



Hayes Higgins Partnership
Integrated construction solutions

Project Managers, Chartered Civil, Structural and Building Services Engineers

TIPPERARY COUNTY COUNCIL
Cahir Market House Business Centre, Cahir, Co. Tipperary

DATA SHEETS for the
Mechanical VENTILATION SERVICES Installation
at
Cahir Market House

Issue

Revision	T01
Remarks	Tender Issue
Date	18/03/2026

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Name	PP
Signature	

Checked By

Name	JvdM
Signature	

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for the
DATA SHEETS for the Mechanical VENTILATION SERVICES Installation
For Cahir Market House**

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General Requirements

Project:	Cahir Market House	Data Sheet:	General Requirements
Project No.	21ME006	Revision:	T01
Client:	Tipperary County Council	Date:	06/03/2026

Equipment must be supplied from companies that meet the following Minimum Requirements:

The supplier must have had an office in Ireland for the last five years

The supplier must be able to provide on request ten positive references from previous installations of the proposed equipment.

The supplier must have a minimum of 5 No. support staff in Ireland.

All equipment must be fit for the intended purpose and suitable for the weather conditions found at the site.

All equipment must comply with all statutory regulations and requirements.

All suppliers proposed must be able to provide a technically competent representative who is capable of fully understanding the equipment provided and advising on commissioning and operational information.

All equipment must be EEE registered where such a product exists and is fully compliant with the specification.

Warranties:

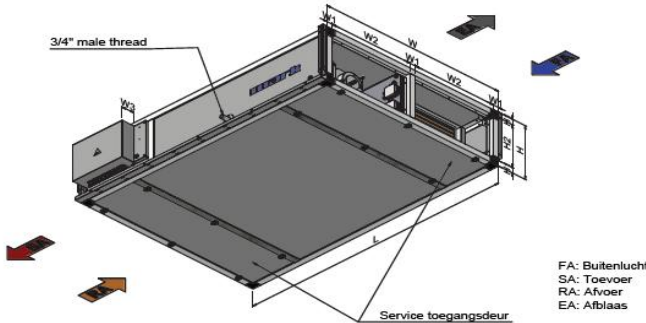
Equipment Type	5 Years
MVHR	X
All Fans	X
Fire Damper System	X
Canopies	X
Dust Extraction Systems	X

Maintenance:

System/Equipment	6-months	12-months
Ventilation System Controls	Check all ventilation system time schedules/set-points/control logic/data logging and ensure these are correct and locked to avoid tampering.	Check all ventilation system time schedules/set-points/control logic/data logging and ensure these are correct and locked to avoid tampering.
MVHR	Filter - Check, clean and replace if necessary Heat Exchanger - Check and clean Check and correct if necessary - Airflow, ducting connections, and condensation drain.	Filter - Check, clean and replace if necessary Heat Exchanger - Check and clean Check and correct if necessary - Airflow, ducting connections, and condensation drain.
All Fans and Dust Extraction Unit.	Filter (if applicable) - Check, clean and replace if necessary Check and correct if necessary - Airflow and ducting connections.	Filter (if applicable) - Check, clean and replace if necessary Check and correct if necessary - Airflow and ducting connections.
Fire Damper System	Functional test: Check Fire Damper Panel and ensure that all dampers are indicated in the open position. Perform a functional test by activation of fire alarm in 2-3 rooms to see if dampers operate as intended.	Regulatory Inspection and Test: A professional inspection to be performed as required by regulations like BS 9999.

It shall be the duty of the contractor to check that equipment proposed fully meets the specification
Any items installed that do not meet the specification shall be removed and replaced
At no cost to the contract

All plant shall contain the CE mark
References above to equipment shall also refer to plant and components.

