



PROFESSIONAL BUILDING SERVICES & ENERGY REDUCTION CONSULTANTS

MECHANICAL EQUIPMENT SCHEDULE

***PROJECT NAME: Climate Action Summer Works Scheme.
Construction & Engineering Room Refurbishment at Rath
Dara Community College, Blanchardstown, Co. Dublin***

PROJECT REFERENCE: 0839

PROJECT STAGE: Tender Issue

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1.1 GENERAL REQUIREMENTS

All equipment shall be supplied by manufacturers and suppliers who meet the following minimum requirements:

1. References and Proven Performance

- Suppliers shall provide, on request, a minimum of ten satisfactory references for previous installations utilising the same or similar equipment.

2. Fitness for Purpose and Environmental Suitability

- All equipment shall be demonstrably suitable for its intended function and capable of reliable operation under the environmental and weather conditions prevailing at the project site.

3. Regulatory and Standards Compliance

- All equipment and associated systems shall comply with all relevant statutory regulations, including the current Irish Building Regulations, associated Technical Guidance Documents and all applicable DoEY TGD/SDG Documents, EU directives and industry standards.
- All plant and equipment shall bear the CE mark or equivalent approved certification where applicable.

4. Technical Support

- Suppliers shall provide a technically competent representative who is fully knowledgeable in the design, installation, commissioning, and operation of the proposed equipment.

5. Triple E Scheme Compliance

- Where applicable, equipment falling under a Triple E technology category shall be listed on the Triple E Register or shall meet all criteria defined for that technology.

WARRANTIES

- The contractor shall provide manufacturer warranties or extended warranties for all equipment for a minimum period of 15 months beyond Practical Completion.
- Warranty documents shall be submitted as part of the handover documentation.

NOTES

- Schedules must be read in conjunction with relevant parts of the Mechanical Specification.

- The contractor shall ensure all proposed equipment fully complies with this specification before procurement.
- Any equipment installed that does not comply with the specification shall be removed and replaced at the contractor's cost.
- References to "equipment" include all plant, components, accessories, and materials.
- All required as-built documentation, commissioning sheets, and certification shall be submitted.
- Alternative products must be submitted for approval with full datasheets. No substitutions may be installed without prior written approval from the Engineer.

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1. RADIATORS

Radiator Schedule									
Radiator Reference	Required Radiator Output (kW) based on ΔT of 50°C in compliance with IS EN 442	Required Radiator Output (kW) based on ΔT of 50°C in compliance with IS EN 442	Radiator Dims			Recessed Radiator	Required Wall Recess Dims (Height x Length x Depth)	Specification	Control
			Height (mm)	Length (mm)	Depth (mm)				
RAD-01	12.50	2.560	505	2000	78	No	-	Merriott Precision H21 or Equivalent	Room Stat Controlled
RAD-02		2.560	505	2000	78				
RAD-03		2.560	505	2000	78				
RAD-04		2.560	505	2000	78				
RAD-05		2.560	505	2000	78				
RAD-06	0.95	1.024	505	800	78	No	-	Merriott Precision H21 or Equivalent	Room Stat Controlled
RAD-07	12.50	2.560	505	2000	78	No	-	Merriott Precision H21 or Equivalent	Room Stat Controlled
RAD-08		2.560	505	2000	78				
RAD-09		2.560	505	2000	78				
RAD-10		2.560	505	2000	78				
RAD-11		2.560	505	2000	78				
RAD-12	1.40	1.408	505	1100	78	No	-	Merriott Precision H21 or Equivalent	Room Stat Controlled
RAD-13	1.60	1.664	505	1300	78	No	-	Merriott Precision H21 or Equivalent	Room Stat Controlled
RAD-14	1.60	1.664	505	1300	78	No	-	Merriott Precision H21 or Equivalent	Room Stat Controlled

Notes:

1. Radiators shall be sized to meet required outputs in accordance with IS EN 442 ($\Delta T = 50^\circ\text{C}$).
2. All radiators to be fitted with thermostatic or room-stat-based control as indicated.
3. Supply to include all required valves, brackets, fittings, and ancillaries for complete installation.
4. Radiators shall be installed, balanced, and commissioned in accordance with manufacturer's requirements.

