CENTURION

Solar
Panel
Mounting
Bracket

SOLAR
PANEL
ACCESSORY

Company Profile

1986 → 1990 → 1995 → 1999 → Centurion Systems today

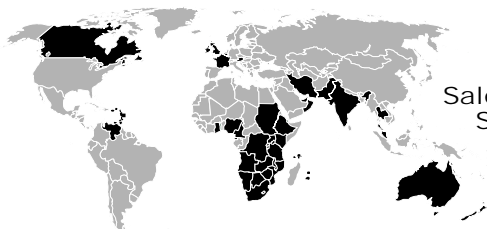In-house R & D development team

Manufacture to international quality standard ISO 9001:2008

ISO 9001:2008
REGISTERED FIRM
QAS INTERNATIONAL

100% testing of products

Competent after-sales technical support

Sales and support throughout Southern Africa and over 50 countries worldwide

Contents

IMPORTANT
Safety Instructions

Safety FIRST

ATTENTION

To ensure the safety of people, it is important that you read all the following instructions. Incorrect installation or incorrect use of the product could cause serious harm to people.

The installer, being either professional or DIY, is the last person on the site who can ensure that the operator is safely installed, and that the whole system can be operated safely.

Warnings for the installer

CAREFULLY READ AND FOLLOW ALL INSTRUCTIONS. Before beginning to install the product;

• Installation of the Solar Panel Mounting Bracket must be carried out by a suitably qualified person

• Do not in any way modify the components

• Do not leave packing materials (plastic, polystyrene, etc.) within reach of children as such materials are potential sources of danger

• Centurion Systems does not accept any liability caused by improper use of the product, or for use other than that for which it was intended

• This product was designed and built strictly for the use indicated in this documentation. Any other use, not expressly indicated here, could compromise the service life/operation of the product and/or be a source of danger

• The installer must explain the operation of the Solar Panel Mounting Bracket and any safety hazards to the end user. Refer to section "Installation Handover"

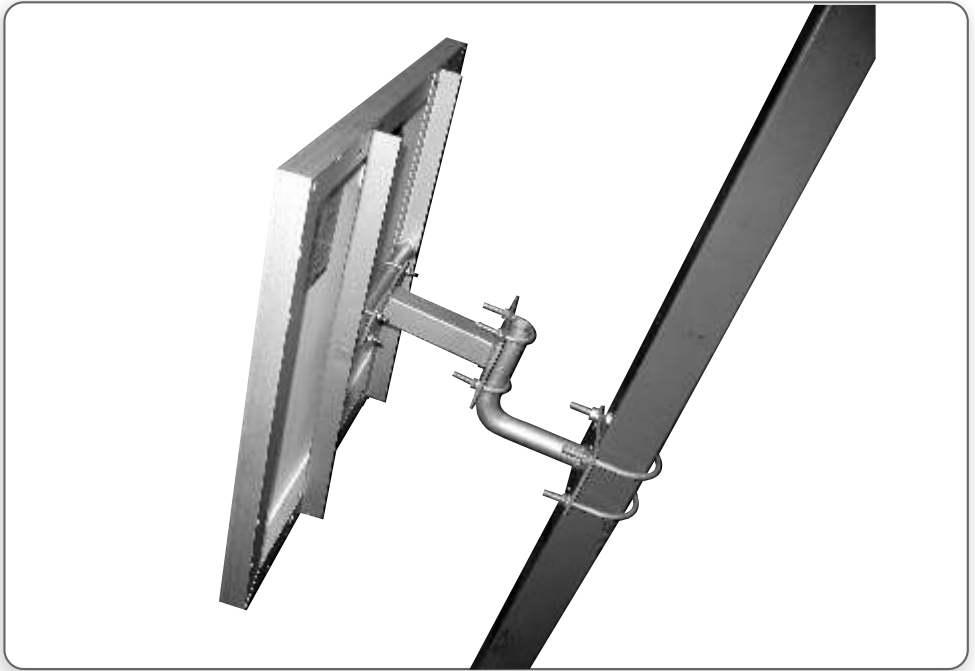• Anything not expressly specified in these instructions is not permitted.

