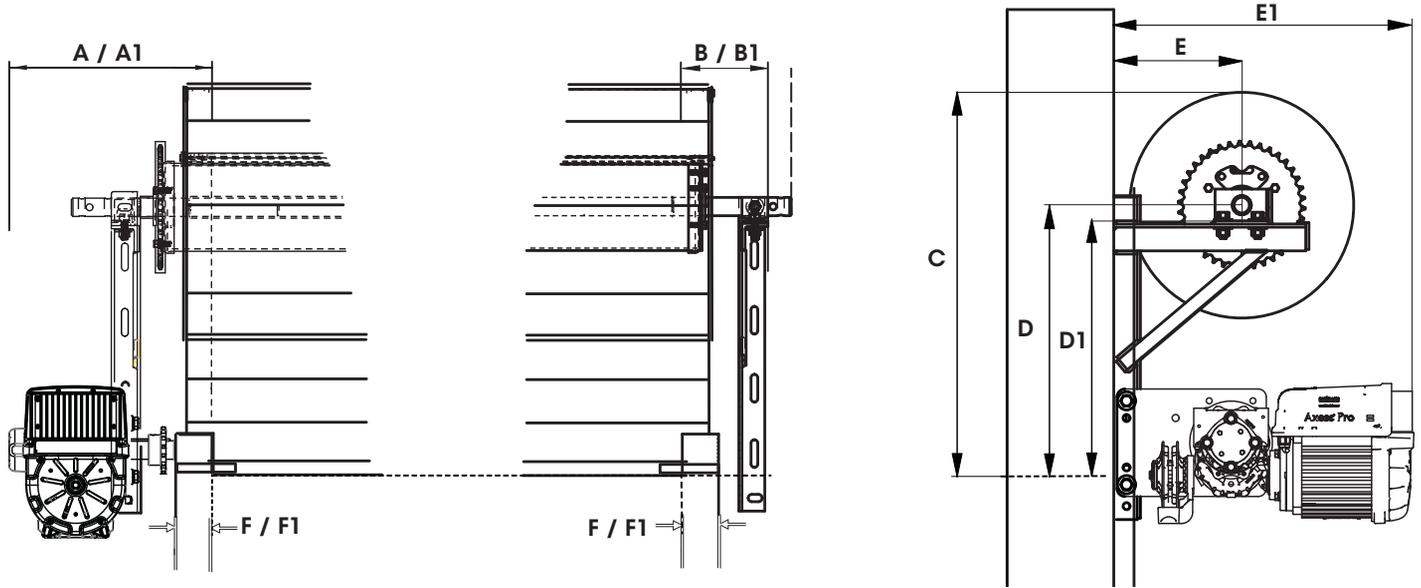


Fig: 1.4.3

dimension table

Door Model Code	Door height (mm)	Door width (mm)	Drum Size	Minimum Sideroom Opener Side		Minimum Sideroom Plain Side		Recommended Headroom	Axle to Lintel	Lintel to Bracket	Recommended Backroom		Width of Guide		
				W/L	Non W/L	W/L	Non W/L	Bundle to lintel			Axle to Wall	Opener	W/L	Non W/L	
				A	A1	B	B1	C	D	D1	E	E1	F	F1	
RAS 6/100	up to 3000	4301 - 6000	6"					590	395	370	225				
	3001 - 3900							630	415	390	245				
	3901 - 5100							650	425	400	255				
	5101 - 6000							692	446	421	276				
RAS 8/100	up to 3000	up to 6000	6"	400	380	260	240	590	395	370	225	700	90	77	
	3001 - 3900							630	415	390	245				
	3901 - 5100							650	425	400	255				
	5101 - 6000							692	446	421	276				
RAS 10/100	up to 2400			6"					580	390	365	220			
	2401 - 4200								640	420	395	250			
	4201 - 5400			660					430	405	260				
	5401 - 6000			692					446	421	276				



