VENTILATION SPECIFICATION

A MECHANICAL VENTILATION SYSTEM WITH HEAT RECOVERY (MVHR) SHALL BE SUPPLIED AND INSTALLED SUITABLE FOR INSTALLATION IN A UTILITY ROOM, KITCHEN, LOFT OR VOID SPACE.

THE SYSTEM SHALL BE SUITABLE FOR USE IN SMALL TO MID-SIZED HOUSES WITH KITCHEN PLUS UP TO FIVE WET ROOMS AND DESIGNED PRIMARILY FOR NEW BUILD AND MAJOR RENOVATIONS. THE UNIT SHALL BE THE ENERGISAVA® 200 AS MANUFACTURED BY ENVIROVENT AND SHALL BE CAPABLE OF BEING EITHER FLOOR, WALL (ESAVA200) OR CEILING MOUNTED (ESAVA200C). FLOOR MOUNTING BRACKETS SHALL BE AVAILABLE SEPARATELY (KIT-CONDENSATE-ES200).

IT SHALL BE A LIGHTWEIGHT DESIGN CAPABLE OF A SINGLE PERSON INSTALLATION WEIGHING NO GREATER THAN 14KG WITH EASY COMMISSIONING VIA A PUSH BUTTON COMMISSIONING PAD OR APP IF SPECIFIED.

THE DESIGN OF THE UNIT SHALL BE COMPACT AND SMALL WITH THE DEPTH MEASUREMENT PROTRUDING FROM A WALL NO MORE THAN 360MM. THE UNIT SHALL INCORPORATE Ø125 EXTRACT AND SUPPLY SPIGOTS TO CONNECT EASILY TO Ø125MM ROUND DUCTING.

THE UNIT SHALL BE FULLY INSULATED TO PROVIDE EXCELLENT THERMAL AND ACOUSTIC PERFORMANCE.

THE MVHR SHALL INCORPORATE LOW WATT EC MOTOR TECHNOLOGY WITH SEALED FOR LIFE BALL BEARINGS DESIGNED TO OPERATE CONTINUOUSLY AT A PRE-SET BACKGROUND RATE AND DELIVER THE LOWEST POSSIBLE SFP. THE EC MOTORS SHALL POWER THE CENTRIFUGAL FORWARD CURVED FAN IMPELLERS AND SHALL BE SUITABLE FOR TEMPERATURES OF -20°C TO +60°C.

THE MVHR SHALL INCORPORATE A HIGH EFFICIENCY COUNTER FLOW CELL CAPABLE OF UP TO 89% THERMAL EFFICIENCY. THE HEAT EXCHANGER SHALL BE PROTECTED BY HIGH GRADE PLUG OUT/PLUG IN ISO COARSE 45% (G3) FILTERS ON THE SUPPLY AND EXTRACT INLETS, WHICH SHALL BE DESIGNED FOR QUICK AND EASY MAINTENANCE VIA THE FRONT ACCESS PANEL.

THE UNIT SHALL BE SUPPLIED COMPLETE WITH A 21.5MM DRAIN CONNECTION.

THE MVHR SHALL BE AVAILABLE IN LEFT OR RIGHT HAND CONFIGURATIONS.

THE MVHR SHALL BE THE ESAVA200 OR ESAVA200C AS MANUFACTURED BY ENVIROVENT AND SHALL BE SAP PCDB LISTED. ESAVA200-L SHALL BE THE LEFT HAND ASSEMBLY COMPLIANT AS PER THE RIGHT HANDED VERSIONS LISTED IN SAP PCDB.

THE MVHR SHALL BE ERP GRADE A, CE CERTIFIED AND MANUFACTURED IN ACCORDANCE WITH BS EN ISO 9001 AND BS EN ISO 14001.