FIGURE 1

The CENTURION Solar Panel Mounting Bracket is a robust and versatile galvanised mild steel bracket suitable for mounting either a 20W or 40W solar panel against a wall or on a post. The fixed bracket included with the kit provides limited orientation capability and can be pivoted in a number of ways in order for the panel to obtain optimum sunlight coverage.

The Gooseneck, which can be purchased as an optional accessory, allows for full flexibility, elevation and azimuth adjustment.

2. Icons used in this manual

This icon indicates tips and other information that could be useful during the installation.

This icon denotes variations and other aspects that should be considered during installation.

This icon indicates warning, caution or attention! Please take special note of critical aspects that MUST be adhered to in order to prevent injury.
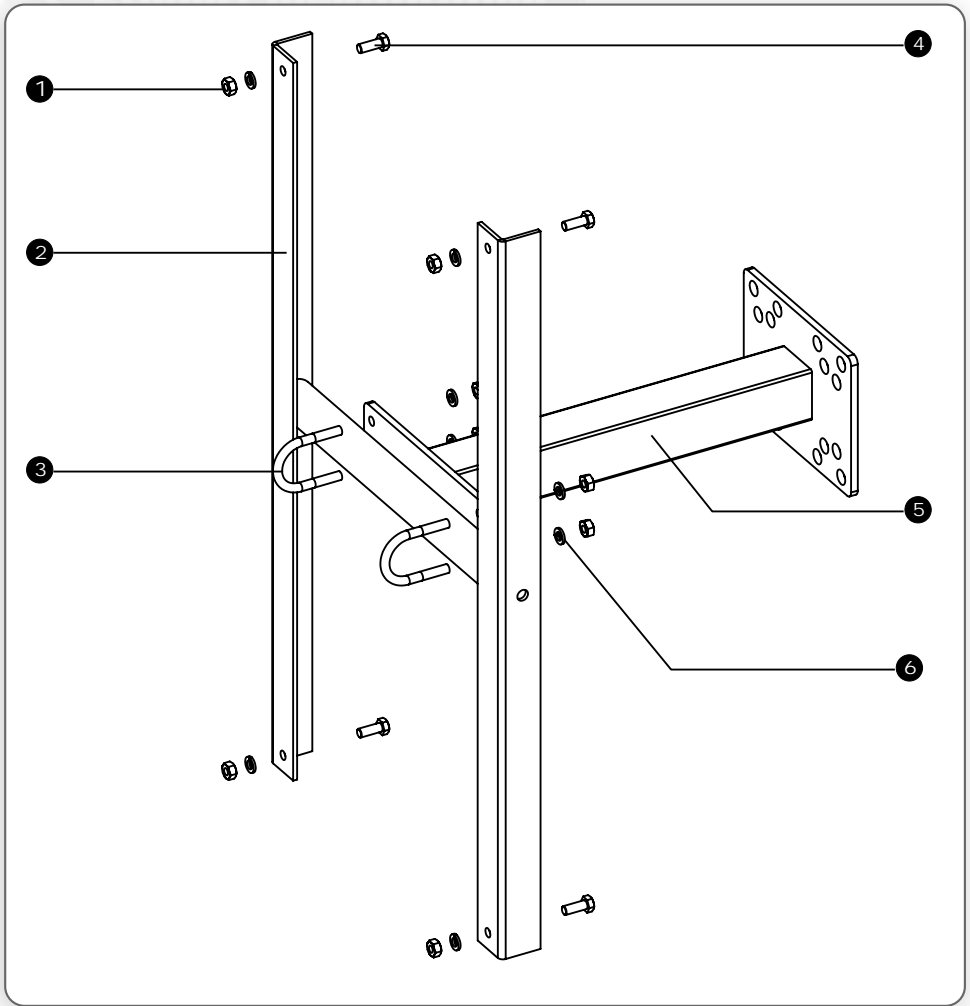
3. Product identification