1.4.5 measurements steel sprung with heavy plate brackets

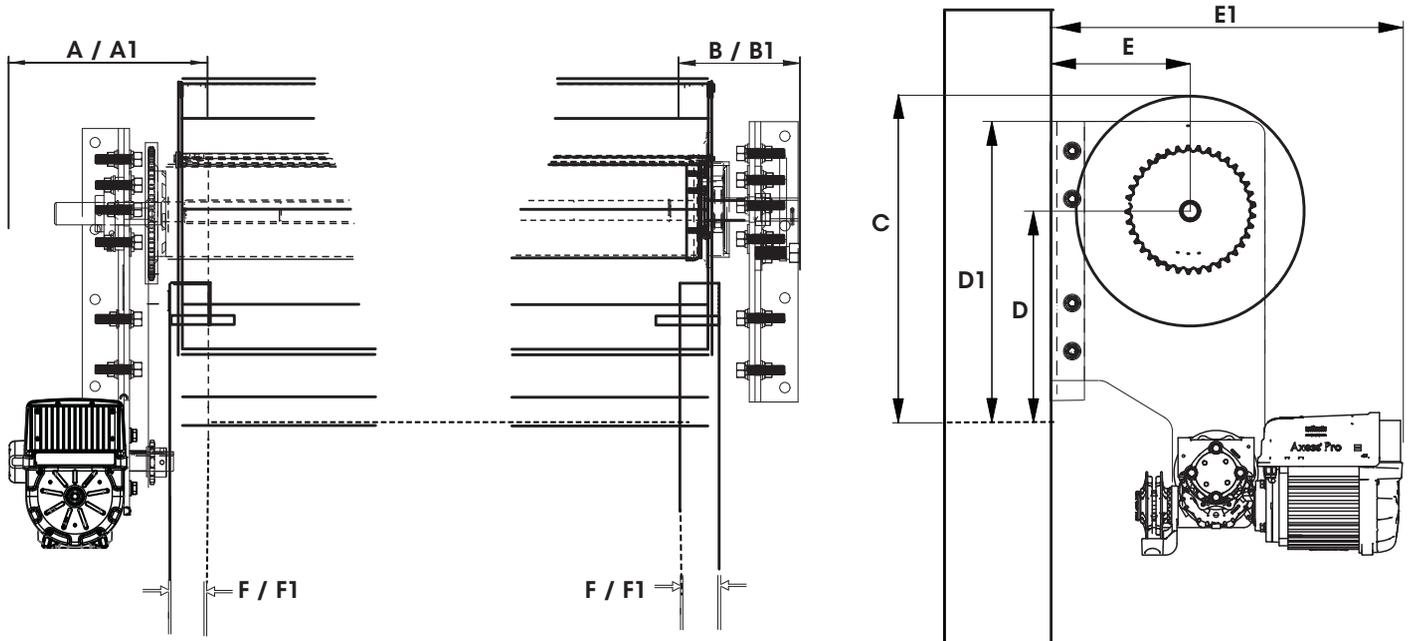


Fig: 1.4.4

dimension table

Door Model Code	Door height (mm)	Door width (mm)	Drum Size	Minimum Sideroom Opener Side		Minimum Sideroom Plain Side		Recommended Headroom	Axle to Lintel	Lintel to Bracket	Recommended Backroom		Width of Guide	
				W/L	Non W/L	W/L	Non W/L				Bundle to lintel	Axle to Wall	Opener	W/L
				A	A1	B	B1	C	D	D1	E	E1	F	F1
RAS 6/100	up to 3000	4301 - 9000	6"	381	361	245	225	590	395	547	225	700	90	77
	3001 - 3900	4301 - 8500						630	415	567	245			
	3901 - 5100	4301 - 8000						650	425	577	255			
	5101 - 6500	4301 - 7500						692	446	598	276			
	6501 - 6800	5405 - 7000						706	453	605	283			
RAS 8/100	up to 3000	up to 9000	6"	381	361	245	225	590	395	547	225	700	90	77
	3001 - 3900	up to 8500						630	415	567	245			
	3901 - 5100	up to 8000						650	425	577	255			
	5101 - 6500	up to 7500						692	446	598	276			
	6501 - 6800	5405 - 7000						706	453	605	283			
RAS 10/100	up to 3000	up to 10000	6"	381	361	245	225	580	390	542	220	700	90	77
	3001 - 3900	up to 9000						640	420	572	250			
	3901 - 5100	up to 8500						660	430	582	260			
	5101 - 6500	up to 8000						692	446	598	276			
	6501 - 6800	5405 - 7500						706	453	605	283			



1.5 tools and equipment

The following tools are needed to install Roll-A-Shutter® 6, 8, & 10/100 Series.

- personal safety equipment
- comprehensive tool kit
- selected electric tools
- magnetic drill press
- electric welder
- lifting straps
- heavy duty rope
- scissor lift
- forklift
- crane
- chain blocks
- spring tensioning bars

1.6 specifications

Description	Type Name	Industrial Steel Slat Type Shutter					
		6/100		8/100		10/100	
Model code		RAS		RAS		RAS	
		Min	Max	Min	Max	Min	Max
Door Height		900	6000	900	6000	900	10000
Door Width		900	7000	900	7000	900	12000
SHUTTER							
Slat thickness		0.6mm		0.8mm		1.0mm	
Minimum shutter overlap each side		70mm		70mm		70mm	
Axle overlap on each side		350mm		350mm		350mm	
Drum Type	with chain OR opener	168mm		168mm		168mm	
Operation	Chain geared (below 25sqm)	•		•		•	
	optional motor	•		•		•	
Bottom Rails	Aluminium T section	•		•		•	
	Weatherseal	included		included		included	
	Box section	optional		optional		standard < 7000m(W)	
SLAT CONFIGURATION							
Solid		•		•		•	
Slotted 19 x 101mm (13%)		•		•		•	
Slotted 32mm Round (14.5%)		•		•		•	
GUIDES							
Steel Channel, Galvanised 2.0mm steel, depth 77mm		•		•		•	
LOCKS							
External Bottom rail		Shoot Bolt		Shoot Bolt		Shoot Bolt	
Internal & External slide bolts		•		•			
Optional Extras							
Door Opener		Axess Pro		Axess Pro		Axess Pro	
Fixed or independent tapers		10mm	160mm	10mm	160mm	10mm	160mm
High Wind Option		•		•		•	
Mullions		•		•		•	

1.7 mounting weights

Due to the considerable variation in door weights, weights shown are intended to be used for guidance only and not taken as exact figures. Intermediate sizes can be approximated from the sizes listed.



