HENSALL

FINAL ISSUE, ALL INFORMATION RECEIVED

OPERATION & MAINTENANCE MANUAL

Elmwood Leisure Centre

Decarbonisation and refurbishment: air source heat pumps, LTHW plant, air handling units, air conditioning and domestic water services Mechanical Services

Volume 1 of 9: Manual, system descriptions, warranties, training records and disposal information

Revision	Issue date	Practical completion	Job reference
A	**9th of October 2026**	**2nd of June 2026**	**HEN0203**

Prepared for Hensall Mechanical Services Ltd · Westgate Leisure Services Ltd (for the London Borough of Elmwood; operated by FitLife Active)

Compiled by OnTrack O&M

DOCUMENT CONTROL

About this manual

Project	**Elmwood Leisure Centre** Decarbonisation and refurbishment: air source heat pumps, LTHW plant, air handling units, air conditioning and domestic water services
Address	Elmwood Leisure Centre, Elmwood Shopping Centre, Market Gate Road, Elmwood EL6 4QT
Volume	Mechanical Services
End client	Westgate Leisure Services Ltd (for the London Borough of Elmwood; operated by FitLife Active)
Main contractor	Ekon Contract Services Ltd
Prepared for	Hensall Mechanical Services Ltd
Status	**Complete, 640 of 640 received**
Sign off	● **Signed off by the engineer (SF)**

Handover position at this issue

All 640 required documents have been received, checked and included, from 13 parties, including 104 certificates. The manual has been checked and signed off by the engineer.

RECEIVED FROM	DOCUMENTS
Frost Air Conditioning	266
Rexel UK Ltd	78
Trane UK Ltd	68
Hensall Mechanical Services Ltd	103
TPS Ltd	29
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Ventilation Direct Ltd	23
Arbe Integrated Engineering Ltd	9
5 more parties	38

Every document is listed in the contents pages with its volume and page, and bookmarked in the PDF. This records the manual's status at practical completion and for the release of retention. It is not a certificate of practical completion.

Revision history

REV	DATE	DESCRIPTION	BY	CHECKED
A	9th of October 2026	Final issue at handover: all information received, checked and signed off	SF	

All information received has been checked against the specification and the installed plant before it goes in. Anything changed after handover is issued as a new revision.

Facts taken from documents carry a source tag, for example `S3 p12` (source 3, page 12). The source list is in Appendix A. Narrative marked as drafted by AI was written from those sources and has been reviewed by the engineer.

START HERE

How to use this manual

Looking for something?
Every section and inserted document is bookmarked. Use the bookmarks panel or the contents page, then click through.

Something broken?
Go to Section 6 for isolation points, then Section 1 for the right service company.

Planning maintenance?
Section 5 sets out every task by month. Section 9 shows which warranties depend on it.

New to the building?
Section 10a has the training records and links to any training videos.

Replacing or removing plant?
Section 10b covers safe disposal, refrigerant recovery and waste records.

Ask this building a question

Scan the code to ask questions about this building in plain English, on a phone, on site. Every answer points to the page, certificate or drawing it came from.

`https://portal.ontrackoandm.co.uk/b/besa-elmwood-sample-2026`

This manual is in 9 volumes: this one holds the manual, system descriptions, warranties, training records and disposal information, and volumes 2 to 9 hold the manufacturers' literature, as-built drawings and certificates. The contents pages list every document with its volume and page.

Questions you could ask

Where do I isolate AHU R.01?

When is the next AHU R.02 filter change due?

Is H9600610 still under warranty?

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11.51	HEN0203-HEN-00-02-DR-M-5702 rev AF01 Second Floor Ventilation Services Layout Sheet 2 of 4	Vol 6, p 65
11.52	HEN0203-HEN-00-02-DR-M-5703 rev AF01 Second Floor Ventilation Services Layout Sheet 3 of 4	Vol 6, p 67
11.53	HEN0203-HEN-00-02-DR-M-5704 rev AF01 Second Floor Ventilation Services Layout Sheet 4 of 4	Vol 6, p 69
11.54	HEN0203-HEN-00-B1-DR-M-5901 rev AF01 Upper Basement Combined Services Layout Sheet 1 of 1	Vol 6, p 71
11.55	HEN0203-HEN-00-B2-DR-M-5201 rev AF01 Mechanical Services Lower Basement Above Ground Drainage Layout Sheet 1 of 2	Vol 6, p 73
11.56	HEN0203-HEN-00-B2-DR-M-5202 rev AF01 Mechanical Services Lower Basement Above Ground Drainage Layout Sheet 2 of 2	Vol 6, p 75
11.57	HEN0203-HEN-00-B2-DR-M-5901 rev AF01 Lower Basement Combined Servies Layout Sheet 1 of 2	Vol 6, p 77
11.58	HEN0203-HEN-00-B2-DR-M-5902 rev AF01 Lower Basement Combined Servies Layout Sheet 2 of 2	Vol 6, p 79
11.59	HEN0203-HEN-00-R1-DR-M-5201 rev AF01 Roof Level Combined Services Layout Sheet 1	Vol 6, p 81
11.60	HEN0203-HEN-00-R1-DR-M-5202 rev AF01 Roof Level Combined Services Layout Sheet 2	Vol 6, p 83
11.61	HEN0203-HEN-00-R1-DR-M-5203 rev AF01 Roof Level Combined Services Layout Sheet 3	Vol 6, p 85

11.62	HEN0203-HEN-00-R1-DR-M-5601 rev AF01 Roof Level Heating and Cooling Services Layout Sheet 1 of 3	Vol 6, p 87
11.63	HEN0203-HEN-00-R1-DR-M-5602 rev AF01 Roof Level Heating and Cooling Services Layout Sheet 2 of 3	Vol 6, p 89
11.64	HEN0203-HEN-00-R1-DR-M-5603 rev AF01 Roof Level Heating and Cooling Services Layout Sheet 3 of 3	Vol 6, p 91
11.65	HEN0203-HEN-00-R1-DR-M-5701 rev AF01 Roof Level Ventilation Services Layout Sheet 1 of 3	Vol 6, p 93
11.66	HEN0203-HEN-00-R1-DR-M-5702 rev AF01 Roof Level Ventilation Services Layout Sheet 2 of 3	Vol 6, p 95
11.67	HEN0203-HEN-00-R1-DR-M-5703 rev AF01 Roof Level Ventilation Services Layout Sheet 3 of 3	Vol 6, p 97
11.68	HEN0203-HEN-00-R1-DR-M-5704 rev AF01 Roof Level Ventilation Services Layout Sheet 4 of 4	Vol 6, p 99
11.69	HEN0203-HEN-00-R1-DR-N-0001 rev AF01 Roof Level Coordinated Roof Layout Sheet 1	Vol 6, p 101
11.70	HEN0203-HEN-00-R1-DR-N-0002 rev AF01 Roof Level Coordinated Roof Layout Sheet 2	Vol 6, p 103
11.71	HEN0203-HEN-00-R1-DR-N-0003 rev AF01 Roof Level Coordinated Roof Layout Sheet 3	Vol 6, p 105
11.72	HEN0203-HEN-00-R1-DR-N-0004 rev AF01 Roof Level Coordinated Roof Layout Sheet 4	Vol 6, p 107
11.73	HEN0203-HEN-00-ZZ-DR-M-5301 rev AF01 Domestic Services Schematic Sheet 1	Vol 6, p 109
11.74	HEN0203-HEN-00-ZZ-DR-M-5302 rev AF01 Domestic Services Schematic Sheet 2	Vol 6, p 111
11.75	HEN0203-HEN-00-ZZ-DR-M-5303 rev AF01 Domestic Services Schematic Sheet 3	Vol 6, p 113
11.76	HEN0203-HEN-00-ZZ-DR-M-5701 rev AF01 Ventilation Schematic Sheet 1	Vol 6, p 115
11.77	HEN0203-HEN-00-ZZ-DR-M-5702 rev AF01 Ventilation Schematic Sheet 2	Vol 6, p 117
11.78	HEN0203-HEN-00-ZZ-DR-M-5703 rev AF01 Ventilation Schematic Sheet 3	Vol 6, p 119
11.79	HEN0203-HEN-00-ZZ-DR-M-5704 rev AF01 Ventilation Schematic Sheet 4	Vol 6, p 121
11.80	HEN0203-HEN-00-ZZ-DR-M-5705 rev AF01 Ventilation Schematic Sheet 5	Vol 6, p 123
11.81	HEN0203-HEN-00-ZZ-DR-M-5991 rev AF01 Primary Plant Room Schematic	Vol 6, p 125
11.82	BMS panel wiring diagram AHU2 rev 2FA	Vol 6, p 127
11.83	BMS panel wiring diagram AHU3 rev 2FA	Vol 6, p 139
11.84	BMS panel wiring diagram AHU4 rev 2FA	Vol 6, p 151

11.85	BMS panel wiring diagram AHU5 rev 2FA	Vol 6, p 163
11.86	BMS panel wiring diagram AHU6 rev 2FA	Vol 6, p 175
11.87	BMS panel wiring diagram AHU7 rev 2FA	Vol 6, p 187
11.88	BMS panel wiring diagram AHU8 rev 2FA	Vol 6, p 199
11.89	BMS panel wiring diagram AHU9 rev 2FA	Vol 6, p 211
11.90	BMS panel wiring diagram MCP1 rev 2FA	Vol 6, p 223

1 Project information and contacts

What was installed and what changed during the job, who designed, installed and supplies each system, who to call for service, and the handover documents.

About the project

Scope of works	Gas boilers replaced with 3No. Trane air source heat pumps and thermal stores; new LTHW plant, AHUs, VRF air conditioning and domestic water plant.
Practical completion	2nd of June 2026

What changed during the job

Plant substitutions agreed during the job are recorded against each asset in Section 4 and on the as-built drawings in Section 11.

Project directory

ROLE OR TRADE	COMPANY	CONTACT	EMAIL
ASHP heat pump units and sequencer panel, refrigeration commissioning and F-gas; air handling units (AHU); warranties	**Trane UK Ltd**	Jon Fairbourne	
Pump sets and booster sets (Lowara), pressurisation unit (Mikrofill): mechanical supply and commissioning	**TPS Ltd**		
Hot water heater cylinders and thermal store supplier	**Arbe Integrated Engineering Ltd**		
Pipework installation: heating LTHW, domestic water, plant room pipework, pressure testing, unvented hot water commissioning (G3)	**BKW Mechanical**	Andrew Evershed	
Air conditioning installation (VRF and split), refrigeration pressure testing, commissioning, F-gas	**Frost Air Conditioning**	Matt Lomax	matt@frostac.com
Air conditioning supplier: Toshiba VRF, split and controls	**Polar Solutions Distribution Ltd**	Andy Keenan 07700 900382	
Ductwork installation, access doors and air valves, ductwork leakage testing	**Linden Ductwork**		
BMS and controls: panels, wiring diagrams, description of operation, commissioning	**KVT Controls**		
Commissioning: air and water balancing, flushing and water treatment, water hygiene disinfection and sampling, fire damper testing, ductwork cleaning	**RJ Ashton Group (Ashton LLP)**	Neil Mosley	
Acoustic enclosure to the heat pump compound	**Quinway Acoustics Ltd**		
Air sock fabric ductwork to the pool hall	**KE Fibertec UK Ltd**		

ROLE OR TRADE	COMPANY	CONTACT	EMAIL
Grilles, diffusers and door transfer grilles supplier	**Ventilation Direct Ltd**		
Fire damper supplier	**BSB Engineering Services Ltd**		
Extract fan supplier	**Sovereign Air Movement**		
Electric panel heater supplier (Dimplex, Flexel)	**Rexel UK Ltd**		
Over door heater	**Frico UK**		
Attenuators	**Caice Acoustic Air Movement Ltd**		
Ducted heating coil	**EuroCoils Ltd**		
Water conditioner (Water King)	**Lifescience Products Ltd**		
Hensall's MEP designer: record drawings, design schedules, basis of design	**HDN MEP Ltd**	Dave Bowdler	dave.bowdler@hdnmep.uk
M&E contractor: installation records, training, warranties, project handover documents	**Hensall Mechanical Services Ltd**	David Rushbrook 07700900461	drushbrook@hensall.com

Handover and completion documents

The practical completion, statutory and health and safety documents for the job as a whole, and the section each is filed in.

DOCUMENT	PROVIDED BY	FILED IN	STATUS
Building logbook to Part L, following CIBSE TM31	Hensall Mechanical Services Ltd	Section 1	Received
Return visit records at 3 and 6 months after handover	Hensall Mechanical Services Ltd	Section 1	Received
Above ground drainage pipework pressure test certificates to BS 5572	Hensall Mechanical Services Ltd	Section 7	Received
Collateral warranty in favour of the employer	Hensall Mechanical Services Ltd	Section 9	Received
Scope of works, as installed: what was designed, supplied and installed, written in the past tense	Hensall Mechanical Services Ltd	Section 1	Received
Record of changes during the job: variations, substitutions and value engineering, with what replaced what and why	Hensall Mechanical Services Ltd	Section 1	Received
Statement or certificate of practical completion for these works	Hensall Mechanical Services Ltd	Section 1	Received

DOCUMENT	PROVIDED BY	FILED IN	STATUS
Building control completion certificate (or final certificate) covering these works	Hensall Mechanical Services Ltd	Section 1	Received
Key schedule: every key, fob, code and password handed over, and who received it	Hensall Mechanical Services Ltd	Section 1	Received
Warranty schedule: each warranty, its start date, length, conditions and who to claim from	Hensall Mechanical Services Ltd	Section 9	Received
Spares schedule: spares and consumables handed over at completion, and where they are kept	Hensall Mechanical Services Ltd	Section 10	Received
Training schedule: each session, its date, who trained whom, with the signed attendance sheets	Hensall Mechanical Services Ltd	Section 10a	Received
Builders' work in connection: as-built record of openings, plinths, supports and fire stopping around the services	Hensall Mechanical Services Ltd	Section 11	Received
Basis of design: the design criteria the services were designed to (outside and inside conditions, ventilation rates, occupancy, loads and capacities), final issue	Hensall Mechanical Services Ltd	Section 3	Received
Plant and valve labelling: the label schedule, and the valve charts fixed in each plant room	Hensall Mechanical Services Ltd	Section 3	Received
Commissioning summary: every system commissioned and witnessed, results against design, anything left open, and the seasonal commissioning still to do	TPS Ltd	Section 7	Received
Commissioning notice for building control (Building Regulations regulation 44): fixed building services commissioned and performing as designed	TPS Ltd	Section 7	Received
Competent person scheme compliance certificates (for example BESCA, Gas Safe or NICEIC) for work self certified instead of through building control	Hensall Mechanical Services Ltd	Section 7	Received
Defects and outstanding works at practical completion, the end date of the rectification period, and who to report defects to	Hensall Mechanical Services Ltd	Section 1	Received
Photographic record of concealed services (ceiling, floor and riser voids, and fire stopping) taken before they were closed up	Hensall Mechanical Services Ltd	Section 11	Received
COSHH safety data sheets for substances left in the installation (water treatment chemicals, glycol, refrigerant oil)	Hensall Mechanical Services Ltd	Section 6	Received

DOCUMENT	PROVIDED BY	FILED IN	STATUS
Health and safety file input (CDM 2015): residual hazards, safe access for maintenance and safe removal of the services	Hensall Mechanical Services Ltd	Section 6	Received
Fire safety information for the responsible person (Building Regulations regulation 38): the as-installed fire safety services and how to maintain them	Hensall Mechanical Services Ltd	Section 6	Received
Fire stopping and penetration seals (regulation 38 fire safety information): where the services pass through fire resisting walls and floors, with locations, products used and photographs, including any done by others	Hensall Mechanical Services Ltd	Section 6	Received
Fire and smoke dampers (regulation 38 fire safety information): every damper in the services, including any installed by others, its location, the access panel and how to reach it for testing, or written confirmation that there are none	RJ Ashton Group (Ashton LLP)	Section 6	Received
Fire alarm cause and effect interface (regulation 38 fire safety information): plant that stops, starts or changes mode when the fire alarm operates, or written confirmation that there is none	KVT Controls	Section 6	Received

2 Handover status

All 640 required documents have been received, checked and included, from 13 parties.



COMPLETE
of required documents

REQUIRED
640
documents

RECEIVED
640
checked and filed

OUTSTANDING
0
none open

Progress by party

PARTY	PROGRESS	RECEIVED	OUTSTANDING
Frost Air Conditioning Air conditioning installation (VRF and split), refrigeration pressure testing, commissioning, F-gas		266/266	0
Rexel UK Ltd Electric panel heater supplier (Dimplex, Flexel)		78/78	0
Trane UK Ltd ASHP heat pump units and sequencer panel, refrigeration commissioning and F-gas; air handling units (AHU); warranties		68/68	0
Hensall Mechanical Services Ltd M&E contractor: installation records, training, warranties, project handover documents		103/103	0
TPS Ltd Pump sets and booster sets (Lowara), pressurisation unit (Mikrofill): mechanical supply and commissioning		29/29	0
RJ Ashton Group (Ashton LLP) Commissioning: air and water balancing, flushing and water treatment, water hygiene disinfection and sampling, fire damper testing, ductwork cleaning		26/26	0
Ventilation Direct Ltd Grilles, diffusers and door transfer grilles supplier		23/23	0
Arbe Integrated Engineering Ltd Hot water heater cylinders and thermal store supplier		9/9	0

PARTY	PROGRESS	RECEIVED	OUTSTANDING
BKW Mechanical Pipework installation: heating LTHW, domestic water, plant room pipework, pressure testing, unvented hot water commissioning (G3)		4/4	**0**
KVT Controls BMS and controls: panels, wiring diagrams, description of operation, commissioning		4/4	**0**
Linden Ductwork Ductwork installation, access doors and air valves, ductwork leakage testing		3/3	**0**
BSB Engineering Services Ltd Fire damper supplier		18/18	0
Caice Acoustic Air Movement Ltd Attenuators		9/9	0

3 System descriptions and design information

How each system works and how to operate it day to day, and the design information behind it.

Design information and schedules

The designer's final schedules (equipment, air terminal, valve, pump, fan and similar), points lists and controls strategy, updated to what was installed. Each is inserted at the end of this section.