1. Galvanised nut full M6
2. Solar panel pivot H-bracket
3. Galvanised u-bolt M6 x 20
4. Galvanised set screw M6 x 16mm
5. Solar panel fixed bracket
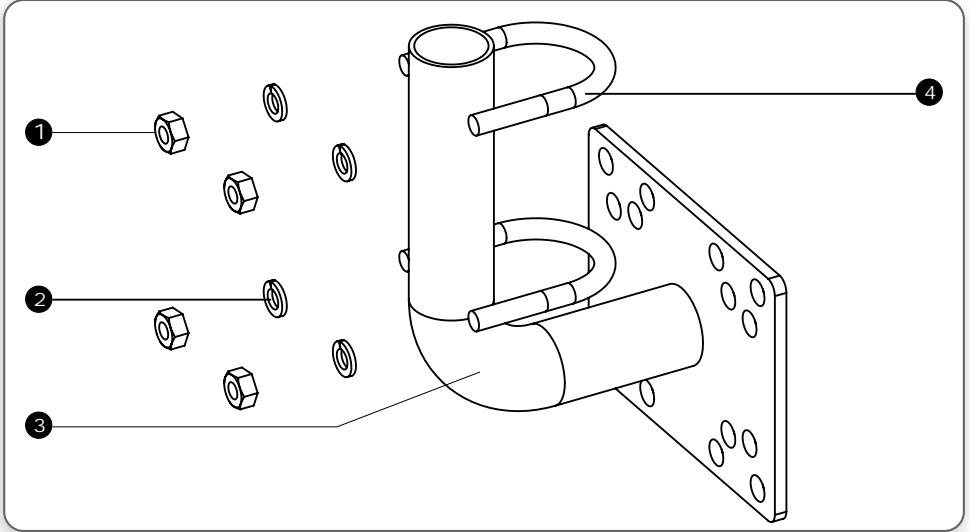6. Galvanised spring washer M6

1. M8 flat nut
2. M8 galvanised spring washer
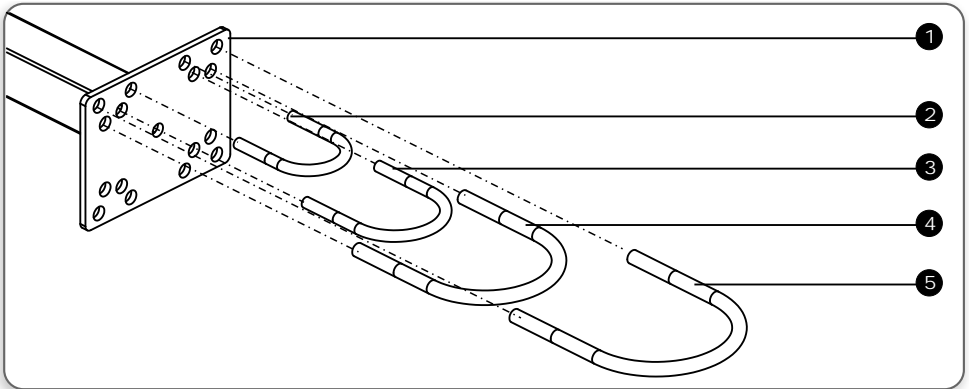3. Gooseneck bracket
4. M8 x 32 galvanised u-bolt

FIGURE. 4. U-BOLTS THAT CAN BE CATERED FOR BY THE FIXED BRACKET

1. Solar panel fixed bracket
2. M8 x 50 galvanised u-bolt
3. M10 x 80 galvanised u-bolt
3. M10 x 90 NB galvanised u-bolt
4. M08 x 32 galvanised u-bolt

4.Required tools

- Spanner – 10mm; 13mm; 17mm
- Marking pen/chalk
- Electric drill
- Drill bits – steel and masonry
- Cable ties

5. Site consideration

General considerations for the installation

- Decide on whether the bracket is to be mounted onto a wall or against a square or cylindrical post
- For wall-mount installations, masonry fasteners sized for a 10.5mm hole must be used.
- If the bracket is to be fitted onto a post, then refer to Figure 4 for an indication of the size of the u-bolts, washers and nuts needed. The Solar Panel Mounting Bracket is suitable for mounting onto posts with a width or diameter of 40mm to 100mm
- Make sure that there is enough clearance to be able to rotate the solar panel to a maximum sun exposure position

6. Solar panel mounting bracket installation procedure

Mounting onto a wall

1. Align the H-bracket in the centre of the panel and proceed to mark the location of the four mounting holes. Figure 5 provides an indication of where the holes are to be drilled.