WARNING! Weight information supplied is for installer to utilize correct lifting equipment. Failure to used correct equipment may result in death or damage to property.

all weight shown in kilograms

6/100

height	width											
	2500		3000		4000		5000		7000		9000	
	CW	DW	CW	DW								
2500	78	82.2	89.9	159	119.7	212	149.6	265	209.3	371	268.9	477
3000	85.6	132.5	120	104.2	137.1	212	171.2	265	239.6	371	307.9	477
4000	107.3	132.5	140	104.2	171.7	212	214.5	265	300.2	371		
5000	128.9	132.5	154.8	159	272.0	206.1	340	257.6	475.8	360.7		
6000	150.6	132.5	180.8	159	317.8	206.1	397.2	257.6	555.9	360.7		
6800									620	360.7		

8/100

height	width											
	2500		3000		4000		5000		7000		9000	
	CW	DW										
2500	113.1	111.7	167.9	102.6	181	178.8	226.2	223.4	329.4	314.7	423.4	404.5
3000	129.5	111.7	183.1	123.3	207.3	178.8	259	223.4	377.4	314.7	485.1	404.5
4000	162.4	111.7	213.9	159	259.9	178.8	324.8	223.4	473.2	314.7		
5000	195.3	111.7	257.2	159	312.5	178.8	390.6	223.4	569.1	314.7		
6000	228.2	111.7	300.5	159	365.1	178.8	456.3	223.4	664.9	314.7		
6800									741.6	314.7		

10/100

height	width											
	2500		3000		4500		7000		8500		10000	
	CW	DW										
2500	139.8	85.5	167.9	102.6	251.4	153.9	463.1	229.8	562.1	279	661.4	328.2
3000	152.5	102.7	183.1	123.3	255.6	238.5	470.7	356.2	571.3	432.5	672.2	508.8
4000	166.6	192	213.9	159	320.5	238.5	590.4	356.2	716.7	432.5		
5000	200.4	192	257.2	159	402.4	208	685	335.4	831.6	407.3		
6000	234.1	192	300.5	159	470.2	208	800.5	335.4				
6800							892.9	335.4				

CW	CURTAIN WEIGHT
DW	DRUM WEIGHT



2.0 installation

2.1 install first bracket

dimension table							
Door Model Code	Door height (mm)	Minimum Sideroom Plain Side				Lintel to Bracket	
		W/L		Non W/L		D1	
		B	B1	B	B1	PB	GSB
RAS 6/100	up to 3000					547	370
	3001 - 3900					567	390
	3901 - 5100					577	400
	5101 - 6000					598	421
	6001 - 6800					605	
RAS 8/100	up to 3000					547	370
	3001 - 3900					567	390
	3901 - 5100	245	260	225	240	577	400
	5101 - 6000					598	421
	6001 - 6800					605	
RAS 10/100	up to 3000					542	365
	3001 - 3900					572	395
	3901 - 5100					582	405
	5101 - 6000					598	421
	6001 - 6800					605	

Fig: 2.1.1

- Locate the mounting brackets and using the above diagrams **Fig 2.1.1, 2.1.2a** or **2.1.2b** for bracket height and sideroom position for the plain end bracket.
- Mark the hole positions using slots of the bracket **Ⓧ** or **Ⓞ**.
- Drill holes, then attach bracket using suitable fasteners as per **1.2 substrate fastener recommendations**.



WARNING! The installer must select and use fasteners appropriate to the material into which they are being fixed.

2.2 install second bracket



CAUTION: The axle must be perfectly level for the shutter to operate.

- Using a laser level or water level, mark the position on the wall for the height D1 from the first bracket for the second bracket as per **Fig 2.2.2**.
- Re-check levels, determine opener end bracket sideroom position as per B or B1 above, then drill and affix with fasteners as with first bracket.

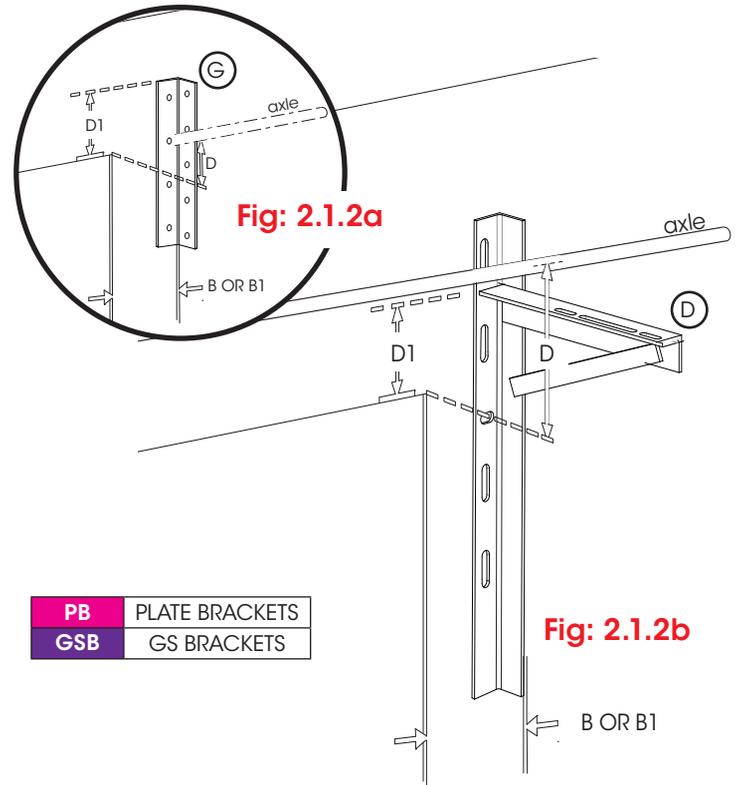


Fig: 2.2.2



2.3 install opener plates

- a) Attach the opener plate (J) or (F) as per Fig 2.3.1a or Fig 2.3.1b using bolts (K), washers (M) and nuts (L) as shown.
- b) For plates brackets, attach the plain side mounting plate (I) in the same manner as the opener plate (J) in fig 2.3.1a

