

LABTIE 45 TUBE POWDER DISPENSER CONVERTER MEASUREMENTS – ACCURATE MODULAR POWDER DISPENSER

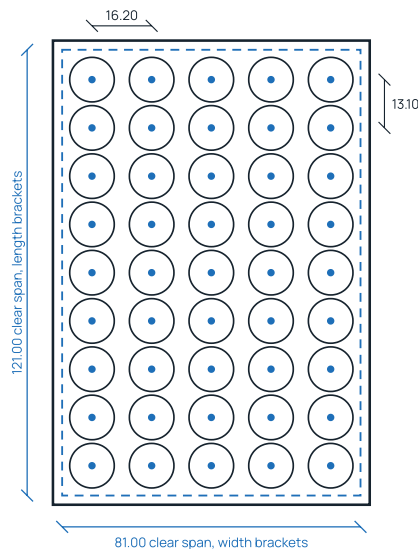
CS-45W-V7mm-4.2mm.STEP

SolidWorks 2021 · 2023-03-13

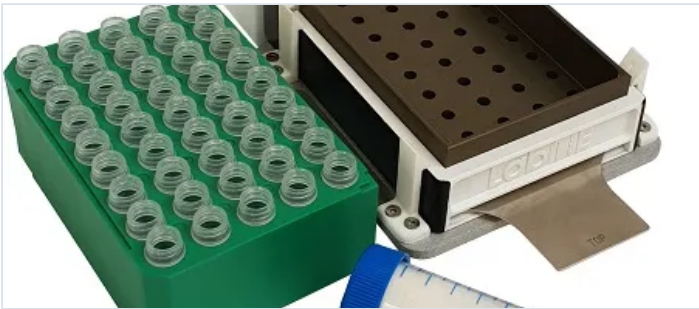
Millimetre · single solid

The LabTIE 45 Tube Powder Dispenser is an accurate modular powder dispenser, and this datasheet covers its converter measurements. It gives the three dimensions customers ask for before ordering, the hole pitch, the clear span between brackets, and which racks and tubes the LabTIE 45 Tube Powder Dispenser fits. All figures are taken from the released STEP solid, and the views are generated from that same geometry, so what is drawn and what is dimensioned are the same model.

FIG. 01 · TOP VIEW FROM THE STEP MODEL



THE LABTIE 45 TUBE POWDER DISPENSER



The modular powder dispenser as supplied, with the converter fitted over a 45 position tube rack.

Outlets	45, 5 × 9
Grid pitch	16.20 × 13.10 mm
Clear span	121.00 × 81.00 mm
Tube pocket	Ø12.10 mm
Outlet	Ø4.60 mm

MEASUREMENT 1

Distance between the holes
16.20 mm across
13.10 mm along

Centre to centre. 45 positions in a 5 × 9 grid, five columns on exact 16.200 steps and nine rows on exact 13.100 steps, each with a Ø12.10 mm tube pocket, a Ø6.60 mm guide and a Ø4.60 mm outlet. Note the file name states 4.2 mm; the geometry measures 4.60.

MEASUREMENT 2

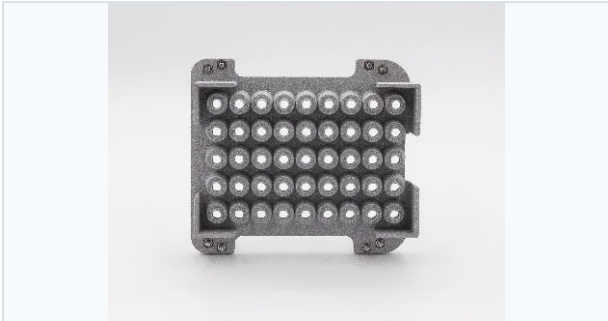
The Dispenser (converter) dimensions clear span
between brackets
121.00 mm length
81.00 mm width

Inner face to inner face across the brackets on the bottom part. The bracket outer faces measure 126.00 × 86.00 mm, so each bracket is 2.50 mm thick.