196.5mm   267mm   196.5mm   18mm
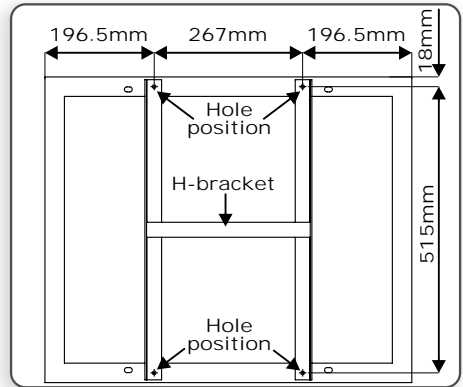
Hole position

H-bracket

515mm

Hole position

FIGURE 5

2. Remove the H-bracket and drill four 6.5mm holes in the frame of the solar panel.

Place a piece of protective material such as a length of wood or metal into the slots of the solar panel. This is to ensure that the monocrystalline face of the panel is not inadvertently damaged when the holes are drilled in the frame
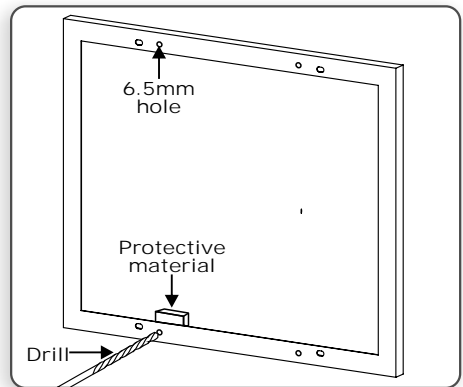

6.5mm hole

Protective material

Drill

FIGURE 6

3. Secure the H-bracket onto the solar panel using the four M6 x 16 set screws supplied with the kit.
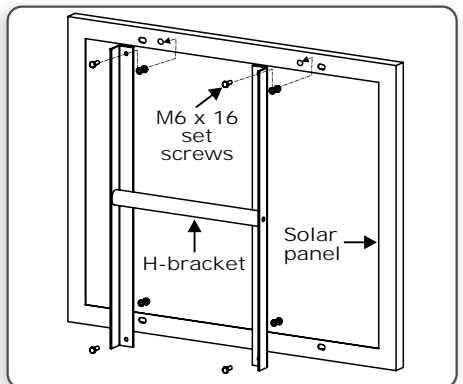

M6 x 16 set screws

Solar panel

H-bracket

FIGURE 7

4. Use the fixed bracket as a template in order to determine where the mounting holes should be drilled in the wall.

    The orientation in which the bracket is mounted onto the wall will determine the one axis of rotation! If the optimum angle cannot be obtained using the fixed bracket only, it is recommended that the additional gooseneck is purchased

5. Drill the four mounting holes.
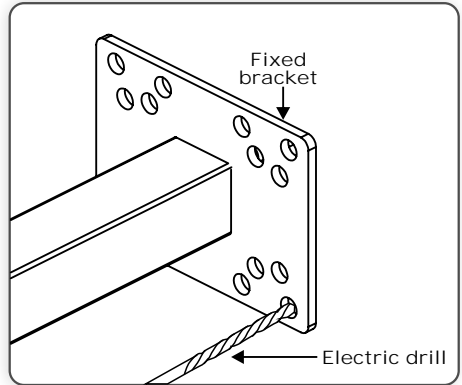

Fixed bracket

Electric drill

FIGURE 8

6. Place the fixed bracket onto the H-bracket crossbar and secure using the M6 x 20 u-bolts, M6 spring washers and M6 nuts provided. Use a 10mm spanner to tighten the nuts.
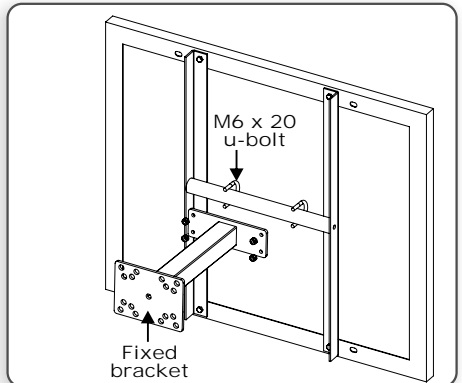