SYSTEM	DOCUMENT	PROVIDED BY	STATUS
Controls	BMS points list, as commissioned	KVT Controls	Received
Controls	controls strategy description, final	KVT Controls	Received
Controls	BMS software licences, user log-ins and a backup of the programme, handed to the client	KVT Controls	Received
Domestic water	design schedules, final issue updated to what was installed (plant, pump, valve and sanitaryware schedules)	Hensall Mechanical Services Ltd	Received
Heating	design schedules, final issue updated to what was installed (plant, pump, valve and heat emitter schedules)	Hensall Mechanical Services Ltd	Received
Air conditioning	design schedules, final issue updated to what was installed (plant, pump, valve and heat emitter schedules)	Hensall Mechanical Services Ltd	Received
Ventilation	design schedules, final issue updated to what was installed (air handling unit, fan, air terminal and damper schedules)	Hensall Mechanical Services Ltd	Received
Project	Basis of design: the design criteria the services were designed to (outside and inside conditions, ventilation rates, occupancy, loads and capacities), final issue	Hensall Mechanical Services Ltd	Received
Project	Plant and valve labelling: the label schedule, and the valve charts fixed in each plant room	Hensall Mechanical Services Ltd	Received

3.1 Domestic water

Drafted by AI from the source documents. **Reviewed by the engineer at sign off.**

Mains cold water is boosted around the building by BS B.01, a Lowara three pump booster set in the basement plant. A separate TPS category 5 booster set, BS B.02, feeds the pool plant and wash down points.

Hot water is stored in two Arbe 1000 litre stainless steel cylinders, HWH B.01 and HWH B.02, in the basement plant. Each is heated through its LTHW coil from the heat pumps, with immersion heaters to raise the stored water to a higher temperature. The DHWS (domestic hot water service) return pump, P B.05, circulates hot water round the building.

Cylinder capacity (each)	1000 Litres S1 p2

Cylinder LTHW coil duty	37.3 kW S1 p2
Cylinder immersion heaters	2 off 15 kW Heavy Duty Immersion Heaters, 400v 3ph S1 p2
Cold water booster duty	5.83 l/s at 45.9 m S3 p2

3.2 Heating

Drafted by AI from the source documents. **Reviewed by the engineer at sign off.**

Heating comes from three Trane air source heat pumps in the external plant compound on the ground floor: ASHP 0.01 and ASHP 0.02 (Trane CXAF 150 HE XLN, 382.85 kW each) and ASHP 0.03 (Trane CXAX 35 SE LN, 71.81 kW). They heat LTHW (low temperature hot water) to the header in the B2 basement plant room, with a 6000 litre thermal store, TS.0.01, as the buffer. A Trane sequencer panel decides which heat pumps run, and the BMS (building management system) sees each unit through it.

Twin head Lowara pumps in the B2 plant room carry the heat to where it's used: P B.01 is the ASHP primary pump, P B.02 serves the AHU (air handling unit) heating coils, P B.03 serves the pool water plant and P B.04 serves the hot water cylinders. The pressurisation unit, PU 0.01, keeps the sealed heating system topped up and at pressure.

Rooms with no air handling unit or air conditioning are heated by electric panel heaters, EPH 0.01 to EPH 2.16.

Heat pump hot water set point	45 °C S40 p11
Heat pump refrigerant	R454B S40 p5
Heat pump design flow (each large unit)	13.19 L/s S60 p1
ASHP primary pump design flow	27.310 l/s S10 p3
Thermal store design pressure	4.0 BarG / 110°C S1 p5

Operating procedures

As written in the manufacturers' literature, with the page they come from. Only competent people should operate or reset plant.

PROCEDURE	PLANT	STEPS, AS WRITTEN
Start-up	ASHP 0.01	Hand, When in the 'Hand' position, the TMS is enabled permanently regardless of the onsite BMS command status. Auto, When in the 'Auto' position, the TMS will operate dependent on the hardwired enable signal from the onsite BMS system. S117 p9
Shut-down	ASHP 0.01	Once disabled the TMS system shall continue to run for a period of up to 10 minutes to allow the heat pumps to unload. Off, When in the 'Off' position, the Heating plant manager will be disabled permanently regardless of the onsite BMS command status. S117 p10
Normal operation	ASHP 0.01	The low temperature hot water setpoint shall be communicated to the TMS from the on-site BMS using the BACnet over IP protocol when operating in fully automatic mode. If the setpoint needs to be adjusted during a communications failure or locally from the TMS this can be done using the touch screen display. S117 p14
Alarm or fault reset	ASHP 0.01	If a heat pump has a manual reset fault present, then the fault must first be rectified and reset at the respective heat pump's controller before the sequencer alarm can be reset. For automatic reset alarms: The system will automatically reset the alarm when the point returns to heathy state. S117 p13
Normal operation	ASHP 0.01	A heat pump can be made unavailable from the panel mounted touch screen display for maintenance purposes. Once the heat pump has been overridden into maintenance, the heat pump will remain in this mode until the override is released. S117 p13
Emergency	ASHP 0.01	In the event of a complete failure of the Trane TMS, each ASHP can be put into local operation mode in three steps. 1: Select Settings on TD7 home screen. 2: Select Unit Settings. 3: Change Setpoint Source from BAS/EXT/FP to Front Panel S117 p17
Seasonal changeover	ASHP 0.01	Frost protection mode will be initiated when ambient conditions are such that a freeze up is possible: Heat pump (1) enters frost protection mode; 3 port valves open; Heat pump (2) starts duty on board pump; Pump will run at constant speed until there is no risk of freeze up, at this point the unit will disable its pump. S117 p16

3.3 Air conditioning

Drafted by AI from the source documents. **Reviewed by the engineer at sign off.**

Cooling and heating to the studios, gym, offices and front of house comes from Toshiba VRF (variable refrigerant flow) and split systems. The outdoor condensers, CU 2.01 to CU 2.10, sit on the first and second floor roofs, and each serves its own group of indoor units, which are ceiling cassettes or high wall units (AC 0.01 to AC 2.07). The systems use R410a refrigerant.

Spin Studio system total refrigerant charge	15.24KG S108 p8
CU 2.01 cooling capacity	Cooling Capacity kW 56.0 S116 p19

3.4 Ventilation

Drafted by AI from the source documents. **Reviewed by the engineer at sign off.**

Nine Trane AT4-F air handling units supply fresh, filtered and heated air and extract stale air. AHU R.01 serves the main pool, AHU R.02 the wet change, AHU R.03 the front of house, AHU R.04 the dance studio, AHU R.05 the soft play, AHU R.06 the spin studio, AHU R.07 the sports hall, AHU R.08 the fitness suite and AHU R.09 the squash courts. Each recovers heat from the extract air before it's discharged and has an LTHW heating coil fed from the heat pumps.

In the pool hall, air from AHU R.01 is delivered through two fabric air socks, AS 0.01 and AS 0.02. Elsewhere air is supplied and extracted through ceiling diffusers and grilles, with attenuators on the ductwork to keep noise down. Small extract fans, EF B.01 to EF B.04, serve the basement shower, toilet and chemical stores. Fire dampers close automatically where ductwork passes through fire rated walls.

Pool AHU R.01 supply design air volume	7.669 m³/s at 400 Pa static pressure `S140 p3`
Pool AHU R.01 measured supply at handover	8.368 m³/s `S140 p3`
Pool AHU R.01 measured extract at handover	7.365 m³/s `S139 p3`
Pool AHU R.01 supply filter, final stage	ePM1-60 % / F7 `S84 p4`
Fire damper fusible link rating	72°C `S121 p13`

Operating procedures

As written in the manufacturers' literature, with the page they come from. Only competent people should operate or reset plant.

PROCEDURE	PLANT	STEPS, AS WRITTEN
Normal operation	`AHU R.02`	The AT4F unit must only be operated with completely closed inspection doors/inspection covers. No unauthorised persons are permitted to have access to the AT4F unit during operation. `S37 p15`
Alarm or fault reset	`FD 0.01`	Note the damper blade position. Remove access doors/flexible duct as appropriate. Unscrew the Fusible Link quickly. Check visually that the damper blade closes fully. Reset the damper blade to its previously set position. Do not over-tighten the Fusible Link. Use light finger pressure only. Do not force handle when Fusible Link assembly is set. `S101 p5`

Operating procedures

As written in the manufacturers' literature, with the page they come from. Only competent people should operate or reset plant.

PROCEDURE	PLANT	STEPS, AS WRITTEN
Start-up		Before turning on the power, confirm that the resistance between the terminal block of the power supply and the earth is more than 1 MΩ using a 500-V megohmmeter. Check that all of the outdoor unit valves are opened fully. To protect the compressor at activation time, turn on the power for 12 hours or more before doing a test operation. S9 p24
Normal operation		This test mode function will automatically stop after 60 minutes, to prevent continuous forced operation, and do normal operation (operation according to set temperature). Be sure to do a stop / end operation when your work is finished. S9 p24
Normal operation		No operation instructions are required for the end users. S23 p1
Emergency		Simultaneous Eye Wash and Shower: Water flows simply by pulling on the triangular handle. The flow will continue even when the handle is released. The flow will stop when the handle is returned to its original position. S72 p1
Emergency		Eye Wash only: Water flow is operated by the foot pedal or the hand control. The eye wash will continue to flow when the pedal or hand control is released. The water flow will stop when the hand control is pulled towards the user or the foot pedal is raised. S72 p1
Emergency		The Trane control system monitors the low-pressure alarm status of the pressurisation unit via a hardwired signal. In the event of an alarm, the heating system will be shut down in its entirety inclusive of all heat pumps and water pumps. S117 p17
Emergency		Fire Alarm: In the event of an alarm the heating system will remain operational. S117 p17

3.1

Controls: controls strategy description, final

The following 24 pages are the document exactly as received and checked. It is bookmarked in the PDF.

Reference	HEN0203-BMS-OT2
Asset	Controls
Provided by	KVT Controls
Source file	KVT BMS description of operations V0.1.pdf
Pages	24

Concord
ENVIRONMENTAL TECHNOLOGIES



ELMWOOD LEISURE CENTRE

BMS DESCRIPTION OF OPERATIONS

Engineer: C. Braaten

Schedule of changes:
V0.1:12/9/2025: Initial Draft

BUILDING MANAGEMENT SYSTEM – DESCRIPTION OF OPERATIONS

BUILDING MANAGEMENT SYSTEM – DESCRIPTION OF OPERATIONS

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BUILDING MANAGEMENT SYSTEM – DESCRIPTION OF OPERATIONS

Building Management System – Description of Operations

Overview

The Building Management System (BMS) for the facility is designed to provide centralized monitoring and control of mechanical and electrical systems to ensure efficient, safe, and responsive building operations. The system will deliver integration across HVAC, domestic hot water (DHW), energy metering, and ventilation systems using open protocols and intelligent control hardware.

1. CONTROL INFRASTRUCTURE

1. Control Infrastructure

Main Control Panel (MCP1)

Located in the main basement plant room.

Utilises a Tridium JACE 9000 controller and ISMA BACnet I/O modules for distributed control and field device integration.

Trane Sequencing Controller (TMS)

Located in main basement plant room.

Manufacturer supplied packaged ASHP sequencer.

Head End

Location: site office, ground floor

Windows 11 Pro PC with Tridium Supervisor.

Provides full graphics, trending, and alarm console.

Air Handling Units (AHUs)

All 9no AHUs (except where noted) will follow the following control layouts:

1. Heating Control (LTHW 3PV Control)

- A 3-port valve modulates the flow of Low Temperature Hot Water (LTHW) to maintain the desired Supply Air Temperature.
- The valve is controlled based on a PID loop using the Supply Temp as feedback.
- Supply temperature setpoint is scaled between a Min and Max value based on the output of a PID loop using Return Air Temp to a Return Air Setpoint.
- In the event of AHU shutdown, the valve returns to its fail-safe position (closed).
- In frost stat trip condition, the LTHW valve will be set 100% open.

2. Supply Fan Control

- An Enable signal is sent to the supply fan to start operation.
- Fan Speed is controlled via 0-10v analog output. A minimum datum speed will be set on commissioning.
- A Fault input is monitored to detect and alarm on fan failure.
- A Modbus connection to the fan will record data such as current draw and motor temperature.
- A Differential pressure switch across the fan will prove operation.

AIR HANDLING UNITS (AHUS)

3. Extract Fan Control

- An Enable signal is sent to the supply fan to start operation.
- Fan Speed is controlled via 0-10v analog output. A minimum datum speed will be set on commissioning.
- A Fault input is monitored to detect and alarm on fan failure.
- A modbus connection to the fan will record data such as current draw and motor temperature.
- A Differential pressure switch across the fan will prove operation.

4. Humidity Control (AHU1 Only)

- A space mounted humidity sensor will record %RH in the pool area
- Humidity levels above a setpoint of 60% will:
    - Modulate mixing damper to increase fresh air %
    - Increase fan speeds above datum speed to increase fresh air supply

5. CO2 Control (AHU2, 3, 4, 5, 6, 7, 8, 9)

- A return air mounted CO2 sensor will record PPM.
- CO2 levels above a setpoint of 700PPM will:
    - Modulate mixing damper to increase fresh air % (AHU2 only)
    - Increase fan speeds above datum speed to increase fresh air supply

AIR HANDLING UNITS (AHUS)

6. Filter Differential Pressure Sensors (DPS)

- Panel Filter DPS, Bag Filter DPS, and Extract Filter DPS monitor filter health.
- Alarms are triggered when differential pressure exceeds thresholds, indicating clogged filters.

7. Dampers and End Switches

- Inlet Damper opens on system start; Inlet E/S (End Switch) confirms position.
- Extract Damper works in coordination; Extract E/S confirms its position and will allow extract fan to operate.
- Recirculation Damper adjusts the proportion of return air vs. fresh air, based on available recovery. (AHU1, AHU2)

8. Thermal Wheel (AHU3, 4, 5, 6, 7, 8, 9)

- The thermal wheel will modulate based on its ability to recover heat or cooling from the return air.

Condition	PID Action	Wheel Speed
RAT > OAT, SAT < setpoint (winter)	Increase heat recovery	Speed up
RAT < OAT, SAT > setpoint (summer)	Increase cooling recovery	Speed up
SAT at Setpoint	Maintain or reduce recovery	Modulate down
Free cooling/heating	No recovery needed	Stop

AIR HANDLING UNITS (AHUS)

9. Sequence of Operation

1. **Startup:**
    - Upon receiving a start command, the **Inlet Damper** opens. Once confirmed by **Inlet E/S**, the **Supply Fan** is enabled.
    - **Extract Damper** opens similarly, followed by **Extract Fan Enable**.
2. **Normal Operation:**
    - **Fans ramp up** to minimum reference speed
    - **LTHW valve** modulates to maintain supply temperature.
    - **Recirc Damper** adjusts based on humidity strategy. (AHU1)
    - All temperatures, humidity, and pressures are monitored.
3. **Alarms & Safety:**
    - Fan fault, filter DPS, and temperature extremes trigger alarms.
    - Any critical failure will stop the fans and close dampers.
4. **Shutdown:**
    - Fans stop, LTHW valve closes or returns to fail-safe.
    - Dampers close and are verified by end switches.

Air Source Heat Pumps (ASHPs)

3 ASHP units with manufacturer-provided sequencing (Trane TMS)

Trane TMS

The BMS will interface with the Trane TMS sequencing panel via the following signals

From Trane TMS to BMS:

- Bacnet IP – high level integration of all plant telemetry, captured from ASHPs, primary/secondary/buffer temperatures, post buffer flowrate
- Common alarm signal (this will be amalgamated from System and ASHP alarm relay outputs)

From BMS to Trane TMS:

- System Enable – Enable based on secondary load demand
- Pressurisation unit fault – to shutdown ASHP system, shutdown handled by TMS

ASHP System Demand Conditions

The BMS will send a system enable to the Trane TMS under the following conditions:

1. Fire Alarm = Healthy
2. LTHW Pressure Unit = Healthy
3. At least 1no load valve open >10% for 120 seconds

These include:

- Pool PHX Valves
- AHU LTHW Valves
- DHW Tank Valves

An 180 second off delay will be active should all load valves drop <10%.

No off delay will be active if Fire alarm or Pressure Unit Fault conditions change to unhealthy state.

PUMPS

Pumps

All pumpset pumps will have individually monitored fault signals. A DP switch will sit across the pumpset to prove flow.

All pumpsets will have a fail-over strategy. If the enabled pump shows an active fault signal or fails to make the DP switch within 15 seconds, the other pump will be enabled.

If both pumps fail, a manual reset on the head end will be required to reset the enable sequence.

Primary LTHW Pumpset

A primary LTHW pumpset will serve flow between the thermal storage vessel (TS B.01) and the LTHW low loss header.

These pumps will be set to a fixed speed upon mechanical commissioning.

This pumpset will be enabled with the same conditions as the ASHP System.

1. Fire Alarm = Healthy
2. LTHW Pressure Unit = Healthy
3. At least 1 secondary time schedule active
4. At least 1 load valve open >10% for 120 seconds

   These include:

   - Pool PHX Valves
   - AHU/HB LTHW Valves

An 180 second off delay will be active should all load valves drop <10%.

PUMPS

No off delay will be active if Fire alarm or Pressure Unit Fault conditions change to unhealthy state.

3 secondary LTHW pumpsets will feed the following circuits:

DHW LTHW Circuit

Feeds DHW cylinder coils.

These pumps will run at a fixed speed to be set on mechanical commissioning.

This pumpset will be enabled under the following conditions:

1. Fire Alarm = Healthy
2. LTHW Pressure Unit = Healthy
3. WH-B.01 Time Schedule Active OR WH-B.02 Time Schedule Active
4. WH-B.01 HL Alarm = Healthy AND WH B.02 HL Alarm = Healthy

AHU LTHW Circuit

Feeds AHU and reheater coils.

These pumps will run at a fixed differential pressure to be set on mechanical commissioning. Pressure control will be via pumpset internal controls.

This pumpset will be enabled under the following conditions:

1. Fire Alarm = Healthy
2. LTHW Pressure Unit = Healthy
3. Heat demand from any 9no AHUs, or Dry Change HB

- Heat demand = Time Schedule Active AND Heating Valve open >10% for 120 seconds
- Off Delay 180 seconds

Pool PHX Circuit

Feeds main pool and learner pool PHX.

These pumps will run at a fixed differential pressure to be set on mechanical commissioning. Pressure control will be via pumpset internal controls.

This pumpset will be enabled under the following conditions:

1. Fire Alarm = Healthy
2. LTHW Pressure Unit = Healthy
3. Heat demand from either PHX
    - Heat demand = Time Schedule Active AND Heating Valve open >10% for 120 seconds
    - Off Delay 180 seconds

Secondary DHW pump – See DHW System

EXTRACT FANS

Extract Fans

3 units: Chemical, Hypo, and Kitchen Extracts

- Relay enable
- Air DP switch for airflow proving
- Flow Failed if enable = true & DP switch = false

Fans to have manual speed control potentiometers, speed set on mechanical commissioning.

