

# Concept 2.2

## Silicone Monolith

R10 | Rapid Product Solutions | Supplier brief

| WIDTH (mm) | HEIGHT (mm) | DEPTH (mm) |
|------------|-------------|------------|
| 88         | 136         | 27         |

Body dimensions. Modeled controls/LED reach approximately 88.6 mm width and 27.2 mm depth.

### Inspiration photo



### CAD assembly / R10



Appearance intent; CAD shows the current engineering proposal. Views are not to scale.

CAD front



CAD rear



CAD exploded



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# Quote and materials

R10 | Rapid Product Solutions | Continuous silicone wrap with calibrated controls and a short sealed microphone duct.

Please review manufacturability and quote a staged enclosure prototype for Walkie One, a handheld push-to-talk voice device. We need to evaluate grip, button operation, speaker/microphone openings, status light, charging access and serviceability.

## What to quote first

One rigid fit set plus C01 silicone/registration, C02 microphone route, C03 front mechanism and C04 side mechanism samples. Resolve precision guides and silicone processing before a complete finished wrap.

## Materials and processes

|                          |                                                                                                                                                                                                                                                  |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Structure and mechanisms | SLS nylon structure with machined seats. POM-C front carrier, machined PA12 side carriers, ground guide pins, matched sleeves and threaded PEEK followers follow the BOM.                                                                        |
| Continuous silicone      | Dragon Skin 30 platinum-cure silicone, 30 Shore A; no substitute is released. Rapid advertises silicone casting but must confirm this grade, wrap geometry, thin membranes and perforated mold. Finished STEP is not shrink-compensated tooling. |
| Small parts and backing  | Custom springs require a springmaker-approved drawing and force curve. Use real porous black acoustic mesh; the 0.040 mm mesh / 0.040 mm adhesive stack is a selection target, not an approved stocked material.                                 |

Published capability is not acceptance of this specific geometry. Exact grades, fine tolerances, thin-section casting, specialty coatings/cutting and test services need Rapid confirmation. General website tolerances do not replace the finished drawing tolerances.

# Build and inspect

|                       |                                                                                                                                                                                                                     |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Envelope              | 88 x 136 x 27 mm body; modeled controls/LED reach approximately 88.6 mm width and 27.2 mm depth. Keep the 33 mm dish, colored controls and artwork.                                                                 |
| Precision guides      | 2.000 +/-0.002 mm pins with 0.006-0.010 mm diametral running clearance. Request explicit capability and inspection agreement; propose a controlled revision if this fit is impractical.                             |
| Control setting       | Finished rest gap 0.10 +/-0.02 mm. Stop spacers are measured 0.20-0.75 mm selections, not the nominal CAD examples. Contact +0.10 mm is a provisional load-qualification target, not approved switch overtravel.    |
| Casting and mic route | Retain 453 visible 1.30 mm holes and the 29.56 mm duct, 2.40 x 1.00 mm section. Prove hole registration, cure and seal continuity. Qualify local 0.50 mm tray floors; keep glue out of the duct and acoustic field. |

## Assembly order

1. Finish guides/stops and dry-fit keys before skins or electronics. Side carriers enter from the rear, lift 0.20 mm, move outward and lower before pins/followers are fitted. Follow D05 and original detail page 8; do not force flanges through exterior openings.
2. Fit springs and actual switches, cure the specified mounts, then set and record every follower and stop. Check front center/eight rim points and side center/end presses for contact and reliable return.
3. Fit mic/speaker and tray/cell before the PCB blocks access. Use approved harness/service loops. Complete the mic seal, then the wrap and removable rear-pad bond; recheck controls after bonding and closure.

## Keep separate

C05 smaller USB-mouth candidate is excluded from the base build. The original recessed connector/opening stays; a clearance gauge is not proof that an actual cable seats.

Use the supplied artwork at its specified size and position. Approve physical color, texture and marking samples together; screen colors are visual intent. Keep finish and adhesive off guides, stops, acoustic openings, optical faces and service seams unless the drawing explicitly calls for them. Record any proposed substitution before using it.

# Inputs and delivery

Rapid is asked to make, finish, inspect and optionally assemble agreed parts using Walkie One-supplied hardware. Walkie One owns electrical design, firmware, battery/charging, RF and acoustic validation. Rapid may quote specialist support separately; these services are not assumed from its website.

|                                        |                                  |                                                                                                                                     |
|----------------------------------------|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Before guide/casting samples           | Rapid                            | Confirm matched-guide process, spring sourcing, thin silicone mold/vent/registration approach and actual mesh stock.                |
| Before functional mechanism acceptance | Walkie One mechanical/electrical | Approve switch post-contact force/travel and spring/return evidence; provide the actual switch lot.                                 |
| Before powered/full finished article   | Walkie One electrical/design     | Actual populated PCB, battery limits, harness and cable; acoustic comparison of the revised duct; signed silicone/markings samples. |

## Quote and return

Quote each concept separately: one unpowered fit set and the priority samples on page 2, followed by one finished appearance article after sample approval. This is a comparison basis, not an order for all concepts. Show any minimum quantity; confirm the selected concept, quantity, delivery date and ship-to with Walkie One before work starts.

Please itemize parts, fixtures/coupons, tooling, finishing, assembly, inspection and shipping; state lead time from receipt of approved inputs. Identify partner-made work, exclusions and tolerances you cannot hold. Quote a feasible alternative with its effect on fit/appearance rather than silently changing the design.

Return identified parts/samples, the material and finish selections, measured critical dimensions, assembly photos and the completed applicable inspection record. List hand fitting, deviations and unresolved items. Leave unperformed tests blank or NOT TESTED. Walkie One approves samples and engineering changes before repeat finished units.

## Use these files

This brief controls supplier scope and responsibilities. The current per-part STEP, BOM and finished-interface drawings retain the technical requirements. Stop and return a marked question if they disagree. Millimetres throughout. Assembly STEP is a reference, not a single part to print. Purchased hardware, foam, cloth and adhesive solids are not rigid-print instructions.

BOM: docs/BOM.csv

Records: docs/Assembly\_Acceptance\_Record.csv; docs/Rapid\_Open\_Items.csv.

Original detail pages 5-13 and drawings D01-D05 contain exact settings, insertion sequence, silicone, duct and service requirements.

Supplier capabilities checked 06 Sep 2026. Source links and confirmation limits: docs/Rapid\_Capabilities.md.  
<https://www.rapid-products.com/>