M6 x 20 u-bolt

Fixed bracket

FIGURE 9

7. Use masonry fasteners (not provided) to fit the assembly to the wall or structure.

8. The panel can now be adjusted* to face the most favourable angle.
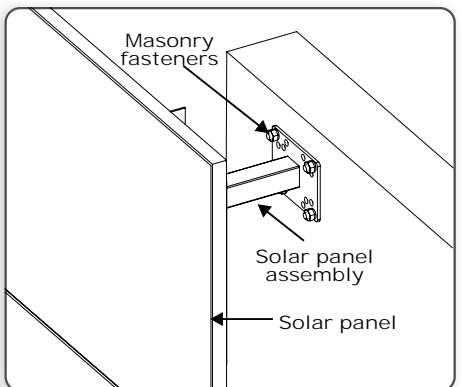
    * In a single plane

Masonry fasteners

Solar panel assembly

Solar panel

FIGURE 10

Mounting onto a Post

196.5mm   267mm   196.5mm

18mm

Hole position

H-bracket

515mm

Hole position

FIGURE 11

1. Align the H-bracket in the centre of the panel and proceed to mark the location of the four mounting holes. Figure 11 provides an indication of where the holes are to be drilled.
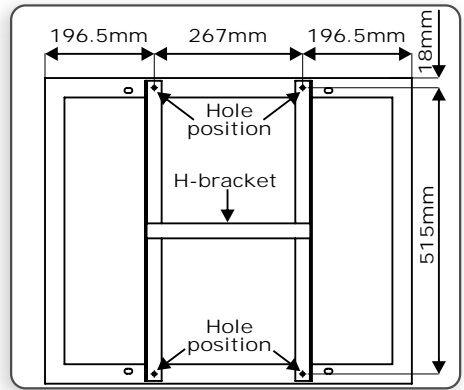

6.5mm hole

Protective material

Drill

FIGURE 12

2. Remove the H-bracket and drill four 6.5mm holes in the frame of the solar panel.

   Place a piece of protective material such as a length of wood or metal into the slots of the solar panel. This is to ensure that the monocrystalline face of the panel is not inadvertently damaged when the holes are drilled in the frame
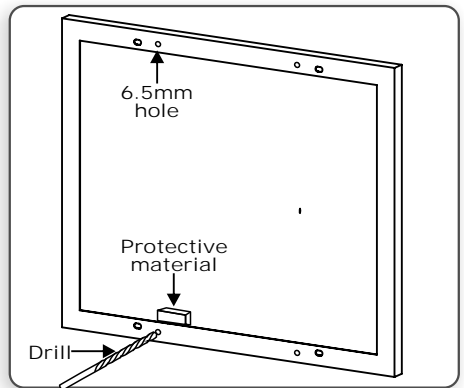

M6 x 16 set screws

Solar panel

H-bracket

FIGURE 13

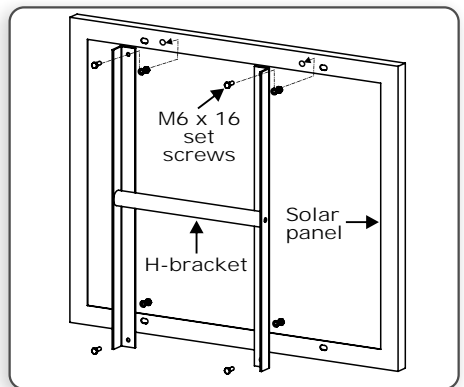3. Secure the H-bracket onto the solar panel using the four M6 x 16 set screws supplied with the kit.

4. Place the fixed bracket onto the H-bracket crossbar and secure using the M6 x 20 u-bolts, M6 spring washers and M6 nuts provided. Use a 10mm spanner to tighten the nuts.
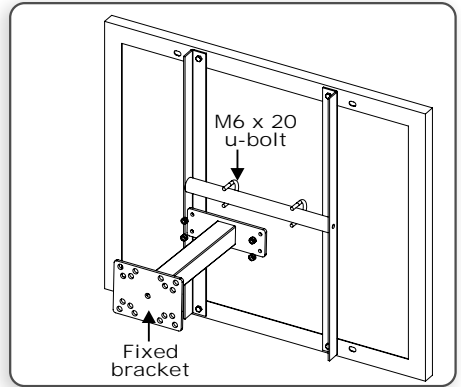

M6 x 20
u-bolt

Fixed
bracket

FIGURE 14

5. Secure the entire assembly to the post using the appropriate size u-bolts. Refer to Figure 4 for an indication of the size of the u-bolts to be used.

