INNOVATIONS

Odour control & energy saving solutions

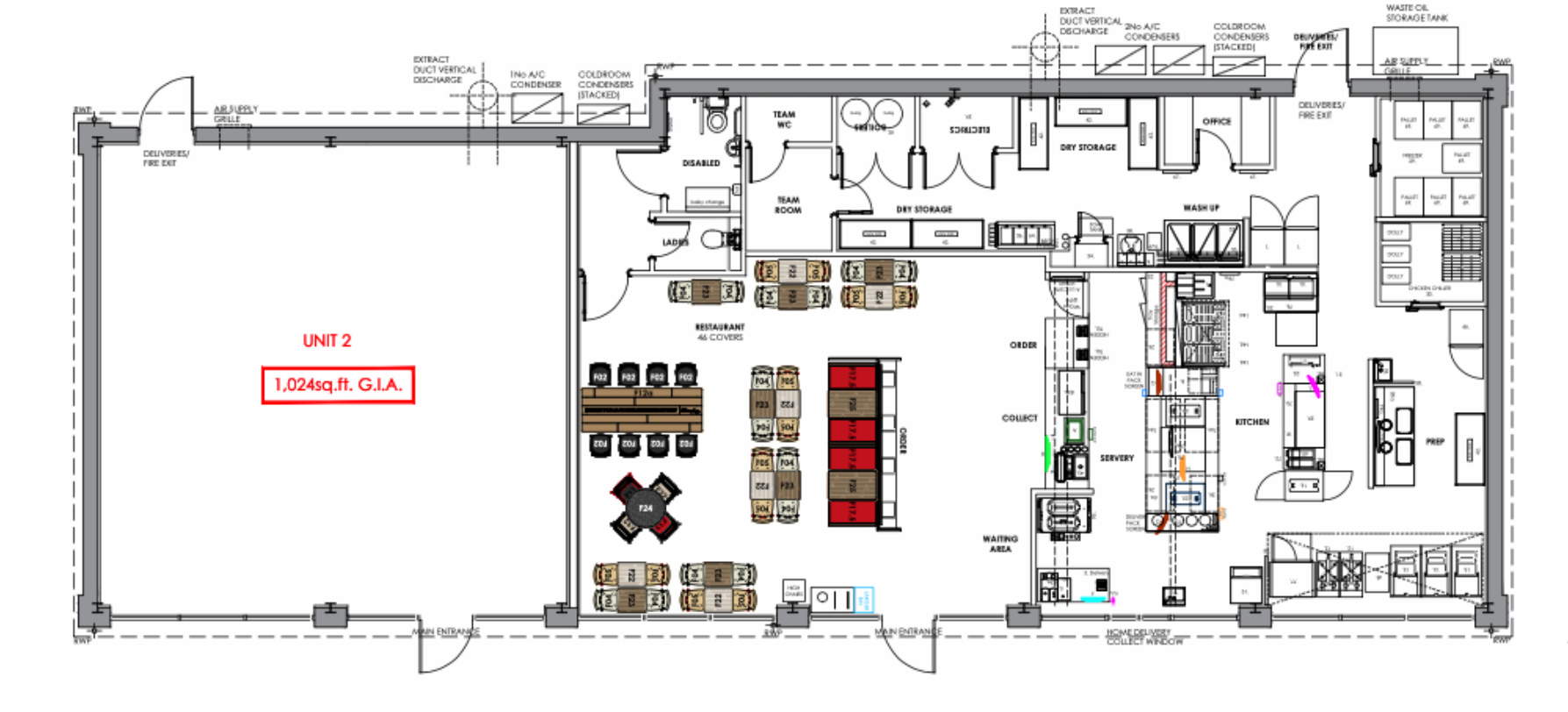
In partnership with

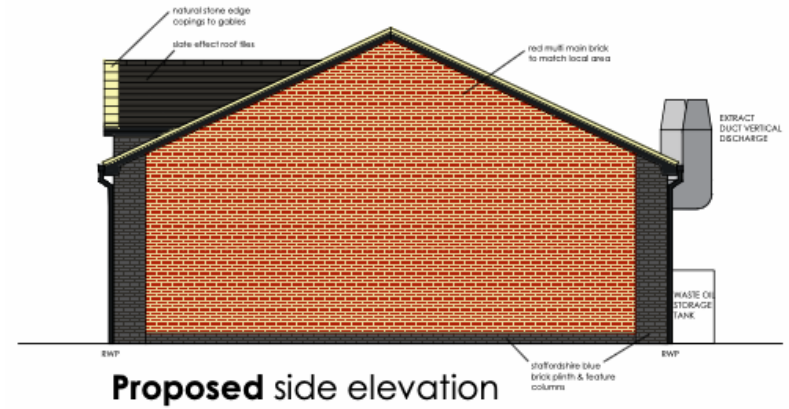
Gastronomy Foods (UK) Ltd



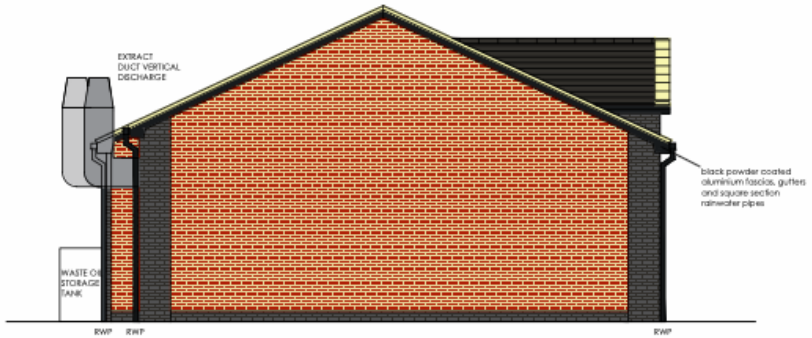
KFC
12 Broad Street
LEEK

Site Overview





Proposed side elevation
scale - 1:50 @ A1



Proposed side elevation
scale - 1:50 @ A1



Extraction System and Canopy Details

The kitchen area shall have a mechanical forced air system, with a side-wall mounted canopy arrangement over the main grouped cooking equipment, and supply air system with spot coolers fitted to the underside of the canopy for the cooking operatives benefit. The extract system shall have an on/off speed controller sited away from the kitchen area to suit site and operatives requirements. The canopy shall be a "Capture Jet" type canopy with 10% of the overall extract air from the canopy, supplied through an insulated plenum fitted integrally to the canopy.

The supply air shall then be discharged through personal spot ventilators, with each spot coolers having internal volume control. . The canopy shall constitute 45% (85% room total) of the extract air volume to achieve a negative pressure within the kitchen area. The canopy shall be sited over the grouped cooking range of equipment as per tender drawings. The canopy arrangement shall be as follows:

a) Dimensions to be checked prior to site start) 5500mm long x 1350mm wide x 550mm high
b) Four sided outer valance casing.
c) The canopy lower edge at each end shall be formed into a condensation channel with inclined internal elevation to simplify cleaning requirements.
