Dimension verification sheet

Peristaltic pump

Drawing RFS-DEMO-0147-03 rev. A
Model measured Final 3D scene of the realistic video (peristaltica_e147c.blend)
Verification date 04-11-2026

The 25 dimensions and motions on the pump drawing, measured again on the 3D model used to make the video.

23 within tolerance · 1 declared simplification · 1 reference dimension · 0 out of tolerance

ID	DIMENSION	DRAWING (MM)	TOLERANCE	MODEL (MM)	RESULT
P01	Overall body width	100	ISO 2768-m (±0.3)	100.00	Within tolerance
P02	Overall body height	118	ISO 2768-m (±0.3)	118.00	Within tolerance
P03	Rotor axis → underside of the top bar	56	ISO 2768-m (±0.3)	56.00	Within tolerance
P04	Top bar thickness	12	ISO 2768-m (±0.2)	12.00	Within tolerance
P05	Track radius (Ø77.6)	38.8	±0.05	38.80	Within tolerance
P06	Roller axis circle	56	±0.05	56.00	Within tolerance
P07	Roller Ø16	16	±0.05	16.00	Within tolerance
P08	Rotor hub Ø20	20	ISO 2768-m (±0.2)	20.00	Within tolerance
P09	Distance between the tube legs	68	ISO 2768-m (±0.3)	68.00	Within tolerance
P10	Roller–track gap (occlusion)	2.8	±0.1	2.80	Within tolerance
P11	Tube, outside diameter	9.6	ref.	9.60	Within tolerance
P12	Tube, inside diameter	6.4	–	6.40	Within tolerance
P13	Closed tube, thickness	2.8	ISO 2768-m (±0.1)	2.80	Within tolerance
P14	Closed tube, width	13.2	ref.	13.17	**Reference dimension**
P15	Body depth	26	ISO 2768-m (±0.2)	26.00	Within tolerance
P16	Cavity depth	22	ISO 2768-m (±0.2)	22.00	Within tolerance
P17	Roller length	16	ISO 2768-m (±0.2)	16.00	Within tolerance
P23	Roller front face → body front face	2	ISO 2768-m (±0.1)	2.00	Within tolerance
P24	Hub length	15	ISO 2768-m (±0.2)	15.00	Within tolerance
P25	Arm thickness and clearance to the base	2.5 / 1	ISO 2768-m (±0.1)	2.50 / 1.00	Within tolerance
P18	Roller bore (bearing seat)	10	ISO 2768-m (±0.2)	–	**Declared simplification**
P19	Rotor direction, view A (↺ = anticlockwise)	↺	–	↺ (+7.20°/fot.)	Within tolerance
P20	Flow direction (→ = in on the left, out on the right)	→	–	→	Within tolerance
P21	Roller spin (Ω = rotor speed)	−3.5 Ω	–	−3.50 Ω	Within tolerance

ID	DIMENSION	DRAWING (MM)	TOLERANCE	MODEL (MM)	RESULT
P22	Full occlusion: rollers at a time	≥ 1	–	1–2	Within tolerance

Notes

- P11 and P12: commercial tube 6.4 × 1.6; the inside diameter and wall set by the tube supplier govern. The outside, 9.6, is derived.
- P14: 13.2 is an illustrative reference dimension, calculated on the wall centre line; it does not validate the real behaviour of the tube (with the wall area preserved it would be 14.96). The model gives 13.17, measured from the side: it cannot be seen from the front.
- P18: the roller bore is covered by the bearings; it is not visible in the video.
- Idealised flow (simplification S4): the liquid moves at the roller speed along the tube centre line, without deducting the squeezed volume. It shows how the pump works; it is not a flow calibration.
- P21: the roller spin is applied as constant over the whole turn (simplification S8); on the straight walls exact rolling would be slightly slower. With plain rollers it cannot be seen.
- Three checks: all 25 figures appear on the drawing; the part checker measures them on the final 3D scene of the realistic video; and a second, independent program measures the geometry of the technical version. Rotor and flow directions are also measured in the image of both videos. Geometry error allowed: ±0.01 mm. Our own demonstration design.