Ventilation Services Data Sheet No.01a								
Project:	Cahir Market House				Data Shee	MVHR - UNITS		
Project No.	21ME006				Revision:	T01		
Client:	Tipperary County Council				Date:	06/03/2026		
MVHR - UNITS								
Manufacturer								
Mark Technologies (or equal and approved)								
Location	Legend	Model	No-Off	Max Airflow	Dimensions (mm)			
				(l/s)	Length	Width	Height	Duct Size
Ground Floor								
Attic - Serving Ground Floor Open Plan Office	MVHR-01	Mark Flatline LW 800	1	222	1830	1280	400	250 x 200
Attic - Serving Meeting Room	MVHR-02	Mark Flatline LW 1800	1	500	1144	1231	404	600 x 300
Photo								
								
Notes								
1	MVHR Units to be Mark Technologies as scheduled or approved equal							
2	All Controls for the MVHR Units and associated DX Coil and Outdoor Unit shall be by Mark Technologies							
3	Contractor to confirm access side with manufactuer and ensure unit is accessable for maintenance and future replacement							
4	<u>HRU's c/w the following:</u>							
	a) frost protection							
	b) supply air / return air / intake / exhaust air temperature sensors							
	c) vibration isolators							
	d) flexible connectors							
	e) wall mounted controller with BMS monitor and control capability as recommended by manufacturer							
	f) MVHR Units with condensate drain connections provide condensate drip tray with 22mm drain connection							
5	Unit shall be provided with automatic backdraught shutter							
6	NR 35 to be achieved within the space.Contractr to provide acoustic shields as required							
7	Filter Grade G3							
8	450mm x 450mm of inspection opening is necessary to check product							

Ventilation Services Data Sheet No.01b

Project:	Cahir Market House	Data Sheet:	MVHR - DX Coil
Project No.	21ME006	Revision:	T01
Client:	Tipperary County Council	Date:	06/03/2026

MVHR - DX Coil

1 No of DX Coil to be fitted to MVHR 02

COIL CALCULATION

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Date 03/07/2025 Offer n° -
Customer
Customer ref.
Item



Data concerning Air :

Ambient pressure	1013	Density	1.167	kg/m3		
Air flow	1800	mbar	0	m		
Power total/sensible	10	Sm3/h	2168	kg/h	1858	m3/h
Inlet T°	26	kW	6.68	kW		
Outlet T°	15.1	°C	60	%	12.63	g/kg
Velocity nom./in/out	2.19	°C	98	%	10.5	g/kg
Condensation	4.6	m/s	2.26	m/s	2.17	m/s
Air pressure drop	49	l/h				
		Pa	70	Pa	(dry/wet)	

Data concerning fluid :

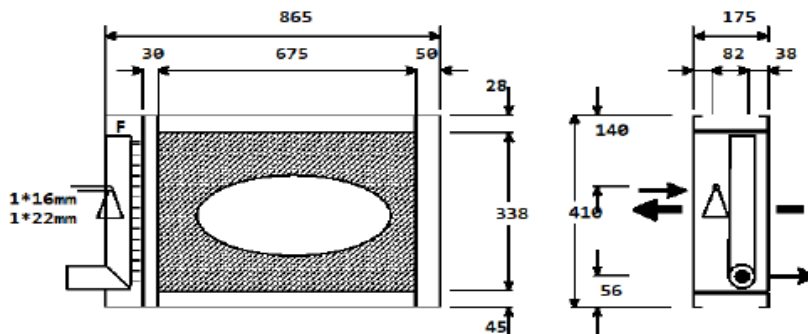
Type of fluid	R32					
Freon Flow	140	kg/h				
Freon T° evap./cond.	6	°C	40	°C		
Freon velocity In/Out	2.22	m/s	5.01	m/s		
Freon Pressure drop	12.13	kPa				

Data concerning coil :

Type	AHU XRCAP 0675 T009 04 F30 E002 1*5/8 1*7/8 (R2) (8mm)					
Materials	Tubes : Copper 1/2 0.35 mm / Fins : Aluminium 0.15 mm					
	Frame : Galva / Header : Copper					
finned H*L*W, weight	337.5 *	675 *	130	mm	18.5	kg
Se , Si, Capacity	18.66	m²	0.92	m²	3.1	l
Safety	17 %					

Options:

Droplet elim. (PP T250, frame I304 1.4301) +150mm
Drain pan I304 (1.4301)