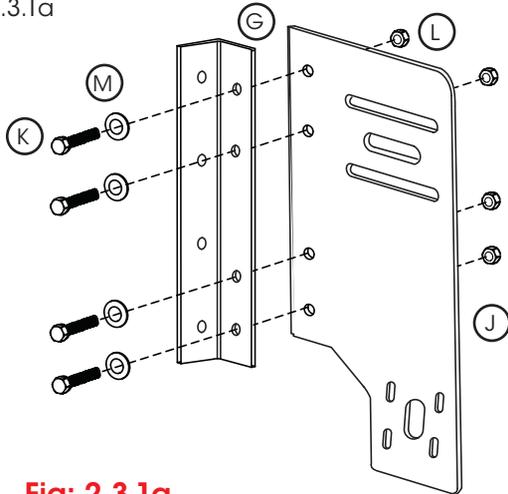


Fig: 2.3.1a

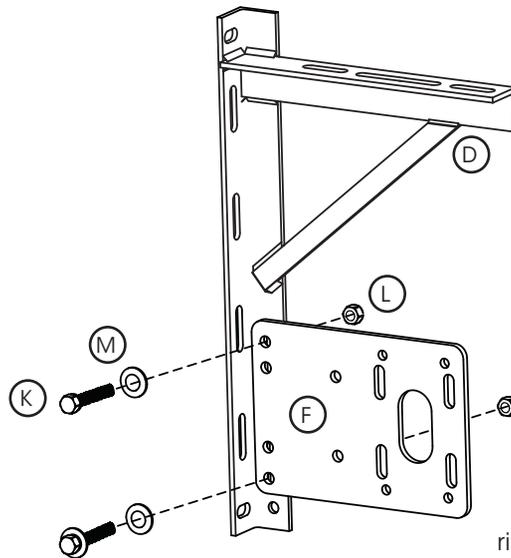


Fig: 2.3.1b

right hand side mounting shown

2.4 position the axle bracket on brackets

- a) Position the axle brackets (H) or (E) onto the brackets as per fig 2.4.1a or 2.4.1b using measurement "E" from the dimension table below to ensure axle is in correct position.
- b) Secure with bolts, washers and nuts as shown and tighten nuts evenly to a torque of 40Nm or 30 ft.lb.
- c) Repeat step a) and b) on second bracket.

dimension table			
Door Model Code	Door height (mm)	E	
		PB	GSB
RAS 6/100	up to 3000	225	225
	3001 - 3900	245	245
	3901 - 5100	255	255
	5101 - 6000	276	276
	6001 - 6800	283	
RAS 8/100	up to 3000	225	225
	3001 - 3900	245	245
	3901 - 5100	255	255
	5101 - 6000	276	276
	6001 - 6800	283	
RAS 10/100	up to 3000	220	220
	3001 - 3900	250	250
	3901 - 5100	260	260
	5101 - 6000	276	276
	6001 - 6800	283	