2. ROOM THERMOSTATS

Description	Electrical	Specification	Quantity
Mains operated programmable thermostat with digital display and lockable keypad	230V/1/50Hz	EPH Controls CDTP2 or equivalent	5

Notes

1. Room Thermostats shall Clearly display the room temperature and set point temperature.
2. Room Thermostats shall be connected to the BMS for zone control and activation.

3. ZONE CONTROL VALVES

Description	Nominal Diameter	Max. Operating pressure	Max. Operating temperature	Max. Leakage Rate	Valve characteristic	Min. Kvs value	Max Pressure Differential	Connections	Electrical	Specification	Control	Quantity
2 port lift and lay type line size gunmetal bodied valve, plug with EPDM soft seal, stainless-steel spindle, stuffing box with double O-ring seal, PN16 rated with 230V motorised actuator for on/off control (Actuating power min. 100N, max. 150N)	DN15	16 bar	100°C	0.002% of Kvs value	Equal percentage	3.5 m³/h	110kPa	G¾" B	230V/1/50Hz	Sauter VUL015F300 c/w AXM217F200 actuator or equivalent	Room Thermostat/Zone control at BMS	3
2 port lift and lay type line size brass bodied valve, plug with PTFE sealing ring, stainless-steel spindle, stuffing box with double O-ring seal, PN16 rated with 230V motorised actuator for on/off control (Actuating power 250N)	DN25	16 bar	100°C	≤ 0.02% of Kvs value	Equal percentage	10 m³/h	400kPa	G1½" B	230V/1/50Hz	Sauter VUN025F300 c/w AVM105F100 actuator or equivalent	Room Thermostat/Zone control at BMS	2

4. EXTRACT FANS

Reference	Description	Required Airflow Rate	NR Level Max. (dB)	Electrical	Specification	Control
EF-01	150mm Diameter Inline mixed flow Extract Fan with Brushless DC Motor. Fan shall be c/w 100% adjustable Speed Control and adjustable Run on Timer Set at 15mins	320m3/hr @ 80 Pa ESP	35	220V-240V/1/50Hz	S&P TD-500/150 SILENT Ecowatt or Equivalent	Local on-off Switch c/w Pilot Light
EF-02	150mm Diameter Inline mixed flow Extract Fan with Brushless DC Motor. Fan shall be c/w 100% adjustable Speed Control and adjustable Run on Timer Set at 15mins	320m3/hr @ 80 Pa ESP	35	220V-240V/1/50Hz	S&P TD-500/150 SILENT Ecowatt or Equivalent	Local on-off Switch c/w Pilot Light
EF-03	250mm Diameter Inline mixed flow Intake Fan with Brushless DC Motor. Fan shall be c/w 100% adjustable Speed Control and adjustable Run on Timer Set at 15mins	300L/s @ 80 Pa ESP	35	220V-240V/1/50Hz	S&P TD-1300/250 Ecowatt or Equivalent	Remote Electronic Speed Controller
EF-04	150mm Diameter Inline mixed flow Extract Fan with Brushless DC Motor. Fan shall be c/w 100% adjustable Speed Control and adjustable Run on Timer Set at 15mins	320m3/hr @ 80 Pa ESP	35	220V-240V/1/50Hz	S&P TD-500/150 SILENT Ecowatt or Equivalent	Local on-off Switch c/w Pilot Light
EF-05	350mm Diameter Curb Mounted centrifugal Roof Extract Fan with Brushless DC Motor. Fan shall be c/w 100% adjustable Speed Control and adjustable Run on Timer Set at 15mins	900L/s @ 80 Pa ESP	35	220V-240V/1/50Hz	S&P CRVB-400 N ECOWATT or Equivalent	Remote Electronic Speed Controller
EF-06	350mm Diameter Curb Mounted mixed flow Roof Extract Fan with Brushless DC Motor. Fan shall be c/w 100% adjustable Speed Control and adjustable Run on Timer Set at 15mins	900L/s @ 80 Pa ESP	35	220V-240V/1/50Hz	S&P CRVB-400 N ECOWATT or Equivalent	Remote Electronic Speed Controller
EF-07	350mm Diameter Curb Mounted mixed flow Roof Extract Fan with Brushless DC Motor. Fan shall be c/w 100% adjustable Speed Control and adjustable Run on Timer Set at 15mins	900L/s @ 80 Pa ESP	35	220V-240V/1/50Hz	S&P CRVB-400 N ECOWATT or Equivalent	Remote Electronic Speed Controller