d) Full area horizontal ceiling plate, manufactured in tray form, fixed and sealed into the outer valance casing.
e) Full length single sided extract plenum, fixed and sealed to the canopy outer structure and complete with: -

12 No. 500 x 330 x 50mm stainless steel baffle filters
3 No. 500 x 300mm extract factory fitted duct connection collars.

g) 3 No. Bank of 8 LED recessed luminaries manufactured to IP65, steam heat and grease proof to give an average level of illumination of 500 Lux upon the working surfaces.
h) Grease collection tray's
i) Full Length stainless steel splash back, 5500mm x 2000mm and side splash backs of 1500mm x 2000mm.



The main extract system within the kitchen shall serve the single wall mounted canopy arrangements as described in earlier sections of this document. The main extract fan shall also serve both the Main Canopy and Chip Fryer Canopy. The fan is mounted internally within the kitchen ceiling void.

The extract fan equipment shall be as follows: -

EF1

System Air
Model: MUB/T062
Motor: 1500 watts 4 pole 1350rpm
Duty 2.67cu.m/sec@250pascals
Sound Level: 57dBA@3 metres
Electrical: 400volt/3 phase/50Hz Weight: 85kg
Dimensions: 800mm sq



The main supply air system within the kitchen serves the single wall mounted canopy arrangements as described in earlier sections of this document. The supply fan shall also serve both the Main Canopy and general areas via ceiling mounted diffusers. The fan is mounted internally within the kitchen-ceiling void. Details are included in this document for reference even though the equipment is not located externally

