

Radiator replacement: site survey sheet

Take these seven measurements with the existing radiator still in place. Five minutes on site removes most of the risk of wall chasing, returns and undersized output.

PROJECT / SITE	DATE
SURVEYED BY	ROOM

The seven measurements

1	Horizontal pipe centres Flow axis to return axis. The governing dimension — if it doesn't match, you are chasing the wall.	mm
2	Connection height above finished floor Decides whether the new emitter can conceal the existing tails.	mm
3	Available width — smallest of three readings Measure left, centre and right. Walls are never parallel.	mm
4	Usable height (floor to sill / shelf) The real maximum height, not the catalogue one.	mm
5	Available depth (wall face to obstruction) A double tubular projects far more than a flat panel.	mm
6	Thread size and pipe material 1/2" or 3/4", male/female — copper, multilayer or steel. Governs adaptors.	in / mat.
7	Existing radiator overall size and type Height x width x depth, and cast iron / steel tubular / panel.	h x w x d

System configuration

Circuit	☐ Two-pipe ☐ Single-pipe	Valve	☐ TRV fitted ☐ Manual ☐ None
Heat source	☐ Standard boiler ☐ Condensing ☐ Heat pump	Flow / return	_____ °C / _____ °C
Constraints	☐ Low sill ☐ Skirting ☐ Listed building ☐ Furniture	Photos	☐ Connections ☐ Full wall ☐ Tape in shot

Notes / required output

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Output correction: what your radiator really delivers

Radiator outputs are declared to EN 442 at delta T 50 K (mean water 70 °C, room 20 °C). If your system runs cooler, real output falls exponentially — not proportionally.

$$Q = Q_{50} \times (\text{delta T} / 50)^n \quad \text{with } n = \text{approx. } 1.3 \text{ for radiators}$$

System condition	Delta T	Real output vs. declared	Multiply catalogue watts by
Conventional boiler 80/70	50 K	100%	1.00
Condensing boiler 65/55	40 K	approx. 75%	0.75
Heat pump 55/45	30 K	approx. 51%	0.51
Low temperature 45/35	20 K	approx. 30%	0.30

Worked example. A 1,200 W catalogue radiator on a 55/45 heat pump circuit delivers roughly 620 W in the room. Radiators are not incompatible with low flow temperatures — they simply need more exchange surface: taller, deeper, or more sections. That is usually the point at which standard envelope sizes run out and a made-to-measure emitter becomes the cheaper route.

Five errors that cause returns

- **Measuring width at one point only.**
Walls converge — the unit fits at the top and not at the bottom.
- **Forgetting the skirting board.**
It takes 10–20 mm of depth and shifts the bracket datum.
- **Comparing outputs without checking delta T.**
Two datasheets can quote different reference conditions.
- **Ignoring system flow rate.**
A much larger emitter may require rebalancing the circuit.
- **Ordering before the site visit.**
A survey done from memory by the end client is the commonest cause of returns.

Send us the completed sheet

We'll confirm whether a catalogue unit fits your connection positions and required output — or whether building to size is the faster and cheaper route. Technical support is included, at no charge.

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