

HALO® 2 Design Guide and Typical Details

Nozzle spacing, obstructions, plant space and pipe routing

The main design rules for HALO® 2. Every system must be designed by a **trained designer using Quenchfire's hydraulic calculation program**, which confirms at least 35 bar and the required flow at the heads furthest from the pump, and installed by **Quenchfire-trained installers**.

16 m²

COVERAGE PER HEAD

3.5 m

MAX. CEILING HEIGHT

80 m²

MAX. ROOM AREA

2

MAX. HEADS OPERATING

01 Design basis

- BS 8458:2015; fire tested to Annex C (tests a to e)
- Rooms up to 80 m²; ceilings up to 3.5 m
- Maximum of two spray heads operating
- Confirm the occupancy category (domestic or residential) and height thresholds with the approving authority

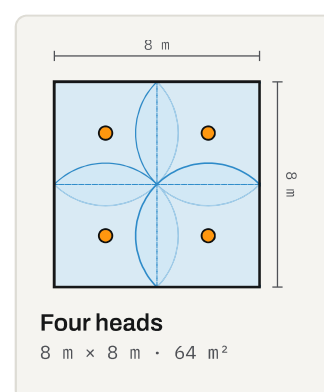
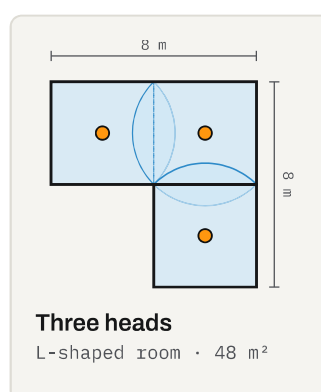
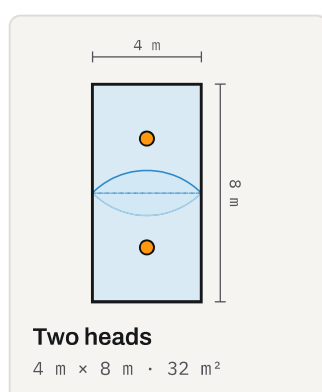
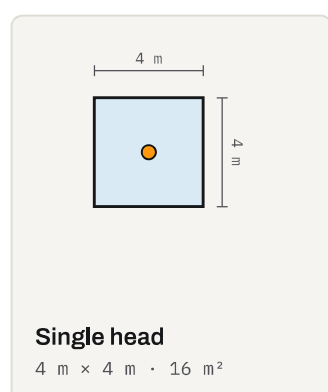
AREAS THAT MAY BE EXCLUDED

Unless the fire strategy requires protection: bathrooms under 5 m² and cupboards under 2 m² with doors; non-combustible rooms 1 m wide or less; non-communicating garages; crawl spaces, unused lofts, ceiling voids and open balconies.

02 Nozzle spacing

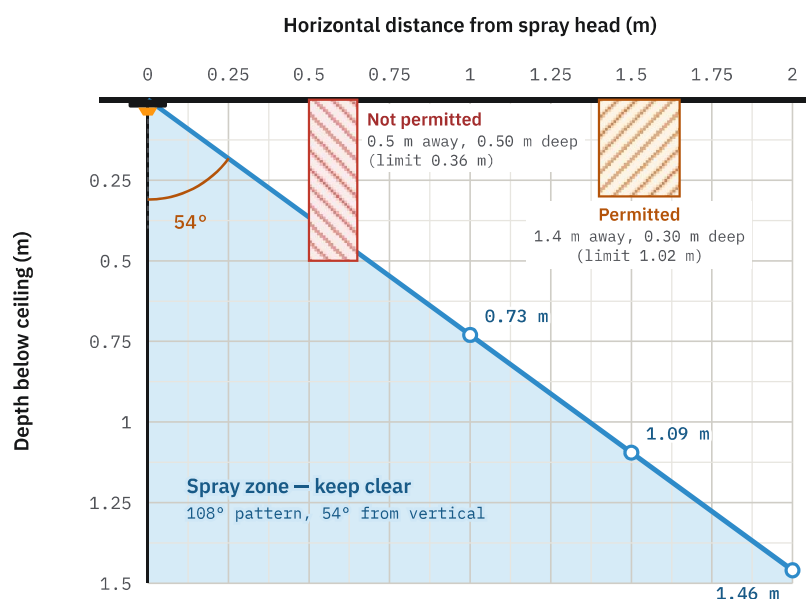
RULE	REQUIREMENT
Coverage per head	4.0 × 4.0 m (16 m ²)
Between heads	2.0 m min. – 4.0 m max.
To walls	2.0 m max.
Ceiling height	3.5 m max.
Sloping ceilings	<30°: standard spacing along the slope. ≥30°: first row within 300 mm of apex. Heads perpendicular to ceiling.