OPERATION

THE MVHR SHALL BE INSTALLED IN ACCORDANCE WITH THE SPECIFIED DRAWINGS WITH REFERENCE TO THE SCHEDULE OF WORKS IN THE SPECIFICATIONS. THE AIRFLOW SHALL MEET THE BUILDING REGULATIONS APPROVED DOCUMENT F: VENTILATION FOR SYSTEM 4.

THE INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF THE DOMESTIC VENTILATION COMPLIANCE GUIDE 2010.

THE MVHR SHALL EXTRACT STALE, MOISTURE-LADEN AIR FROM THE WET ROOMS OF THE PROPERTY (THE KITCHEN, BATHROOM, ENSUITE AND UTILITY ROOM). THIS MOIST AIR SHALL PASS OVER THE HEAT EXCHANGER BEFORE BEING DUCTED TO ATMOSPHERE. SIMULTANEOUSLY, FILTERED FRESH AIR SHALL BE DRAWN INTO THE UNIT FROM OUTSIDE AND THE ENERGY FROM THE EXTRACTED AIR SHALL BE TRANSFERRED TO THE NEW FRESH AIR THROUGH THE HIGH EFFICIENCY HEAT EXCHANGE CELL BEFORE BEING DELIVERED THROUGH SUPPLY VENTS INTO THE PROPERTY TO THE HABITABLE ROOMS (LIVING ROOM, BEDROOMS). THE EXTRACTED AIR SHALL ALSO BE FILTERED BY THE ISO COARSE 45% (G3) HIGH GRADE FILTER BEFORE IT ENTERS THE HEAT EXCHANGE CELL.

THE UNIT SHALL BE CAPABLE OF VARYING ITS SPEED AND AIRFLOW RATE BY RECEIVING SIGNALS FROM ONE OF THE FOLLOWING:

- WIRELESS REMOTE CONTROL BOOST
- INTEGRAL INTELLITRAC® HUMIDITY TRACKING CONTROLS
- SWITCHED LIVE SIGNAL
- MY ENVIROVENT APP (ESAVA200A AND ESAVA200CA ONLY)

WHEN THESE SIGNALS ARE RECEIVED, THE FAN SHALL CHANGE THE AIRFLOW RATE TO EITHER BOOST (MANUALLY VIA WIRELESS REMOTE CONTROL, S/L OR APP) OR VARIABLY IN DIRECT PROPORTION TO THE INCREASE IN HUMIDITY (AUTOMATIC INTELLITRAC® CONTROLS). THE UNIT SHALL ALLOW THE COMMISSIONING OF THE EXTRACT AND SUPPLY AIRFLOWS TO HAVE FULLY VARIABLE SPEED CONTROL TO SET THE MINIMUM AND MAXIMUM RATES.

CONTROL OPTIONS

ALL VERSIONS SHALL HAVE THE FACILITY TO CHANGE THE SPEED AND AIRFLOW RATE ACCORDING TO ONE OF THE FOLLOWING CONTROL FUNCTIONS:

INTEGRAL AUTOMATIC INTELLITRAC® HUMIDITY TRACKING CONTROLS

THESE SHALL BE INTEGRAL WITHIN THE UNIT AS STANDARD, THIS FUNCTION CONSTANTLY MONITORS THE HUMIDITY LEVEL, MEANING NO USER INTERVENTION IS REQUIRED. AS HUMIDITY RISES AND FALLS, THE MOTOR SPEED RISES AND FALLS AUTOMATICALLY IN DIRECT CORRELATION. THIS CONTROLS CONDENSATION QUIETLY AND EFFICIENTLY, REDUCING THE PERIOD OF TIME WHEN THE UNIT OPERATES ON BOOST MODE, SAVING ENERGY.

