Assembly, Maintenance, and User Manual

Ekodome® LUNA Prefabricated Dome Building Kit

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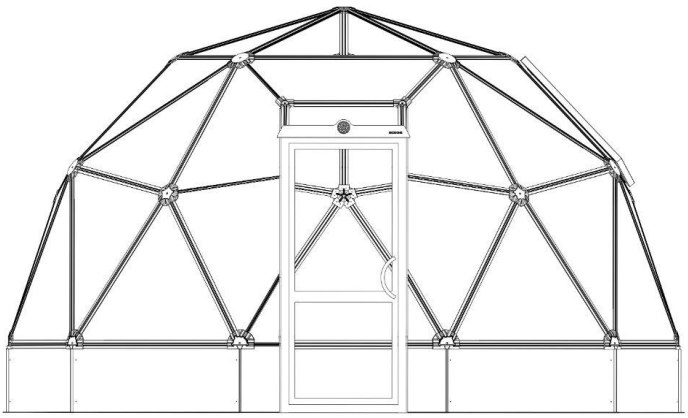

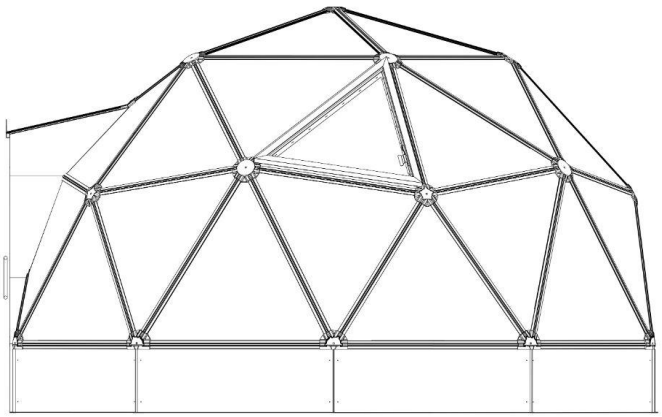

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REPLACEMENT PARTS or AFTER SALES SUPPORT:

Email: support@ekodome.com

Call: 646-847-5167

Hours: 9:00am to 6:00pm Monday through Friday ET

WARNING

Read all precautions and instructions in this manual before using this equipment. Save this manual for future reference.

Welcome to the EKODOME® owners' community

Dear EKODOME® owner,

Congratulations on receiving your EKODOME® kit. This instruction manual is prepared to guide you in building and maintaining your new geodesic dome. Feel free to contact us if any of your assembly or maintenance questions are not answered in this manual or our website. You are also welcome to join our Facebook group, where you can share resources, tips, photos, plans, and everything related to building an EKODOME® Kit: facebook.com/groups/buildbetterspaces/

Your EKODOME® kit arrives in a wooden crate, where all the parts are wrapped and labeled individually. If you ordered multiple units, we might have distributed some parts among the crates to use space efficiently.

All parts of the kit are listed in this manual. As you can see, many individual components and hardware make up an EKODOME® kit, so you must keep track of your items and store them in a safe place until the installation. Check off each item to make sure everything is accounted for and in good condition. Notify us immediately if there are any missing components.

Written instructions are just a guide to understanding the components and assembly of your EKODOME®. You will mainly use digital instructions and videos as a visual reference. We will constantly improve this document to enhance the experience in all aspects. Updated versions will be accessible through your account dashboard. In addition, videos will be accessible through our YouTube channel.

If you store your dome for an extended time until the assembly, we recommend keeping it in a sheltered environment like a garage or a barn. We recommend fully covering the crate with a tarp and ensuring the base stays dry if you do not have space inside.

Thank you once again for your purchase, and let's build better spaces together!

Sinan Halic
CEO & Founder

1. Product Details

Product Name: EKODOME® LUNA 2V DOME
Product description: Prefabricated geodesic dome kit

Dimensions:

- Diameter: 16 ft/ 4.89 m
- Height: 9 .5 ft / 2.89 m
- Floor Area: 188.9 sq ft/ 17.55 sq m
- Cover Area: 355.2 sq ft/ 33 sq m
- Total Weight: 343 lbs/ 155.6 kg

Frame Elements

- Struts & Strut Caps:
    - Aluminum profile Alloy / Condition: EN AW 6060 T66
    - Surface: Qualicoat class 2 powder coated
- Connecting Hubs & Caps:
    - Aluminum Casting Alloy / Condition: A - 360
    - Surface: Qualicoat class 2 powder coated
- Hardware
    - Seals: TPE SEBS
    - Bolts: Steel Grade 10.9
    - Nuts: Nylon insert lock nut - Steel grade: 6
    - Bolts & Nuts Coating Process: DELTA PROTEKT KL 100 + DELTA SEAL

⚠ WARNING

Read the assembly, installation, care, maintenance, and use instructions in this manual prior to assembling and using this product. Save this manual for future reference.