EF-08	250mm Diameter Inline mixed flow Intake Fan with Brushless DC Motor. Fan shall be c/w 100% adjustable Speed Control and adjustable Run on Timer Set at 15mins	300L/s @ 80 Pa ESP	35	220V-240V/1/50Hz	S&P TD-1300/250 Ecowatt or Equivalent	Remote Electronic Speed Controller
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Notes:

1. Fans must have their own isolators and speed controllers.
2. Fan is to be complete with all necessary mounting arrangements, anti-vibration pads and flanges etc.
3. Contractor shall verify all equipment electrical loads. Where loads differ from the electrical design the Contractor shall be responsible for re-design of electrical requirement
4. Fans shall be selected mid-curve.

5. GRILLES

Reference	Description	Finish	Dimensions (mm)	NR Level Max. (dB)	Specification	Quantity
EG-B	4-way type Extract air grille with removable core constructed from extruded aluminium	Selected RAL (Contractor to confirm with Architect)	300x300	30	Madel DBQ or equivalent	3

Notes:

1. All grilles shall have independent duct mounted volume control dampers.
2. All grilles to be mounted & supported independently of the ceiling grid.
3. All Grilles to be supplied with c/w insulated galvanized steel plenum box with spigot to suit branch duct connection

6. BACKDRAUGHT SHUTTERS

Reference	Description	Dimensions (mm)	Specification	Quantity
BD	Spring-loaded, butterfly-style circular backdraught damper constructed from galvanised steel with aluminium damper blades	150Ø	S&P CAR-200 or equivalent	3

7. WEATHER LOUVRES

Reference	Description	Dimensions (mm)	Insect Mesh	Minimum Free Area
WL-01	Exhaust Air Aluminium Weather Louvre Recessed in External Wall at Ceiling Void Level, powder coated to selected RAL - to architects detail	300(H) x 300(W)	Yes	50%
WL-02	Exhaust Air Aluminium Weather Louvre Recessed in External Wall at Ceiling Void Level, powder coated to selected RAL - to architects detail	300(H) x 300(W)	Yes	50%
WL-03	Exhaust Air Aluminium Weather Louvre Recessed in External Wall at Ceiling Void Level, powder coated to selected RAL - to architects detail	300(H) x 300(W)	Yes	50%

8. WEATHER LOUVRE PLENUMS

Weather Louvre Reference	Description	Plenum Dimensions			Spigot Diameter (mm)	Insulation
		Height (mm)	Width (mm)	Depth (mm)		
WL-01	Galvanised Steel Plenum c/w spigot for ductwork connection to Exhaust Air Weather Louvre	300	300	315	150	Minimum 32mm class 'O' closed cell insulation with built in vapour barrier. 0.033 W/K at mean Temp 0°C
WL-02	Galvanised Steel Plenum c/w spigot for ductwork connection to Exhaust Air Weather Louvre	300	300	315	150	Minimum 32mm class 'O' closed cell insulation with built in vapour barrier. 0.033 W/K at mean Temp 0°C
WL-03	Galvanised Steel Plenum c/w spigot for ductwork connection to Exhaust Air Weather Louvre	300	300	315	150	Minimum 32mm class 'O' closed cell insulation with built in vapour barrier. 0.033 W/K at mean Temp 0°C

9. FIRE EXTINGUISHERS

Description	Specification	Quantity
2kg Carbon Dioxide portable fire extinguisher	Moyne Roberts MC-2E or Equivalent	9
1.2m x 1.2m Fire blanket manufactured to IS EN 1869:2019	Moyne Roberts MP-3A or Equivalent	9

