

Technical appendix / geometry

Concept 25.2 R1 was rebuilt from new sketches and features in Autodesk Fusion. No old housing STEP was imported. Units are millimetres. Native coordinates: X right, Y up, Z front.

Feature	R1 nominal / interpretation
Finished grip	90.4 W x 138.4 H x 28.8 D mm; overall width 93.2 mm including controls.
Change from 21.2	14 mm shorter (9.2%). Width and depth retained. Visible play face 34 to 38 mm: 24.9% more face area.
Play key	38 mm visible face; 40.6 mm internal flange. Do not dimension the face from the flange envelope.
W grille	61.7 W x 63.7 H x 0.8 T mm. 721 through holes; no decorative circular ring behind the W.
Acoustic layers	Textile 61.5 x 63.5 x 0.15 mm; perimeter PSA 61.3 x 63.3 x 0.13 mm. These are occupied envelopes, not material specifications.
Shell / grip	2 mm shell and 1.2 mm grip nominal design values. No production tolerance is assigned.

Drawing authority

The supplied STEP defines nominal geometry. The DXF contains W perforations. Rendered orthographic views are identification views, not dimensioned manufacturing drawings. Supplier DFM and released tolerances are required before production.

Technical appendix / verification

What was checked

Source validation records cover all 17 STEP solids, mesh watertightness, pairwise interference and native Fusion reopening. Additional per-body STEP exports are reimported, checked for one valid solid and compared with the source. Public mesh provenance records the original STL SHA-256 and face count.

Native editability

Width, height, depth, wall thicknesses, principal radii and play diameter have linked feature dimensions. Placement sketches are editable. `play_y`, `grille_y` and `grille_t` are reference parameters; automatic repacking of the entire assembly is not promised.

Manufacturing and engineering limits

There is no released fastener schedule, electronics BOM, harness, assembly torque, GD&T or production acceptance specification. The carriers, speaker cradle and microphone seat are concept geometry. Shell closure and control actuation require engineering. Do not assume the older 21.2 package has validated these interfaces in 25.2.

Material Lab and finish

The online 3D viewer uses uniformly scaled copies of all 17 source meshes. Color controls and exploded offsets are presentation options. They do not change downloadable CAD, assign tested material properties or certify manufacturability.

Traceability

File_Manifest.csv and the archive inventory give byte counts and SHA-256 digests. The web downloads use immutable hash-prefixed paths. Physical fit-check fields are deliberately marked NOT TESTED until the supplier records actual measurements.