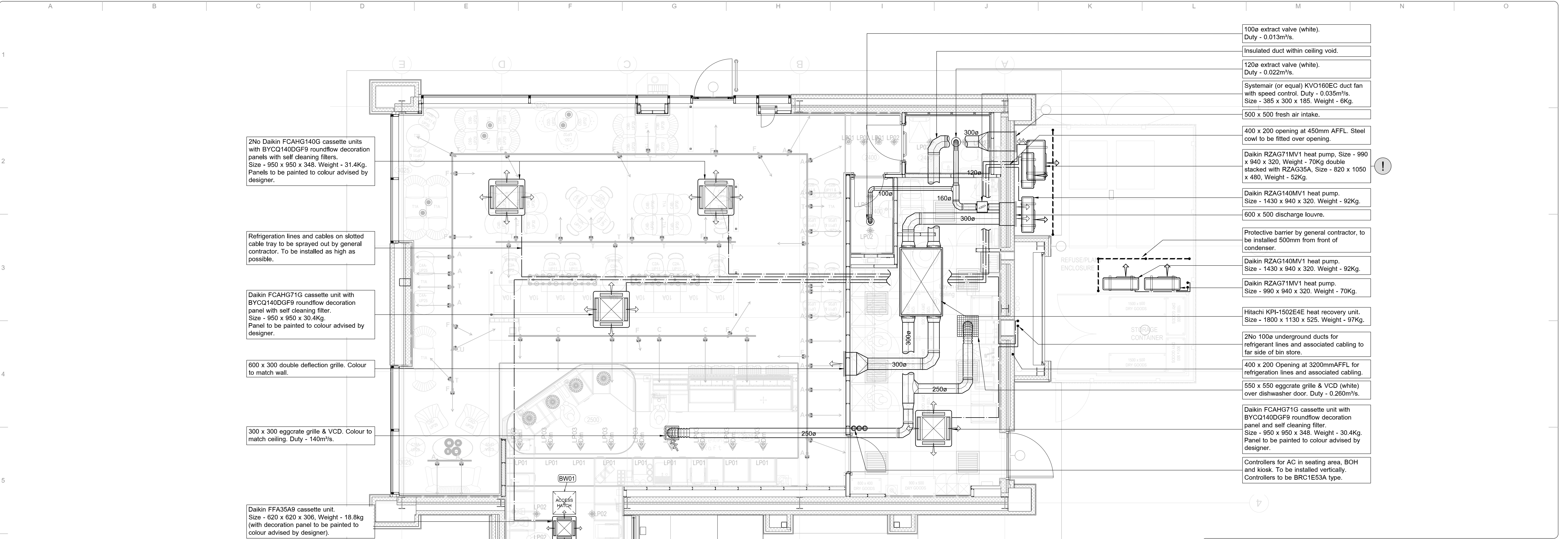




Note: Cassette in Kiosk is to be confirmed on site visit as dependant on ceiling void heights.

- 100ø extract valve (white). Duty - 0.013m³/s.
- Insulated duct within ceiling void.
- 120ø extract valve (white). Duty - 0.022m³/s.
- Systemair (or equal) KVO160EC duct fan with speed control. Duty - 0.035m³/s. Size - 385 x 300 x 185. Weight - 6Kg.
- 500 x 500 fresh air intake.
- 400 x 200 opening at 450mm AFFL. Steel cowl to be fitted over opening.
- Daikin RZAG140MV1 heat pump. Size - 900 x 940 x 320, Weight - 70Kg double stacked with RZAG35A, Size - 820 x 1050 x 480, Weight - 52Kg.
- Daikin RZAG140MV1 heat pump. Size - 1430 x 940 x 320. Weight - 92Kg.
- 600 x 500 discharge louver.
- Protective barrier by general contractor, to be installed 500mm from front of condenser.
- Daikin RZAG140MV1 heat pump. Size - 1430 x 940 x 320. Weight - 92Kg.
- Daikin RZAG140MV1 heat pump. Size - 900 x 940 x 320. Weight - 70Kg.
- Hitachi KPI-1502E4E heat recovery unit. Size - 1800 x 1130 x 525. Weight - 97Kg.
- 2No 100ø underground ducts for refrigerant lines and associated cabling to far side of bin store.
- 400 x 200 Opening at 3200mm AFFL for refrigeration lines and associated cabling.
- 550 x 550 eggcrate grille & VCD (white) over dishwasher door. Duty - 0.260m³/s.
- Daikin FCAHG140G cassette unit with BYCQ140DGF9 roundflow decoration panel and self cleaning filter. Size - 950 x 950 x 348. Weight - 30.4Kg. Panel to be painted to colour advised by designer.
- Controllers for AC in seating area, BOH and kiosk. To be installed vertically. Controllers to be BRC1E53A type.