Ventilation Services Data Sheet No.01b

Project:	Cahir Market House	Data Sheet:	MVHR - DX Coil
Project No.	21ME006	Revision:	T01
Client:	Tipperary County Council	Date:	06/03/2026

MVHR - DX Coil

COIL CALCULATION

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Date	03/07/2025	Offer n°	-		
Customer					
Customer ref.					
Item					
Data concerning Air :					
Ambient pressure	1013	Density	1.237	kg/m3	
Air flow	1800	mbar	0	m	
Power total/sensible	11	Sm3/h	2168	kg/h	1752 m3/h
Inlet T°	10	kW	11	kW	
Outlet T°	28	°C	90	%	6.86 g/kg
Velocity nom./in/out	2.19	°C	29	%	6.86 g/kg
Condensation	0	m/s	2.13	m/s	2.26 m/s
Air pressure drop	48	l/h			
		Pa			

Data concerning fluid :

Type of fluid	R32				
Freon Flow	129	kg/h			
Freon T° evap./cond.	6	°C	40	°C	
Freon velocity In/Out	2.39	m/s	0.14	m/s	
Freon Pressure drop	3.23	kPa			

Data concerning coil :

Type	AHU XRCAF 0675 T009 04 F30 E002 1*5/8 1*7/8 (R2) (8mm)				
Materials	Tubes : Copper 1/2 0.35 mm / Fins : Aluminium 0.15 mm				
	Frame : Galva / Header : Copper				
finned H*L*W, weight	337.5 *	675 *	130	mm	18.5 kg
Se , Si, Capacity	18.66	m²	0.92	m²	3.1 l
Safety	4 %				

Ventilation Services Data Sheet No.01c

Project:	Cahir Market House	Data Sheet:	MVHR - DX Outdoor Unit
Project No.	21ME006	Revision:	T01
Client:	Tipperary County Council	Date:	06/03/2026

MVHR - DX Outdoor Unit

1 No of Outdoor Unit to be provided to serve DX Coil fitted to MVHR 02

Manufacturer

Mitsubishi (or equal and approved)

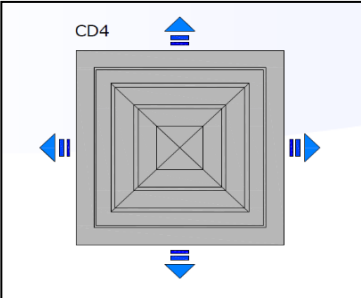
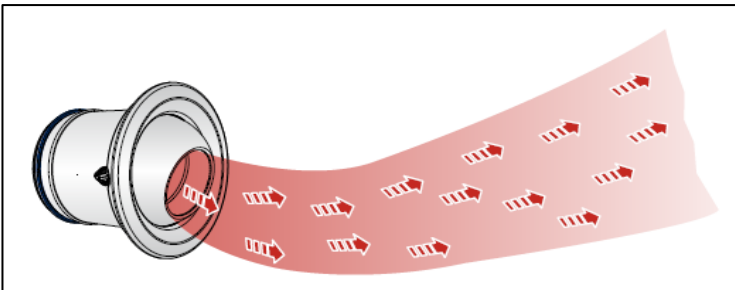


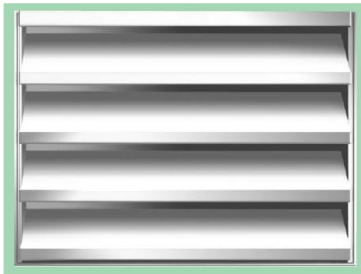
Outdoor unit			ZM100(V/Y)
Rated Capacity	Cooling	[kW]	9.5
	Heating	[kW]	11.2
Max Capacity	Cooling	[kW]	11.4
	Heating	[kW]	14.0
EER			4.40
COP			4.20
SEER / η_{sc}			7.8/7.6
SCOP / η_{sh}			4.8
Sound Level SPL	Cooling	[dB]	44
	Heating	[dB]	48
Silent mode *2		[dB]	-2/-4/-6
Sound Level PWL	Cooling	[dB]	63
	Heating	[dB]	—
Piping Length	max length	[m]	100
	max height	[m]	30
Operational warranty	Cooling	°C	-20~+46
	Heating	°C	-20~+21
Dimensions	H		870
	W		1100
	D		460
Weight	kg		107/114
Refrigerant Type/GWP			R32/675