AUTOMATIC AND INTEGRAL MECHANICAL BYPASS WITH NO REDUCTION IN AIRFLOW

AN AUTOMATIC AND INTEGRAL MECHANICAL BYPASS WITH NO REDUCTION IN AIRFLOW SHALL BE INCORPORATED AS STANDARD. THE BYPASS DAMPER SHALL OPERATE AUTOMATICALLY THROUGH A WAX ACTUATOR ALLOWING THE AIR TO ROUTE AROUND THE HEAT EXCHANGE CELL TO MINIMISE OVERHEATING. REMOTE CONTROL WIRELESS BOOST SWITCH SHALL BE SUPPLIED ASSTANDARD WITH ALL UNITS (EXCEPT THE APP-ENABLED ESAVA200A AND ESAVA200CA) AND SHALL CLEARLY INDICATE THE SWITCH DESIGNATION AND MODE OF OPERATION VIA THE LED BUTTONS SUCH AS SUMMER BYPASS, FROST, HUMIDITY AND FILTER INDICATOR.

PRE-WIRED AND FACTORY-FITTED BY THE MANUFACTURER ARE THE ADDITIONAL INTEGRALLY MOUNTED FUNCTIONS WITHIN THE FAN UNIT ON THE PURPOSE MADE PCB WHICH INCLUDE:-

SWITCH LIVE FOR REMOTE SWITCH BOOST

DUCTWORK INSTALLATION

DUCTWORK WITHIN THE PROPERTY SHALL BE PVC FLAT DUCT AS DETAILED ON THE VENTILATION LAYOUTS C/W PROPRIETARY FIXING AND ACCESSORIES NECESSARY FOR A COMPLETE INSTALLATION.

FIRE COLLAR SHALL BE PROVIDED TO ALL PVC FLAT DUCKWORK WHERE A FIRE COMPARTMENT IS TO BE PENETRATED.

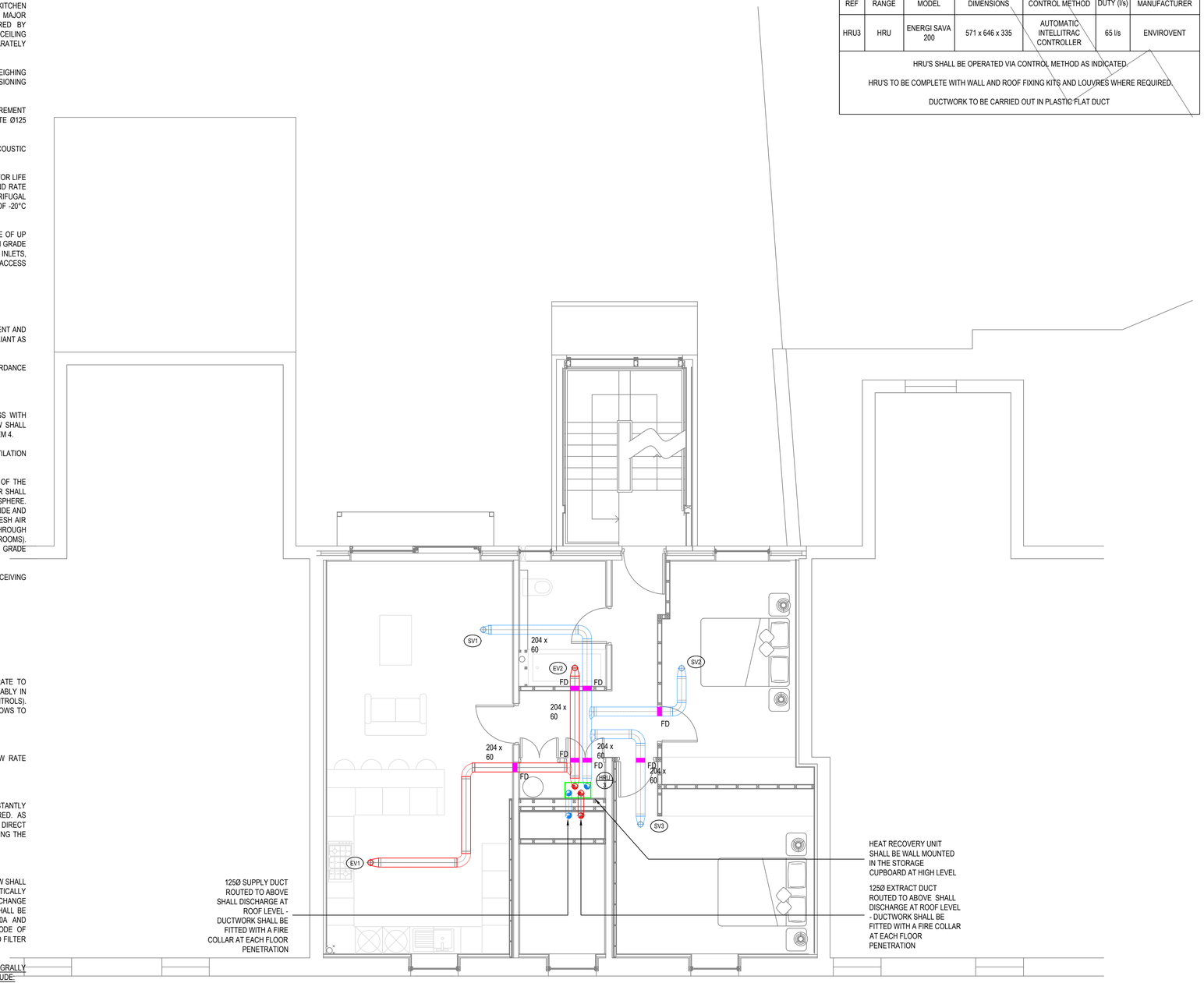
DUCTWORK FROM THE HRU'S TO EXTERNAL ROUTED THROUGH THE CENTRAL SERVICE RISER SHALL BE GALVANISED SPIRAL DUCTWORK WHICH SHALL BE BRACKETED TO THE BUILDING STRUCTURE.

