

Heat Pump Cooling Guide

Underfloor cooling and compatible STIEBEL ELTRON MVHR cooling options.

A cooling-capable heat pump can provide gentle comfort cooling through a correctly designed underfloor system. Compatible STIEBEL ELTRON ventilation systems may also provide tempered supply-air cooling when integrated with a suitable STIEBEL ELTRON heat pump and the required accessories. These systems are not a direct replacement for air conditioning.

STIEBEL ELTRON MVHR COOLING

Certain compatible STIEBEL ELTRON MVHR systems can provide cooling / tempered supply air via a suitable STIEBEL ELTRON heat pump.

The system must be designed with the correct cooling accessory or coil, controls, insulated ductwork, condensate management and condensation protection. The cooling effect is supplementary and depends on airflow rates, heat gains and the building design.

Underfloor cooling - suitable floor finishes

Suitable	Not suitable
• Ceramic or porcelain tiles • Natural stone • Polished concrete • Exposed screed or similar mineral-based finishes	• Carpet and underlay • Engineered or solid timber / wood flooring • Laminate or vinyl with insulating underlays • Other finishes that significantly restrict heat transfer

Key system requirements

- **Cooling-capable heat pump and controls:** All equipment and the hydraulic arrangement must be designed for cooling operation.
- **Dew-point protection:** Humidity and surface-temperature control are required to prevent condensation.
- **Separate buffer vessel:** A combined buffer and hot water cylinder is not suitable for cooling. Cooling requires a separate buffer vessel as part of the hydraulic design.
- **Project-specific performance:** Cooling output depends on insulation, glazing, solar gain, ventilation, floor construction, available floor area and air volumes.
- **Final finishes:** Floor finishes and the MVHR cooling arrangement must be agreed before design and must not be altered without Total NRG approval.

Total NRG design position

Total NRG will only include cooling where the heat pump, controls, hydraulic design, floor construction, final floor finish and any MVHR cooling equipment are confirmed as compatible and suitable. Cooling performance is project-specific and is not guaranteed to match conventional air conditioning.