

Technical Specification for Ventilation Duct and Extract System for Launderette

1. General Requirements

- The ventilation system is designed to extract warm, moist air efficiently from the launderette and ensure compliance with relevant building and environmental standards.
 - All components must meet current UK Building Regulations and BS EN 1507 for ductwork performance and air leakage.
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2. Ventilation Duct

- **Type:** Spiral Ductwork
 - **Material:** Galvanized steel conforming to BS EN 10346.
 - **Diameter:** 450mm.
 - **Wall Thickness:** As per SMACNA (Sheet Metal and Air Conditioning Contractors' National Association) standards for the size and application.
 - **Length:** Fabricated as required to fit site-specific layout, minimizing bends to reduce pressure loss.
 - **Connections:** Slip joint or flange connections with neoprene or EPDM gaskets to ensure an airtight seal.
 - **Insulation (if required):** Thermally insulated with non-combustible material, conforming to BS 5422.
 - **Fixings:** Securely mounted using M&E-approved suspension systems and vibration-dampening brackets.
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3. Fan Motor

- **Type:** Short Case Axial Fan Motor.
- **Construction:** Steel casing with powder-coated finish for durability.
- **Performance:**
 - **Airflow Capacity:** Sized to handle the launderette's total extract airflow requirement (calculated based on room size and appliance heat generation).
 - **Pressure Rating:** Capable of overcoming system resistance, including ductwork, filters, and terminal devices.
 - **Motor Type:** Variable-speed motor (EC or AC) with integrated thermal protection.
- **Speed Controller:**
 - Allows for manual adjustment of fan speed to optimize airflow and energy efficiency.

- Compatible with BMS (Building Management System) if required.
 - **Mounting:** Anti-vibration mounts to minimize noise and vibration transfer to the structure.
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4. Jet Cowl

- **Type:** High-Efficiency Jet Cowl.
 - **Material:** Weatherproof galvanized or stainless steel with UV-resistant coating.
 - **Design Features:**
 - Provides effective discharge of extracted air at a velocity sufficient to avoid re-entrainment into the building or adjacent structures.
 - Includes an integrated backdraft damper to prevent air ingress when the fan is off.
 - **Mounting:** Securely fixed to the duct termination point, sealed to prevent water ingress.
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5. Accessories

- **Dampers:** Volume control dampers within the duct system for balanced airflow distribution.
 - **Filters:** Optional pre-filters to prevent lint and debris from entering the duct and fan assembly, reducing maintenance.
 - **Grilles and Louvres:** Internal extraction points equipped with easy-to-clean grilles.
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6. Installation and Testing

- Installation to be carried out by a competent contractor in accordance with DW/144 (HVCA Ductwork Specification).
 - All ducting and components to be checked for air-tightness and compliance with design airflow rates.
 - Commissioning: System to be tested and balanced to meet specified performance levels.
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