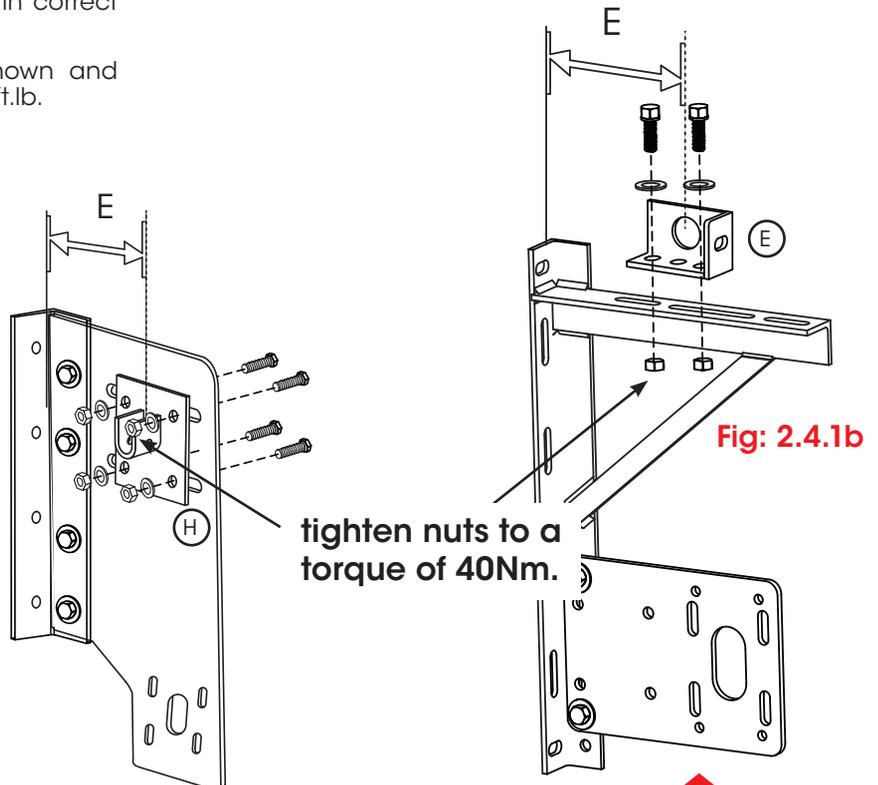


Fig: 2.4.1a

Fig: 2.4.1b



2.5 mounting the drum and curtain

2.5.1 position the drum into axle brackets



TWO PERSON: this product requires two persons to secure onto the brackets. Use proper techniques and equipment to raise the drum up and onto the brackets. Refer to weights table in **section 1.7** for equipment lifting capacity.

- With the drum the correct way around (curtain rolls down rear of the opening) remove the slat mounted to the drum, keeping the slat, nuts and bolts to the side.
- Carefully lift the drum up and over the brackets using suitable lifting equipment – to avoid damaging the drum.
- Position into the brackets as per fig 2.5.1.
- Mount the opener as per the opener instructions, ensuring the drive chain is properly tensioned. Ensure the opener is ready to function.



HELPFUL TIP: complete the opener install and the opener can be used to help roll the shutter curtain onto the drum.

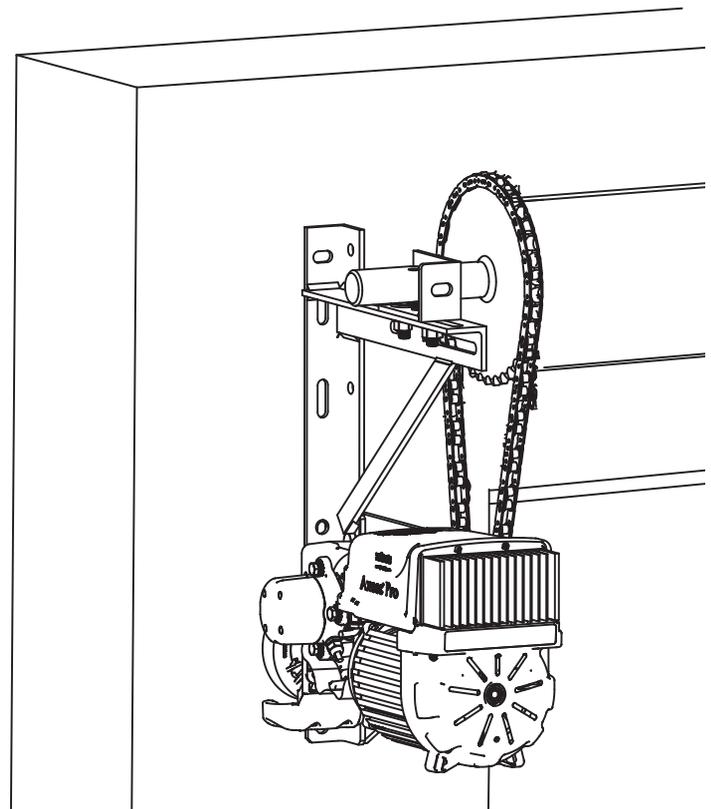


Fig: 2.5.1

2.5.2 preparing and fitting the curtain

- The curtain can now be prepared; make sure it is off the ground so that lifting slings or fork lift tines can be fitted under it.
- Make sure that it is the correct way around with the curtain rolling away from the forklift and the top end slat of the curtain is on the top of the roll.
- Remove the packaging and strapping around the curtain.
- Using a screwdriver twist the end clip on the top slat so that the slat previously removed can be slid into the top slat. When fully inserted twist the end clip back into position.
- The bundle of curtain now needs to be secured in a roll as it was in the original packaging, this should be done about a metre from each end using the appropriate ropes wound around 2-3 times.

NOTE: For shutters wider than 5 metres an additional centre rope should be used.



WARNING! The lifting slings **MUST** be able to lift the full curtain weight. Refer to curtain weight table in section 1.7.

2.5.3 fitting the curtain to the drum



WARNING! This step requires proper techniques and equipment to raise the curtain up to the drum. Refer to weights table in section 1.7 for equipment lifting capacity. Failure to have appropriate equipment and an exclusion zone can cause death or damage to property.

- a) Lift the curtain into position using a overhead crane or forklift. Ensure adequate protection is placed around the curtain to avoid damage. NOTE: If using the crane method and a spreader bar is not available ensure the straps are placed as wide apart as possible.
- b) Carefully lift to within 300mm under the drum, Figure 2.5.2, by means of two other lengths of heavy gauge rope sling the curtain roll up to the drum as shown in the illustration. Make sure the end of the curtain is on top of the roll and able to be raised up.
- c) When you are sure the curtain is held securely by several wraps of heavy rope release the lifting straps or forklift slowly allowing the wraps of rope to take the weight of the curtain.
- d) Switch power on to the opener and operate opener to rotate the drum and unroll the curtain sufficiently to allow the fixing slat to be passed up between the lintel and the drum. Rotate the drum and curtain until the fixing studs on the drum and the curtain fixing slat can be aligned. Secure the hauling chain (if installed) and fix the curtain to the drum with the studs nuts and washers provided.
- e) Release the hauling chain, operate opener to rotate the drum to roll the curtain fully onto the drum, make sure the bottom rail is at about 5 o'clock. Secure the hauling chain to prevent the drum from turning and tighten the rope slings.
- f) The assembly is now ready for the guides to be installed.