2. Parts List

Before beginning assembly, refer to the drawings below to identify all the parts used. The numbers given next to each part will be used to help differentiate the parts in the instructions.

a. HUBS

All EKODOME® Hubs are identified by an alphanumeric numbering system. Located on top of every hub you will find impressions that identify the hub as far as identification of which strut is associated with each location in the hub.

PART	DESCRIPTION	QTY
2VA Hub	6 Strut Hub	10
2VA Hub Cap	6 Strut Hub Cap	10
2VB Hub	5 Strut Hub	6
2VB Hub Cap	5 Strut Hub Cap	6
2VG1 Base Hub	Base Row Hub	5
2VG1 Base Hub cap	Base Row Hub Cap	5
2VG2 Base Hub	Base Row Hub	5
2VG2 Base Hub Cap	Base Row Hub Cap	5
HUB CAP SEALS	EPDM Rubber Seals for hub caps	28

b. STRUTS

All EKODOME® struts for the kit you order look identical in shape, but they come in different lengths. They are numbered as below to match the alphanumeric numbering system on the hubs. All struts and strut caps equipped with TPE rubber seals.

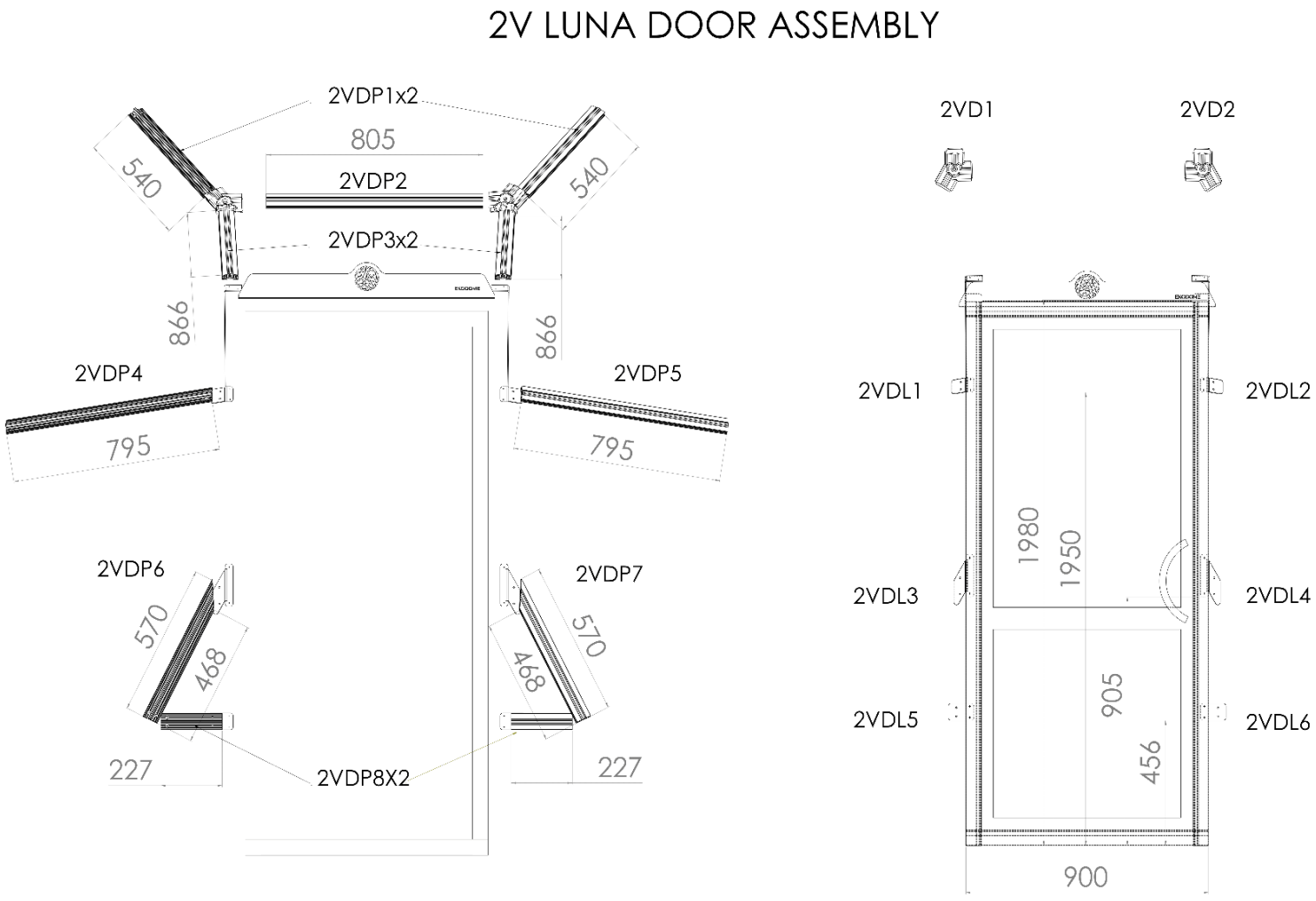
PART	LENGTH (mm)	QTY
Strut 1	1,200.00	30
Strut 2	1,358.50	35
Strut Cap 1	1,200.00	30
Strut Cap 2	1,358.50	35
T profile - 2VSTX10	450	10
L profile - 2VGLX10	1510	10

