

Project Ref: 308-06

July 2026



ALFRED H KNIGHT

Item 11. Flues & Ventilation Extraction Details

Erection of external plant/machinery *in relation to Phase 1B internal remodelling works.*

APPLICANT: Alfred H Knight Ltd

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Kirkby
Knowsley L33 7AS

AGENT: Mersey Design Group Ltd



This document has been prepared in response to the additional information requested by Knowsley Council in respect of Item 11 of the Local Validation Checklist. It should be read in conjunction with the submitted and subsequently updated planning drawings and elevations showing the proposed extraction installation.

1. EXTRACTION SYSTEM AND DUCTING ARRANGEMENT

The proposed instrument extraction installation is a simple system comprising an extract fan and 300mm diameter ductwork only. There are no filters, silencers or other intermediate components forming part of the extraction system. The extract fan is installed internally, approximately 300mm from the external elevation, and is connected directly to the 300mm diameter extract ductwork. From the fan, the ductwork passes through the external elevation and continues vertically up the outside of the building, terminating above roof eaves level.

The proposed position and external route of the instrument extraction ductwork are shown on the updated drawings AL(2)01 and AL(2)02 submitted in support of the application. The precise height of the wall penetration may be subject to a minor adjustment to accommodate the existing internal structural steelwork. This will not materially alter the external arrangement or termination of the system shown on the submitted drawings.

2. FAN NOISE LEVELS

The proposed instrument extract fan is a Ruck AL 315 D4 01 (Product Ref. 154132) axial fan. Ruck has provided specific acoustic data for the fan based upon a selected operating duty of 2,500 m³/h at 100 Pa. At this operating point, the manufacturer's sound pressure level calculations at a distance of 3 metres are:

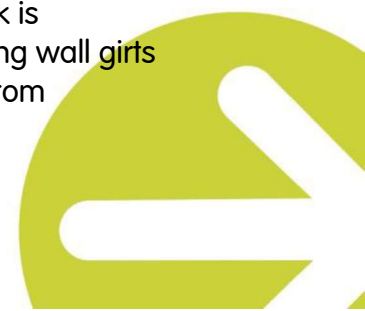
- Casing breakout: 37 dB(A)
- Outlet / blowout: 53 dB(A)
- Inlet / suction: 52 dB(A)

The fan is installed internally, approximately 300mm from the external elevation, and is connected directly to the 300mm diameter extract ductwork. The ductwork penetrates the external elevation before rising vertically externally and terminating at high level above roof eaves level. The 37 dB(A) at 3 metres casing breakout figure relates to the fan itself, which is located internally. The outlet noise is transmitted through the connected ductwork, with the external discharge point located at high level above the roof eaves rather than immediately adjacent to the fan.

Note: The final design duty point is to be confirmed by the M&E consultant. The above acoustic figures are therefore provided on the basis of the 2,500 m³/h at 100 Pa operating point assessed and provided by the fan manufacturer. The manufacturer's product data and acoustic calculations are appended to this submission.

3. DUCTWORK MOUNTING AND VIBRATION

The internal instrument extract ductwork is suspended from the existing roof purlins using 10 mm threaded rod and proprietary ducting saddles. Externally, the ductwork is supported from 40 x 40mm Unistrut channels mounted vertically to the building wall girts through the wall panels using 10mm threaded rod. Cross-members formed from



40x40mm Unistrut are fixed to the vertical channels using 10mm bolts and channel nuts. Galvanised cantilever brackets are then mounted to these cross-members, with proprietary ducting saddles fixed to the cantilever brackets to support the weight of the external ductwork. At the point where the ductwork penetrates the external wall panel, a 10mm clearance is maintained between the ductwork and wall panel, preventing direct contact between the two elements. The penetration will be made weather-tight externally and provided with a trim plate internally to provide a neat finish. The ductwork is therefore independently supported and prevented from making direct contact with the wall panel at the penetration. No additional anti-vibration measures are considered necessary for the proposed installation.

4. LOCATION, DESIGN AND APPEARANCE OF EXTERNAL DUCTWORK

The location and external arrangement of the proposed instrument extraction ductwork are shown on the updated drawings AL(2)01 and AL(2)02 submitted in support of the application. The proposed instrument extract ductwork will be 300mm in diameter and will penetrate the external elevation before rising vertically up the outside of the building and terminating above roof eaves level.

In terms of its design, material and external appearance, the proposed ductwork installation will match the existing Phase 1A instrument extraction ductwork installed on the south elevation of the building. Photographs of the existing Phase 1A installation on the south elevation have previously been provided as part of the planning application and demonstrate the intended appearance and finish of the proposed installation.

The height at which the proposed ductwork passes through the external elevation may be subject to a minor adjustment to accommodate the position of the existing internal structural steelwork. Any such adjustment would not materially alter the design, appearance or overall external arrangement of the ductwork. The proposed termination will remain above roof eaves level, as shown on the submitted elevation.

5. SMOKE, GREASE AND ODOUR

The proposed extraction installation is an instrument extraction system and is not associated with a commercial kitchen, food preparation or cooking activities. The system will therefore not extract cooking smoke, grease or cooking odours and no commercial kitchen extract assessment is applicable.

6. SMOKE, GREASE OR ODOUR ABATEMENT SYSTEMS

As the proposed system is an instrument extraction system and is not associated with commercial cooking activities, no smoke, grease or odour abatement systems are required or proposed. Consequently, there are no associated abatement systems requiring a maintenance schedule.



SUPPORTING INFORMATION

This statement should be read in conjunction with the following information submitted in support of the application:

- **Drawing AL(2)01** showing the proposed internal instrument extraction position;
- **Drawing AL(2)02:** showing the proposed external instrument extract ductwork;
- **Technical specification** for Ruck instrument extract fan;
- **Acoustic data** from Ruck confirming the fan noise level at a specified distance.
- **Photographs** of existing Phase 1A installation (to be matched).
 - Photo 1 - existing Phase 1A extract duct ozone
 - Photo 2 - existing Phase 1A chiller hood