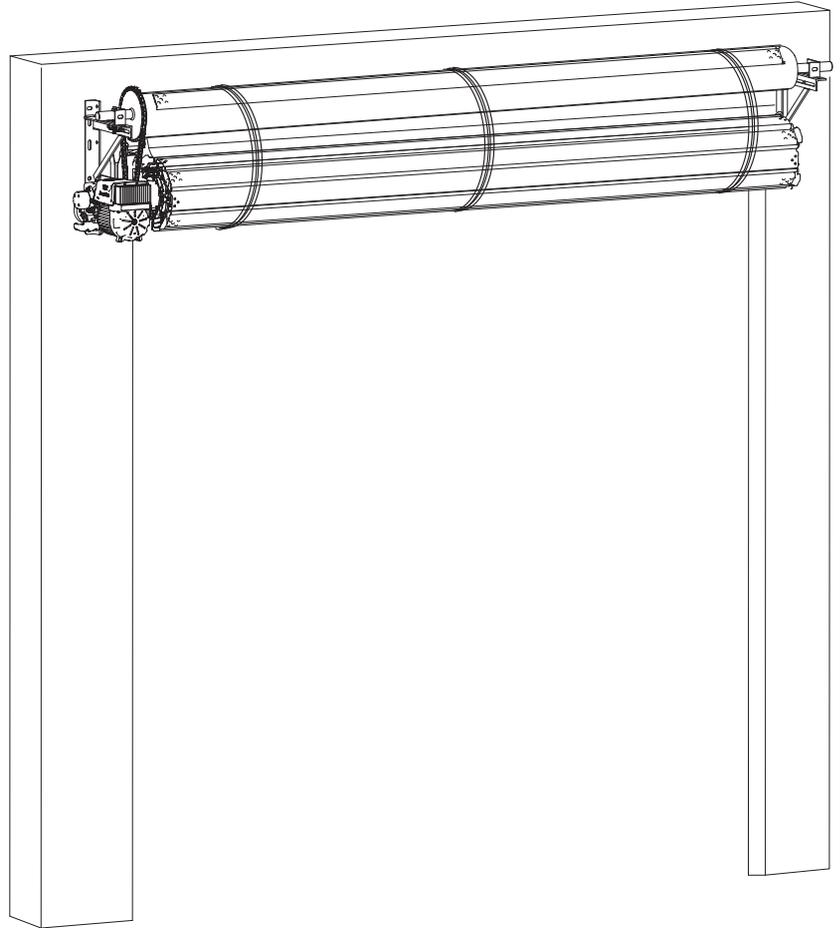


Fig: 2.5.2

2.6 install the guides

2.6.1 positioning the guides

Guides must be correct length. The guide stop should be water level and in line with the bottom of the lintel for aluminum bottom rail installation. Guides can be shortened by cutting the bottom of guide.

- Position guides © true and plumb at each side of the opening. Allow 3-5 mm of working clearance between the shutter and the inside of each guide as per **Fig 2.6.1**. For Windlock setup refer to **Fig 2.6.2**.
- Using the guides brackets as a template (**Fig 2.6.3**) mark out and drill holes in the wall to match the spacing of the fixing bolt holes in the guides bracket.
- Mark, drill holes and loosely fix the first guide. Select the appropriate fixing as per **Section 1.2**.
- Using a laser level, transfer position of top of first guide arm to opposite side of opening, then mark, drill and fix second guide. Ensure that the guides are secure.
- Apply general purpose grease to the internal surface of the guide to safeguard smooth operation.

CAUTION: The guides must be perfectly level for correct shutter operation.

WARNING! All High Wind installations must adhere to fixing types and centres as referenced in the [B&D High Wind Drawings](#).

tip If securing to uneven blockwork, packers may be required behind clips, to prevent them twisting out of square; also ensure that clips are positioned on secure blocks, not mortar.

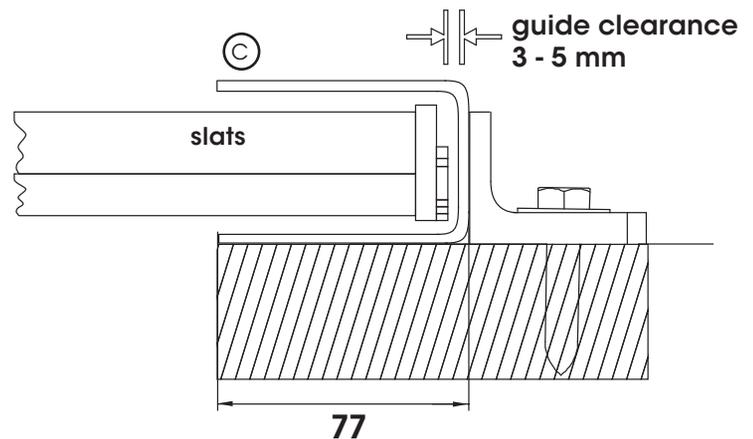


Fig: 2.6.1 (standard guide)

