Halton Recirculating extract unit for commercial foodservice industry



Enabling Wellbeing

Form#: BR-018 Reco-Air by Halton Recirculating Units Rev: 03-2023





No requirement for ductwork to exterior

RAH units work at the heart of a kitchen ventilation system serving all **electric catering equipment** and achieving complete recirculation of exhaust air with no requirement for route to atmosphere.

Highly efficient filter technology removes particulates and odors and provides exhaust air independently certified as clean to re-introduce as supply air.

Simplify planning procedures and providing opportunities to install kitchen operations in previously unfeasible locations.

Reco-Air units prepares the exhaust air to be recirculated by removing grease, smoke and odor.







Cost effective

- RAH unit reduce CAPEX investment. They eliminate the costly fire-rated duct work to atmosphere thus reducing the construction costs. They also reduce installation costs as well as utility usage with a compact design and an ease of assembly.
- Traditional extract duct work requires regular specialist cleaning and accessing duct systems is often difficult and costly.
- When combined with Halton's Capture Jet[™] hoods or ventilated ceiling, the installation and operating costs are even more reduced. The operating costs reach the lowest possible level when M.A.R.V.E.L. optimization airflow technology is also used.
- RAH units are a cost efficient alternative to traditional extract when there's no easy route to atmosphere.

Grease

Smoke

Odor

🗹 Emissions control

• The contaminants produced by catering kitchens and food preparation facilities are not any longer expelled to atmosphere contrary to traditional extract.

Selexible locations

- RAH units can be located internally adjacent to or remote from the point of hood extraction. The unit can be hung within ceiling voids giving flexibility to equipment layout and also eliminating the requirement for certain planning processes.
- RAH units are easily retro-fitted or relocated.

Approvals

- UL 710B
- CE Certification





Remove cooking effluent safely and save installation cost over ducted systems.



Space Design Considerations

Space ventilation (minimum supply of fresh air) shall comply with local regulations based on cooking equipment installed. Space shall have adequate ventilation with minimum exhaust airflow 10% of RAH design airflow.

RAH is a recirculating system with heat from cooking equipment released back to space. Additional space cooling should be required.

Save on installation and operation with the Capture Jet™ technology

The Capture Jet[™] technology, used on Halton's hoods, enables reducing the exhaust airflow rates by up to 40% and even 50% with low proximity hoods.

Can you afford not to reduce the size of Reco-Air unit accordingly? What to say about the reduction of the ducts section, the installation time, the noise of operation and drafts, the energy consumption for the fans and also the space-saving in the plant room and in the ceiling voids? It is really question of a perfect match between savings and comfort. Cooling capacity required (sensible heat only)

| | Tons |
|---------|------|
| RAH.1.0 | 2 |
| RAH 1.5 | 2.6 |
| RAH 2.0 | 3.9 |

Consult with your mechanical engineer on the most effective way to address this additional load.







Increased operation savings thanks to longer lifetime for the filters

The Capture Jet[™] hoods are equipped with high efficiency KSA cyclonic filters. They remove up to 95% of the 10 microns particles. The combination with mesh filters globally increases KSA filters' efficiency.

What is captured by the easy to clean primary filters does not have any longer to be captured by Reco-Air unit's filters. Their lifetimes are increased leading to savings on operation.



Limited heat transfer, minimum leakage and built to be fire stable

Reco-Air unit's structure is made of welded steel double wall panels are insulated with .20lb/in³ density mineral wool. This not only makes the unit, in the unlikely event of fire, stable but also limits the heat and odor transfer to the plant room on normal operation. It also mitigates sound from the unit.







CODE DESCRIPTION

- 1" double skin panel, .20 lb/cubic inch density mineral wool insulation
- 2 Galvanized steel finish to interior
- 3 Large grease particle removal MERV 8
- 4 Fine grease particle removal MERV 11
- 5 Smoke removal MERV 16
- 6 Coconut Shell activated carbon Cylinders Odor removal minimum dwell time shall be 0.2 seconds.
- 7 EC Plug Fan, 208/460/3/60hz, suitable for 0-10v signal control
- 8 Control Box

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- Note: When used with an Electric broiler, the following changes to the filter arrangement are made:
- Replace the V-Bank MERV 16 final filter with a 99.97% HEPA filter
- Adjust static pressure for HEPA
 Use best practice for room air change strategy
 - * Hoods must contain Mesh 2nd filter

RecoAir Units Standard Specification



| | CFM Statio Pressu | Static | Fan Size | Amps | Max Hood Length* (in) | | Unit dimensions and weight | | | | | | | | | | | | | |
|---------|----------------------|----------|-------------|------|--------------------------------|--------------------|----------------------------|------|------|------|------|--------|-------------------|------|-----|------|-------|-----|--------|--|
| | | | | | | Floor Mounted Size | | | | | | | Void Mounted Size | | | | | | | |
| | | Pressure | | | | | | D | | | | Weight | | | | | | | Weight | |
| | | | | | | | | | | | | (lbs) | | | | | | | (lbs) | |
| RAH.1.0 | 1900 | 1.0" | 17 | 8 | 112" | 59 | 1500 | 29 | 737 | 78.9 | 2005 | 1197 | 27.5 | 700 | 141 | 3581 | 34.5 | 876 | 1360 | |
| RAH 1.5 | 2550 | 1.3" | 17 | 8 | 153" | 60.2 | 1540 | 44.5 | 1130 | 78.9 | 2005 | 1662 | 44.4 | 1130 | 141 | 3581 | 36.25 | 921 | 1892 | |
| RAH 2.0 | 3800 | 1.3" | 17 | 8 | 228" | 60.2 | 1540 | 56.2 | 1429 | 78.9 | 2005 | 1980 | 56.2 | 1430 | 141 | 3581 | 36.25 | 921 | 2251 | |

(*) Max hood length typically connected to the unit

Acoustic survey report by Applied Acoustic Design

RAH noise levels are very low. Casing-radiated noise from standard units are between 53 to 64 dBA when measured at 1m.







ABOUT US

Halton Group is the global technology leader in indoor air solutions for demanding spaces. The company develops and provides solutions for commercial and public premises, healthcare institutions and laboratories, professional kitchens and restaurants as well as energy production environments and marine vessels. Halton's mission is to provide its endusers with safe, comfortable, and productive indoor environments that are energy-efficient and comply with sustainable principles.

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