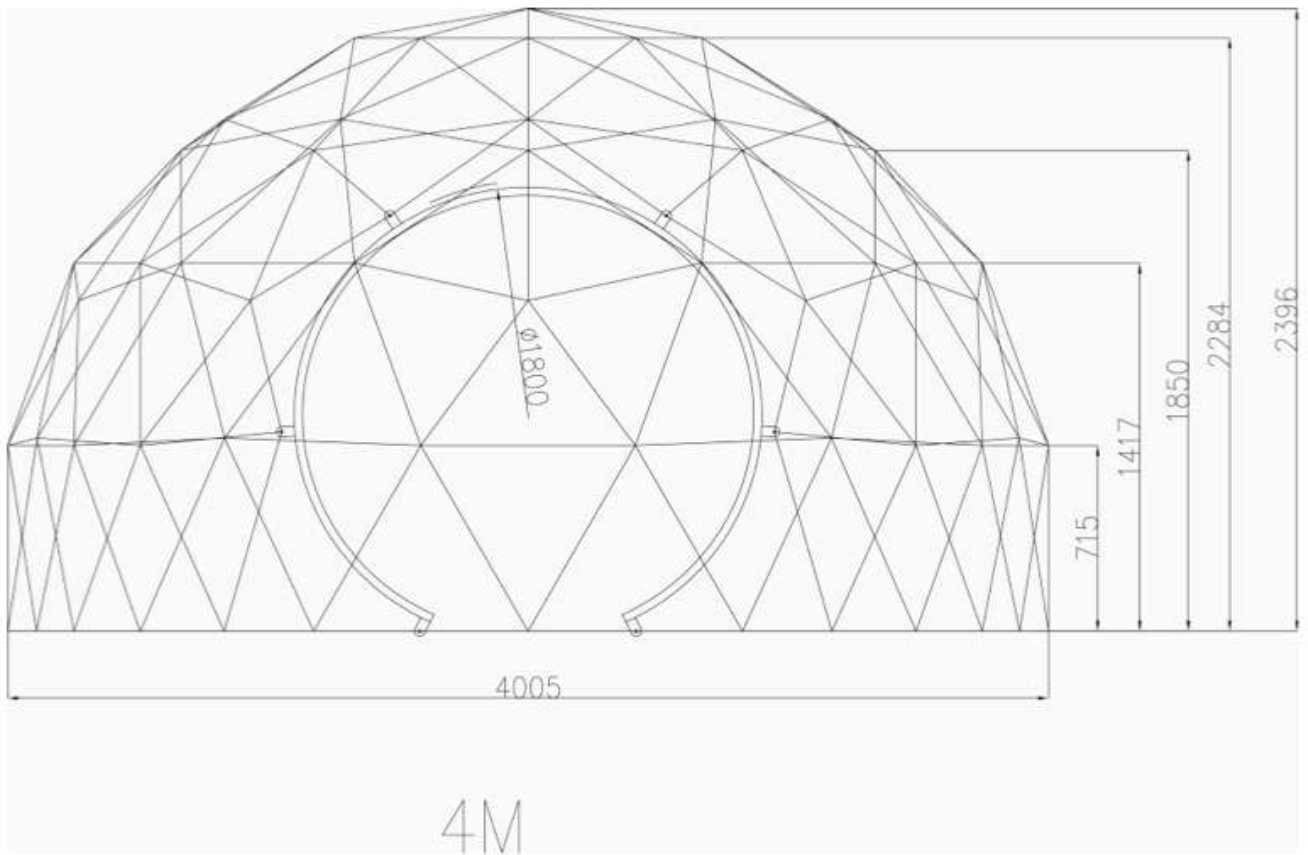




Installation Manual

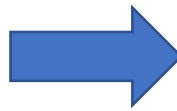
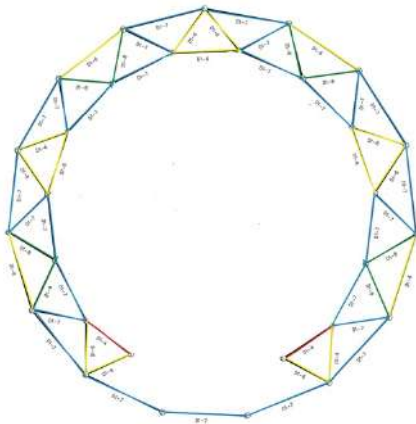
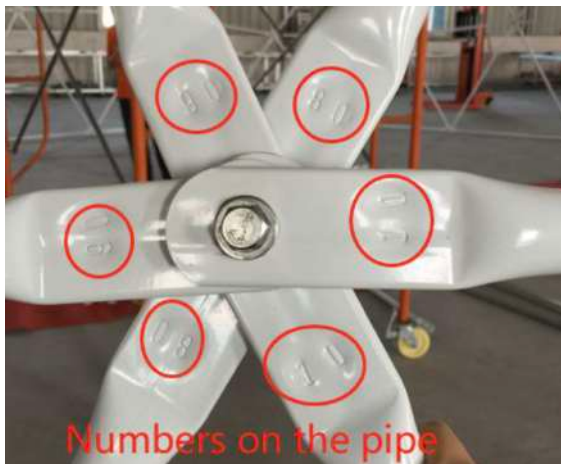
For Patio Dome 4m/13'



Know the Dome Materials and How to Read the Dome Map

There are 8 dome packages:

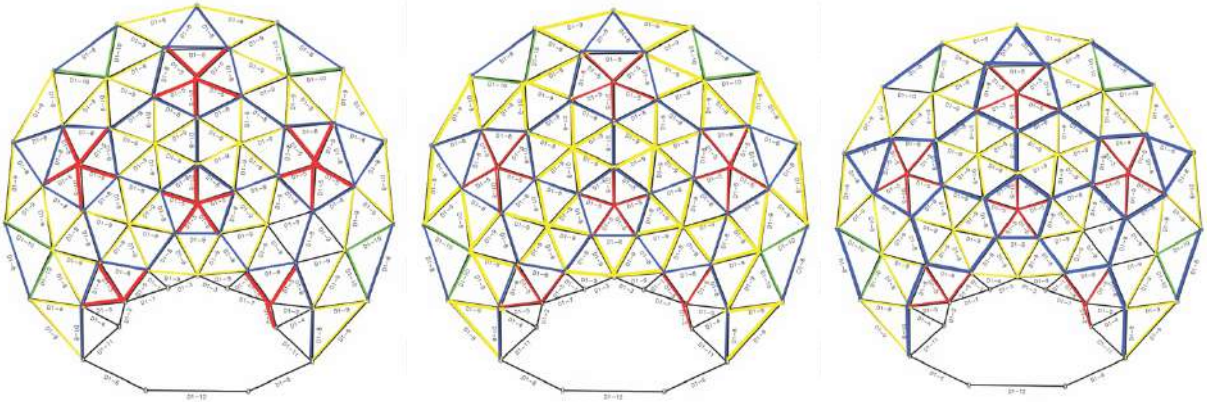
1. The Cover (Big heavy bag)
 2. Hardware package (small bag)
 3. Door Frames (curved tubing)
 4. Frame tubing - Various Struts – 38 pcs
 5. Frame Tubing - #8 Struts – 45 Pcs
 6. Frame Tubing - # 9 Struts – 30 pcs
 7. Frame tubing - #9 Struts – 30 pcs
 8. Frame Tubing – #10 8 pcs and pressure tubing 12 pcs (to tension the cover)
- The “Strut #” corresponds to the various numbers labelled on the Dome Map Installation Diagram (see highlighted numbers on the map below)...Reference the full scale Dome Map Installation Diagram on the last page of this manual during dome set-up.
 - Note: double check the strut number on the physical pipe before you begin to attach the pipes. This is especially important for the package which contains several strut numbers.