Notes:

1. Fire extinguishers shall be manufactured to BS EN 3.
2. Fire extinguisher installation shall be in accordance with IS 291:2015 'selection, commissioning, installation, inspection and maintenance of portable fire extinguishers'.
3. Provide wall brackets for all extinguishers and allow for mounting all extinguishers.
4. All fire points shall have suitable signage which mark locations in accordance with IS 291 2015 and the safety, health and welfare at work act (1995) regulations. Particular attention should be paid to fire points not in direct view.
5. Extinguisher I.D. tags shall be displayed above each extinguisher which explains uses and hazards in accordance with IS 291 2015.
6. Provide a fire assembly point sign and mount externally in the location indicated by the Employer's Representative

10. THERMOSTATIC MIXING VALVES

Reference	Description	Finish	Max. Operating Pressure	Connections	Specification	Quantity
TMV-A	Thermostatic Mixing Valve suitable for potable water c/w integral strainers, check valves, isolation valves, flow regulator (8 L/min) and wall mounting bracket .TMV3 Approved	Chromium plated	10 bar	22mmØ	Horne H20-22C or equivalent	2

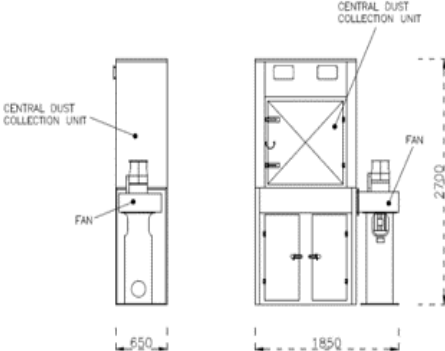
11. GAS DETECTION SYSTEM

Reference	Description	Fuel Type	Gas Slam Shut Valve	Fire Alarm Interface	Key release emergency stop button	Detectors	Electrical	Specification
GDP-01	16 Channel Gas Detection Panel with OLED display and integral Emergency Gas Shut off button.	NG	Existing Reinstated	Yes	1	3 x CH4 Detectors (2 Existing) 2 x CO Detectors	220V-240V/1/50Hz	Medem AGDS-MC v2 or Equivalent

Notes:

1. This Gas Slam Shut Valve should be the normally closed type, with a manual reset button.
2. The gas slam shut valve shall close shut upon failure of mains supply.
3. The gas slam shut valve shall close shut upon detection of Gas or CO.
4. The gas slam shut valve shall close shut upon activation of Fire Alarm.
5. Upon activation of the gas detection system, the gas slam shut valve shall close. A signal shall be sent via an addressable interface to the fire alarm panel indicating activation. The fire alarm shall not go into alarm at this stage.

12. DUST EXTRACTION UNIT

Manufacturer	Product
O'Brien Dust Extraction (or equal and approved)	DUST COLLECTION FILTER UNIT OBDC No 18 (or equal and approved)
Photo	
	
Notes	
Wood waste collected at source from the woodworking machines and benches using specially designed collection hoods. The dust is conveyed through flexible ducts from the machines into main high level galvanized steel duct network and onto filter unit. (A) Main galvanized filter unit consists of 3 KW suction fan. 3KW 3 Phase motor 5,64 Full load Amp Please see accompanying specification (B) Tubular filter bags and polythene collector bags Filter Unit Operating Range: 2500 cfm – 3230 cfm (4250 m³/h – 5500m³/h) 14:1 ratio Inlet diameter: 250 mm Filter area: 130 Ft² (12m²) Cleaning motor 1No.: 13A/220V Storage 2No.: 7 Ft² polybags. Sound: 70 dB(A)	

13. HOOD EXTRACT

Description	Finish	Required Airflow Rate	NR Level Max. (dB)	Dimensions (mm)
Island type suspended industrial extract canopy hood with 350Ø top connection spigot. Suitable for workshop machinery fume extraction, c/w internal condensate/dry baffle plate, integrated heat-resistant LED lights and heavy-duty ceiling suspension rod hangers.	Stainless steel (Grade 304)	900 L/s @ 80 Pa ESP	60	1000x800x500