Fans enabled under following conditions:

1. Fire Alarm = Healthy
2. Time Schedule = Active

Chemical and Hypo store fans to run 24/7.

Kitchen extract fan to run on the time schedule agreed with the client.

VRF SYSTEM

VRF System

63 indoor VRF units integrated via Blackpear gateway using Bacnet IP.

VRF units will be grouped by AC contractor on configure of Blackpear gateway.

Groups as listed on the BMS points schedule.

BMS Head end floor plan graphics will display return air temperature, fan status, and fault status of each group in their corresponding positions.

Clicking on each group will bring a popup graphic that will replicate the basic functions of the Toshiba wall controllers. This includes heating/cooling setpoints, on/off, return air temperature, operational mode, fault status, and fault codes.

Each group will be linked to a programmable time schedule on the BMS.

A selector button on the popup graphic will allow selection of either BMS schedule control, or manual/wall controller on/off control.

Return air temperatures and fault statuses will be trended on the BMS for use in troubleshooting applications.

DOMESTIC HOT WATER (DHW) SYSTEM

Domestic Hot Water (DHW) System

The Domestic Hot Water (DHW) system comprises two **1000 L calorifiers**, each equipped with:

- **Two electric immersion heaters** (per calorifier), providing backup and top-up heating capability.
- **One LTHW heating coil** (per calorifier), served from the Low Temperature Hot Water (LTHW) system, providing primary heating to maintain stored water temperature.

A **secondary return circuit** is installed to maintain hot water circulation and minimise draw-off times at outlets. This circuit includes:

- **One secondary return pump** to maintain flow through the system.
- **Flow and return temperature sensors** on the secondary circuit for monitoring.

Each calorifier is fitted with:

- **Immersion temperature sensors** to monitor stored water temperature.

The BMS provides the following functions:

- **Time Scheduling**: The DHW system operates in line with occupancy requirements via a BMS time schedule. The time schedule will trigger demand on the DHW LTHW Pumps. This time schedule will also enable immersion heater control.

DOMESTIC HOT WATER (DHW) SYSTEM

- **DHW setpoint**: DHW storage temperature setpoint (60 °C).
- **Immersion Heater Control**: 2no immersion heaters will be enabled in a lead/lag configuration based on tank temperature as controlled variable to reach normal setpoint or pasture setpoint.
- **High Temp Stats**: Each DHW cylinder will be fitted with a high temperature safety stat set at 85°C, triggering of the stat will disable immersion heaters, secondary DHW pump, and DHW LTHW Pumps. The stat will require manual reset.
- **Pasteurisation Cycle**: Once per week, the BMS initiates a pasteurisation routine by enabling immersion heaters to raise calorifier storage temperature to ≥65 °C for 1 hour at 6AM Monday morning. This ensures compliance with hygiene and Legionella control requirements.
- **Pump Control**: Secondary DHW pump will be enabled from DHW time schedule.
- **Monitoring & Alarms**:
  - DHW flow and return temperatures (secondary side).
  - Calorifier immersion temperatures.
  - High/low temperature alarms for stored and circulating water.
  - Status and fault indication of secondary return pump and immersion heaters.
  - All DHW temperatures will be trended on the BMS head end to track legionella safety.

Frost Protection

3-Stage Frost Protection Strategy

The BMS shall provide a graduated frost protection sequence to safeguard plant, distribution pipework, and the building fabric during periods of low ambient temperature.

Stage 1 – Outside Air Frost Protection (Plant Circulation)

On-Trigger: Outside Air Temperature falls below the frost threshold (2 °C) for more than 300 seconds.

Action: Associated system pumps are enabled to maintain water circulation and prevent localised freezing in coils and distribution pipework. This will be still subject to safety enable conditions.

- Primary LTHW Pumpset
- DHW LTHW Pumpset
- AHU LTHW Pumpset
- DHW LTHW Pumpset

Notes: Plant heating is not enabled at this stage; only circulation is maintained.

Off-Trigger: Outside Air Temperature goes above the upper frost threshold (4 °C) for more than 300 seconds.

FROST PROTECTION

Stage 2 – Pipework Frost Protection (Primary Heating Support)

On-Trigger:

- Minimum pipework temperature indicates risk of freezing (10°C).
- Stage 1 Active

Action: Pumps remain enabled, and the BMS initiates ASHP system to introduce heat into the system.

Notes: This stage provides thermal protection for pipework and coils by maintaining system flow temperature above safe limits.

Off-Trigger:

- Minimum pipework temperature rises above upper threshold (20°C) for 600 seconds.

Stage 3 – Building Fabric Frost Protection

On-Trigger:

- Minimum internal space temperature sensors indicate low building temperature (10 °C) for more than 300 seconds.
- Stage 1 and 2 Active

Action: The BMS enables VRF system to maintain a safe internal building temperature and protect the building fabric from frost damage.

Off-Trigger:

FROST PROTECTION

- Minimum Internal space temperature sensor rises above upper threshold (15 °C) for more than 600 seconds.

Pool PHX

Two PHX will serve the main and learner pools.

These will be served the PHX LTHW Pumpset. A flow and return temperature sensor will be fitted to the secondary side of the PHX on the pool pipework.

Control valves will be modulated by the BMS, controlling to the secondary return temperature sensor (this is water returning back from the pool, as an indicator of average pool temperature).

Flow temperature from the PHX to the pool will be monitored for high temperature. A flow temperature above 45°C will shut down the control valve as a safety interlock. This safety will be active until the flow temperature falls below 40°C.

Other Services

Water Meter:

Monitored using pulse input into BMS.

Trending of m3 usage on BMS head end.

LV Electric Meters:

Integrated kWh values via Modbus RTU for real-time electrical consumption.

Trending of kWh data on BMS head end for energy consumption tracking.

CW Booster Sets:

These will be monitored by the BMS for fault status. Control of these will be handled by the units themselves.

3.2

Domestic water: design schedules, final issue updated to what was installed (plant, pump, valve and sanitaryware schedules)

The following page is the document exactly as received and checked. It is bookmarked in the PDF.

Reference	HEN0203-DWS-OT2
Asset	Domestic water
Provided by	Hensall Mechanical Services Ltd
Source file	HEN0203-HEN-00-XX-SCH-M-5301 Schedule of Hot Water Heaters.pdf
Pages	1

Date: 28/04/2025
Project Name: Elmwood Leisure Centre
Schedule: HEN0203-HEN-00-XX-SCH-M-5301
Rev: P01

Schedule of Hot Water Heaters

HENSALL

Reference	Location	System	Cylinder LTHW Coil Rating (kW)	Primary Fluid and Operating Temperatures	LTHW Coil Flow Rate (kg/s)	LTHW Coil Pressure Drop (kPa)	Secondary Fluid and Operating Temperatures	Vessel Actual Capacity (litres)	Cylinder Dimensions (mm)	Cylinder Material	Cylinder Insulation (mm)	Expansion Vessel Actual Capacity (litres)	Pressure (Bar)			Manufacturer	Model	Comments
													Design	Maximum Working	Buffer Vessel Test			
HWH B.01	Basement Plant	Hot Water Generation	37.30	LTHW, 45°C / 38°C	1.269	18	DHWS, 60°C / 55°C	1000	1000	Stainless Steel	50	100	6	3	10	Arbe	HevaCal ALXA1000-6B-EX50-CU200/390-V	LTHW Coil provides water uplift from 10°C to 40°C, unit to be provided with 2no. 21kW immersion heaters to lift temperature to 60°C for storage and 70°C for pressurisation.
HWH B.02	Basement Plant	Hot Water Generation	37.30	LTHW, 45°C / 38°C	1.269	18	DHWS, 60°C / 55°C	1000	1000	Stainless Steel	50	100	6	3	10	Arbe	HevaCal ALXA1000-6B-EX50-CU200/390-V	LTHW Coil provides water uplift from 10°C to 40°C, unit to be provided with 2no. 21kW immersion heaters to lift temperature to 60°C for storage and 70°C for pressurisation.

Notes:

1. The cold water connection shall be complete with anti-legionella loop.

2. All sensors shall be linked to the BMS to provide fault alarms.

3. All valves and components shall be WRAS approved and fully compliant with Water Regulations.

4. Water Heaters shall be complete with the following:

   a. Temperature / Pressure Relief Valve

   b. Temperature Gauge

   c. Temperature Sensors

   d. BMS Interface

5. Final connections shall be made in accordance with the Manufacturer's recommendations.

Author: Declan Parker
Checked: Dave Bowdler

3.3

HEN0203-HEN-00-XX-SCH-M-5302 Schedule of Water Booster Sets

The following page is the document exactly as received and checked. It is bookmarked in the PDF.

Reference	
Asset	General
Provided by	Not recorded
Source file	`HEN0203-HEN-00-XX-SCH-M-5302 Schedule of Water Booster Sets.pdf`
Pages	1

Date: 28/04/2025
Project Name: Elmwood Leisure Centre
Schedule Number: HEN0203-HEN-00-XX-SCH-M-5302
Rev: P01

Schedule of Water Booster Sets

HENSALL

Reference	Unit Location	System	Water Temperature	Pump Quantity	Flow Rate		Pump Arrangement	Working Pressure Range	On / Off Constant Run	Manufacturer	Model	Comments
					Total	Individual						
			(°C)		(l/s)			(Bar)				
BS B.01	Basement Plant	Boosted Cold Water	10	3	5.83	2.915	Duty / Duty / Standby	4.5	Variable, Inverter Driven	Lowara	SMB30/10HME04S22/T4/UK	
BS B.02	Basement Plant	Pool Plant and Wash Down	10	2	2.60	2.60	Duty / Standby	3	Variable, Inverter Driven	TPS	SP2V-VARiFLO-TAS-1000L-CAT5	Booster Set to be part of packaged unit complete with a 1000 l integral storage tank with type AB air gap.

Notes:

1. Units shall be skid mounted packaged units incorporating control panel, anti-vibration mountings, flexible connections, pipework, valves, pressure vessel, control wiring and all necessary fittings to for an operating unit.

2. Skid framework shall be galvanised steel and painted with an anti corrosion paint finish.

3. Booster sets shall be assembled using copper pipework to BS EN 1057 R250 and capillary fittings to the relevant Bristish Standard with flanged connections to the supply and suction connections.

4. All valves and components to be WRAS approved and comply fully with the water regulations.

5. The pumps shall be vertical multi-stage type having stainless steel bodies, stainless steel shaft and impellers fitted with ceramic faced tungsten carbide mechanical seals with the necessary WRAS approval. Standard motors shall be continuously rated, totally enclosed fan cooled type with class "F" insulation amd IP55 protection, direct-on-line starting up to 4kW or as required by local site conditions. Motors in excess of 4kW shall incorporate Star Delta or soft starting method.

6. The pumps are to be controlled by pressure switches or duplicate transducers and timers, alternating the starting of the pumps after each pump operating cycle. Where required all pumps within the package shall run and cascade via the pressure control system. Should the first pump fail the support pumps shall still operate.

7. Control panel shall incorporate door lock isolators and shall incorporate the following: power on light, pump running, pump tripped (for each pump), auto / hand / off switch, low water level cut-off, auto duty pump cycling, volt free contacts connection to main BMS system.

8. The control panel shall have a digital display including fault condidtions and system diagnostics. A volt free facility shall be provided for interfacing to the BMS which shall provide run and fault indication for each pump.

9. The control panel shall comply with the latest revision of the I.E.E Wiring Regulations (BS 7671) have an overall IP55 protection rating and include an anti-condensation heater.

10. Final connections shall be made in accordance with manufacturer's recommendations.

11. Manufacturer to be ISO 9001 registered.

Author: Declan Parker
Checked: Dave Bowdler

3.4

Heating: design schedules, final issue updated to what was installed (plant, pump, valve and heat emitter schedules)

The following page is the document exactly as received and checked. It is bookmarked in the PDF.

Reference	HEN0203-HTG-OT2
Asset	Heating
Provided by	Hensall Mechanical Services Ltd
Source file	HEN0203-HEN-00-XX-SCH-M-5601 Schedule of Air Source Heat Pumps.pdf
Pages	1

Date: 28/04/2025
Project Name: Elmwood Leisure Centre
Schedule Number: HEN0203-HEN-00-XX-SCH-M-5601
Rev: P01

Schedule of Air Source Heat Pumps

HENSALL

Unit Reference	Unit Location	Service	System Type	System Capacities		System Efficiency		Unit Dimensions			Unit Noise Rating	Unit Air Volume	Unit Weight	Electrical Data			Manufacturer	Manufacturer's Reference
				Heating @ -4°C	Cooling @ 35°C			Length	Width	Height				Phase	Starting Current	Max Running Current		
				(kW)		Net COP	Net EER	(mm)			(dB(A))	(l/s)	(kg)		(A)			
ASHP 0.01	External Plant Ground Floor	LTHW	2 Pipe System	382.85	-	2.7	-	5645	2200	2530	59 @ 10m	55010	4560	3	507	392	Trane	CXAF 150 HE XLN
ASHP 0.02	External Plant Ground Floor	LTHW	2 Pipe System	382.85	-	2.7	-	5645	2200	2530	59 @ 10m	55010	4560	3	507	392	Trane	CXAF 150 HE XLN
ASHP 0.03	External Plant Ground Floor	LTHW	2 Pipe System	71.81	-	2.39	-	2327	2250	1747	54 @ 10m	7790	974	3	144	78	Trane	CXAX 35 SE LN

Notes:

1. All units shall be installed in accordance with Manufacturer's recommendations.

2. All units shall be mounted on a Big Foot type support frame system.

3. Units to be complete with integral controls pacakge linked to BMS.

4. Unit Noise Rating is based on Sound Pressure Level.

5. All units to be complete with a Frost Protection Package.

6. All units to be complete with soft start option

Author: Declan Parker
Checked: Dave Bowdler

3.5

HEN0203-HEN-00-XX-SCH-M-5602 Schedule of Electric Panel Heaters

The following 2 pages are the document exactly as received and checked. It is bookmarked in the PDF.

Reference	
Asset	General
Provided by	Not recorded
Source file	`HEN0203-HEN-00-XX-SCH-M-5602 Schedule of Electric Panel Heaters.pdf`
Pages	2

Date: 28/04/2025
Project Name: Elmwood Leisure Centre
Schedule: HEN0203-HEN-00-XX-SCH-M-5602
Revision: P01

Schedule of Electric Panel Heaters

HENSALL

Reference	Location	Manufacturer	Model	Dimensions			Required Heat Output	Comments
				Height	Width	Depth		
				(mm)			(kW)	
EPH 0.01	Circulation	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock
EPH 0.02	Soft Play WC	Dimplex	LST100	430	688	108	1.00	C/W lockable integral thermostat and time clock
EPH 0.03	Soft Play WC	Dimplex	LST100	430	688	108	1.00	C/W lockable integral thermostat and time clock
EPH 0.04	Soft Play Circulation	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock
EPH 0.05	Circulation 3	Dimplex	LST100	430	688	108	1.00	C/W lockable integral thermostat and time clock
EPH 0.06	WC 2	Flexel	ECOSUN 3C-600	600	600	108	0.75	Flexel Touch Controller and Wall Temp Sensor
EPH 0.07	WC 3	Flexel	ECOSUN 3C-600	600	600	108	0.75	Flexel Touch Controller and Wall Temp Sensor
EPH 0.08	WC 1	Flexel	ECOSUN 3C-600	600	600	108	0.30	Flexel Touch Controller and Wall Temp Sensor
EPH 0.09	Acc WC 1	Flexel	ECOSUN 3C-600	600	600	108	0.30	Flexel Touch Controller and Wall Temp Sensor
EPH 0.10	Circulation BOH	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock
EPH 0.11	Circulation BOH	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock
EPH 0.12	Stair	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock
EPH 0.13	Circulation BOH	Dimplex	LST100	430	688	108	1.00	C/W lockable integral thermostat and time clock
EPH 1.01	Circulation 3	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock
EPH 1.02	Circulation 3	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock
EPH 1.03	Circulation 3	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock
EPH 1.04	Circulation 2	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock
EPH 1.05	Circulation 2	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock
EPH 1.06	Circulation 2	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock
EPH 1.07	Circulation 2	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock
EPH 1.08	Circulation 1	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock
EPH 1.09	Circulation 1	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock
EPH 1.10	Stair	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock
EPH 2.01	Corridor	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock
EPH 2.02	Corridor	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock

Author: Declan Parker
Checked: Dave Bowdler

Date: 28/04/2025
Project Name: Elmwood Leisure Centre
Schedule: HEN0203-HEN-00-XX-SCH-M-5602
Revision: P01

Schedule of Electric Panel Heaters

HENSALL

Reference	Location	Manufacturer	Model	Dimensions			Required Heat Output	Comments
				Height	Width	Depth		
				(mm)			(kW)	
EPH 2.03	Corridor	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock
EPH 2.04	Corridor	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock
EPH 2.05	Corridor	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock
EPH 2.06	Corridor	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock
EPH 2.07	Corridor	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock
EPH 2.08	Stair	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock
EPH 2.09	Kitchen	Dimplex	LST100	430	688	108	1.00	C/W lockable integral thermostat and time clock
EPH 2.10	Office 4	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock
EPH 2.11	Office 3	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock
EPH 2.12	Office 2	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock
EPH 2.13	Meeting Room	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock
EPH 2.14	Office 1	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock
EPH 2.15	Office 1	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock
EPH 2.16	Circulation	Dimplex	LST150	430	860	108	1.50	C/W lockable integral thermostat and time clock

Notes:

1. To be installed in accordance with manufacturer's recommendations.

Author: Declan Parker
Checked: Dave Bowdler

3.6

HEN0203-HEN-00-XX-SCH-M-5603 Schedule of Thermal Stores

The following page is the document exactly as received and checked. It is bookmarked in the PDF.