Each circular ring of the Dome Map Installation Diagram corresponds to each vertical layer of the dome

Noticing the patterns in the Dome Map Installation Diagram will help with setup:

- There are 4 pentagons (5-pointed stars) and 2 half ones that use only #5 struts (RED)
- There are 4 hexagons (6-pointed stars) and 4 half ones that use only #9 struts (YELLOW)
- All #8 struts form the perimeter of the pentagons (Yellow) & hexagons (red) (BLUE)



Dome Setup

- Dome assembly works best in a team of three people
 - Person 1: To read the Dome Map Installation Diagram and lead the assembly, calling out what strut # is required at a given time
 - Person 2: To retrieve the appropriate strut # from the packaging as instructed by Person 1
 - Person 3: To hold pieces in place and tighten nuts as needed
- Rule for hardware assembly: insert the bolt with washer from the outside to the inside of the dome. The pipes should be flat against each other, concave side facing inward. Loosely attach the tubing with the nut, removing the nut to add the next layer. Only when the hub is complete, add the washer, do not tighten until the dome is completely set up.

Layer One

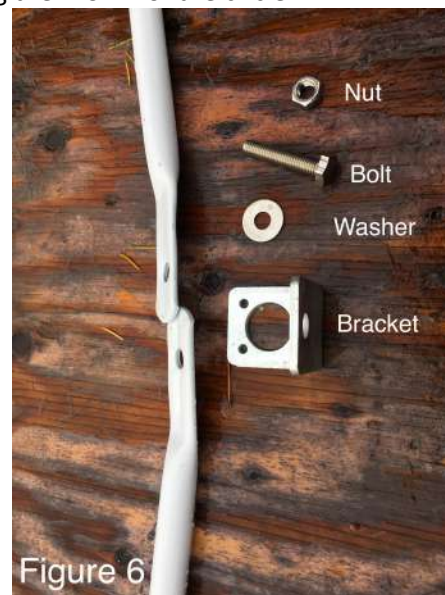
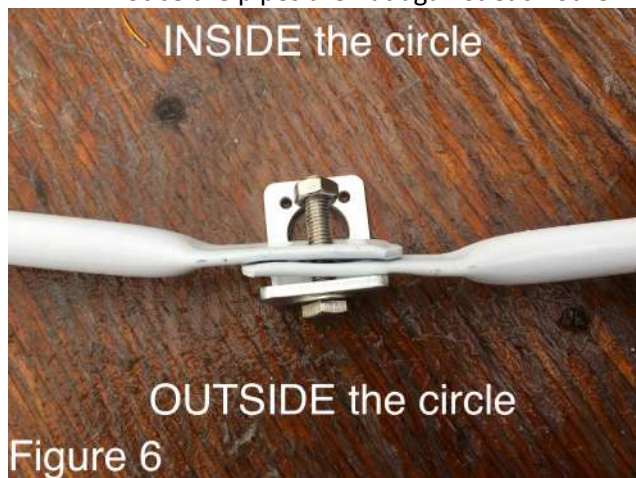
- By the end of these steps, the dome assembly should look like **this**:



- Place the pieces of the dome foundation in a circle starting with the door – mark the door (highlighted in **Figure 5**) with a pencil so you have a reference point when constructing the dome.
- There should be 15 pipes laying flat (**Figure 5**) that follow the strut # pattern outlined on the Dome Map Installation Diagram.



- Assemble the pipes and the hardware shown in **Figure 6**
- Notice the pipes are flat against each other facing the **INSIDE** of the circle.



- Hardware assembly
 - Insert the bolt with washer from the outside to the inside of the dome, going through the bracket (of the side with ONE hole) and through the two pipes
 - Loosely screw a nut at the end of the bolt (loosely because you will be disassembling later to add more pipes)
- Reference the Dome Map Installation Diagram to know where to PLACE each pipe that follow a triangular pattern around the **INSIDE** of the circle shown in **Figure 7**. Use the door as a reference to help ensure the pipes are placed correctly around the circular base

- To simplify assembly, you will be moving the pipes to the OUTSIDE of the circle shown in **Figure 8**, ensuring the pipe #s still matchup with the correct pipe # of the circular base.



