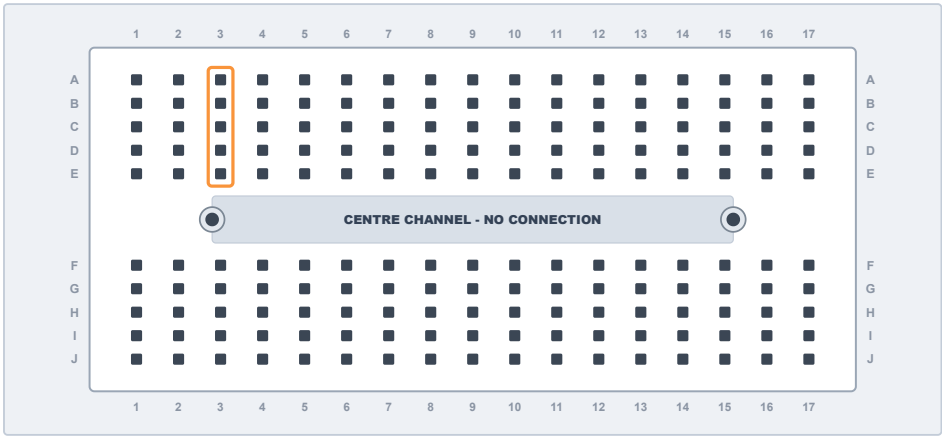
170 Point Mini Solderless Breadboard

Which holes are joined to which, how to power it with no rails, and where the mounting holes are.

170 TIE POINTS | 17 COLUMNS | 2.54 MM PITCH | NO POWER RAILS | 2 MOUNTING HOLES | 46 x 34 MM BODY

1 HOW THE HOLES ARE JOINED



All 17 columns shown - not to scale - the board itself has no printed letters or numbers; the grey ones here are for reference

DOWN — **The five holes in one column, A to E, are one connection.** Orange box above. F to J below the channel is a separate one

GAP — **The centre channel joins nothing.** A DIP chip sits across it with each row of legs on its own side

NO RAILS — **There are no + and - strips on this board.** Pick a column for your supply and another for ground (section 2)

ROUND — **The two round holes are for mounting screws,** not tie points. Nothing connects to them

SO, IN PRACTICE	
Joining two parts	Put a leg of each in the **same column**, same side of the channel
Keeping them apart	Use different columns, or opposite sides of the channel
More room	Clip boards together with the side tabs, or step up to a 400 or 830 point board

WHAT GOES IN THE HOLES	
Jumper wire	Solid core, about 20 to 29 AWG. Pre-made Dupont male pins fit
Component legs	Resistors, LEDs, capacitors, transistors, DIP chips, header pins
Not stranded wire	It frays, will not seat, and leaves strands behind in the clip

2 YOUR FIRST CIRCUIT

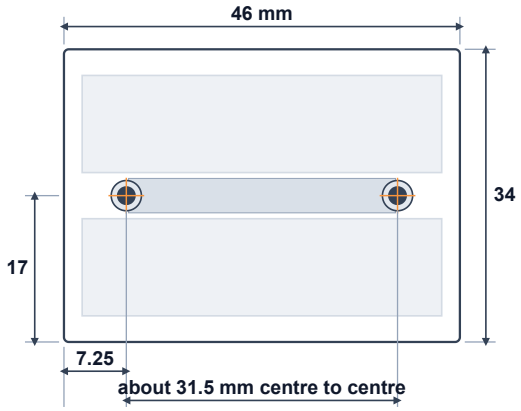
1. **Choose two power columns.** Use column 1 (top half) for positive and column 17 (top half) for ground. Each gives you five joined holes.
2. **Put an LED across the channel.** Long leg in column 8 on the top half, short leg in column 8 on the bottom half.
3. **Add a resistor** (220 to 1k) from column 1 to column 8, both on the top half.
4. **Jumper the short leg to ground:** from column 8 (bottom half) to column 17 (top half).
5. **Feed 3.3 V or 5 V in:** positive to column 1, ground to column 17, from a dev board or bench supply. The LED lights.

A low voltage bench tool. Keep it to 3.3 V and 5 V logic and small signal work. The clips are exposed and springy, so never put mains on a breadboard. An LED with no resistor burns out in about a second, so do not skip step 3.

3 AT A GLANCE

DETAIL	VALUE
Type	**SYB-170 style mini breadboard, white**
Tie points	**170: 17 columns x 2 groups of 5**
Power rails	**None, no printed markings**
Hole spacing	**2.54 mm (0.1 in)**
Centre channel	**31 x 4 mm; rows either side 7.62 mm (0.3 in) apart, fits DIP chips**
Size	**46 x 34 mm body, tabs add ~1.5 mm; height ~8.5 mm**
Mounting	**Adhesive pad, or 2 screw holes**

4 SIZE AND MOUNTING HOLES



Measured on our stock. Tabs (not shown) stand out about 1.5 mm. Holes: M2 clearance, 3.5 mm head recess. Hole-to-end figure is derived; check your board before drilling a panel.

5 THINGS THAT CATCH PEOPLE OUT

- **Opposite holes across the channel are not joined.** That gap is what separates the two halves.
- **A column is only five holes.** If you run out, carry the connection to another column with a short jumper.
- **A Nano fits, but fills it.** Its 15 pins a side take 15 of the 17 columns, with two or three free holes per pin. A 30-pin ESP32 leaves one free hole at most. For a board plus parts, use a 400 or 830 point board.
- **Push leads straight in and pull them straight out.** Levering sideways bends fine legs and slowly opens up the clip.
- **The adhesive pad is permanent.** Peel the backing only once you are sure where the board will live.

The digital copy of this guide, and the 400 and 830 point boards

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