I. Key Technical & Process Specifications

1. Material Specifications

1. Sheet metal: 304 stainless steel, thickness 0.8-1.2 mm. Cold-rolled stainless steel sheet with brushed surface finish is adopted.

2. Surface: Retain the original brushed surface of raw material. No painting is applied on finished products to preserve the natural metallic appearance. Slight oxidation from laser-cut edges shall be lightly ground and deburred.

3. Top blade: Stainless steel of the same material. Compatible with fiber laser marking for engraving the corporate name “Aoli”.

2. Blanking Process (Laser Cutting)

1. All components are integrally cut by a fiber laser cutting machine. All insertion slots and segmented profiles are produced in a single cutting operation.

2. Slot tolerance is controlled at ±0.15 mm to ensure proper tightness of inserted pieces. Excessive clearance may cause loose assembly, while over-tight fit will increase assembly effort.

3. Post-cutting treatment: Remove dross and burrs on parts; break sharp corners to prevent hand scratches during assembly.

3. Structural Principle (Longitude-latitude Segmented Interlocking

Structure)

- The sphere is assembled by interlocking slotted radial curved segments (longitude pieces) and annular curved segments (latitude pieces).

- Full snap-fit interlocking structure without welding or adhesive; purely mechanical engagement for assembly.

- Each segment is equipped with positioning sockets. They engage with one another to form a spherical hollow grid shell.

- The bottom is closed, and an interface is reserved at the top for mounting the apple stem-and-blade assembly.

4. Assembly Procedure

1. Mount radial vertical segments first to establish the vertical contour of the apple-shaped body.

2. Fit annular horizontal segments in sequence and snap each segment into corresponding slots step-by-step.

3. Assemble layer-by-layer from bottom to top; adjust for uniform gaps and calibrate the sphericity.

4. Finally install the stem and blades. Blades can be rotated for angle adjustment.

5. Finished-product inspection: Verify overall sphericity, firm interlocking

without looseness, zero component deformation and uniform gaps.

5. Finished-Product Performance

- Fully detachable. All parts are flat blanks for convenient storage and transportation.

- Hollow grid structure creates light-and-shadow effects when light passes through. It serves as a demonstration sample for sheet-metal craftsmanship.

- Symbolic meaning: The apple symbolizes peace. Suitable for exhibition displays, customer gifts and office ornaments.