- Attach the pipes at the BASE of the circle seen in **Figure 8** (the vertex of the triangle will still be loose). Insert a washer at this attachment point before screwing the nut back on. These triangles will be the vertical height of the first layer.
- Refer to the [Dome Map Installation Diagram](#) to lay the required connecting pipes IN BETWEEN the triangles you have laid out (see **Figure 9**)



- For the next step, have one person stand on the inside of the circle, and one person stand on the outside of the circle. The person on the outside stands the triangle up using one hand, and in the other hand, pickup the connecting horizontal loose pipe laid out in the previous step. The person on the inside loosens and removes the nut and assists the person on the outside in assembling the connecting pipe with the standing triangle (**Figure 10**).
- Repeat previous step until the first layer is complete.

Pre-Assemble the Hexagons and Pentagons

- Before adding any more pipes to the dome structure, the next step is to pre-assemble the hexagons and pentagons.
- Recall there are 4 pentagons (5-pointed stars) that use only #5 struts (Figure 1) and 4 hexagons (6-pointed stars) that use only #9 struts (Figure 2)
- To simplify assembly, you will pre assemble THREE 5-pointed stars using only #5 struts (Figure 11)
 - NOTE: the 5th 5-pointed star mentioned above is located at the very top of the dome (Figure 1). These pipes will be attached individually as the last step of the fifth layer.



- When pre-assembling the hardware with the pipes, remember to insert the bolt through a washer first. Screw on a nut (loosely) to secure the pre-assembled 5-pointed stars. Remember, the open end of the bolt is on the inside of the dome where the pipe attachments are concave-shaped.

- Repeat the pre-assembly steps above for 4 hexagons (6-pointed stars) that use only #9struts (Figure 12)



Layer Two (without the door)

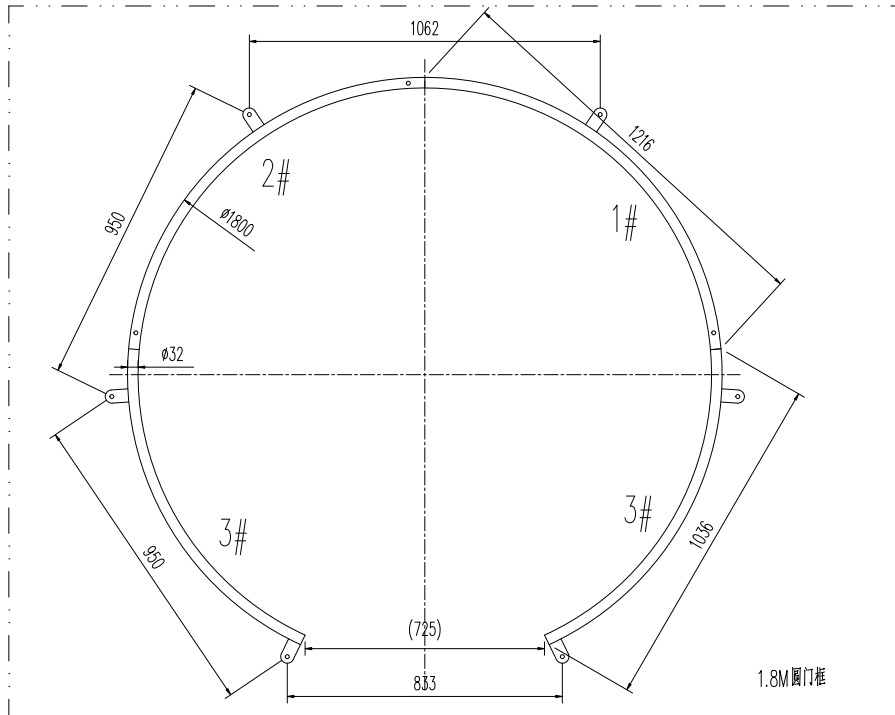
- Take one of the pre-assembled 5-pointed stars (**#3 struts**) and attach the two innermost struts in the locations specified in the diagram, letting the loose struts fall towards the outside of the dome structure. Refer to the [Dome Map Installation Diagram](#) to ensure correct placement. Repeat step above for the other two pre-assembled 5-pointed stars. It is OK to leave the stars free-standing as imaged in **Figure 14**
- work your way around the circle, completing the gaps as per the diagram.