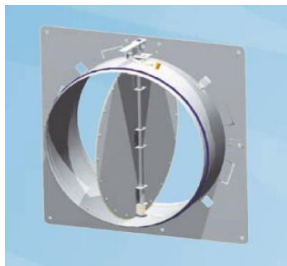
*1. Connecting with 4-way cassette

*2. Decrease relative to cooling SPL rating

Ventilation Services Data Sheet No.02										
Project:	Cahir Market House				Data Sheet:		Extract Fans			
Project No.	21ME006				Revision:		T01			
Client:	Tipperary County Council				Date:		06/03/2026			
Extract Fans										
Location	Ref	Manufacturer & Model (or equally approved)	Required Flow Rate	Fan Max Flow Rate	Duct Dia	Snd Pres	Weight	Electrical Supply	Max Pwr	Max Curr
			(l/s)	(l/s)	(mm)	(dBA)	(kg)	(Ph/V/Hz)	(W)	(Amp)
Ground Floor										
GR 11 WC	EF 0.01	Solerpalau Jetline-100	15	72	Ø100	22	3	1/220-240/50	19	0.1
FR 3 Canteen	EF 1.01	Solerpalau Jetline-125	84	117	Ø125	25	3.4	1/220-240/50	40	0.2
FR 10, 11, 12 Male/Female/Accessable Toilets	EF 1.02	Solerpalau Jetline-150	162	208	Ø150	31	4.5	1/220-240/50	83	0.4
Photo										
										
Notes										
1	Fan to be located on roof to ensure all internal ductwork is in negative pressure during operation.									
2	Point of discharge to be a minimum of 3metres or 1.25 x building height (whichever is higher) above the highest building point.									
3	Ductwork is to be Rigid PVC meeting the self-extinguishing' and 'very low flammability' classifications of BS 2782 test methods 140E and D and also the 'very low flame spread' classification of BS 476 Part 7 for Class 1 materials.									
4	Ductwork joints will be kept to a minimum and sealing will be suitable for the gases with which the ductwork may come in contact.									
5	Unit to be complete with flexible connections and av mounts									
6	Fan break out noise to be less than 35 dBA - Contractor to provide acoustic shields as required									
7	Unit shall be provided with automatic backdraught shutter									
8	All fans shall be provided with motorized shut off dampers that close when the fan is not in use.									
9	Include for speed controller									
10	Unit to be complete with flexible connections and av mounts									
11	Fan break out noise to be less than 38 dBA @ 3m									
12	Toilets fan are wired to BMS system									
13	Nitrogen Storefan are wired to Oxigen Depletion Alarm controlled by Oxygen sensor.									
14	Supply Voltage: 220-240V/1/50Hz									
15	Motor IP Rating: IP44									
16	Roof mounted extract fans to be provided with big foot support structure by mechanical contractor.									

Ventilation Services Data Sheet No.03										
Project:		Cahir Market House			Data Sheet:	Air Terminals				
Project No.		21ME006			Revision:	T01				
Client:		Tipperary County Council			Date:	06/03/2026				
Air Terminals										
Ref	No-of	Manufacture	Type	Size	Spigot Dia	Max Air Vol	Air Velocity	NC Level	Throw	Max PD
				(mm)	(Ø mm)	(l/s)	(m/s)	(dB)	(m)	(Pa)
SG-01	4	Gilberts/ HVC	Supply Air Ceiling Diffuser - Louvred Face 4-way	600 x 600	150	50	3.0	30	5.8	35
SG-02	4	Trox	TJN series Jet Nozzle wall mounted with swirl unit and cap for throw distance reduction	Ø300 x 250(L)	200	140	5	20	8	80
RG-01	2	Gilberts/ HVC	Return Air Grille - Wall Mounted	300 x 300	250	250	5	30	5.8	35
RG-02	1	HVC/Gilberts/Lindab	Return Air Grille	600 X 300	n/a	500	5	35	n/a	50
EG-01	6	Lindab	Air Valve - Exhaust Air	138	100	25	3.0	30	n/a	50
EG-02	1	Lindab	Air Valve - Exhaust Air	138	125	50	3.0	30	n/a	50
Manufacturer				Product						
Gilberts/Lindab/HVC/Trox(or equal and approved)				(or equal and approved)						
Photo										
   										