Reference	
Asset	General
Provided by	Not recorded
Source file	HEN0203-HEN-00-XX-SCH-M-5603 Schedule of Thermal Stores.pdf
Pages	1

Schedule of Thermal Stores

HENSALL

Reference	TS.0.01			
System	Low Temperature Hot Water Heating			
Location	B2 Basement Plantroom			
System	ASHP			
Storage Volume (l)	6000			
Diameter (mm)	1700			
Height (mm)	3165			
Material	Carbon Steel			
Insulation	Yes			
Direct / Indirect	Direct			
Primary Flow / Return Temp	45/38			
Hydraulic Test Pressure (Bar)	6			
Primary Connection Size (mm)	150mm			
Secondary Connection Size (mm)	150mm			
Secondary LTHW Heat Exchanger Coil	N/A			
SV Size and Setting	1"			
Tappings	1. Primary Inlet - 150mm 2. Primary Outlet - 150mm 3. LTHW Intlet - 150mm 4. LTHW Outlet - 150mm 5. Thermometer 7. Pressure Gauge 8. Safety Valve 9. Drain 10. 4No. Sensor Tappings 11. Inspection Opening			

Notes:

1. Each vessel shall be installed in accordance with Manufacturer's recommendations.

2. Vessels to be supplied in sections due to access restrictions

3.7

HEN0203-HEN-00-XX-SCH-M-5604 Schedule of Pumps

The following page is the document exactly as received and checked. It is bookmarked in the PDF.

Reference	
Asset	General
Provided by	Not recorded
Source file	`HEN0203-HEN-00-XX-SCH-M-5604 Schedule of Pumps.pdf`
Pages	1

Date: 28/04/2025
Project Name: Elmwood Leisure Centre
Schedule Number: HEN0203-HEN-00-XX-SCH-M-5604
Revision: P01

Schedule of Pumps

HENSALL

Reference	Pump Location	System	Operating Temperatures	Pump Type	Flow Rate	Resistance	Pipesize	Electrical				Speed / Inverter Drive	Manufacturer	Model	Comments
			(°C)		(kg/s)	(kPa)	(mmø)	Phase	Amps	FLC	kW				
P B.01	B2 Basement Plantroom	ASHP Primary	45/38	Twin Head	29.99	62.4	150	3	8.23	10	4	Inverter Driven	Lowara	LNTSH125-160/40/P45VCC4/4	
P B.02	B2 Basement Plantroom	AHU CT Pump	45/38	Twin Head	21.15	199.2	150	3	10.85	24	11	Inverter Driven	Lowara	LNTEX 100-280/110/204CC4	
P B.03	B2 Basement Plantroom	LTHW to Pool Water Plant	45/38	Twin Head	7.26	165.6	80	3	5.74	4.6	2.3	Inverter Driven	Lowara	LNTEE50-125/22/EP04CS4	
P B.04	B2 Basement Plantroom	LTHW to DHWS Primary	45/38	Twin Head	2.79	87.6	50	1	2.52	3.2	0.55	Inverter Driven	Lowara	ecocirc XLplus D 40-150 F	
P B.05	B2 Basement Plantroom	DHWS Secondary	55	Single Head	0.24	81.6	35	1	0.72	1.7	0.158	Inverter Driven	Lowara	ecocirc XLplus N 32-100	

Notes:

1. Final connections shall be made in accordance with manufacturer's recommendations.

2. Flow rate value includes 10% design margin.

3. Resistance value includes 20% design margin.

Author: Declan Parker
Checked: Dave Bowdler

3.8

HEN0203-HEN-00-XX-SCH-M-5605 Schedule of Pressurisation Units and Expansion Vessels

The following page is the document exactly as received and checked. It is bookmarked in the PDF.

Reference	
Asset	General
Provided by	Not recorded
Source file	HEN0203-HEN-00-XX-SCH-M-5605 Schedule of Pressurisation Units and Expansion Vessels.pdf
Pages	1

Date: 28/04/20025
Project Name: Elmwood Leisure Centre
Schedule: HEN0203-HEN-00-XX-SCH-M-5605
Revision: P01

Schedule of Pressurisation Units

HENSALL

Reference	Unit Location	Unit Description	System Served	System Operating Temperatures	System Water Content	Expansion Volume	Minimum Vessel Volume	System Height	Pressure Margin	Initial System Pressure at Cold Fill Temperature	Final Pressure at System Operating Temperature	Safety Valve Margin	Safety Valve Setting	Comments
				(°c)	(l/s)	(l)	(l)	(m)	(Bar)	(Bar)	(Bar)	(Bar)	(Bar)	
PU 0.01	B2 Basement Plantroom	Pressurisation Unit	LTHW	45/38	8500	78	285	20	0.5	2.5	3.5	0.7	4.2	Mikrofill 3

Notes:

1. Final Connections shall be made in accordance with manufacturer's recommendations.

2. Unit shall have a twin pump complete with auto-changeover.

3. System shall be tested to 1.5 times the working pressure.

Author: Declan Parker
Checked: Dave Bowdler

3.9

Air conditioning: design schedules, final issue updated to what was installed (plant, pump, valve and heat emitter schedules)

The following 3 pages are the document exactly as received and checked. It is bookmarked in the PDF.

Reference	HEN0203-AC-OT2
Asset	Air conditioning
Provided by	Hensall Mechanical Services Ltd
Source file	HEN0203-HEN-00-XX-SCH-M-5606 Schedule of Air Conditioning Units.pdf
Pages	3

Date: 28/04/2025
Project Name: Elmwood Leisure Centre
Schedule No.: HEN0203-HEN-00-XX-SCH-M-5606
Revision: P01

Schedule of Air Conditioning Units

HENSALL

Reference	Unit Type	Location	Manufacturer	Manufacturer's Reference	Actual Output per Unit		Air Flow per Unit	Unit Dimensions			Room Noise Rating	Unit Weight	Electrical Data				System
					Heating Load	Sensible Load		Width	Depth	Height			Phase	Max Current	Running Current	Fuse Rating	
					(kW)		(l/s)	(mm)			(NR)	(kg)		(A)			
AC 0.01	4 Way Cassette	00.05 Innerva studio	Toshiba	MMU-UP0481HP-E	10.9	9.3	592	840	840	319	35	25	Single	1.23	0.88	5	2.06A
AC 0.02	4 Way Cassette	00.05 Innerva studio	Toshiba	MMU-UP0481HP-E	10.9	9.3	592	840	840	319	35	25	Single	1.23	0.88	5	2.06A
AC 0.03	4 Way Cassette	00.29 Café Seating and Circulation 01	Toshiba	MMU-UP0481HP-E	10.9	9.3	592	840	840	319	40	25	Single	1.23	0.88	5	2.06A
AC 0.04	4 Way Cassette	00.29 Café Seating and Circulation 01	Toshiba	MMU-UP0481HP-E	10.9	9.3	592	840	840	319	40	25	Single	1.23	0.88	5	2.06A
AC 0.05	4 Way Cassette	00.29 Café Seating and Circulation 01	Toshiba	MMU-UP0481HP-E	10.9	9.3	592	840	840	319	40	25	Single	1.23	0.88	5	2,06A
AC 0.06	4 Way Cassette	00.29 Café Seating and Circulation 01	Toshiba	MMU-UP0481HP-E	10.9	9.3	592	840	840	319	40	25	Single	1.23	0.88	5	2.06A
AC 0.07	4 Way Cassette	01.16 Circulation	Toshiba	MMU-UP0561HP-E	12.2	10.4	592	840	840	319	40	25	Single	1.26	0.88	5	2.06B
AC 0.08	4 Way Cassette	00.33 Circulation	Toshiba	MMU-UP0561HP-E	12.2	10.4	592	840	840	319	40	25	Single	1.26	0.88	5	2.06B
AC 0.09	4 Way Cassette	00.28 Reception	Toshiba	MMU-UP0121HP-E	2.5	2.7	222	840	840	258	40	20	Single	0.3	0.23	5	2.06B
AC 0.10	4 Way Cassette	00.01 Servery	Toshiba	MMU-UP0121HP-E	2.5	2.7	222	840	840	258	40	20	Single	0.3	0.23	5	2.06B
AC 0.11	4 Way Cassette	00.27 Office	Toshiba	MMU-UP0071MH-E	1.7	1.7	153	575	575	256	35	15	Single	0.33	0.21	5	2.06B
AC 0.12	4 Way Cassette	00.40 Flexible Community Room	Toshiba	MMU-UP0561HP-E	12.2	10.4	592	840	840	319	40	25	Single	1.26	0.88	5	2.06B
AC 0.13	4 Way Cassette	00.40 Flexible Community Room	Toshiba	MMU-UP0561HP-E	12.2	10.4	592	840	840	319	40	25	Single	1.26	0.88	5	2.06B
AC 0.14	4 Way Cassette	00.42 Party Room	Toshiba	MMU-UP0181HP-E	4.3	3.8	292	840	840	256	40	20	Single	0.36	0.29	5	2.06B
AC 0.15	High Wall	00.02 Play / Party Zone with Seatimng	Toshiba	MMK-UP0361HP-E	8.5	7.8	458	1200	280	350	40	20	Single	0.83	0.66	5	2.05
AC 0.16	High Wall	00.02 Play / Party Zone with Seatimng	Toshiba	MMK-UP0361HP-E	8.5	7.8	458	1200	280	350	40	20	Single	0.83	0.66	5	2.05
AC 0.17	High Wall	00.02 Play / Party Zone with Seatimng	Toshiba	MMK-UP0361HP-E	8.5	7.8	458	1200	280	350	40	20	Single	0.83	0.66	5	2.05
AC 0.18	High Wall	00.02 Play / Party Zone with Seatimng	Toshiba	MMK-UP0361HP-E	8.5	7.8	458	1200	280	350	40	20	Single	0.83	0.66	5	2.05
AC 0.19	High Wall	00.02 Play / Party Zone with Seatimng	Toshiba	MMK-UP0361HP-E	8.5	7.8	458	1200	280	350	40	20	Single	0.83	0.66	5	2.05
AC 0.20	High Wall	00.02 Play / Party Zone with Seatimng	Toshiba	MMK-UP0361HP-E	8.5	7.8	458	1200	280	350	40	20	Single	0.83	0.66	5	2.05
AC 0.21	High Wall	00.02 Play / Party Zone with Seatimng	Toshiba	MMK-UP0361HP-E	8.5	7.8	458	1200	280	350	40	20	Single	0.83	0.66	5	2.05
AC 0.22	High Wall	00.02 Play / Party Zone with Seatimng	Toshiba	MMK-UP0361HP-E	8.5	7.8	458	1200	280	350	40	20	Single	0.83	0.66	5	2.05
AC 0.23	High Wall	00.02 Play / Party Zone with Seatimng	Toshiba	MMK-UP0361HP-E	8.5	7.8	458	1200	280	350	40	20	Single	0.83	0.66	5	2.05
AC 0.24	OMITTED																
AC 0.25	High Wall	00.24 First Aid	Toshiba	MMK-UP0151HP-E	3.4	3	233	1050	250	293	40	16	Single	0.38	0.3	5	2.06A
AC 0.26	High Wall	Kitchen	Toshiba	MMK-UP0361HP-E	8.5	7.8	458	1200	280	350	40	20	Single	0.83	0.66	5	2.06B
AC 0.27	High Wall	00.02 Play / Party Zone with Seatimng	Toshiba	MMK-UP0361HP-E	8.5	7.8	458	1200	280	350	40	20	Single	0.83	0.66	5	2.05

Author: Declan Parker
Checked: Dave Bowdler

Schedule of Air Conditioning Units

HENSALL

AC 1.01	High Wall	Squash Court	Toshiba	MMK-UP0361HP-E	8.5	7.8	458	1200	280	350	40	20	Single	0.83	0.66	5	2.09
AC 1.02	High Wall	Squash Court	Toshiba	MMK-UP0361HP-E	8.5	7.8	458	1200	280	350	40	20	Single	0.83	0.66	5	2.09
AC 1.03	High Wall	Squash Court	Toshiba	MMK-UP0361HP-E	8.5	7.8	458	1200	280	350	40	20	Single	0.83	0.66	5	2.09
AC 1.04	High Wall	Squash Court	Toshiba	MMK-UP0361HP-E	8.5	7.8	458	1200	280	350	40	20	Single	0.83	0.66	5	2.09
AC 1.05	High Wall	Squash Court	Toshiba	MMK-UP0361HP-E	8.5	7.8	458	1200	280	350	40	20	Single	0.83	0.66	5	2.09
AC 1.06	High Wall	Squash Court	Toshiba	MMK-UP0361HP-E	8.5	7.8	458	1200	280	350	40	20	Single	0.83	0.66	5	2.09
AC 1.07	High Wall	01.01 Studio	Toshiba	MMK-UP0361HP-E	8.5	7.8	458	1200	280	350	40	20	Single	0.83	0.66	5	2.08
AC 1.08	High Wall	01.01 Studio	Toshiba	MMK-UP0361HP-E	8.5	7.8	458	1200	280	350	40	20	Single	0.83	0.66	5	2.08
AC 1.09	High Wall	01.01 Studio	Toshiba	MMK-UP0361HP-E	8.5	7.8	458	1200	280	350	40	20	Single	0.83	0.66	5	2.08
AC 1.10	High Wall	01.01 Studio	Toshiba	MMK-UP0361HP-E	8.5	7.8	458	1200	280	350	40	20	Single	0.83	0.66	5	2.08
AC 1.11	High Wall	01.01 Studio	Toshiba	MMK-UP0361HP-E	8.5	7.8	458	1200	280	350	40	20	Single	0.83	0.66	5	2.08
AC 1.12	High Wall	01.01 Studio	Toshiba	MMK-UP0361HP-E	8.5	7.8	458	1200	280	350	40	20	Single	0.83	0.66	5	2.08
AC 1.13	4 Way Cassette	Office	Toshiba	MMU-UP0091HP-E	2.2	2	222	840	840	256	35	20	Single	0.23	0.3	5	2.06A
AC 1.14	4 Way Cassette	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	12.2	10.4	592	840	840	319	40	25	Single	1.26	0.88	5	2.04A
AC 1.15	OMITTED																
AC 1.16	4 Way Cassette	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	12.2	10.4	592	840	840	319	40	25	Single	1.26	0.88	5	2.04A
AC 1.17	OMITTED																
AC 1.18	4 Way Cassette	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	12.2	10.4	592	840	840	319	40	25	Single	1.26	0.88	5	2.04A
AC 1.19	4 Way Cassette	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	12.2	10.4	592	840	840	319	40	25	Single	1.26	0.88	5	2.04A
AC 1.20	4 Way Cassette	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	12.2	10.4	592	840	840	319	40	25	Single	1.26	0.88	5	2.07
AC 1.21	4 Way Cassette	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	12.2	10.4	592	840	840	319	40	25	Single	1.26	0.88	5	2.07
AC 1.22	4 Way Cassette	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	12.2	10.4	592	840	840	319	40	25	Single	1.26	0.88	5	2.07
AC 1.23	4 Way Cassette	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	12.2	10.4	592	840	840	319	40	25	Single	1.26	0.88	5	2.07
AC 1.24	4 Way Cassette	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	12.2	10.4	592	840	840	319	40	25	Single	1.26	0.88	5	2.07
AC 1.25	4 Way Cassette	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	12.2	10.4	592	840	840	319	40	25	Single	1.26	0.88	5	2.07
AC 1.26	4 Way Cassette	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	12.2	10.4	592	840	840	319	40	25	Single	1.26	0.88	5	2.07
AC 1.27	4 Way Cassette	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	12.2	10.4	592	840	840	319	40	25	Single	1.26	0.88	5	2.07
AC 1.28	4 Way Cassette	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	12.2	10.4	592	840	840	319	40	25	Single	1.26	0.88	5	2.04B
AC 1.29	4 Way Cassette	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	12.2	10.4	592	840	840	319	40	25	Single	1.26	0.88	5	2.04B
AC 1.30	4 Way Cassette	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	12.2	10.4	592	840	840	319	40	25	Single	1.26	0.88	5	2.04B
AC 1.31	4 Way Cassette	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	12.2	10.4	592	840	840	319	40	25	Single	1.26	0.88	5	2.04B

Schedule of Air Conditioning Units

HENSALL

AC 1.32	4 Way Cassette	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	12.2	10.4	592	840	840	319	40	25	Single	1.26	0.88	5	2.04B
AC 1.33	4 Way Cassette	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	12.2	10.4	592	840	840	319	40	25	Single	1.26	0.88	5	2.04B
AC 1.34	4 Way Cassette	01.05 Consult 1	Toshiba	RAV-HM561UTP-E	3.55	3.9	256	840	840	292	35	20	Single	N/A	N/A	From Outdoor	2.02
AC 1.35	4 Way Cassette	01.04 Consult 2	Toshiba	RAV-HM561UTP-E	3.55	3.9	256	840	840	292	35	20	Single	N/A	N/A	From Outdoor	2.03
AC 1.36	4 Way Cassette	Manager's Office	Toshiba	MMU-UP0241HP-E	5.4	4.6	358	840	840	256	35	20	Single	0.42	0.38	5	2.06A
AC 1.37	High Wall	Gym Office	Toshiba	RAV-HM561UTP-E	3.55	3.9	256	840	840	292	35	20	Single	N/A	N/A	From Outdoor	2.10
AC 2.01	4 Way Cassette	Squash Viewing Area	Toshiba	MMU-UP0361HP-E	8.5	7.3	547	840	840	319	40	25	Single	0.87	0.73	5	2.09
AC 2.02	4 Way Cassette	Squash Viewing Area	Toshiba	MMU-UP0361HP-E	8.5	7.3	547	840	840	319	40	25	Single	0.87	0.73	5	2.09
AC 2.03	4 Way Cassette	Staff Room	Toshiba	MMU-UP0361HP-E	8.5	7.3	547	840	840	319	35	25	Single	0.87	0.73	5	2.09
AC 2.04	4 Way Cassette	02.01 Spin Studio	Toshiba	MMU-UP0481HP-E	10.9	9.3	592	840	840	319	40	25	Single	1.23	0.88	5	2.01
AC 2.05	4 Way Cassette	02.01 Spin Studio	Toshiba	MMU-UP0481HP-E	10.9	9.3	592	840	840	319	40	25	Single	1.23	0.88	5	2.01
AC 2.06	4 Way Cassette	02.01 Spin Studio	Toshiba	MMU-UP0481HP-E	10.9	9.3	592	840	840	319	40	25	Single	1.23	0.88	5	2.01
AC 2.07	4 Way Cassette	02.01 Spin Studio	Toshiba	MMU-UP0481HP-E	10.9	9.3	592	840	840	319	40	25	Single	1.23	0.88	5	2.01

Notes:

1. All units shall be installed in accordance with manufacturer's recommendations.

2. Rooms air tempertaures shall be monitored either via the wall mounted controller or return air sensors depending on the room use and location.