Electrical Requirements

Equipment	Current(A)	Phase	Noise(dBA)
AC System 1 & 2	27.5	1	52
AC System 3	17.5	1	49
AC System 4 (Kiosk)	14.43	1	48
AC System 5 (BOH)	17.5	1	49
Fresh Air Supply Fan	4.0	1	39
General Extract Fan	4.0	1	39
WC Extract Fan	0.897	1	48

Builder's Work Schedule		
Ref	Size(Approx)	Location
BW01	600 x 600	Access Panels

- NB: All customer area ceiling grilles to match ceiling colour
- All cabling to be carried out in low smoke and fume emission insulated cables

- #### Electrical Wiring

 - All wiring to be carried out by the mechanical contractor to give a turn key installation other than main electrical supplies to control panel and outdoor A/C plant which shall be carried out by electrical contractor
 - All wiring to be in accordance with the current edition of the IET Regulations (BS7671:2008+A3:2015)
 - All plant to be locally isolated. Indoor cassette units to be supplied from outdoor unit isolator
 - Cut short all tie wraps used to secure fridge cables
 - All fire dampers to be 2 hour fusible link type unless otherwise detailed. Dampers to be of Actionair manufacture complete with installation frame where within brickwork or concrete wall or floor, and with installation frame 'Series SP' where within stud partitioning. Dampers to be installed to manufacturer's detail
 - Ductwork insulation to be to 'Class 0' rating
 - All grilles and diffusers to be painted to match the wall or ceiling finishes, including any fixing screws on view. External louvers must be paint coloured to be sympathetic to the surrounding areas e.g to match brickwork or wall finish or the same as window and door frames as agreed with the project manager / designer
 - Where smoke operated fire dampers are required these should be motor open, spring closed type operated by the fire alarm system. The mechanical contractor shall advise the site electrician with regards to the power supply and controls required. This will generally be in instances where ductwork crosses a fire corridor.
 - Any ductwork that is on view should be installed and fixed using rigid supports in preference to grille or performed steel suspension banding. Rigid supports should comprise all-thread rod suspensions and proprietary duct suspension brackets.
 - Flexible ducts must be no longer than 1m. The flex should not be used to form a bend or turn.
 - NB: All customer area ceiling grilles to match ceiling colour
 - All cabling to be carried out in low smoke and fume emission insulated cables
- #### Controls

 - Electric air heater where applicable control shall ensure the following:
 - A. Leaving air temperature does not exceed 40°C
 - B. Heater is not activated when there is no air flow
 - C. The fan runs on after heater has been switched off to dissipate residual heat.
 - All back of house units to have individual hard wired controllers - Infra red controllers are not acceptable.
 - All AC and ventilation plant to be switched by the 'last man out switch' and shut down on fire alarm activation.
- #### Outdoor Plant

 - All steelwork and plant bases etc, by mechanical contractor.
 - Mechanical contractor to allow for craneage of plant onto roof level where applicable.
 - All unsuit supports to have end caps fitted. Site cut steel work should be filed to remove burrs and sharp edges and then painted with galvaloid paint on galvanized components or colour matched paint finish on pre-painted steelwork.
 - All external heat pumps to have labelling stating 'Costa Coffee' and the unit reference - e.g ACU1. Labels to be permanently fixed Traffolyte using screws or contact adhesive. The indoor unit must also be labelled using a small discrete Traffolyte label in one corner of the fascia panel to denote unit number - e.g ACU1. The remote controllers are to be labelled clearly to denote which units they control and the area served.
- #### Refrigeration Installation

 - Refrigeration pipework to be insulated to manufacturer's requirements using Armstrong Annaflex Class 0 internally and Class 1 externally. Complete with glued and tape sealed joints. External insulation shall be further protected using Armalinish FR UV resistant paint, minimum 2 coats, applied to manufacturer's requirements.
 - Refrigeration pipework to be run on heavy duty slotted cable tray installed by mechanical contractor. All cable trays to be earth bonded.
 - Cut short all tie wraps used to secure fridge lines.
- #### Internal Plant

 - All cassette units to have BYCQ140DG self cleaning filter facias unless stated otherwise and be provided with vacuum cleaner extension hoses.
 - Modern/ Marine/ Party design stores to have all services exposed therefore installation to be high standard, no flexible ducts on view, condensate pumps fitted to top of cassette units and cassette fascia panels to be painted to match the ceiling. Exact colour references and finishes to be confirmed by the project manager / designer. Where the fascia panel
- #### Commissioning & Testing