SPRING LOADED FUSIBLE LINK FIRE DAMPERS SHALL BE PROVIDED TO ALL SPIRAL DUCTWORK WHERE PENETRATING A FIRE COMPARTMENT.

FIRE RATED ADJUSTABLE AIR VALVES SHALL BE PROVIDED TO SUPPLY AND EXTRACT POINTS AS DETAILED.

ROOF COWL OUTLET TYPE TBC

HEAT RECOVERY UNIT SCHEDULE						
REF	RANGE	MODEL	DIMENSIONS	CONTROL METHOD	DUTY (l/s)	MANUFACTURER
HRU3	HRU	ENERGI SAVA 200	571 x 646 x 335	AUTOMATIC INTELLITRAC CONTROLLER	65 l/s	ENVIROVENT
HRU'S SHALL BE OPERATED VIA CONTROL METHOD AS INDICATED. HRU'S TO BE COMPLETE WITH WALL AND ROOF FIXING KITS AND LOUVRES WHERE REQUIRED. DUCTWORK TO BE CARRIED OUT IN PLASTIC FLAT DUCT						



1ST FLOOR - PROPOSED VENTILATION LAYOUT

NOTICE

THIS DRAWING INCLUDING THE PRINCIPLES OF DESIGN, REMAINS THE PROPERTY OF MEP SERVICES LTD. AND IS ISSUED ON THE UNDERSTANDING THAT IT IS NOT REPRODUCED OR LOANED IN PART OR WHOLE EXCEPT WITH THE OWNERS WRITTEN CONSENT. IT IS NOT TO BE USED IN ANY MANNER THAT MAY BE DETRIMENTAL TO MEP SERVICES LTD. ACCEPTANCE OF THIS DRAWING WILL BE CONSTRUED AS AN AGREEMENT OF THE ABOVE.