3. Equipment to be manufactured by Toshiba and supplied by Polar Solutions Distribution, Leeds - Contact Andy Keenan 07700 900382 - Office 0113 2799520

3.10

HEN0203-HEN-00-XX-SCH-M-5607 Schedule of External Condensers

The following 2 pages are the document exactly as received and checked. It is bookmarked in the PDF.

Reference	
Asset	General
Provided by	Not recorded
Source file	`HEN0203-HEN-00-XX-SCH-M-5607 Schedule of External Condensers.pdf`
Pages	2

Date: 28/04/2025
Project: Elmwood Leisure Centre
Schedule No: HEN0203-HEN-00-XX-SCH-M-5607
Revision: P01

Schedule of External Condenser Units

HENSALL

Reference	Unit Location	Indoor Unit(s) Served	Nominal Output per Unit		System Efficiency			Unit Dimensions			Unit Noise Rating	Unit Weight	Electrical Data				Manufacturer	Manufacturer's Reference	Comments
			Heating Load	Total Cooling Load				Height	Width	Depth			Phase	SC	RC	Fuse Rating			
			(kW)		EER / COP	SCOP	SEER	(mm)				(kg)		(A)					
CU 2..01	1st floor roof	AC 2.04 AC 2.05 AC 2.06 AC 2.07	56.0	56.0	3.11 / 3.75	4.43	7.62	1690	1290	780	NR50 @ 10m	334	3	Soft Start	27.7	40	Toshiba	MMY-MUP2010HT8P-E	2 Pipe Heat Pump VRF
CU 2..02	1st floor roof	AC1.34	5.6	5.0	3.29 / 4.34	5.01	8.07	630	799	299	NR50 @ 10m	45	1	Soft Start	7.66	16	Toshiba	RAV-GP561ATW-E	Split System Max 50m Run
CU 2..03	1st floor roof	AC 1.35	5.6	5.0	3.29 / 4.34	5.01	8.07	630	799	299	NR50 @ 10m	45	1	Soft Start	7.66	16	Toshiba	RAV-GP561ATW-E	Split System Max 50m Run
CU 2..04A	1st floor roof	AC 1.14 AC 1.16 AC 1.18 AC 1.19	49.6	41.6	2.77 / 3.53	4.17	6.87	1690	1290	780	NR50 @ 10m	356	3	Soft Start	37.1	63	Toshiba	MMY-MUP2401HT8P-E	2 Pipe Heat Pump VRF
CU 2..04B	1st floor roof	AC 1.28 AC 1.29 AC 1.30 AC 1.31 AC 1.32 AC 1.33	73.2	62.4	2.91 / 3.76	4.38	7.01	1690	2300	780	NR50 @ 10m	356 + 228	3	Soft Start	53.1	63 + 32	Toshiba	MMY-AP3611FT8P-E	2 Pipe Heat Pump VRF
CU 2..05	1st floor roof	AC 0.15 AC 0.16 AC 0.17 AC 0.18 AC 0.19 AC 0.20 AC 0.21 AC 0.22 AC 0.23 AC 0.27	107.0	107.0	2.76 / 3.69	4.33	6.93	1690	2300	780	NR50 @ 10m	356 + 228	3	Soft Start	59.7	63 + 40	Toshiba	MMY-MUP3811HT8P-E	2 Pipe Heat Pump VRF
CU 2..06A	1st floor roof	AC 0.01 AC 0.02 AC 0.03 AC 0.04 AC 0.05 AC 0.06 AC 0.25 AC 1.13 AC 1.36	95.3	95.4	3.19 / 3.68	4.62	7.44	1830	3220	780	NR50 @ 10m	2 x 377	3	Soft Start	46.9	2 x 32	Toshiba	MMY-AP3416FT8P	3 Pipe Heat Recovery VRF
CU 2..06B	1st floor roof	AC 0.07 AC 0.08 AC 0.09 AC 0.10 AC 0.11 AC 0.12 AC 0.13 AC 0.14 AC 0.26	90.0	80.0	3.15 / 3.81	4.82	6.87	1830	2440	780	NR50 @ 10m	2 x 316	3	Soft Start	39.85	2 x 25	Toshiba	MMY-AP2816FT9P	3 Pipe Heat Recovery VRF

Author: Declan Parker
Checked: Dave Bowdler

Date: 28/04/2025
Project: Elmwood Leisure Centre
Schedule No: HEN0203-HEN-00-XX-SCH-M-5607
Revision: P01

Schedule of External Condenser Units

HENSALL

Reference	Unit Location	Indoor Unit(s) Served	Nominal Output per Unit		System Efficiency			Unit Dimensions			Unit Noise Rating	Unit Weight	Electrical Data				Manufacturer	Manufacturer's Reference	Comments
			Heating Load	Total Cooling Load				Height	Width	Depth			Phase	SC	RC	Fuse Rating			
			(kW)		EER / COP	SCOP	SEER	(mm)				(kg)		(A)					
CU 2..07	2nd floor roof	AC 1.20 AC 1.21 AC 1.22 AC 1.23 AC1.24 AC1.25 AC 1.26 AC 1.27	97.6	83.2	2.93 / 3.72	4.43	7.22	1690	2600	780	NR50 @ 10m	356 + 312	3	Soft Start	61.50	63 + 40	Toshiba	MMY-AP4211HT8P-E	2 Pipe Heat Pump VRF
CU 2..08	2nd floor roof	AC 1.07 AC 1.08 AC 1.09 AC 1.10 AC 1.11 AC 1.12	61.5	61.5	2.77 / 3.53	4.17	6.87	1690	1290	780	NR50 @ 10m	356	3	Soft Start	31.4	50	Toshiba	MMY-MUP2201HT8P-E	2 Pipe Heat Pump VRF
CU 2..09	2nd floor roof	AC 1.01 AC 1.02 AC 1.03 AC 1.04 AC 1.05 AC 1.06 AC 2.01 AC 2.02 AC 2.03	95.0	85.0	3.2 / 3.74	4.72	7.25	1830	2830	780	NR50 @ 10m	377 + 316	3	Soft Start	41.73	32 + 25	Toshiba	MMY-AP3016FT8P	3 Pipe Heat Recovery VRF
CU 2..10	1st floor roof	AC1.37	5.6	5.0	3.29 / 4.34	5.01	8.07	630	799	299	NR50 @ 10m	45	1	Soft Start	7.66	16	Toshiba	RAV-GP561ATW-E	Split System Max 50m Run

Notes:

1. All External Condenser Units shall be installed in accordance with Manufacturer's recommendations.

2. All External Condenser Units to be rated for maximum capacity at -5°C

3. Equipment to be manufactured by Toshiba and supplied by Polar Solutions Distribution, Leeds - Contact Andy Keenan 07700 900382 - Office 0113 2799520

Author: Declan Parker
Checked: Dave Bowdler

3.11

Ventilation: design schedules, final issue updated to what was installed (air handling unit, fan, air terminal and damper schedules)

The following 2 pages are the document exactly as received and checked. It is bookmarked in the PDF.

Reference	HEN0203-VENT-OT2
Asset	Ventilation
Provided by	Hensall Mechanical Services Ltd
Source file	HEN0203-HEN-00-XX-SCH-M-5701 Schedule of Air Handling Units (General).pdf
Pages	2

Date: 28/04/25
Project Name: Elmwood Leisure Centre
Schedule Number: HEN0203-HEN-00-XX-SCH-M-5701
Rev: P01

Schedule of Air Handling Units

HENSALL

Reference	AHU R.02	AHU R.03	AHU R.04	AHU R.05
Unit Location	Roof Plantroom - Internal	Roof - External	Roof - External	Roof - External
Area(s) Served	Wet Change	Front of House and Ancillary Areas	Dance Studio	Soft Play
Unit Arrangement	Stacked	Stacked	Stacked	Stacked
Unit Dimensions L x W x H (mm)	4360x1606x2388	3519x1989x2348	3136x1377x1736	3442x1377x2348
Unit Weight (kg)	1919	2051	1126	1367
Unit Noise Rating (dBA) @ 3m	58	61	55	57
SFP (W/l/s)	1.52	1.89	1.21	2.03
Inlet Damper (Yes / No)	Yes	Yes	Yes	Yes
Panel Filter	G4	G4	G4	G4
Bag Filter	F7	F7	F7	F7
Frost Coil (Yes / No)	No	No	No	No
Plenum / Access Section (Yes / No)	-	-	-	-
Heat Recovery Element (Yes / No)	Yes	Yes	Yes	Yes
Type	Counterflow Plate Heat Exchanger	Thermal Wheel	Thermal Wheel	Thermal Wheel
Efficiency (%)	73.1	75.3	78.9	73.2
Return Air Temperature (°C)	24	23	23	23
Heating Coil (Yes / No)	Yes	Yes	Yes	Yes
Coil Medium (Flow and Return °C)	45 / 38	45 / 38	45 / 38	45 / 38
Air Temp. On (°C)	14.4	16.6	17.1	14.8
Air Temp. Off (°C)	34	20	20	20
Coil Load (kW)	64.77	12.9	3.51	11.46
Water Flow Rate (kg/s)	2.21	0.442	0.120	0.391
Plenum / Access Section (Yes / No)	Yes	Yes	Yes	Yes
Supply Fan (Yes / No)	Yes	Yes	Yes	Yes
Volume (m^3/s)	2.632 (inc. 10% Design Margin)	2.906 (inc. 10% Design Margin)	0.99 (inc. 10% Design Margin)	1.8 (inc. 10% Design Margin)
Resistance (Pa)	455 (inc. 15% Design Margin)	420 (inc. 15% Design Margin)	350 (inc. 15% Design Margin)	425 (inc. 15% Design Margin)
Invertor (Yes / No)	Yes	Yes	Yes	Yes
Cooling Coil (Yes / No)	No	No	No	No
Coil Medium (Flow and Return °C)	-	-	-	-
Air Temperature On (°C)	-	-	-	-
Air Temperature Off (°C)	-	-	-	-
Coil Load (kW)	-	-	-	-
Water Flow Rate (kg/s)	-	-	-	-
Extract Fan (Yes / No)	Yes	Yes	Yes	Yes
Volume (m^3/s)	1.708 (inc. 10% Design Margin)	2.906 (inc. 10% Design Margin)	0.99 (inc. 10% Design Margin)	1.65 (inc. 10% Design Margin)
Resistance (Pa)	410 (inc. 15% Design Margin)	385 (inc. 15% Design Margin)	250 (inc. 15% Design Margin)	425 (inc. 15% Design Margin)
Outlet Damper (Yes / No)	Yes	Yes	Yes	Yes
Manufacturer	Trane	Trane	Trane	Trane
Model	AT4-F 20x12/20x12 - Interior	AT4-F 24x12/24x12 - Weatherproof	AT4-F 16x8/16x8 - Weatherproof	AT4-F 16x12/16x12 - Weatherproof

Notes:

1. All units shall be installed in accordance with Manufacturer's recommendations.
2. All units shall be linked to and controlled via the BMS.
3. SFP shall be based on actual unit volumes excluding design margins.
4. External design conditions: Winter = -5°c, Summer = 28°c / 21°c.
5. Internal Unit to be sectionalised for construction on site.

Author: Declan Parker
Checked: Dave Bowdler

Date: 28/04/25
Project Name: Elmwood Leisure Centre
Schedule Number: HEN0203-HEN-00-XX-SCH-M-5701
Rev: P01

Schedule of Air Handling Units

HENSALL

Reference	AHU R.06	AHU R.07	AHU R.08	AHU R.09
Unit Location	Roof - External	Roof Plantroom - Internal	Roof Plantroom - Internal	Roof - External
Area(s) Served	Spin Studio	Sports Hall	Fitness Suite	Squash Courts and Viewing
Unit Arrangement	Stacked	Stacked	Stacked	Stacked
Unit Dimensions L x W x H (mm)	3289x1071x1736	4131 x 2524 x 2830	3290 x 1912 x 2218	3442x1377x2348
Unit Weight (kg)	933	2985	1682	1380
Unit Noise Rating (dBA) @ 3m	58	58	58	58
SFP (W/l/s)	1.48	1.84	1.68	1.79
Inlet Damper (Yes / No)	Yes	Yes	Yes	Yes
Panel Filter	G4	G4	G4	G4
Bag Filter	F7	F7	F7	F7
Frost Coil (Yes / No)	No	No	No	No
Plenum / Access Section (Yes / No)	-	-	-	-
Heat Recovery Element (Yes / No)	Yes	Yes	Yes	Yes
Type	Thermal Wheel	Thermal Wheel	Thermal Wheel	Thermal Wheel
Efficiency (%)	75.1	73.9	74.8	75.5
Return Air Temperature (°C)	23	16	23	23
Heating Coil (Yes / No)	Yes	Yes	Yes	Yes
Coil Medium (Flow and Return °C)	45 / 38	45 / 38	45 / 38	45 / 38
Air Temp. On (°C)	16	10.5	15.9	16.2
Air Temp. Off (°C)	20	28	20	22
Coil Load (kW)	4.31	154.80	12.24	13.27
Water Flow Rate (kg/s)	0.147	5.28	0.418	0.45
Plenum / Access Section (Yes / No)	Yes	Yes	Yes	Yes
Supply Fan (Yes / No)	Yes	Yes	Yes	Yes
Volume (m^3/s)	0.88 (inc. 10% Design Margin)	7.227 (inc. 10% Design Margin)	3.216 (inc. 10% Design Margin)	1.826 (inc. 10% Design Margin)
Resistance (Pa)	285 (inc. 15% Design Margin)	385 (inc. 15% Design Margin)	360 (inc. 15% Design Margin)	280 (inc. 15% Design Margin)
Invertor (Yes / No)	Yes	Yes	Yes	Yes
Cooling Coil (Yes / No)	No	No	No	No
Coil Medium (Flow and Return °C)	-	-	-	-
Air Temperature On (°C)	-	-	-	-
Air Temperature Off (°C)	-	-	-	-
Coil Load (kW)	-	-	-	-
Water Flow Rate (kg/s)	-	-	-	-
Extract Fan (Yes / No)	Yes	Yes	Yes	Yes
Volume (m^3/s)	0.88 (inc. 10% Design Margin)	7.227 (inc. 10% Design Margin)	3.216 (inc. 10% Design Margin)	1.826 (inc. 10% Design Margin)
Resistance (Pa)	185 (inc. 15% Design Margin)	285 (inc. 15% Design Margin)	310 (inc. 15% Design Margin)	280 (inc. 15% Design Margin)
Outlet Damper (Yes / No)	Yes	Yes	Yes	Yes
Manufacturer	Trane	Trane	Trane	Trane
Model	AT4-F 12x8/12x8 - Weatherproof	AT4-F 32x16/32x16 - Interior	AT4-F 24x12/24x12 - Interior	AT4-F 16x12/16x12 - Weatherproof

Notes:

1. All units shall be installed in accordance with Manufacturer's
2. All units shall be linked to and controlled via the BMS.
3. SFP shall be based on actual unit volumes excluding design
4. External design conditions: Winter = -5°c, Summer = 28°c
5. Internal Unit to be sectionalised for construction on site.

Author: Declan Parker
Checked: Dave Bowdler

3.12

HEN0203-HEN-00-XX-SCH-M-5702 Schedule of Air Handling Units (Pool)

The following page is the document exactly as received and checked. It is bookmarked in the PDF.

Reference	
Asset	General
Provided by	Not recorded
Source file	HEN0203-HEN-00-XX-SCH-M-5702 Schedule of Air Handling Units (Pool).pdf
Pages	1

Date:28/04/2025
Project Name: Elmwood Leisure Centre
Schedule Number: HEN0203-HEN-00-XX-SCH-M-5702
Rev: P01

Schedule of Air Handling Units (Pool)

HENSALL

Reference	AHU R.01				
Unit Location	Plantroom Roof - Internal				
Area(s) Served	Main Pool				
Unit Arrangement	Stacked				
Unit Dimensions L x W x H (mm)	7039 x 3825 x 3612				
Unit Weight (kg)	12723				
Unit Noise Rating (dBA) @ 3m	58				
SFP (W/l/s)	2.113				
Inlet Damper (Yes / No)	Yes				
Panel Filter	G4				
Bag Filter	F7				
Heat Recovery Element (Yes / No) Type Efficiency (%) Return Air Temperature (°C)	Yes Counterflow Plate Heat Exchanger 73.4 30				
Heating Coil (Yes / No) Coil Medium (Flow and Return °C) Air Temp. On (°C) Air Temp. Off (°C) Coil Load (kW) Water Flow Rate (kg/s) Plenum / Access Section (Yes / No)	Yes 45 / 38 20.5 40 231.54 9.15 Yes				
Mixing Box (Yes / No)	Yes				
Supply Fan (Yes / No) Volume (m^3/s) Resistance (Pa)	Yes 11.413 (Includes 10% Design Margin) 435 (Includes 15% Design Margin)				
Invertor (Yes / No)	Yes				
Cooling Coil (Yes / No) Coil Medium (Flow and Return °C) Air Temperature On (°C) Air Temperature Off (°C) Coil Load (kW) Water Flow Rate (kg/s)	No - - - - -				
Extract Fan (Yes / No) Volume (m^3/s) Resistance (Pa)	Yes 11.984 (Includes 10% Design Margin) 385 (Includes 15% Design Margin)				
Outlet Damper (Yes / No)	Yes				
Manufacturer	Trane				
Model	AT4-F 49x20/49x20 - Interior				

Notes:

1. All units shall be installed in accordance with Manufacturer's recommendations.
2. All units shall be linked to and controlled via the BMS.
3. SFP shall be based on actual unit volumes excluding design margins.
4. External design conditions: Winter = -5°c, Summer = 28°c / 21°c.
5. Unit to be sectionalised for construction on site.

Author: Declan Parker
Checked: Dave Bowdler

3.13

HEN0203-HEN-00-XX-SCH-M-5704 Schedule of Supply Diffusers

The following 2 pages are the document exactly as received and checked. It is bookmarked in the PDF.