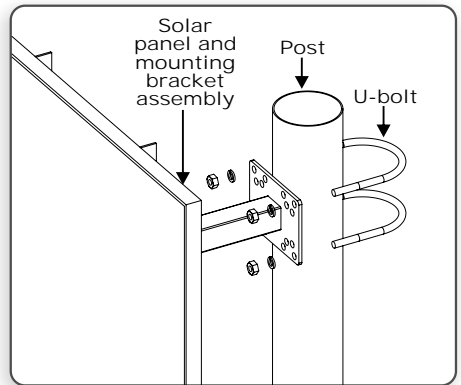6. The panel can now be adjusted to face the most favourable angle.

Solar
panel and
mounting
bracket
assembly

Post

U-bolt

FIGURE 15

Fitting the Optional Gooseneck

1. Align the H-bracket in the centre of the panel and proceed to mark the location of the four mounting holes. Figure 16 provides an indication of where the holes are to be drilled.
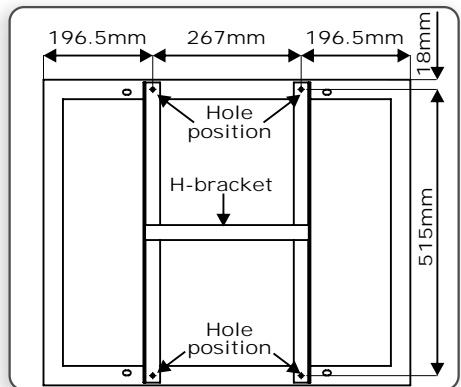

196.5mm   267mm   196.5mm

18mm

Hole
position

H-bracket

515mm

Hole
position

FIGURE 16

2. Remove the H-bracket and drill four
    6.5mm holes in the frame of the solar
    panel.

    ⚠ Place a piece of protective material
    such as a length of wood or metal
    into the slots of the solar panel.
    This is to ensure that the
    monocrystalline face of the panel is
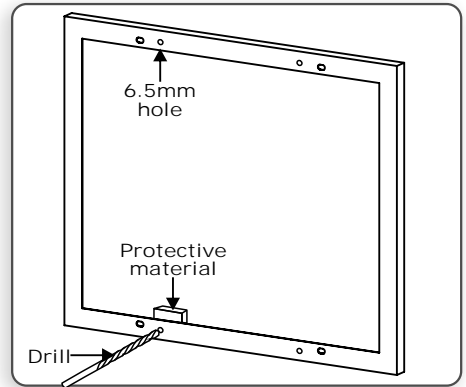   not inadvertently damaged when
    the holes are drilled in the frame

6.5mm
hole

Protective
material

Drill

FIGURE 17

3. Secure the H-bracket onto the solar
    panel using the four M6 x 16 set screws
    supplied with the kit.

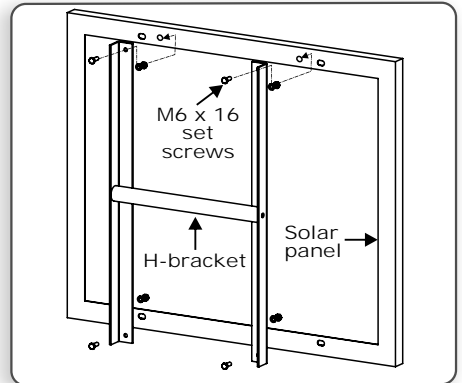M6 x 16
set
screws

H-bracket

Solar
panel

FIGURE 18

4. Place the fixed bracket onto the H-
    bracket crossbar and secure using the
    M6 x 20 u-bolts, M6 spring washers and
    M6 nuts provided. Use a 10mm spanner
    to tighten the nuts.
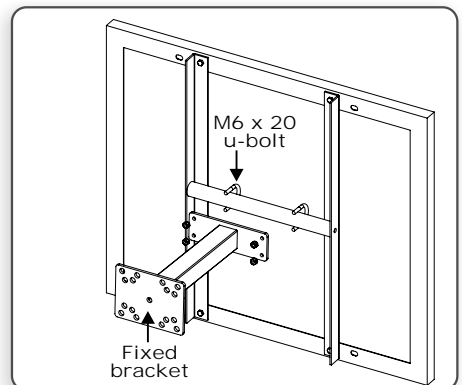