Layer Three

- Attach the innermost **#9 struts** of the pre-assembled 6-pointed stars to both ends of the horizontal **#8 struts** to begin forming the third vertical layer of the dome. Refer to the [Dome Map Installation Diagram](#) to ensure correct placement.
- Fill in the perimeters of the 6-pointed star with # 6 struts as per the diagram.
- Refer to the [Dome Map Installation Diagram](#) to ensure correct placement of struts.
- Now, assemble the door as per the door diagram and attach it as per the diagram to existing frame with struts # 2, 4, 11, 12, 13 and 5.





Layer Four

- Complete the 4th layer as per the diagram, using the remaining, loose #9 struts of the pre-assembled 6-pointed stars, with #8 struts in between.

Layer Five

- Retrieve five #5 struts and five #8 struts.
- Create the perimeter of the last pentagon out of #6 struts.
- Attach the remaining #5 struts that form the highest point of the dome.

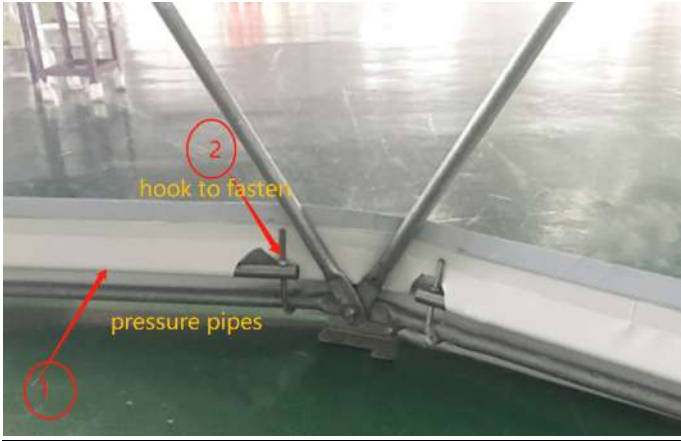
Tighten the Dome

- Once the entire dome is assembled, tighten the nuts (an impact driver with socket will speed this up considerably) from the centre top down all the way around. Now you have a rock solid structure!
- Centre your dome and attach the feet to the ground or platform with screws, bolts or ground anchors.
- Screw the plastic caps (found in hardware package) onto the bolts inside of the dome.