Reference	
Asset	General
Provided by	Not recorded
Source file	`HEN0203-HEN-00-XX-SCH-M-5704 Schedule of Supply Diffusers.pdf`
Pages	2

Date: 28/04/2025
Project Name: Elmwood Leisure Centre
Schedule: HEN0203-HEN-00-XX-SCH-M-5704
Rev: P01

Schedule of Supply Diffusers

HENSALL

Reference	Grille Type	Room Served	Overall Grille Size		Air Volume	Maximum Pressure Drop	Maximum Room Noise Level	Plenum Box Requirement	Finish	Manufacturer	Manufacturer Reference	Comments
			Length	Width / Dia								
			(mm)		(l/s)	(Pa)	(NR)	(Yes / No)				
SG 0.01	Swirl Diffuser	00.09 Party Room	595	595	125	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 0.02	Swirl Diffuser	00.09 Party Room	595	595	125	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 0.03	Swirl Diffuser	00.08 Community Room	595	595	100	25	35	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 0.04	Swirl Diffuser	00.08 Community Room	595	595	100	25	35	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 0.05	Swirl Diffuser	00.08 Community Room	595	595	100	25	35	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 0.06	Swirl Diffuser	00.08 Community Room	595	595	100	25	35	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 0.07	Swirl Diffuser	00.24 Office	300	300	30	25	35	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	300 x 300 Tile Replacer
SG 0.08	Swirl Diffuser	00.21 Reception	300	300	30	25	35	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	300 x 300 Tile Replacer
SG 0.09	Swirl Diffuser	00.01 Café Seating	595	595	200	25	35	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 0.10	Swirl Diffuser	00.42 First Aid	300	300	30	25	35	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	300 x 300 Tile Replacer
SG 0.11	Swirl Diffuser	00.01 Café Seating	595	595	160	25	35	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 0.12	Swirl Diffuser	00.01 Café Seating	595	595	160	25	35	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 0.13	Swirl Diffuser	00.13 Inneva Studio	595	595	133	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 0.14	Swirl Diffuser	00.13 Inneva Studio	595	595	133	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 0.15	Swirl Diffuser	00.13 Inneva Studio	595	595	133	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 0.16	Swirl Diffuser	00.25 Kitchen	300	300	30	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	300 x 300 Tile Replacer
SG 0.17	Swirl Diffuser	00.01 Café Seating	595	595	140	25	35	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 0.18	Swirl Diffuser	00.22 Servery	595	595	192	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 0.19	4 Way Diffuser	00.14 Female Dry Change	595	595	372	25	40	Yes	RAL 9010	Waterloo	DF-MD/41/.../9010-Matt 20%/OBSS	Flanged 600 x 600 Overall Tile Replacer
SG 0.20	4 Way Diffuser	00.14 Female Dry Change	595	595	372	25	40	Yes	RAL 9010	Waterloo	DF-MD/41/.../9010-Matt 20%/OBSS	Flanged 600 x 600 Overall Tile Replacer
SG 0.21	4 Way Diffuser	00.17 Male Dry Change	595	595	380	25	40	Yes	RAL 9010	Waterloo	DF-MD/41/.../9010-Matt 20%/OBSS	Flanged 600 x 600 Overall Tile Replacer
SG 0.22	4 Way Diffuser	00.17 Male Dry Change	595	595	380	25	40	Yes	RAL 9010	Waterloo	DF-MD/41/.../9010-Matt 20%/OBSS	Flanged 600 x 600 Overall Tile Replacer
SG 0.23	Swirl Diffuser	00.27 Vanity	595	595	197	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 0.24	Swirl Diffuser	00.31 Changing Places	595	595	118	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 0.25	Swirl Diffuser	00.28 Changing Village	595	595	197	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 0.26	Swirl Diffuser	00.28 Changing Village	595	595	197	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 0.27	Swirl Diffuser	00.28 Changing Village	595	595	197	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 0.28	Swirl Diffuser	00.28 Changing Village	595	595	197	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 0.29	Swirl Diffuser	00.30 ACC Change	300	300	51	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 0.30	Swirl Diffuser	00.28 Changing Village	595	595	197	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 0.31	Swirl Diffuser	00.28 Changing Village	595	595	197	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 0.32	Swirl Diffuser	00.28 Changing Village	595	595	197	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 0.33	Swirl Diffuser	00.28 Changing Village	595	595	197	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 0.34	Swirl Diffuser	00.32 Group Change	595	595	160	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 0.35	Swirl Diffuser	00.33 Group Change	595	595	160	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 0.36	Swirl Diffuser	00.34 Group Change	595	595	160	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 1.01	Omitted											
SG 1.02	Swirl Diffuser	01.07 Membership Office	300	300	30	25	35	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	300 x 300 Tile Replacer
SG 1.03	Linear Bar	01.03 Admin / Timing Office	400	200	30	25	35	Yes	RAL 9010	Waterloo	Aircell S.../9010-Matt 20%	Wall Mounted Grille
SG 1.04	Swirl Diffuser	01.01 Lower Fitness Suite	595	595	147	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer

Author: Harry Hartell
Checked: Dave Bowdler

Schedule of Supply Diffusers

HENSALL

Reference	Grille Type	Room Served	Overall Grille Size		Air Volume	Maximum Pressure Drop	Maximum Room Noise Level	Plenum Box Requirement	Finish	Manufacturer	Manufacturer Reference	Comments
			Length	Width / Dia								
			(mm)		(l/s)	(Pa)	(NR)	(Yes / No)				
SG 1.05	Swirl Diffuser	01.01 Lower Fitness Suite	595	595	147	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 1.06	Swirl Diffuser	01.01 Lower Fitness Suite	595	595	147	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 1.07	Swirl Diffuser	01.01 Lower Fitness Suite	595	595	147	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 1.08	Swirl Diffuser	01.01 Lower Fitness Suite	595	595	147	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 1.09	Swirl Diffuser	01.01 Lower Fitness Suite	595	595	147	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 1.10	Swirl Diffuser	01.01 Lower Fitness Suite	595	595	147	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 1.11	Swirl Diffuser	01.01 Lower Fitness Suite	595	595	147	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 1.12	Swirl Diffuser	01.01 Lower Fitness Suite	595	595	147	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 1.13	Omitted											
SG 1.14	Swirl Diffuser	01.01 Lower Fitness Suite	595	595	147	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 1.15	Swirl Diffuser	01.01 Lower Fitness Suite	595	595	147	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 1.16	Swirl Diffuser	01.01 Lower Fitness Suite	595	595	147	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 1.17	Swirl Diffuser	01.01 Lower Fitness Suite	595	595	147	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 1.18	Swirl Diffuser	01.01 Lower Fitness Suite	595	595	147	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 1.19	Swirl Diffuser	01.01 Lower Fitness Suite	595	595	147	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 1.20	Swirl Diffuser	01.02 Upper Fitness Suite	595	595	147	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 1.21	Swirl Diffuser	01.02 Upper Fitness Suite	595	595	147	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 1.22	Swirl Diffuser	01.02 Upper Fitness Suite	595	595	147	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 1.23	Swirl Diffuser	01.02 Upper Fitness Suite	595	595	147	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 1.24	Swirl Diffuser	01.02 Upper Fitness Suite	595	595	147	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 1.25	Swirl Diffuser	01.04 Consultation Room 01	300	300	20	25	35	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	300 x 300 Tile Replacer
SG 1.26	Swirl Diffuser	01.05 Consultation Room 02	300	300	20	25	35	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	300 x 300 Tile Replacer
SG 2.01	Linear Bar Grille	01.09 Squash Court 01	1000	150	517	25	40	Yes	RAL 9010	Waterloo	ALG(2)/.../PPM9010	
SG 2.02	Linear Bar Grille	01.10 Squash Court 02	1000	150	517	25	40	Yes	RAL 9010	Waterloo	ALG(2)/.../PPM9010	
SG 2.03	Linear Bar Grille	01.11 Squash Court 03	1000	150	517	25	40	Yes	RAL 9010	Waterloo	ALG(2)/.../PPM9010	
SG 2.04	Swirl Diffuser	02.01 Squash Viewing Area	300	300	60	25	35	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	300 x 300 Tile Replacer
SG 2.05	Swirl Diffuser	02.07 Staff Room	300	300	50	25	35	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	300 x 300 Tile Replacer
SG 2.06	Swirl Diffuser	02.02 Spin Studio	595	595	200	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 2.07	Swirl Diffuser	02.02 Spin Studio	595	595	200	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 2.08	Swirl Diffuser	02.02 Spin Studio	595	595	200	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer
SG 2.09	Swirl Diffuser	02.02 Spin Studio	595	595	200	25	40	Yes	RAL 9010	Waterloo	SDVSA../9010-Matt 20%	600 x 600 Tile Replacer

Notes:

1. All Grilles and Valves shall be installed in accordance with Manufacturer's recommendations.

3.14

HEN0203-HEN-00-XX-SCH-M-5705 Schedule of Extract Grilles

The following 4 pages are the document exactly as received and checked. It is bookmarked in the PDF.

Reference	
Asset	General
Provided by	Not recorded
Source file	`HEN0203-HEN-00-XX-SCH-M-5705 Schedule of Extract Grilles.pdf`
Pages	4

Date: 28/04/2025
Project Name: Elmwood Leisure Centre
Schedule: HEN0203-HEN-00-XX-SCH-M-5705
Rev: P01

Schedule of Extract Grilles

HENSALL

Reference	Grille Type	Room Served	Grille Size		Air Volume	Maximum Pressure Drop	Maximum Room Noise Level	Plenum Box Requirement	Finish	Manufacturer	Manufacturer Reference	Comments
			Length	Width / Dia								
			(mm)		(l/s)	(Pa)	(NR)	(Yes / No)				
EG 0.01	Extract Grille	00.09 Party Room	595	595	125	25	40	Yes	RAL 9010	Waterloo	PER/.../PPM9010	
EG 0.02	Extract Grille	00.09 Party Room	595	595	125	25	40	Yes	RAL 9010	Waterloo	PER/.../PPM9010	
EG 0.03	Extract Grille	00.08 Community Room	595	595	100	25	35	Yes	RAL 9010	Waterloo	PER/.../PPM9010	
EG 0.04	Extract Grille	00.08 Community Room	595	595	100	25	35	Yes	RAL 9010	Waterloo	PER/.../PPM9010	
EG 0.05	Extract Grille	00.08 Community Room	595	595	100	25	35	Yes	RAL 9010	Waterloo	PER/.../PPM9010	
EG 0.06	Extract Grille	00.08 Community Room	595	595	100	25	35	Yes	RAL 9010	Waterloo	PER/.../PPM9010	
EG 0.07	Extract Grille	00.07 WC 02 (Play Zone)	300	300	68	25	40	Yes	RAL 9010	Waterloo	PER/.../PPM9010	
EG 0.08	Extract Grille	00.06 WC 01 (Play Zone)	300	300	68	25	40	Yes	RAL 9010	Waterloo	PER/.../PPM9010	
EG 0.09	Extract Grille	00.24 Office	300	300	30	25	35	Yes	RAL 9010	Waterloo	PER/.../PPM9010	
EG 0.10	Extract Grille	00.25 Kitchen	595	595	205	25	40	Yes	RAL 9010	Waterloo	AIRCELL G/.../PPM9010	
EG 0.11	Extract Grille	00.25 Kitchen	595	595	205	25	40	Yes	RAL 9010	Waterloo	AIRCELL G/.../PPM9010	
EG 0.12	Extract Grille	00.47 Circulation	595	595	131	25	35	No	RAL 9010	Waterloo	PER/.../PPM9010	
EG 0.13	Extract Grille	00.28 Changing Village	595	595	86	25	40	Yes	RAL 9010	Waterloo	PER/.../PPM9010	
EG 0.14	Omitted											
EG 0.15	Extract Grille	00.13 Innerva Studio	595	595	140	25	40	No	RAL 9010	Waterloo	PER/.../PPM9010	
EG 0.16	Extract Grille	00.13 Innerva Studio	595	595	140	25	40	No	RAL 9010	Waterloo	PER/.../PPM9010	
EG 0.17	Extract Grille	00.13 Innerva Studio	595	595	140	25	40	No	RAL 9010	Waterloo	PER/.../PPM9010	
EG 0.18	Extract Grille	00.39 Post Swim Showers	595	595	153	25	40	Yes	RAL 9010	Waterloo	AIRCELL G/.../PPM9010	
EG 0.19	Extract Grille	00.18 Male WC	595	595	97	25	40	Yes	RAL 9010	Waterloo	PER/.../PPM9010	
EG 0.20	Extract Grille	00.33 Group Change	595	595	160	25	40	Yes	RAL 9010	Waterloo	PER/.../PPM9010	
EG 0.21	Extract Grille	00.34 Group Change	595	595	160	25	40	Yes	RAL 9010	Waterloo	PER/.../PPM9010	
EG 0.22	Extract Grille	00.32 Group Change	595	595	160	25	40	Yes	RAL 9010	Waterloo	PER/.../PPM9010	
EG 0.23	Extract Grille	00.31 Changing Places	595	595	118	25	40	Yes	RAL 9010	Waterloo	PER/.../PPM9010	
EG 0.24	Extract Grille	00.39 Post Swim Showers	595	595	153	25	40	Yes	RAL 9010	Waterloo	AIRCELL G/.../PPM9010	
EG 0.25	Extract Grille	00.39 Post Swim Showers	595	595	153	25	40	Yes	RAL 9010	Waterloo	AIRCELL G/.../PPM9010	
EG 0.26	Extract Grille	ACC. Changing	300	300	51	25	40	Yes	RAL 9010	Waterloo	PER/.../PPM9010	
EG 0.27	Extract Grille	00.12 Buggy Store	300	300	30	25	40	Yes	RAL 9010	Waterloo	PER/.../PPM9010	

Author: Harry Hartell
Checked: Dave Bowdler

Date: 28/04/2025
Project Name: Elmwood Leisure Centre
Schedule: HEN0203-HEN-00-XX-SCH-M-5705
Rev: P01

Schedule of Extract Grilles

HENSALL

Reference	Grille Type	Room Served	Grille Size		Air Volume	Maximum Pressure Drop	Maximum Room Noise Level	Plenum Box Requirement	Finish	Manufacturer	Manufacturer Reference	Comments
			Length	Width / Dia								
			(mm)		(l/s)	(Pa)	(NR)	(Yes / No)				
EG 1.01	Extract Grille	01.07 Membership Office	300	300	30	25	40	Yes	RAL 9010	Waterloo	PER/.../PPM9010	
EG 1.02	Omitted											
EG 1.03	Linear Bar Grille	01.02 Upper Fitness Suite	600	400	425	25	40	No	RAL 9010	Waterloo	ALG(2)/.../PPM9010	Side Wall Mounted
EG 1.04	Linear Bar Grille	01.02 Upper Fitness Suite	600	400	425	25	40	No	RAL 9010	Waterloo	ALG(2)/.../PPM9010	Side Wall Mounted
EG 1.05	Extract Grille	01.01 Lower Fitness Suite	595	595	367	25	40	No	RAL 9010	Waterloo	PER/.../PPM9010	
EG 1.06	Extract Grille	01.01 Lower Fitness Suite	595	595	367	25	40	No	RAL 9010	Waterloo	PER/.../PPM9010	
EG 1.07	Extract Grille	01.01 Lower Fitness Suite	595	595	367	25	40	No	RAL 9010	Waterloo	PER/.../PPM9010	
EG 1.08	Extract Grille	01.01 Lower Fitness Suite	595	595	367	25	40	No	RAL 9010	Waterloo	PER/.../PPM9010	
EG 1.09	Extract Grille	01.01 Lower Fitness Suite	595	595	367	25	40	No	RAL 9010	Waterloo	PER/.../PPM9010	
EG 1.10	Extract Grille	01.01 Lower Fitness Suite	595	595	367	25	40	No	RAL 9010	Waterloo	PER/.../PPM9010	
EG 2.01	Linear Bar Grille	01.09 Squash Court 01	1000	150	517	25	40	Yes	RAL 9010	Waterloo	ALG(2)/.../PPM9010	8m Ceiling Height
EG 2.02	Linear Bar Grille	01.10 Squash Court 02	1000	150	517	25	40	Yes	RAL 9010	Waterloo	ALG(2)/.../PPM9010	8m Ceiling Height
EG 2.03	Linear Bar Grille	01.11 Squash Court 03	1000	150	517	25	40	Yes	RAL 9010	Waterloo	ALG(2)/.../PPM9010	8m Ceiling Height
EG 2.04	Extract Grille	02.07 Staff Room	300	300	50	25	40	No	RAL 9010	Waterloo	PER/.../PPM9010	
EG 2.05	Extract Grille	02.02 Spin Studio	595	595	200	25	40	No	RAL 9010	Waterloo	PER/.../PPM9010	
EG 2.06	Extract Grille	02.02 Spin Studio	595	595	200	25	40	No	RAL 9010	Waterloo	PER/.../PPM9010	
EG 2.07	Extract Grille	02.02 Spin Studio	595	595	200	25	40	No	RAL 9010	Waterloo	PER/.../PPM9010	
EG 2.08	Extract Grille	02.02 Spin Studio	595	595	200	25	40	No	RAL 9010	Waterloo	PER/.../PPM9010	
EV 0.01	Extract Air Valve	00.38 Acc WC	-	150	23	20	35		RAL 9010	Waterloo	VB...	
EV 0.02	Extract Air Valve	00.38 Acc WC	-	150	23	20	35		RAL 9010	Waterloo	VB...	
EV 0.03	Extract Air Valve	00.23 WC	-	150	21	20	35		RAL 9010	Waterloo	VB...	
EV 0.04	Extract Air Valve	00.24 WC	-	150	28	20	35		RAL 9010	Waterloo	VB...	
EV 0.05	Extract Air Valve	00.19 Male Showers	-	200	84	20	35		RAL 9010	Waterloo	VB...	
EV 0.06	Extract Air Valve	00.19 Male Showers	-	200	84	20	35		RAL 9010	Waterloo	VB...	
EV 0.07	Extract Air Valve	00.19 Male Showers	-	200	84	20	35		RAL 9010	Waterloo	VB...	
EV 0.08	Extract Air Valve	00.18 Male WC	-	150	15	20	35		RAL 9010	Waterloo	VB...	