M6 x 20
u-bolt

Fixed
bracket

FIGURE 19

5. If the gooseneck is to be mounted onto a wall, proceed to drill holes in the desired locations and secure the bracket using masonry fasteners (not supplied).
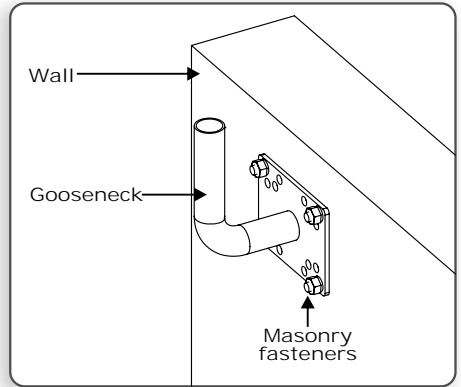
Wall

Gooseneck

Masonry
fasteners

6. Alternatively, if a post (either cylindrical or square) is to be used for mounting, secure the gooseneck to the post using the appropriate size u-bolts. Refer to Figure 4 for an indication of the size of the u-bolts to be used.
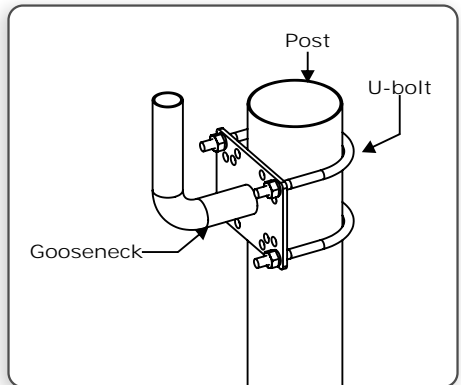
Post

U-bolt

Gooseneck

7. Fit the solar panel assembly (panel, H-bracket and fixed bracket) onto the gooseneck and secure using the supplied M8 x 32 u-bolts, M8 spring washers and M8 nuts.
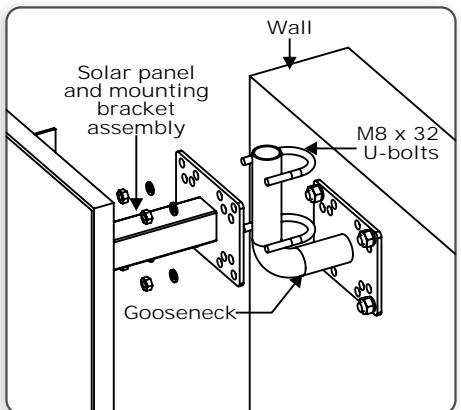
Wall

Solar panel
and mounting
bracket
assembly

M8 x 32
U-bolts

Gooseneck

8. Fit the solar panel assembly (panel, H-bracket and fixed bracket) onto the gooseneck and secure using the supplied M8 x 32 u-bolts, M8 spring washers and M8 nuts.

9. The panel can now be adjusted to face the most favourable angle.
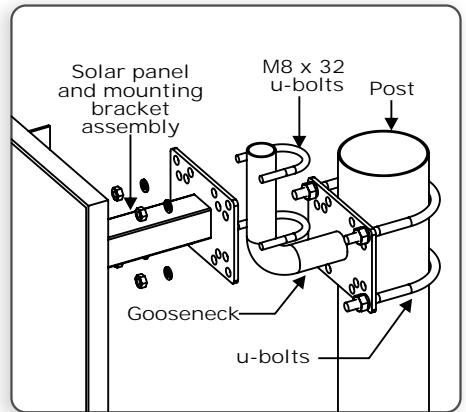
FIGURE 23

7. Installation handover

Once the Solar Panel Mounting Bracket has been successfully installed and its operation tested, it is important that the operation and safety considerations are explained to the end user.

Notes

Notes

Notes

CENTURION