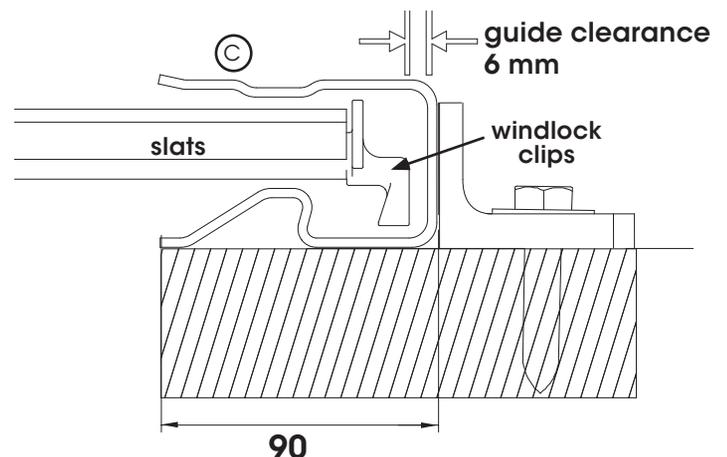


Fig: 2.6.2 (windlock guide)

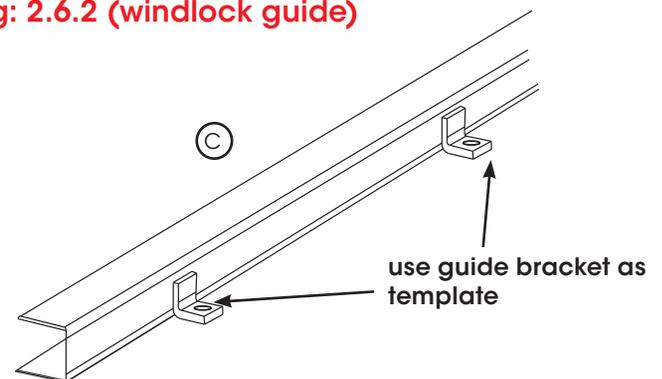


Fig: 2.6.3

2.6.2 install the bottom rail stop

- Carefully remove the rope slings holding the curtain, disengage opener and lower bottom rail into the guides.

WARNING! When the bands holding the shutter curtain rolled up are removed, there will be a strong tendency to rise and revolve. If uncontrolled, the rapidly unrolling shutter could cause damage or injury.

- Fit bottom rail stops © using self locking nuts provided. Allow the door to rise and rest against the head stop (**Fig 2.6.4**)

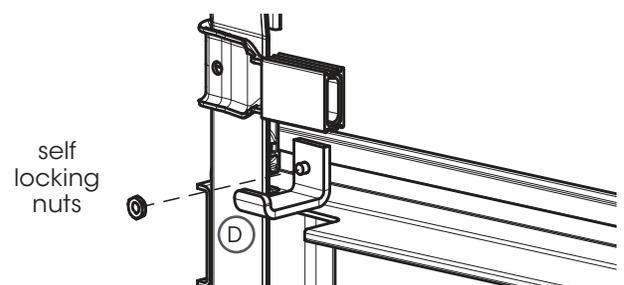


Fig: 2.6.4

2.7 pre-tension door springs

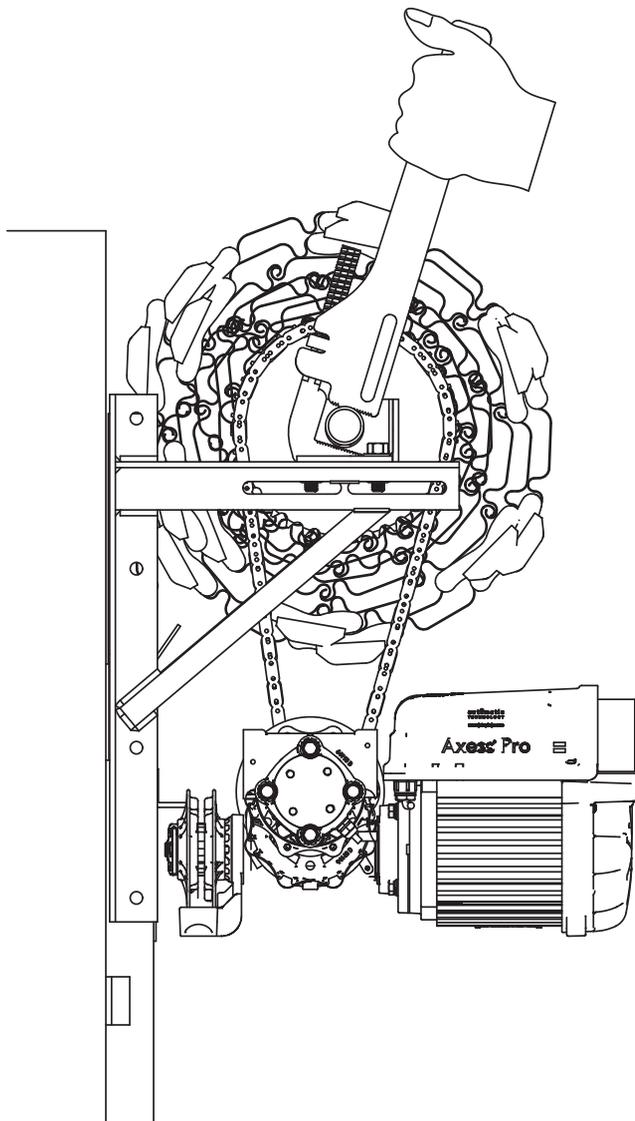


Fig: 2.7.1



WARNING! Do not use files or similar brittle steel tools. Only mild steel bars must be used.