Schedule of Extract Grilles

HENSALL

Reference	Grille Type	Room Served	Grille Size		Air Volume	Maximum Pressure Drop	Maximum Room Noise Level	Plenum Box Requirement	Finish	Manufacturer	Manufacturer Reference	Comments
			Length	Width / Dia								
			(mm)		(l/s)	(Pa)	(NR)	(Yes / No)				
EV 0.09	Extract Air Valve	00.18 Male WC	-	150	15	20	35		RAL 9010	Waterloo	VB…	
EV 0.10	Extract Air Valve	00.15 Female WC	-	150	30	20	35		RAL 9010	Waterloo	VB…	
EV 0.11	Extract Air Valve	00.15 Female WC	-	150	30	20	35		RAL 9010	Waterloo	VB…	
EV 0.12	Extract Air Valve	00.15 Female WC	-	150	30	20	35		RAL 9010	Waterloo	VB…	
EV 0.13	Extract Air Valve	00.15 Female WC	-	150	30	20	35		RAL 9010	Waterloo	VB…	
EV 0.14	Extract Air Valve	00.54 Female Showers	-	200	84	20	35		RAL 9010	Waterloo	VB…	
EV 0.15	Extract Air Valve	00.54 Female Showers	-	200	84	20	35		RAL 9010	Waterloo	VB…	
EV 0.16	Extract Air Valve	00.54 Female Showers	-	200	84	20	35		RAL 9010	Waterloo	VB…	
EV 0.17	Omitted											
EV 0.18	Omitted											
EV 0.19	Omitted											
EV 0.20	Omitted											
EV 0.21	Omitted											
EV 0.22	Omitted											
EV 0.23	Omitted											
EV 0.24	Omitted											
EV 0.25	Omitted											
EV 0.26	Omitted											
EV 0.27	Omitted											
EV 0.28	Extract Air Valve	00.38 Female WC	-	200	36	20	35		RAL 9010	Waterloo	VB…	
EV 0.29	Extract Air Valve	00.38 Female WC	-	200	36	20	35		RAL 9010	Waterloo	VB…	
EV 0.30	Extract Air Valve	00.38 Female WC	-	200	36	20	35		RAL 9010	Waterloo	VB…	
EV 0.31	Extract Air Valve	00.38 Female WC	-	200	36	20	35		RAL 9010	Waterloo	VB…	
EV 0.32	Extract Air Valve	00.36 Acc WC	-	200	25	20	35		RAL 9010	Waterloo	VB…	
EV 0.33	Extract Air Valve	00.37 Male WC	-	200	48	20	35		RAL 9010	Waterloo	VB…	
EV 0.34	Extract Air Valve	00.37 Male WC	-	200	48	20	35		RAL 9010	Waterloo	VB…	
EV 0.35	Extract Air Valve	00.37 Male WC	-	200	48	20	35		RAL 9010	Waterloo	VB…	
EV 0.36	Extract Air Valve	00.35 Acc WC	-	150	25	20	35		RAL 9010	Waterloo	VB…	

Schedule of Extract Grilles

HENSALL

Reference	Grille Type	Room Served	Grille Size		Air Volume	Maximum Pressure Drop	Maximum Room Noise Level	Plenum Box Requirement	Finish	Manufacturer	Manufacturer Reference	Comments
			Length	Width / Dia								
			(mm)		(l/s)	(Pa)	(NR)	(Yes / No)				
EV 0.37	Extract Air Valve	00.29 Cleaner	-	150	20	20	35		RAL 9010	Waterloo	VB…	
EV 1.01	Extract Air Valve	01.05 Acc WC	-	150	30	20	35	No	RAL 9010	Waterloo	VB…	
EV 1.02	Extract Air Valve	01.03 Acc WC	-	150	30	20	35	No	RAL 9010	Waterloo	VB…	
EV 1.03	Extract Air Valve	01.04 WC	-	150	30	20	35	No	RAL 9010	Waterloo	VB…	

Notes:

1. All Grilles and Valves shall be installed in accordance with Manufacturer's recommendations.

3.15

HEN0203-HEN-00-XX-SCH-M-5706 Schedule of Air Socks

The following page is the document exactly as received and checked. It is bookmarked in the PDF.

Reference	
Asset	General
Provided by	Not recorded
Source file	HEN0203-HEN-00-XX-SCH-M-5706 Schedule of Air Socks.pdf
Pages	1

Date: 28/04/2025
Project Name: Elmwood Leisure Centre
Schedule Number: HEN0203-HEN-00-XX-SCH-M-5706
Revision: P01

Schedule of Air Socks

HENSALL

Reference	Location	Manufacturer	Dimensions		No. of Pieces	Full or Half Sock?	Air Volume	Air Temp. within Sock	Room Temperature	Available Pressure	Internal Rings?	Anti Bacterial Material?	Middle Elevation	Finish	Comments
			Diameter	Length											
			(mm)				(l/s)	(°c)	(°C)	(Pa)			(mm)		
AS 0.01	Main Pool Hall	Prihoda	900ø	55596	5	Full	4257	40	31	114	Yes	No	7000	RAL 9016	Suitable for Swimming Pool Environment
AS 0.02	Main Pool Hall	Prihoda	900ø	54665	3	Full	4113	40	31	114	Yes	No	7000	RAL 9016	Suitable for Swimming Pool Environment

Notes:

1. All Air Socks shall be installed in accordance with the Manufacurer's recommendations.

Author: Declan Parker
Checked: Dave Bowdler

3.16

HEN0203-HEN-00-XX-SCH-M-5707 Schedule of Attenuators

The following 2 pages are the document exactly as received and checked. It is bookmarked in the PDF.

Reference	
Asset	General
Provided by	Not recorded
Source file	`HEN0203-HEN-00-XX-SCH-M-5707 Schedule of Attenuators.pdf`
Pages	2

Date: 02/07/2025
Project Name: Elmwood Leisure Centre
Schedule Number: HEN0203-HEN-00-XX-SCH-M-5707
Revision: P03

Schedule of Attenuators

HENSALL

Reference	Floor	Location	System Served	Attenuator Details	Airflow	Room Served Noise Rating	Maximum Resistance	Weight	Caice Attenuator Size			Insert Loss							Comments
									Width / Dia	Height	Length	63	125	250	500	1000	2000	4000	
					(l/s)	(dB@1.5m)	(Pa)	(kg)	(mm)			(dBA)							
ATT 2.01	2nd Floor Roof Level	External	AHU R.06 FAI	Rectangular LG01H/3C/L/S	880	NR50	6	28	1000	400	600	3	5	9	15	19	16	11	
ATT 2.02	2nd Floor Roof Level	External	AHU R.06 EXH	Rectangular LG01V/3C/L/S	880	NR50	15	20	500	500	600	3	5	9	15	19	16	11	
ATT 2.03	2nd Floor Roof Level	External	AHU R.06 EXT	Rectangular LG01H/3C/L/S	880	NR40	24	17	500	400	600	3	5	9	15	19	16	11	
ATT 2.04	2nd Floor Roof Level	External	AHU R.06 SUP	Rectangular SG01H/3C/L/S	880	NR40	19	21	500	400	600	3	5	9	15	19	16	11	
ATT 2.05	2nd Floor Roof Level	External	AHU R.03 FAI	Rectangular SG01H/3C/L/S	2900	NR50	22	63	1000	1000	600	3	5	9	15	19	16	11	
ATT 2.06	2nd Floor Roof Level	External	AHU R.03 EXH	Rectangular SG01V/3C/L/S	2900	NR50	38	65	1000	1000	600	3	5	9	15	19	16	11	
ATT 2.07	2nd Floor Roof Level	External	AHU R.03 EXT	Rectangular LG01H/3C/L/S	2900	NR40	30	29	1000	500	600	3	5	9	15	19	16	11	
ATT 2.08	2nd Floor Roof Level	External	AHU R.03 SUP	Rectangular SG01H/3C/L/S	2900	NR40	28	40	1000	500	750	4	6	11	18	23	20	14	
ATT R.01	Roof Level	External	AHU R.05 FAI	Rectangular LG01H/3C/L/S	1800	NR50	26	23	600	550	600	3	5	9	15	19	16	11	
ATT R.02	Roof Level	External	AHU R.05 EXH	Rectangular SG01H/3C/L/S	1650	NR50	12	37	600	800	600	3	5	9	15	19	16	11	
ATT R.03	Roof Level	External	AHU R.05 EXT	Rectangular LG01H/3C/L/S	1650	NR40	23	24	600	600	600	3	5	9	15	19	16	11	
ATT R.04	Roof Level	External	AHU R.05SUP	Rectangular SG01H/3C/L/S	1800	NR40	26	48	600	600	1200	6	10	18	28	35	30	21	
ATT R.05	Roof Level	External	AHU R.09 FAI	Rectangular LG01H/3C/L/S	1826	NR40	8	33	1000	600	600	3	5	9	15	19	16	11	
ATT R.06	Roof Level	External	AHU R.09 EXH	Rectangular LG01V/3C/L/S	1826	NR40	11	30	650	800	600	3	5	9	15	19	16	11	
ATT R.07	Roof Level	External	AHU R.09 EXT	Rectangular LG01H/3C/L/S	1826	NR40	25	26	650	600	600	3	5	9	15	19	16	11	
ATT R.08	Roof Level	External	AHU R.09 SUP	Rectangular LG01H/3C/L/S	1826	NR40	27	41	650	600	1050	5	9	16	25	31	27	19	
ATT R.09	Roof Level	External	AHU R.04 FAI	Rectangular LG01H/3C/L/S	990	NR40	3	33	1000	550	600	3	5	9	15	19	16	11	
ATT R.10	Roof Level	External	AHU R.04 EXH	Rectangular LG01V/3C/L/S	990	NR40	5	28	550	800	600	3	5	9	15	19	16	11	
ATT R.11	Roof Level	External	AHU R.04 EXT	Rectangular LG01H/3C/L/S	990	NR40	17	24	550	550	600	3	5	9	15	19	16	11	
ATT R.12	Roof Level	External	AHU R.04 SUP	Rectangular SG01V/3C/L/S	990	NR40	20	29	550	550	600	3	5	9	15	19	16	11	
ATT R.13	Roof Plantroom	Internal	AHU R.07 FAI	Rectangular SG01V/3C/L/S	7227	NR40	4	119	2448	1224	600	3	5	9	15	19	16	11	
ATT R.14	Roof Plantroom	Internal	AHU R.07 EXH	Rectangular SG01V/3C/L/S	7227	NR40	25	171	1300	1200	1200	6	10	18	28	35	30	21	
ATT R.15	Roof Plantroom	Internal	AHU R.07 EXT	Rectangular SG01V/3C/L/S	7227	NR40	39	310	1300	1200	1200	6	10	18	28	35	30	21	
ATT R.16	Roof Plantroom	Internal	AHU R.07 SUP	Modular MG02H/3C/L/S	7227	NR40	17	172	1300	1200	1200	6	10	18	28	35	30	21	
ATT R.17	Roof Plantroom	Internal	AHU R.08 FAI	Rectangular SG01V/3C/L/S	3216	NR40	3	85	1836	918	600	3	5	9	15	19	16	11	
ATT R.18	Roof Plantroom	Internal	AHU R.08 EXH	Rectangular SG01H/2C/L/S	3216	NR40	9	99	1836	918	600	3	5	9	15	19	16	11	
ATT R.19	Roof Plantroom	Internal	AHU R.08 EXT	Rectangular SG01H/2C/L/S	3216	NR40	6	97	850	800	1200	6	10	18	28	35	30	21	
ATT R.20	Roof Plantroom	Internal	AHU R.08 SUP	Rectangular SG01V/3C/L/S	3216	NR40	4	90	850	800	1200	6	10	18	28	35	30	21	

Author: Harry Hartell
Checked: Dave Bowdler

Date: 02/07/2025
Project Name: Elmwood Leisure Centre
Schedule Number: HEN0203-HEN-00-XX-SCH-M-5707
Revision: P03

Schedule of Attenuators

HENSALL

Reference	Floor	Location	System Served	Attenuator Details	Airflow	Room Served Noise Rating	Maximum Resistance	Weight	Caice Attenuator Size			Insert Loss							Comments
									Width / Dia	Height	Length	63	125	250	500	1000	2000	4000	
					(l/s)	(dB@1.5m)	(Pa)	(kg)	(mm)			(dBA)							
ATT R.21	Roof Plantroom	Internal	AHU R.01 FAI	Rectangular SG01H/3C/L/S	7610	NR40	36	100	1400	1400	600	3	5	9	15	19	16	11	
ATT R.22	Roof Plantroom	Internal	AHU R.01 EXH	Rectangular SG01V/3C/L/SM/B1	7990	NR40	39	90	1400	1400	600	3	5	9	15	19	16	11	Suitable for C4 environment
ATT R.23	Roof Plantroom	Internal	AHU R.01 EXT	Rectangular SG01H/3C/L/SM/B1	7990	NR40	37	121	1600	1000	750	4	6	11	18	23	20	14	Suitable for C4 environment
ATT R.24	Roof Plantroom	Internal	AHU R.01 SUP	Rectangular SG01V/3C/L/SM/B1	7610	NR40	37	121	1600	1000	750	4	6	11	18	23	20	14	Suitable for C4 environment
ATT R.25	Roof Plantroom	Internal	AHU R.02 FAI	Rectangular SG01H/3C/L/S	2632	NR40	43	36	1000	450	600	3	5	9	15	19	16	11	
ATT R.26	Roof Plantroom	Internal	AHU R.02 EXH	Rectangular LG01H/3C/L/SM/B1	1708	NR40	37	24	800	400	600	3	5	9	15	19	16	11	Suitable for C4 environment
ATT R.27	Roof Plantroom	Internal	AHU R.02 SUP	Rectangular SG01H/3C/L/SM/B1	2632	NR40	28	34	1000	450	600	3	5	9	15	19	16	11	Suitable for C4 environment
ATT R.28	Roof Plantroom	Internal	AHU R.02 EXT	Rectangular LG01H/3C/L/SM/B1	1708	NR40	37	24	800	400	600	3	5	9	15	19	16	11	Suitable for C4 environment

Notes:

1. All units shall be installed in accordance with Manufacturer's recommendations.

Author: Harry Hartell
Checked: Dave Bowdler

3.17

HEN0203-HEN-00-XX-SCH-M-5708 Schedule of Extract Fans

The following page is the document exactly as received and checked. It is bookmarked in the PDF.

Reference	
Asset	General
Provided by	Not recorded
Source file	`HEN0203-HEN-00-XX-SCH-M-5708 Schedule of Extract Fans.pdf`
Pages	1

Date: 24/04/2025
Project Name: Elmwood Leisure Centre
Schedule Number: HEN0203-HEN-00-XX-SCH-M-5708
Rev: P01

Schedule of Extract Fans

HENSALL

Reference	Location	Area(s) Served	Volume	Resistance	Unit Dimensions			Unit Weight	Noise Criteria	Maximum SFP	Inlet Damper	Panel Filter	Plenum / Access Section	Fan Type	Ancillary Speed Controller	Outlet Damper	Manufacturer	Models	Controller
					Length	Width	Height												
			(l/s)	(Pa)	(mm)			(kg)	(NR)	(w/l/s)	(Yes / No)	(Yes / No)	(Yes / No)		(Yes / No)	(Yes / No)			
EF B.01	Shower	Shower	22	20	117	160	160	0.7	40	0.3	No	No	No	Wall	No	No	Vent Axia	VASF100TC	Lighting c/w Run On Timer
EF B.02	Toilet	Toilet	22	20	117	160	160	0.7	40	0.3	No	No	No	Wall	No	No	Vent Axia	VASF100TC	Lighting c/w Run On Timer
EF B.03	Chemical Store	Chemical Store	33	35	259	193	241	2.15	45	0.3	No	No	No	In-line	Yes	No	Nuaire	ILMEC-125	BMS
EF B.04	Hypo Store	Hypo Store	33	35	259	193	241	2.15	45	0.3	No	No	No	In-line	Yes	No	Nuaire	ILMEC-125	BMS

Notes:

1. All Fans shall be installed in accordance with Manufacturer's recommendations.

2. All Fans shall be complete with flexible connections and anti vibration mounts.

3. All Fans shall come with speed controllers.

4. EF B.03 and EF B.04 shall be suitable for corrosive environment.

5. A margin of 10% has been added to all Fan volumes.

6. A margin of 15% has been added to all Fan resistances.

7. SFP shall be based on actual Fan volumes excluding design margins.

Author: Harry Hartell
Checked: Dave Bowdler

3.18

HEN0203-HEN-00-XX-SCH-M-5709 Schedule of Fire and Smoke Dampers

The following 2 pages are the document exactly as received and checked. It is bookmarked in the PDF.

Reference	
Asset	General
Provided by	Not recorded
Source file	`HEN0203-HEN-00-XX-SCH-M-5709 Schedule of Fire and Smoke Dampers.pdf`
Pages	2

Date: 28/04/2025
Project Name: Elmwood Leisure Centre
Schedule Number: HEN0203-HEN-00-XX-SCH-M-5709
Revision: P01

Schedule of Fire and Smoke Dampers

HENSALL

Reference	Location	Manufacturer	Model	Duct Dimension			Wall Type	Opening Size	Control	Comments
				Width	Height	Diameter		Width x Height		
				(mm)				(mm)		
FD 0.01	Kitchen	BSB	FD	600	200	-	Internal Wall	712 x 312	Resetable thermal link	HEVAC Frame
FD 0.02	Kitchen	BSB	FD	-	-	125	Internal Wall	237 x 237	Resetable thermal link	HEVAC Frame
FD 0.03	Wet Change Corridor	BSB	FD	900	350	-	Internal Wall	1012 x 486	Resetable thermal link	HEVAC Frame
FD 0.04	Wet Change Corridor	BSB	FD	900	350	-	Internal Wall	1012 x 486	Resetable thermal link	HEVAC Frame
FD 0.05	Buggy Store	BSB	FD	700	200	-	Internal Wall	812 x 312	Resetable thermal link	HEVAC Frame
FD 0.06	Buggy Store	BSB	FD	500	250	-	Internal Wall	612 x 362	Resetable thermal link	HEVAC Frame
FD 0.07	Wet Change	BSB	FD	-	-	500	Internal Wall	612 x 636	Resetable thermal link	HEVAC Frame
FD 0.08	Wet Change	BSB	FD	-	-	500	Internal Wall	612 x 636	Resetable thermal link	HEVAC Frame
FD 1.01	WC 01	BSB	FD	-	-	125	Internal Wall	237 x 237	Resetable thermal link	HEVAC Frame
FD 1.02	Acc WC	BSB	FD	-	-	125	Internal Wall	237 x 237	Resetable thermal link	HEVAC Frame
FD 1.03	WC 02	BSB	FD	-	-	125	Internal Wall	237 x 237	Resetable thermal link	HEVAC Frame
FD 1.04	Membership Office	BSB	FD	-	-	125	Internal Wall	237 x 237	Resetable thermal link	HEVAC Frame
FD 1.05	Membership Office	BSB	FD	-	-	125	Internal Wall	237 x 237	Resetable thermal link	HEVAC Frame
FD 1.06	Corridor 01	BSB	FD	-	-	125	Internal Wall	237 x 237	Resetable thermal link	HEVAC Frame
FD 1.07	Corridor 01	BSB	FD	-	-	125	Internal Wall	237 x 237	Resetable thermal link	HEVAC Frame
FD 1.08	Riser	BSB	FD	-	-	150	Internal Wall	312 x 312	Resetable thermal link	HEVAC Frame
FD 1.09	Riser	BSB	FD	-	-	150	Internal Wall	312 x 312	Resetable thermal link	HEVAC Frame
FD 1.10	Corridor 01	BSB	FD	400	100	-	Internal Wall	512 x 212	Resetable thermal link	HEVAC Frame
FIRE DAMPER REQUIREMENTS FOR DUCTWORK THROUGH SLABS STILL TO BE ADVISED BY FIRE OFFICER										

Notes:

1. All fire dampers shall be installed in accordance with manufacturers recommendations.

2. Confirmation required from fire officer of control type for all fire dampers.

3. Final fire stopping and details around fire damper is by others.

Author: Harry Hartell
Checked: Dave Bowdler

Date: 28/04/2025
Project Name: Elmwood Leisure Centre
Schedule Number: HEN0203-HEN-00-XX-SCH-M-5709
Revision: P01

Schedule of Fire and Smoke Dampers

HENSALL

Reference	Location	Manufacturer	Model	Duct Dimension			Wall Type	Opening Size	Control	Comments
				Width	Height	Diameter		Width x Height		
				(mm)				(mm)		

Author: Harry Hartell
Checked: Dave Bowdler

3.19

HEN0203-HEN-00-XX-SCH-M-5710 Schedule of Door Transfer Grilles

The following page is the document exactly as received and checked. It is bookmarked in the PDF.