Notes										
1		Grilles / diffusers shall have RAL colour finish to Architect Representative requirements								
2		Diffusers shall be supplied complete with rear mounted opposed blade dampers and proprietary plenum box.								
3		Diffusers shall have concealed type fixing.								
4		Noise level from diffusers not to exceed NR								
5		Samples of diffusers shall be provided to the Engineers for approval prior to order.								
6		Fit side entry plenum boxes to all grilles								
7		This schedule must be read in conjunction with the relevant part of the Specification.								

Ventilation Services Data Sheet No.04									
Project:	Cahir Market House			Data Sheet:	External Louvres				
Project No.	21ME006			Revision:	T01				
Client:	Tipperary County Council			Date:	06/03/2026				
External Louvres									
Ref	No. of	Manufacturer	Product	Spigot	Width	Height	Free	Max Air	Max PD
				(Ø mm)	(mm)	(mm)	(m²)	(l/s)	(Pa)
WL-01	1	HVC/Gilberts/Lindab or similar approved	External Louvre	100	150	150	0.006	40	20
WL-02	1	HVC/Gilberts/Lindab or similar approved	External Louvre - Recessed in Window Frame						
				150	200	200	0.014	80	20
RV-01	2	HVC/Gilberts/Lindab or similar approved	Roof Vent - Slate Mounted	400					
RV-02	2	HVC/Gilberts/Lindab or similar approved	Roof Vent - Slate Mounted	250					
Photo									
									
Notes									
1	All louvres to come with 5.0 (mm) galvanised mesh bird screen and insect screen								
2	All External Louvres shall incorporate rain baffles and lips, and be completely water proof under external conditions.								
3	Louvres shall have a minimum of 50% aerodynamic free area unless otherwise stated in the schedule								
4	Louvres shall be constructed in aluminium with powder coated finish to BS colour of Architects choice.								
5	Blade width to be 70mm with 45 degree pitch								

Data Sheet No.05					
Project:	Cahir Market House			Data Sheet:	Fire & Smoke Dampers
Project No.	21ME006			Revision:	T01
Client:	Tipperary County Council			Date:	06/03/2026
Fire & Smoke Dampers					
Ref.	System	Width (mm)	Height (mm)	Quantity	Comments
Ground Floor					
FSD	Ventilation	250mm dia		2	Fire & Smoke Dampers
	Ventilation	200mm dia		4	Fire & Smoke Dampers
	Ventilation	250 x 250		4	Fire & Smoke Dampers
	Ventilation	100mm dia		1	Fire & Smoke Dampers
Total Qty				10	
System to come complete with the following:					
1	2 Number MIDI SMOKE 2 Central Smoke Control Panel				
2	Digital I/O Device (17 IO's)				
3	SC2-1 Individual Damper Control Module. 1 required for each damper.				
4	Touchscreen industrial panel PC with embedded Windows for system monitoring and record maintenance				
5	Customised graphical user interface for operation on PC				
6	Testing & Commissioning				
7	Dampers to come with Dual I/O's for resetting of dampers				
Manufacturer				Product	
Halton (or equivalent)				FDE Dampers with Entropic Motorised Fire Damper Control System	
Photo					
					