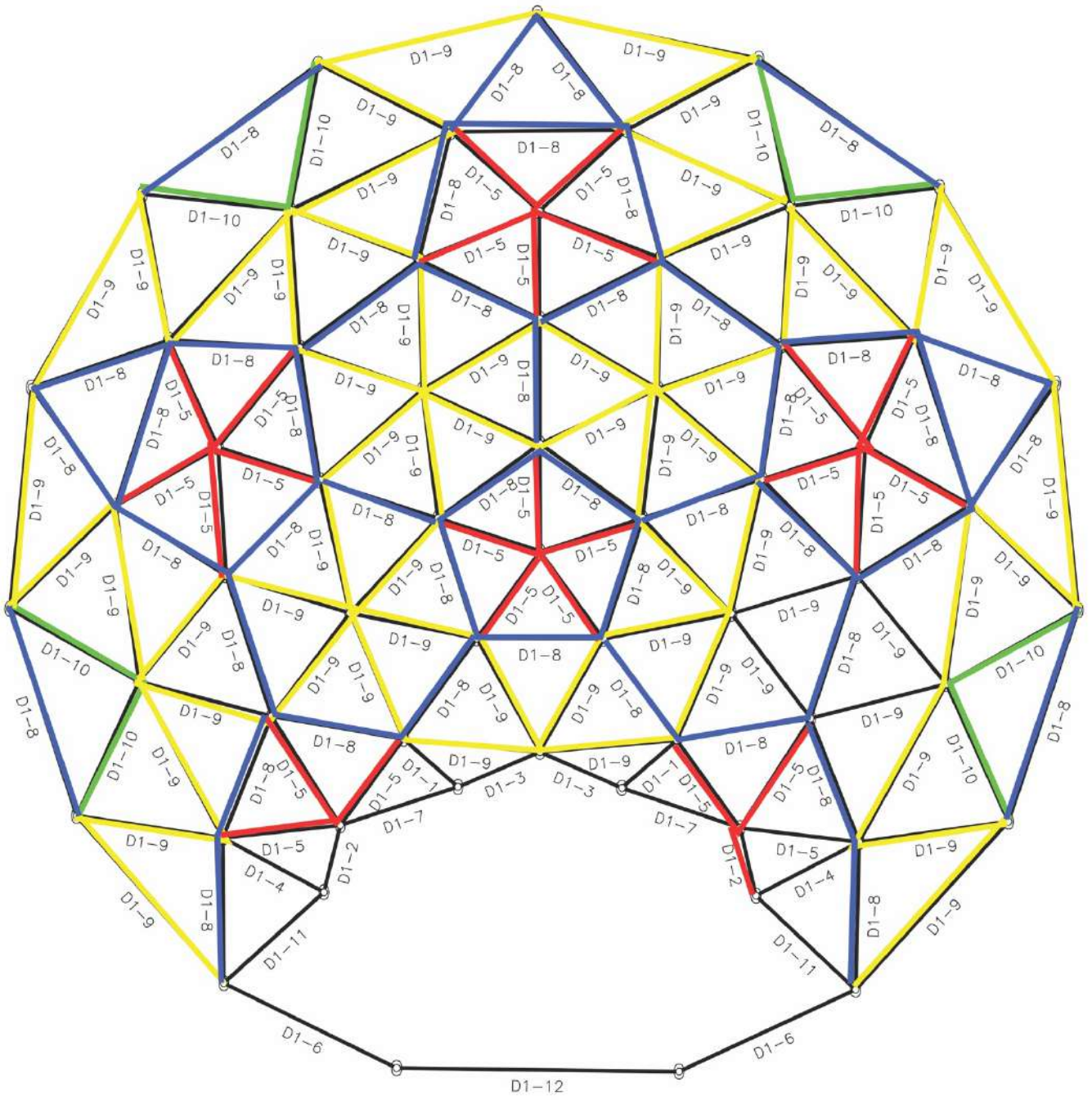
Fitting the Cover

- Pull the cover over the frame and centre the door.
- Pull the cover down even further by using your body weight (**Figure 23**)
- Tension the cover towards the door from both sides so that there is no tension on the zipper.
- Line up the tensioning struts in their positions: they correspond to the dome strut number that is 10 less- so 18 goes with 8, 19 with 9, etc.
- You may need to make small cuts in the tensioning sleeve to insert the tensioning struts.
- Tension the cover by inserting the tensioning bars into the sleeves around the perimeter, hook the J-Bolts around the bottom struts, insert the end into the hole at the end of the tensioning bars, and attach a nut all the way around.
- We have found Ratchet straps useful for tensioning the cover. You can use ratchet straps to pull the cover towards the sides of the door on both sides and lace it tightly, then move the straps to one side of the dome, get the nuts onto the J-Bolts, and move the straps along, until all nuts are in place loosely.
- Only once all nuts are on, go around and tighten them with a long socket on an impact driver.
- If setting up in cold weather, the cover will be more stiff and harder to tension. In this case, use the biggest heater you have (or multiple ones) to heat up the dome as warm as possible and re-tighten.
- Even so, the cover may need to be re-tightened further in future as it settles





Dome Map Installation Diagram



Patio Dome Setup Diagram

4M