c. HARDWARE

Bolts, Nuts, Screws and Plastic caps required to install a 2V Luna frame are below.

PART	QTY
M6 Bolt	260
M6 Nylock Nut	260
M6 Plastic Nut cap	260
M4.2 Screws	195
Screw plastic cap	195
M12 Bolt	28
M6 Bolts for base T and L profiles	40

d. DOOR KIT



PART	Description	Qty/Length
Door frame & Door	Fully assembled	1
Door frame attachments	Laser cut aluminum plates	8
2VD Door Hub	3 Strut Hub	2
2VD Door Hub Cap	3 Strut Hub Cap	2
EPDM adhesive seals	1 for door brim and 2 for the sides	3
EPDM glazing gaskets	Suitable for 4-5-6 mm glazing	6.20mt
Bolts, Screws, Nuts, Plastic Caps package	Self drilling screws 30, M6 bolts 30,	30+30
Door lock	Already installed	1
Keys	Keys inside the glazing molding	3
Door handle	Interior and exterior	2

e. ADD-ONS

1 - Window Kit

EKODOME® window cases are made of 2mm thick aluminum sheets that are laser cut and welded. Thanks to the TPE gaskets on the aluminum struts, windows cases can be squeezed by the profile caps, unlike the panel installation, which requires a minimum of 4mm thickness. However, depending on the poor leveling of the foundation and improper installment of the base elements (ideally, they should exactly match the dome's diameter), the window frame may need to be raised with an extra 2mm with wedges or laths. You can place these laths below (on the struts) or above the window case flanges for the best-squeezing performance of the strut caps' TPE rubber seals. If silicone application is applied, no additional action is required.

PART	Description	Qty/Length
Window case & frame	Pre-assembled. Laser-cut aluminum case and aluminum profile frame equipped with glazing moldings, hinges, side hung hinge, trigger lock, and handle.	1
EPDM glazing gasket	Suitable for 4-5-6 mm glazing	3.4 mt

2 - Cupola Kit

Cupola, ideal for humidity management, protects the ventilation holes or cutouts on the tip of the panels at the top of the dome from rain. This easy-to-install kit includes a pentagonal aluminum composite roof and five aluminum fittings:

a. You should turn the aluminum composite part, which comes as a flat sheet, into a mini roof by bending the pre-cut joint spacing.
b. After screwing the cupola feet to the composite ceiling, fix them on the struts caps forming the pentagon on the top of the dome frame, with all feet equidistant from the center.
c. You can attach your preferred transparent sheets (polycarbonate, acrylic, plexiglass, etc.) or metal ventilation grilles to the sides of the Cupola.
d. Covering the cutouts with a net is suggested to keep the mosquitos and bugs out.