The supply fan equipment shall be as follows:- SF1

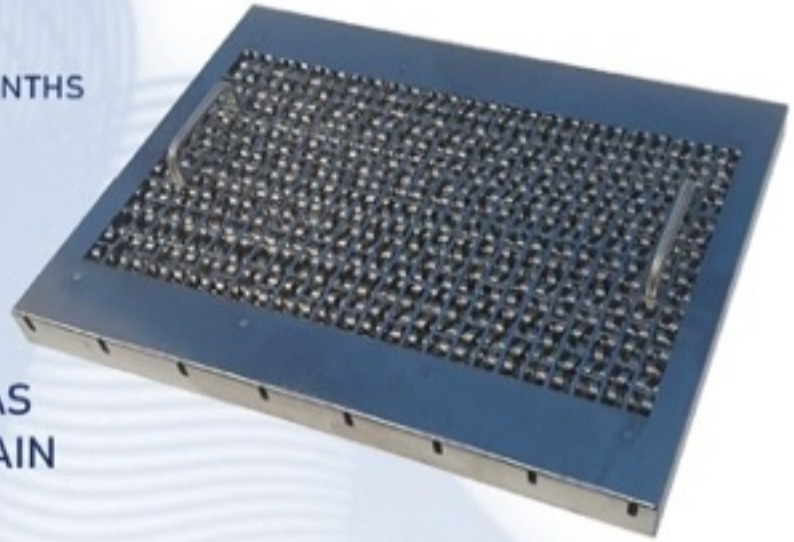
System Air
Model MUB
Motor: 1100 watts 4 pole 1350 rpm
Duty 2.00 cu.m/sec @ 200 pascals Sound
Level: 57 dBA @ 3 metres
Electrical: 400 volt/3 phase/50Hz Weight:
85kg
Dimensions: 600mm sq



Odour Abatement

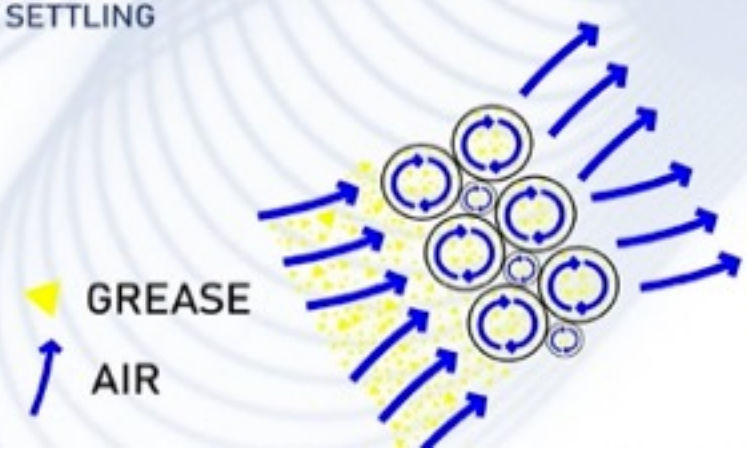
BENEFITS INCLUDE

RETURN ON INVESTMENT AS SHORT AS 12 MONTHS
REDUCES DUCT CLEANING REQUIREMENTS
EXCEPTIONAL FIRE BARRIER
GREASE CAPTURE UP TO 90-95%
REDUCTION IN INSURANCE PREMIUMS
ASSISTS TR19 COMPLIANCE



THE PATENTED FILTER MATRIX WAS DESIGNED TO APPLY THE FOUR MAIN PRINCIPLES OF FILTRATION

CONDENSATION
INERTIAL SEPARATION
IMPINGEMENT
SETTLING



TECHNICAL SPECIFICATION

VOLUME FLOW RATE UP TO 0.28M3/S PER FILTER
4.2 M2/S FACE VELOCITY OPTIMUM
195 Pa PRESSURE DROP
UP TO 3KG WEIGHT
FULL STAINLESS STEEL CONSTRUCTION
50dB NOISE

Technical Information

Ozone Output	36g/hr ozone output
Housing dimensions	300mm wide x 300mm length x 150mm height
Housing material	Stainless Steel powder coated white/grey
Duct work connection	100mm circular
Volume flow rate in ductwork	Up to 3m3/s per unit, subject to cooking odours.
Air residence time inside chamber	>0.1 seconds
Pressure drop	N/A
Weight of unit	5Kg approx.
Two individual Light Indicators	Green Power On / Green Ozone On
Electrical requirements	240V / 1 ph / 50/60Hz
Power requirements	168W
Safety	Built in Air pressure switch



Air Conditioning Details

The Trade Restaurant area shall be provided with its cooling, heating and ventilation requirements via a mechanically forced air movement system, derived from a split refrigerant heat recovery air conditioning system. The indoor units mated to this system are ceiling void fan coil units operating on a vapour comprehension cycle, utilising refrigerant R410A.

The units shall operate on a re-circulated basis, with the minimum fresh air requirement in conjunction with the specified occupancy level in accordance with Document F1 of Building Regulations, set and locked on the fresh air intake opposed blade volume control damper. The specific fresh air requirement shall be in accordance with Building Regulations and CIBSE Guide relating to minimum fresh air requirements per individual occupant. The actual quantity of fresh air is indicted within this specification and associated tender drawing.

Supply and return air distribution shall be through fabricated galvanised steel ductwork, routed generally as per the tender drawings, with air terminal devices situated within the false ceiling structure, dissipating air in the specified patterns.

Temperature control of the area shall be sensed at room conditions with a high level room mounted zone temperature sensor, and the mechanical refrigeration plant controlled accordingly.