NOTES

1. ALL SERVICES ROUTED DETAILED ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT ROUTES AND POSITIONS OF ALL INSTALLED SERVICES AND EQUIPMENT.
2. THE EXACT POSITION OF ALL SERVICES AND EQUIPMENT SHALL BE AGREED BY THE CONTRACT ADMINISTRATOR.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULLY CO-ORDINATING ANY SERVICES INSTALLED WITH THE BUILDING FABRIC AND SERVICES INSTALLED BY OTHERS.
4. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL CONTRACT DOCUMENTATION AND SPECIFICATION FOR THE WORKS.
5. THIS DRAWING FORMS PART OF THE SPECIFICATION AND BILL OF QUANTITIES FOR THE WORKS.
6. ALL DIMENSIONS SHOWN ARE IN MILLIMETRES.
7. DRAWINGS ARE BASED ON BEST INFORMATION AVAILABLE AT TENDER. CONTRACTOR MUST MEASURE & PREPARE INSTALLATION DRAWINGS.
8. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL, STRUCTURAL & ELECTRICAL DRAWINGS.
9. THIS DRAWING FORMS PART OF THE SPECIFICATION & CONTRACT.
10. DO NOT MEASURE FROM DRAWINGS FOR INSTALLATION PURPOSES.

SYMBOLS LEGEND - VENTILATION

- EXTRACT DUCTWORK
- SUPPLY DUCTWORK
- 125Ø SUPPLY AIR VALVE
- 125Ø EXTRACT AIR VALVE

VENTILATION NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE INDICATED.
2. DO NOT SCALE FROM THIS DRAWING.
3. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATION AND ALL OTHER PROJECT DOCUMENTATION.
4. THIS IS A TENDER ISSUE DRAWING ONLY.
5. THE MECHANICAL SUB-CONTRACTOR SHALL PREPARE HIS OWN CONSTRUCTION/WORKING DRAWINGS BASED UPON THIS AND OTHER ARCHITECTURAL AND STRUCTURAL ENGINEERING DRAWINGS (AVAILABLE FROM OTHERS).
6. ALL PLANT AND EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURES INSTRUCTIONS.
7. ALL DUCTWORK SHALL BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH HVCA DW144.
8. DUCTWORK SHALL HAVE ACCESS PANELS IN ACCORDANCE WITH THE REQUIREMENTS OF DW144. THE CONTRACTOR SHALL INCLUDE FOR THE INSTALLATION OF ADDITIONAL ACCESS DOORS AS NECESSARY TO AID DUCTWORK CLEANING.
9. FIRE DAMPERS/SMOKE DAMPERS SHALL BE PROVIDED WHERE DUCTWORK PASSES THROUGH ANY FIRE RATED STRUCTURE. ACTIONAIR FIRE SHIELD/ACTIONAIR SMOKE SHIELD TYPE WITH BLADES OUT OF THE AIRSTREAM.
10. ALL VENTILATION INSTALLATIONS SHALL COMPLY WITH THE REQUIREMENTS OF BUILDING REGULATIONS PART F.
11. DUCTWORK INSTALLATION SHALL BE TO HVCA/TR19 PROTECTION, DELIVERY AND INSTALLATION (PDI) LEVEL 2.
12. CONTRACTOR TO INCLUDE FOR DUCTWORK CLEANING IN ACCORDANCE WITH HVCA/TR19.
13. ALL CONTROL WORKS SHALL BE CARRIED OUT BY THE MECHANICAL CONTRACTOR INCLUSIVE OF FINAL CONNECTION FROM THE UNIT TO THE POWER SOURCE.
14. ALL POWER SUPPLIES SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.

REVISION	DESCRIPTION	DATE
T1	TENDER ISSUE	04/06/21
P1	PRELIMINARY ISSUE	21/05/21

MEP SERVICES LTD
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CLIENT
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PROJECT
481 - 485 WILMSLOW RD
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TITLE
1ST FLOOR - PROPOSED VENTILATION LAYOUT

SCALE	DRAWN	HR	MAY 21
1:50@A1	APPROVED	MS	MAY 21

DRAWING NUMBER
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