PART	Description	Qty
Cupola roof panel	CNC-cut aluminum composite.	1
Aluminum fittings	3mm thick laser-cut	5
Self drilling screws & Plastic Caps		25

3 - TUNNEL Module Kit

Tunnel modules connect multiple domes, and you can also install one as a doorway for your dome frame. Numerous tunnel modules can be screwed to each other to extend the distance, and you can install a door from the sides to create complex architecture.

Glazing moldings of the tunnel module profiles can accommodate solid panels between 4-10mm. Ekodome suggests a maximum of 6mm thick glazing for the best use of these lightweight components and included 14 meters of glazing gaskets compatible with 4-6 mm panels in the kit.

Like the rest of the frame covering, we strongly advise applying silicone between the glass/panels and the tunnel module frame components, especially for permanently installed frames.

PART	Description	Qty/Size
Side Profiles	Pre-assembled 4 aluminum profiles	2
Roof Profiles	Pre-assembled 4 aluminum profiles	1
EPDM glazing gasket	Suitable for 4-5-6 mm glazing	14mt.

3 - Passive Vent

Passive ventilation works on a scientific principle, using the buoyancy of hot air and the wind to encourage airflow through the domes. Our aluminum passive vents are easy to install, maintenance-free, and challenge condensation naturally. By installing these tiny aluminum roofs above the cutouts on the panels, moist stale air is extracted and replaced with fresh, clean air. Covering the cutouts with a net is suggested to keep the mosquitos and bugs out.

PART	Description	Qty/Size
Passive Vent	Laser-cut and press bent 1.5mm thick aluminum sheet	1

3. ASSEMBLY

⚠ CAUTION

PREPARE YOUR SITE

- Choose your construction area, considering the sun exposure/shade considerations based on dome use/function, water runoff, grade angle, and window locations.
- Clear the area of rocks, foliage, grass, or any other item that may interfere with leveling or the functionality of the dome
- Before building your dome, build the foundation (either stone, timber, or cement). You may also decide to place your dome directly on the ground.
- Mark your construction site and prepare your workstation.

PREPARE YOUR WORKSTATION

- Layout all the unpacked parts on a convenient workstation outside the construction site. Sort all struts by length and all hubs by size. You can color code the strut ends for easy identification.
- Prepare your required tools in advance. A power drill and a step ladder are essential to building the kit. You may also rent an aerial man lift for the day.

PREPARE YOUR TEAM

- You will need a crew of min. 3 people for installation. Assign roles to team members, one person to be the supervisor.
- Let everybody on the crew become familiar with parts and instructions set out in this manual before the assembly.
- Make sure the builders wear construction safety equipment such as gloves and hard hats while building the dome kit.

DURING THE ASSEMBLY

- Don’t climb on the struts until the final strut and hub parts are mated and locked in place. This final touch is the keystone of the dome building, locking the whole together.
- Don’t install covers without anchoring the Frame first.
- Build the bottom row first and continue working bottom-up.

***** For Assembly instructions, see assembly card attached.**

4. MAINTENANCE

Annual Maintenance Procedures

- Check for tightness of structural nuts and bolts of the EKODOME® hubs. Tighten, if loose, using a ratchet or hammer drill. Replace if they are cracked or missing.
- Check all sealants for wear or other deterioration. Replace as needed.
- Check visually if any of the struts on your dome starts to bend. Bent frame struts can be bent back and reused.
- You can always order replacement parts from EKODOME®.
- In case of significant damage, please immediately get in touch with EKODOME®.

5. LIMITED WARRANTY

EKODOME® warrants its products to be free from defects in material and workmanship under normal use and service conditions. The aluminum frame and hubs are warranted for ten (10) years after the date of purchase, given regular maintenance and check procedure is completed by the purchaser. All other parts are warranted for 1 (one) year after the date of purchase. In case of a defect, EKODOME®, at its sole option, shall repair or replace the Product. Wind or weather damage is not warranted.

This limited warranty does not cover any defect due to: modification or alteration of the Product; use not in accordance with Product manuals; neglect, misuse, accident, abuse or vandalism; unauthorized or improperly performed repairs; improper assembly, installation or disassembly; improper maintenance or unusual physical stress; improper storage; extreme weather conditions; acts of God; and damages that may occur during assembly or disassembly of the Product.

All warranty coverage extends only to the original retail purchaser from the date of purchase. All products for which a warranty claim is made must be received by EKODOME® at one of its authorized locations. In addition, you must obtain preauthorization in writing from EKODOME®. No other warranty beyond that expressly set forth above is authorized by EKODOME®.

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