 - The commissioning of the building services installation shall be carried out in strict accordance with the CIBSE Commissioning Codes and the BSRIA Commissioning Codes. Certificates will shall be included within the building log book. A self-contained building log book shall be produced, this will contain the following information: A schedule of the floor areas of each of the building zones categorised by environmental servicing type (e.g. Air conditioned, naturally ventilated); the purpose of the individual building servicesystems; the location of the relevant plant and equipment; the installed capacities (input power and output power rating) of the services plant; simple descriptions of the operational and control strategies of the energy consuming services in the building; and operating and maintenance instructions that include provisions enabling the specified performance to be sustained during operation. The log book and certificates are to be made available for inspection by the Building Control Officer prior to completion of the works on site.
 - Mechanical Contractors to attend handovers with 2 copies of a completed 'As fitted' instruction manual, one copy to be retained on site and one copy for the Shopfitters health and safety manual (this may be forwarded electronically prior to handover). A copy of the manual, on disc, should be handed or sent to the relative project manager. The Mechanical Contractor should instruct the Store manager on the operation of the air conditioning controls and cleaning of Cassette and Wall mounted unit filters.
 - There must be a representative on site on the day of handover to instruct the staff on the correct operation of the equipment.
- #### Builders Works

 - Mechanical contractors to confirm all builders work and electrical requirements with the relative shopfitters at the pre start meeting. Any holes for refrigeration lines to be sealed with expanding foam and weathered as necessary by the mechanical contractor, holes for ducts and louvers etc. to be made good by the shopfitter. External grilles and louvers must be screw fixed to the structure and not simply glued in place with mastic.
 - Where fridge lines exit via a cowl or roof cowl the gaps around the services must be adequately filled to stop vermin ingress and drafts/heat loss.
- #### Costa Coffee - Demarcation of Mechanical and Electrical Services Wiring and Testing of Installations

All electrical installations provided as part of the construction and fit out of a new, or re-model of an existing Costa Coffee store are to be fully tested in accordance with the requirements of BS 7671 and all of it's current updates and amendments by a suitably qualified electrical engineer whose employer is a member of the National Inspection Council for Electrical Installation Contracting (NICEIC).

Each NICEIC Approved Contractor must:-

 - Carry out electrical installation work to the regulatory industry standards.
 - Employ competent electricians who are properly supervised.
 - Use materials of good quality that conform to the relevant British Standards.
 - Undergo regular inspection by NICEIC Inspecting Engineers and comply with the NICEIC Complaints Procedure and Guarantee of Standards Scheme.

Upon completion of the project and before handover to the client the entire installation must be fully tested and results recorded for the whole installation on prescribed forms. The mechanical services installations generally comprise comfort heating and cooling plant, fresh air ventilation and extract plant. The electrical contractor must allow within his quotation for provision of power supplies terminating in suitably sized weatherproof isolators adjacent to each of the outdoor A/C units. The contractor shall use steel wire armoured cables. A similar supply will be required terminating in a suitably sized contractor for the mechanical distribution board.

The electrical contractor will provide a changeover relay operated by the 'Last Person' keyswitch. The mechanical contractor is to use this control to control the plant to start and stop in accordance with the building being occupied. The same control circuit can also be used for shut down of plant in the event of a fire alarm.
- | Risk Rating Key | | CDM Risk Assessment | | | | | | |
|--|----------|---------------------|---|---|-----------------------------|---|--|--|
| LIKELIHOOD | SEVERITY | L | M | H | ACTIVITY, PROCESS, MATERIAL | HAZARD | | |
| | 2 | 3 | 3 | | | | | |
| | 1 | 2 | 3 | | | | | |
| | 1 | 1 | 2 | | | | | |
| SEVERITY | | | | | INITIAL RISK RATING | ACTIONS TO BE TAKEN BY DESIGNER TO REDUCE RISK RATING | | |
| H = Fatality/major injury causing long term disability | | | | | | | | |
| M = Injury or illness causing short term disability | | | | | | | | |
| L = Other injury or illness | | | | | | | | |
| LIKELIHOOD | | | | | FINAL RISK RATING | | | |
| H = Certain or near certain | | | | | | | | |
| M = reasonably likely | | | | | | | | |
| L = Very seldom or never | | | | | | | | |
| RISK RATING | | | | | | | | |
| 3 = High risk; action required | | | | | | | | |
| 2 = Medium risk; action required unless good reason | | | | | | | | |
| 1 = Low risk; no action required | | | | | | | | |
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