Typical spray head layouts



Drawn to scale · 2.0–4.0 m between heads · each head covers a 4 m × 4 m module (16 m²) · max. 2.0 m from walls

02.1 Obstructions



DESIGN RULE

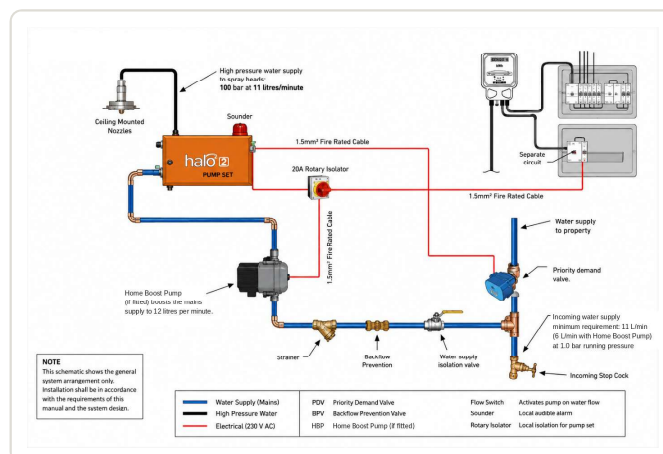
Max. obstruction depth = **0.73 ×**
distance from spray head

DISTANCE	MAX. DEPTH
0.25 m	0.18 m
0.50 m	0.36 m
0.75 m	0.54 m
1.00 m	0.73 m
1.25 m	0.91 m
1.50 m	1.09 m
1.75 m	1.27 m
2.00 m	1.46 m

Spray pattern 108° (54° from vertical). An obstruction may project below the ceiling by no more than **0.73 × its distance from the spray head**. Where a fire could be shielded, add or reposition heads. Chart drawn to equal horizontal and vertical scale.

03 Plant space and water supply

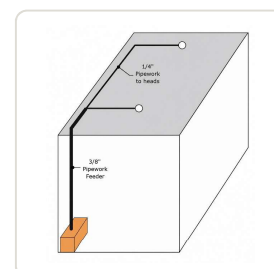
- Pump set 500 × 300 × 300 mm, 28 kg; clearances 300 mm above, 150 mm sides and front
- Fire-separated location, away from flood risk, above 4 °C
- Supply taken from the main **before any other draw-off**: 11 L/min at 1 bar running (6 L/min with Home Boost Pump)
- Shared supply: Priority Demand Valve, or 36 L/min (domestic) / 61 L/min (residential)
- Backflow protection to BS EN 1717; notify the water utility company
- Dedicated 230 V, 16 A Type C circuit in 1.5 mm² FP200



Typical system arrangement

04 Pipe routing

- EN 857 1SC hose: 3/8" feeder, 1/4" drops (180 bar max. working pressure)
- Rubber-lined P-clips at 500 mm max. centres; no kinks, tight bends, sharp edges or heat sources
- Behind a fire-rated barrier in the protected area; protected from frost
- BSP 60° cone inserts and no-skive ferrules, crimped to the manufacturer's settings



Typical pipe routing

PRESSURE TEST

Before concealment

1.5 × working pressure

TEST PRESSURE