The heat rejection plant in the rear yard shall be fully weather proofed, treated and situated on raised condenser blocks between unit and base, with levelling shims fitted were necessary. Allowances shall be made during the installation of the external condensing units to limit vibration.

The unit base shall be secured to the concrete floor finish using proprietary masonry anchor fixings.

The contractor shall be responsible for ensuring that the indoor and outdoor primary plant has the specified access space
For maintenance and service around the packaged unit in accordance with the manufacturer's recommendations.

AC 1 & AC2

2no Mitsubishi PLA-RP125 ceiling cassettes 31KG
33/36/40DBA

CU 1

1no Mitsubishi PUHZ-ZRP250YKA3
outdoor unit
1050 X 330 X 1338 High
1338KG
55DBA



The Kitchen and staff areas shall be provided with its cooling, heating and ventilation requirements via a mechanically forced air movement system, derived from a split refrigerant heat recovery air conditioning system. The indoor unit mated to this system are above ceiling ducted units operating on a vapour comprehension cycle, utilising refrigerant R410A.

The unit shall operate on a re-circulated basis, with the minimum fresh air requirement in conjunction with the specified occupancy level in accordance with Document F1 of Building Regulations, set and locked on the fresh air intake opposed blade volume control damper. The specific fresh air requirement shall be in accordance with Building Regulations and CIBSE Guide relating to minimum fresh air requirements per individual occupant. The actual quantity of fresh air is indicted within this specification and associated tender drawing.

Supply and return air distribution shall be through fabricated galvanised steel ductwork, routed generally as per the tender drawings, with air terminal devices situated within the false ceiling structure, dissipating air in the specified patterns.

Temperature control of the area shall be sensed at room conditions with a high level room mounted zone temperature sensor, and the mechanical refrigeration plant controlled accordingly.

The heat rejection plant in the rear yard shall be fully weather proofed, treated and situated on raised condenser blocks between unit and base, with levelling shims fitted were necessary. Allowances shall be made during the installation of the external condensing units to limit vibration.

The unit base shall be secured to the concrete floor finish using proprietary masonry anchor fixings.

The contractor shall be responsible for ensuring that the indoor and outdoor primary plant has the specified access space for maintenance and service around the packaged unit in accordance with the manufacturer's recommendations.

The unit serving the Trade Kitchen including Staff Room/Managers Office & Dry Goods area shall be as follows: - <u>AC2 (KITCHEN)</u>

Mitsubishi PEAD-P140-ER2 ducted internal void unit 1400 x 634
x 400 High
70KG
33/36/40DBA

<u>CU 2</u>

1no Mitsubishi PUHZ-ZRP140YKA2
outdoor unit
950 X 330 X 1338 High
101KG
56DBA



AC3A (STAFF)

Mitsubishi PKA-RP35HAL wall mounted unit 898 x
249 x 295 High
13KG
33/36/40DBA



CU 3

1no Mitsubishi PUHZ-ZRP35VKA
outdoor unit
800 X 285 X 550 High
31KG
50DBA

WC Extraction

The general extract fan serves the toilet and staff area toilets and general areas. The fan is mounted internally within the staff area ceiling void. Details are included in this document for reference even though the equipment is not located externally

The extract fan equipment shall be as follows:- EF2

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Elta Fans Limited
Model SJ250A in line centrifugal tube fan. Motor:
180 watts 2 pole 2450 rpm
Duty 0.24 cu.m/sec @ 100 pascals Sound
Level: 53 dBA @ 3 metres Controller: WC
lighting circuit Electrical 230 volt/1 phase/
50Hz Weight: 5.5kg
Dimensions: 335mm overall diameter x 230mm long



Refrigeration Equipment

Chiller Room:
Split Refrigeration System

Prefix	-	**Chiller Room**
Model	-	Duet Range Eco
Condenser Model	-	DCU2-1H ECO
Dimensions	-	820 x 427 x 390mm high
Weight	-	43 Kgs
Electrical Supply	-	230-1-50 Hz
Main Fuse Rating	-	20
Net noise level	-	60dBa



Freezer Room:
Split Refrigeration System

Prefix	-	**Freezer Room**
Model	-	Duet Range Eco
Condenser Model	-	DCU4-3L ECO
Dimensions	-	820 x 427 x 427mm high
Weight	-	78 Kgs
Electrical Supply	-	400-3-50 Hz
Main Fuse Rating	-	25
Net noise level	-	61Ba



Veg Chiller Room:
Split Refrigeration System

Prefix	-	**Veg Chiller Room**
Model	-	Duet Range Eco
Condenser Model	-	DCU2-1H ECO
Dimensions	-	820 x 427 x 390mm high
Weight	-	43 Kgs
Electrical Supply	-	230-1-50 Hz
Main Fuse Rating	-	20
Net noise level	-	60dBa




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