Tension the door counterbalance springs in the following manner:

- Ensure that the door is in a fully open position (rolled up) and that the hauling chain is secured to prevent the drum and curtain rotating.
- With pipe wrench Stillson grip axle securely or insert M.S. tommy bars (min. 450mm long x 12mm dia.) into the holes provided in the plain (non-gear) end of the drum spindle Figure. 2.7.1.
- With the wrench or bars as levers rotate the spindle in a clockwise (from plain end) direction for a number of turns corresponding with the table below to set the correct spring pretension.
- Secure the spindle by passing 12mm axle bolt  through the spindle and the angle iron support bracket at both ends. Secure bolts with nuts  provided as per Fig 2.7.2.

Alternatively the drum can be secured in the neutral position and the manual chain or opener used to apply the appropriate pre tension turns.

When satisfied ensure the bottom rail is at 6 o'clock and carefully remove the ropes holding the bundled roll.

NOTE: This table is a guide only.

opening height up to	number of turns of drum spring pre-tension
3048	2
3658	2½
4878	3
5486	3¼
6096	3½

tighten nut to a torque of 40Nm.

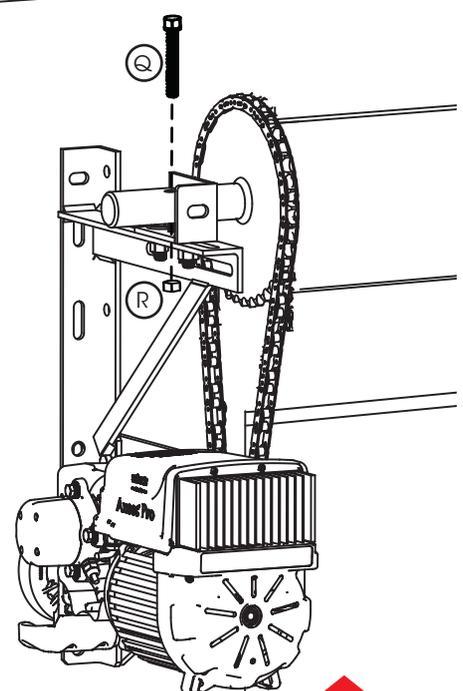


Fig: 2.7.2

3.0 after installation care

general care of your Roll-A-Shutter®

cleaning

Your B&D Roll-A-Shutter® has been manufactured from galvanised or powder coated steel, which is one of the best paint films commercially available today. However, all exposed surfaces require some attention to guard against the premature onset of corrosion and any other harmful atmospheric effects. In our atmosphere there are harmful deposits that gather on the door surface and if not removed regularly, will seriously affect the appearance and life of the door.

Note: Be aware of electric shock.

Washing of the door with clean water and a cloth is recommended – particular care should be taken to clean areas of the door not normally washed by rain.

regular maintenance required

B&D recommends that you check the operation of your Roll-A-Shutter® at least every six months (more regularly in extreme environments or frequent use). The effort required to manually open and to manually close the door should be about the same (if door has an automatic opener, put into manual mode before testing door).

Note: The door guide grease should be cleaned out and replaced least annually or more frequently in extreme conditions.

If the door is difficult to operate in either direction (up or down) then check that the inside surfaces of the guides are clean and free of obstructions.

If the door is still difficult to operate, then your door will need a service to adjust the spring tension and possibly other operational parts of the door.

This service should only be carried out by an experienced door technician, using the correct tools.

If you have an automatic opener fitted to your door, it is particularly important that you ensure the optimum operation of the door, otherwise you may reduce the effective life of the opener.

To keep your door running well, it is recommended that your door be serviced, by an experienced door technician, every 12 months (more regularly in extreme environments or frequent use), or earlier if required.

spring tension

It is natural for springs to lose tension over time. When spring tension is adjusted or when your door is first installed it is usual to apply a little more tension than is required for balanced operation, to allow for the normal "settling in" of the springs.

WARNING: The springs on the door are under extreme tension. On NO account should they be adjusted by an inexperienced person. B&D recommends regular servicing and safety checks be carried out at least annually, more frequently in extreme conditions or in high use environments.

warranty

B&D Roll-A-Shutter® is covered by a 12 month warranty for complete door and parts, surface (excludes salt corrosion).

Warranty conditional on proper care as recommended above. Full details of the warranty are available from bnd.com.au

b&d doors office locations

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Victoria	147-153 Canterbury Rd, Kilsyth 3137	Phone (03) 9237 7766
South Australia	23 Frederick Rd, Royal Park 5014	Phone (08) 8440 4747
Western Australia	96 Mulgul Rd, Malaga 6090	Phone (08) 9247 8777
International/Export	34 Marigold St, Revesby 2212	Phone +61 (0)2 9722 5555

your representative is

b&d

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