Notes	
	Fire Dampers
1	All fire dampers shall be EIS 120 supplied by Entropic Limited or equivalent & approved
2	As required by European and Irish Law through the Construction Products Regulation (EU) No 305/2011, all manual and motorised fire dampers placed on the market on or after 1st July 2013 must be CE marked. A copy of the EC Certificate of Conformity or the Declaration of Performance (DoP) as per EN 15650: 2010 must be submitted to the engineer for inspection and approval prior to purchase.
3	All fire dampers must have achieved a fire resistance of EI 120 (Ve-Ho) S when tested in accordance with EN 1366-2 by a New Approach Notified and Designated Organisation (NANDO).
4	In all instances, the declared fire resistance of the fire dampers shall be determined using the classification system described in EN 15301-3 in combination with the results of testing to EN 1366-2 by a New Approach Notified and Designated Organisation (NANDO). No other test method (e.g. BS 476 20-24:1987, UL 555, ISO 10294-1) will be acceptable.
5	Fire dampers to be installed in walls must carry the letters "Ve" as part of their classification, while dampers for installation in floors/ceilings must carry the letters "Ho" (EN 1366-2).
6	All fire dampers must carry the classification "i <-> o" to indicate fire testing from both inside and outside (EN 1366-2).
7	The fire damper casing must comply with the tightness requirements for EN 1751 class C.
8	The fire resistance of all dampers must match or exceed the minimum requirements set out in Technical Guidance Document B, Building Regulations of Ireland (2006). The fire dampers shall match the fire resistance in minutes of the separating element in which they are to be installed in terms of integrity (E) and insulation (I).
9	The fire damper shall include an external position indicator to enable external inspection of the blade position. It must be possible to trigger the blade release and reset it to the open position without access to the inside of the duct, to enable testing in accordance with BS 9999.
10	A copy of the test certificate and physical samples of the product must be submitted to the engineer for inspection and approval.
11	Dampers shall be ready for installation as delivered with no additional frames required. The dampers shall be fixed to the fire separating element using a built-in installation flange as per method tested to EN 1366-2.
12	In order to facilitate efficient installation, only one damper installation detail is acceptable for concrete walls, lightweight walls, ceilings and floors. Dampers requiring different construction details for installation in concrete walls or stud partitions are not acceptable.
13	Dampers shall be manufactured in accordance with the ISO 9001 quality standard and the operations of the manufacturer shall be subject to external third party quality control.
14	Each damper shall be accompanied by an installation certificate which must be completed by the installer when the damper is installed and fire-stopped. A copy of this certificate for each damper must be included in the safety file for the project.
15	Motors, where applicable, must be fire rated Belimo BF24 T HL and BLF24 T HL as appropriate. Standard non-fire rated motors will not be acceptable. The operating voltage of the motors will be AC/DC 24V. Each motor shall contain two limit switches. For manual testing purposes, fire dampers shall be released and triggered externally.

	<u>Motorised Fire Damper Control System</u>
1	Motorised fire damper control systems, where required, must be a single-cable system provided by the same supplier as the motorised fire dampers.
2	The damper control system field bus cable must be a single cable with minimum 3 cores. The one cable must carry both 24V power and communications to each damper actuator. Systems that require separate cables for power and communication will not be accepted. Systems that require a separate mains power supply at each damper will not be accepted. The system must use an open wiring topology.
3	The system must be able to operate an unlimited number of dampers and accept an unlimited number of inputs. The system must be capable of being reprogrammed to any strategy. The number of zones shall be unlimited and easily changed and reprogrammed after installation if required. The system must be easily expandable without changing or upgrading the existing installation.
4	The controls devices should be factory fitted to the 24V damper actuators, labeled, programmed and tested prior to dispatch from the factory and delivery to site. 100VA 24V AC transformers are required every 100m of cable or every 10 dampers. Transformers are to be supplied and installed by the electrical contractor.
5	As this is a life-critical system, it must be stand-alone and must not run on a Windows-based computer. The system shall allow open communications over various communication protocols to monitoring computers.
6	The system shall be capable of connection to the BMS and fire alarm system. The system shall be tested at intervals to be agreed with the fire officer and the end user. The results of each test shall be sent to the BMS and logged by the BMS for future reference.
7	Testing and commissioning shall include functional testing of every damper and all cause and effect strategies on the control system. The cause and effects will be witnessed by the engineer. Completion and commissioning certificates must be issued by the supplier of the controls system.
	Fire Damper Control System by Entropic/Safeguard or equivalent