MEASUREMENT 3

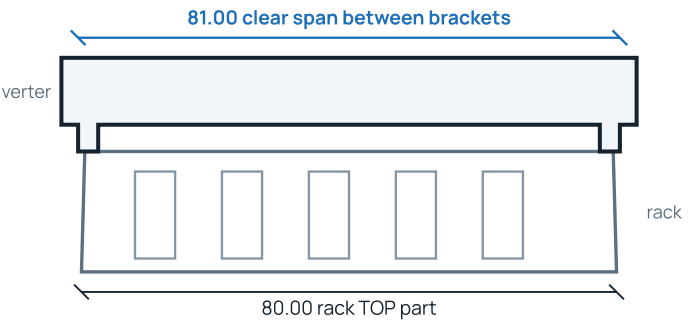
FIT ON THE RACKS AND HOLDERS

FIG. 02 · THE DISPENSER (CONVERTER)



The Dispenser (converter) as shown on the product page. The flat top part carries the 45 outlets on the 16.20 × 13.10 mm grid; the brackets sit on the underside and close around the rack's upper section, shown in section opposite.

FIG. 03 · SECTION: HOW THE BRACKETS ENGAGE THE RACK



The brackets close around the rack's upper section, not its base. On a microplate footprint rack the base is wider; the upper section is the dimension that governs the fit. The same section applies on the 121.00 mm axis.

The 45 position rack fits, with the brackets closed on both axes

AXIS	CLEAR SPAN	RACK TOP PART	MARGIN	PER SIDE
Length	121.00	120.00	+1.00	0.50
Width	81.00	80.00	+1.00	0.50

FITS both axes clear

Rack top part is the upper section that enters between the brackets, taken from the LabTIE holder built for this converter. Where a rack is published with a base footprint only, the upper section is taken as the footprint less the Bracket Taper Allowance (BTA) of 4.00 mm on each axis, per LabTIE.

MEASUREMENT 3 · CONTINUED

WHICH RACKS AND TUBES FIT THE LABTIE 45 TUBE POWDER DISPENSER

Two checks decide the fit. The rack is judged on its upper section against the clear span of 121.00 × 81.00 mm, never on its base footprint. The tube is judged on its body diameter against the Ø12.10 mm pocket on the 16.20 × 13.10 mm grid.

RACKS

BRAND	CATALOGUE NO.	TYPE	TOP L × W	SOURCE	FIT
LabTIE International	45 tube holder	Snap cap tube holder, built to this converter	120.00 × 80.00	LabTIE	Verified fit
BioSpec Products	702VH45	Polypropylene vial rack, 45 × 1.5 or 2 mL microvials	Within 121.00 × 81.00	LabTIE	Verified fit

The BioSpec 702VH45 is a microvial rack on a standard microplate footprint carrying forty-five 1.5 or 2.0 mL microvials, published without upper section dimensions; the entry records a LabTIE fit check on the rack itself rather than a vendor figure.

TUBES

TUBE	CLOSURE	BODY Ø	POCKET CLEAR	NEIGHBOUR GAP	FIT
2.0 mL microtube	snap cap	10.80	+1.30	2.30	Verified fit
2.0 mL microtube	screw cap	11.00	+1.10	2.10	Verified fit
1.5 mL microtube	snap cap	10.80	+1.30	2.30	Verified fit
1.5 mL microtube	screw cap	11.00	+1.10	2.10	Verified fit
2 mL bead beating tube	screw cap, O ring	11.60	+0.50	1.50	Verified fit

Verified fit = the rack's upper section enters between the brackets with a margin within +2.00 / +2.00 mm on both axes, and the tube body enters the Ø12.10 mm pocket and clears its neighbours on the grid. Body diameters are the nominal dimensions for these standard formats; confirm against your own supplier's drawing where a tolerance matters. Brand names are given so you can recognise your own labware; LabTIE is not affiliated with these manufacturers. Rack or tube not listed? Send the name or part number with your quote request.

RESULT

Standard 1.5 and 2.0 mL microtubes fit, screw cap and snap cap alike, on both the LabTIE 45 position holder and the BioSpec 702VH45 vial rack. The pocket is Ø12.10 mm on a 16.20 × 13.10 mm grid, which leaves a 1.00 mm web on the close axis, so the tube diameter rather than the closure sets the limit. The rack clears the brackets by 0.50 mm per side on both axes.

THE ONE FIGURE TO CONFIRM

Tube body diameter is the figure to confirm: anything up to Ø12.10 mm enters the pocket. Standard 2 mL microtubes sit at 10.80 mm, so they load and unload freely.