Reference	
Asset	General
Provided by	Not recorded
Source file	HEN0203-HEN-00-XX-SCH-M-5710 Schedule of Door Transfer Grilles.pdf
Pages	1

Date: 29/04/2025
Project Name: Elmwood Leisure Centre
Schedule No.: HEN0203-HEN-00-XX-SCH-M-5710
Rev: P01

Schedule of Door Transfer Grilles

HENSALL

Reference	Grille Type	Room Served	Overall Grille Size		Air Volume	Maximum Pressure Drop	Maximum Room Noise Level	Finish	Manufacturer	Manufacturer Reference	Comments
			Length	Width / Dia							
			(mm)		(l/s)	(Pa)	(NR)				
DTG 0.01	Non Vision Door Transfer Grille	Kitchen	600	600	192	10	40	RAL 9010	Gilberts	NVT-600	To be complete with 60 minute intumescent block
DTG 0.02	Non Vision Door Transfer Grille	Kitchen	600	600	188	10	40	RAL 9010	Gilberts	NVT-600	To be complete with 60 minute intumescent block
DTG 0.03	Non Vision Door Transfer Grille	Female WC	600	600	120	10	40	RAL 9010	Gilberts	NVT-600	
DTG 0.04	Non Vision Door Transfer Grille	Male WC	600	600	120	10	40	RAL 9010	Gilberts	NVT-600	

Notes:

1. All Grilles and Valves shall be installed in accordance with Manufacturer's recommendations.

Author: Harry Hartell
Checked: Dave Bowdler

4 Asset register

Every maintainable item, where it is and what it is. The same register is available as a spreadsheet for the client's maintenance system.

REF	DESCRIPTION	LOCATION	MAKE	MODEL	SERIAL
Domestic water					
HWH B.01	Hot water heater / cylinder, 1000 litre stainless steel, LTHW coil 37.30 kW with immersion heaters (Hot Water Generation)	Basement Plant	Arbe	HevaCal ALXA1000-6B-EX50-CU200/390-V S1 p2	AR15-00043
HWH B.02	Hot water heater / cylinder, 1000 litre stainless steel, LTHW coil 37.30 kW with immersion heaters (Hot Water Generation)	Basement Plant	Arbe	HevaCal ALXA1000-6B-EX50-CU200/390-V S1 p2	AR56-47723
BS B.01	Booster set, Boosted Cold Water, 3 pumps Duty / Duty / Standby	Basement Plant	Lowara S3 p1	SMB30/10HME04S22/T4/UK S3 p1	1003100593 S102 p2
BS B.02	Booster set, Pool Plant and Wash Down, 2 pumps Duty / Standby	Basement Plant	TPS	SP2V-VARiFLO-TAS-1000L-CAT5	S-487645 S58 p1
P B.05	DHWS secondary return pump, single head (DHWS Secondary)	B2 Basement Plantroom	Lowara S66 p1	Ecocirc XL Plus N32-100 S66 p1	20250115 S66 p1
Heating					
ASHP 0.01	Air source heat pump, LTHW 2 Pipe System, 382.85 kW heating @ -4°C	External Plant Ground Floor	Trane S20 p1	CXAF150HEXLN S40 p5	ELJ01864 S20 p2
ASHP 0.02	Air source heat pump, LTHW 2 Pipe System, 382.85 kW heating @ -4°C	External Plant Ground Floor	Trane S20 p1	CXAF150HEXLN S38 p5	ELJ01863 S20 p1
ASHP 0.03	Air source heat pump, LTHW 2 Pipe System, 71.81 kW heating @ -4°C	External Plant Ground Floor	Trane S20 p2	CXAX 35 SE LN S61 p1	ELJ01853 S20 p2
EPH 0.01	Electric panel heater, 1.50 kW	Circulation	Dimplex S87 p1	LST150	23374469
EPH 0.02	Electric panel heater, 1.00 kW	Soft Play WC	Dimplex S87 p1	LST100	23095053
EPH 0.03	Electric panel heater, 1.00 kW	Soft Play WC	Dimplex	LST100	87950676
EPH 0.04	Electric panel heater, 1.50 kW	Soft Play Circulation	Dimplex	LST150	40128088
EPH 0.05	Electric panel heater, 1.00 kW	Circulation 3	Dimplex	LST100	06134668

REF	DESCRIPTION	LOCATION	MANUFACTURER	MODEL	SERIAL
EPH 0.06	Electric panel heater, 0.75 kW	WC 2	Flexel S75 p1	ECOSUN 3C-600	SN8632431
EPH 0.07	Electric panel heater, 0.75 kW	WC 3	Flexel	ECOSUN 3C-600	SN0577694
EPH 0.08	Electric panel heater, 0.30 kW	WC 1	Flexel	ECOSUN 3C-600	SN2437872
EPH 0.09	Electric panel heater, 0.30 kW	Acc WC 1	Flexel	ECOSUN 3C-600	SN2975403
EPH 0.10	Electric panel heater, 1.50 kW	Circulation BOH	Dimplex	LST150	SN1458298
EPH 0.11	Electric panel heater, 1.50 kW	Circulation BOH	Dimplex	LST150	SN1089313
EPH 0.12	Electric panel heater, 1.50 kW	Stair	Dimplex	LST150	SN2871586
EPH 0.13	Electric panel heater, 1.00 kW	Circulation BOH	Dimplex	LST100	SN3742314
EPH 1.01	Electric panel heater, 1.50 kW	Circulation 3	Dimplex	LST150	SN7922723
EPH 1.02	Electric panel heater, 1.50 kW	Circulation 3	Dimplex	LST150	SN1943542
EPH 1.03	Electric panel heater, 1.50 kW	Circulation 3	Dimplex	LST150	SN1328907
EPH 1.04	Electric panel heater, 1.50 kW	Circulation 2	Dimplex	LST150	SN0936816
EPH 1.05	Electric panel heater, 1.50 kW	Circulation 2	Dimplex	LST150	SN5289703
EPH 1.06	Electric panel heater, 1.50 kW	Circulation 2	Dimplex	LST150	SN3280143
EPH 1.07	Electric panel heater, 1.50 kW	Circulation 2	Dimplex	LST150	SN4309157
EPH 1.08	Electric panel heater, 1.50 kW	Circulation 1	Dimplex	LST150	SN9178119
EPH 1.09	Electric panel heater, 1.50 kW	Circulation 1	Dimplex	LST150	SN1599977
EPH 1.10	Electric panel heater, 1.50 kW	Stair	Dimplex	LST150	SN2756115
EPH 2.01	Electric panel heater, 1.50 kW	Corridor	Dimplex	LST150	SN1468867
EPH 2.02	Electric panel heater, 1.50 kW	Corridor	Dimplex	LST150	SN0455581
EPH 2.03	Electric panel heater, 1.50 kW	Corridor	Dimplex	LST150	SN6061223
EPH 2.04	Electric panel heater, 1.50 kW	Corridor	Dimplex	LST150	SN6471667
EPH 2.05	Electric panel heater, 1.50 kW	Corridor	Dimplex	LST150	SN8024545
EPH 2.06	Electric panel heater, 1.50 kW	Corridor	Dimplex	LST150	SN0510848
EPH 2.07	Electric panel heater, 1.50 kW	Corridor	Dimplex	LST150	SN3435710
EPH 2.08	Electric panel heater, 1.50 kW	Stair	Dimplex	LST150	SN8877832
EPH 2.09	Electric panel heater, 1.00 kW	Kitchen	Dimplex	LST100	SN3713737
EPH 2.10	Electric panel heater, 1.50 kW	Office 4	Dimplex	LST150	SN8035308
EPH 2.11	Electric panel heater, 1.50 kW	Office 3	Dimplex	LST150	SN8989727
EPH 2.12	Electric panel heater, 1.50 kW	Office 2	Dimplex	LST150	SN3618246
EPH 2.13	Electric panel heater, 1.50 kW	Meeting Room	Dimplex	LST150	SN1132185
EPH 2.14	Electric panel heater, 1.50 kW	Office 1	Dimplex	LST150	SN7705883
EPH 2.15	Electric panel heater, 1.50 kW	Office 1	Dimplex	LST150	SN3252449
EPH 2.16	Electric panel heater, 1.50 kW	Circulation	Dimplex	LST150	SN1291263

REF	DESCRIPTION	LOCATION	MANUFACTURER	MODEL	SERIAL
TS.0.01	Thermal store, 6000 litre carbon steel, Low Temperature Hot Water Heating (ASHP)	B2 Basement Plantroom	Arbe Integrated Engineering S1 p1	AFTA-SEC3-6000-4B-UN-V S1 p5	AC33369-2 S57 p1
P B.01	LTHW pump, twin head (ASHP Primary)	B2 Basement Plantroom	Lowara S39 p1	LNTSH125-160/40/P45VCC 4/4	703935120 S39 p1
P B.02	LTHW pump, twin head (AHU CT Pump)	B2 Basement Plantroom	Lowara S36 p1	LNTEX 100-280/110/204CC 4	130630450 S13 p3
P B.03	LTHW pump, twin head (LTHW to Pool Water Plant)	B2 Basement Plantroom	Lowara S14 p3	LNTEE50-125/22/EP04CS 4	20240606 S88 p1
P B.04	LTHW pump, twin head (LTHW to DHWS Primary)	B2 Basement Plantroom	Lowara S89 p1	ecocirc XLplus D 40-150 F	20240701 S89 p1
PU 0.01	Pressurisation unit, LTHW system (45/38)	B2 Basement Plantroom	Mikrofill S4 p12	Mikrofill 3 S4 p6	MK3-0057988 S99 p1
Air conditioning					
AC 0.01	Air conditioning indoor unit, 4 Way Cassette (system 2.06A)	00.05 Innerva studio	Toshiba	MMU, UP0481HP-E S116 p12	SN7137667
AC 0.02	Air conditioning indoor unit, 4 Way Cassette (system 2.06A)	00.05 Innerva studio	Toshiba	MMU-UP0481HP-E	SN6537797
AC 0.03	Air conditioning indoor unit, 4 Way Cassette (system 2.06A)	00.29 Café Seating and Circulation 01	Toshiba	MMU-UP0481HP-E	SN5395033
AC 0.04	Air conditioning indoor unit, 4 Way Cassette (system 2.06A)	00.29 Café Seating and Circulation 01	Toshiba	MMU-UP0481HP-E	SN2318324
AC 0.05	Air conditioning indoor unit, 4 Way Cassette (system 2.06A)	00.29 Café Seating and Circulation 01	Toshiba	MMU-UP0481HP-E	SN1624131
AC 0.06	Air conditioning indoor unit, 4 Way Cassette (system 2.06A)	00.29 Café Seating and Circulation 01	Toshiba	MMU-UP0481HP-E	SN3586903
AC 0.07	Air conditioning indoor unit, 4 Way Cassette (system 2.06B)	01.16 Circulation	Toshiba	MMU, UP0561HP-E S116 p13	SN9082213
AC 0.08	Air conditioning indoor unit, 4 Way Cassette (system 2.06B)	00.33 Circulation	Toshiba	MMU-UP0561HP-E	SN0624237
AC 0.09	Air conditioning indoor unit, 4 Way Cassette (system 2.06B)	00.28 Reception	Toshiba	MMU, UP0121HP-E S116 p9	SN7963394

REF	DESCRIPTION	LOCATION	MAKE	MODEL	SERIAL
AC 0.10	Air conditioning indoor unit, 4 Way Cassette (system 2.06B)	00.01 Servery	Toshiba	MMU-UP0121HP-E	78A29237
AC 0.11	Air conditioning indoor unit, 4 Way Cassette (system 2.06B)	00.27 Office	Toshiba	MMU, UP0071MH-E S116 p6	75D91100
AC 0.12	Air conditioning indoor unit, 4 Way Cassette (system 2.06B)	00.40 Flexible Community Room	Toshiba	MMU-UP0561HP-E	96D63882
AC 0.13	Air conditioning indoor unit, 4 Way Cassette (system 2.06B)	00.40 Flexible Community Room	Toshiba	MMU-UP0561HP-E	67B28735
AC 0.14	Air conditioning indoor unit, 4 Way Cassette (system 2.06B)	00.42 Party Room	Toshiba	MMU-UP0181HP-E S108 p2	52500457 S108 p2
AC 0.15	Air conditioning indoor unit, High Wall (system 2.05)	00.02 Play / Party Zone with Seatimng	Toshiba	MMK, UP0361HP-E S116 p3	40E14687
AC 0.16	Air conditioning indoor unit, High Wall (system 2.05)	00.02 Play / Party Zone with Seatimng	Toshiba	MMK-UP0361HP-E	87F30203
AC 0.17	Air conditioning indoor unit, High Wall (system 2.05)	00.02 Play / Party Zone with Seatimng	Toshiba	MMK-UP0361HP-E	06B35961
AC 0.18	Air conditioning indoor unit, High Wall (system 2.05)	00.02 Play / Party Zone with Seatimng	Toshiba	MMK-UP0361HP-E	09C84866
AC 0.19	Air conditioning indoor unit, High Wall (system 2.05)	00.02 Play / Party Zone with Seatimng	Toshiba	MMK-UP0361HP-E	92D79671
AC 0.20	Air conditioning indoor unit, High Wall (system 2.05)	00.02 Play / Party Zone with Seatimng	Toshiba	MMK-UP0361HP-E	86C98993
AC 0.21	Air conditioning indoor unit, High Wall (system 2.05)	00.02 Play / Party Zone with Seatimng	Toshiba	MMK-UP0361HP-E	52D50889
AC 0.22	Air conditioning indoor unit, High Wall (system 2.05)	00.02 Play / Party Zone with Seatimng	Toshiba	MMK-UP0361HP-E	03E76940
AC 0.23	Air conditioning indoor unit, High Wall (system 2.05)	00.02 Play / Party Zone with Seatimng	Toshiba	MMK-UP0361HP-E	66E10434
AC 0.25	Air conditioning indoor unit, High Wall (system 2.06A)	00.24 First Aid	Toshiba	MMK-UP0151HP-E S108 p9	52400140 S108 p9
AC 0.26	Air conditioning indoor unit, High Wall (system 2.06B)	Kitchen	Toshiba	MMK-UP0361HP-E	42500001 S108 p2
AC 0.27	Air conditioning indoor unit, High Wall (system 2.05)	00.02 Play / Party Zone with Seatimng	Toshiba	MMK-UP0361HP-E	63A96692
AC 1.01	Air conditioning indoor unit, High Wall (system 2.09)	Squash Court	Toshiba	MMK-UP0361HP-E	94D16375
AC 1.02	Air conditioning indoor unit, High Wall (system 2.09)	Squash Court	Toshiba	MMK-UP0361HP-E	17A60903
AC 1.03	Air conditioning indoor unit, High Wall (system 2.09)	Squash Court	Toshiba	MMK-UP0361HP-E	59A28545
AC 1.04	Air conditioning indoor unit, High Wall (system 2.09)	Squash Court	Toshiba	MMK-UP0361HP-E	31B84062

REF	DESCRIPTION	LOCATION	MANUFACTURER	MODEL	SERIAL
AC 1.05	Air conditioning indoor unit, High Wall (system 2.09)	Squash Court	Toshiba	MMK-UP0361HP-E	96E29406
AC 1.06	Air conditioning indoor unit, High Wall (system 2.09)	Squash Court	Toshiba	MMK-UP0361HP-E	16E83259
AC 1.07	Air conditioning indoor unit, High Wall (system 2.08)	01.01 Studio	Toshiba	MMK-UP0361HP-E	97D53934
AC 1.08	Air conditioning indoor unit, High Wall (system 2.08)	01.01 Studio	Toshiba	MMK-UP0361HP-E	58E32614
AC 1.09	Air conditioning indoor unit, High Wall (system 2.08)	01.01 Studio	Toshiba	MMK-UP0361HP-E	35F93905
AC 1.10	Air conditioning indoor unit, High Wall (system 2.08)	01.01 Studio	Toshiba	MMK-UP0361HP-E	63E65565
AC 1.11	Air conditioning indoor unit, High Wall (system 2.08)	01.01 Studio	Toshiba	MMK-UP0361HP-E	98C82983
AC 1.12	Air conditioning indoor unit, High Wall (system 2.08)	01.01 Studio	Toshiba	MMK-UP0361HP-E	71D22152
AC 1.13	Air conditioning indoor unit, 4 Way Cassette (system 2.06A)	Office	Toshiba	MMU-UP0091HP-E	42600008 S108 p9
AC 1.14	Air conditioning indoor unit, 4 Way Cassette (system 2.04A)	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	33B52277
AC 1.16	Air conditioning indoor unit, 4 Way Cassette (system 2.04A)	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	68E28778
AC 1.18	Air conditioning indoor unit, 4 Way Cassette (system 2.04A)	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	48D19007
AC 1.19	Air conditioning indoor unit, 4 Way Cassette (system 2.04A)	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	47D55187
AC 1.20	Air conditioning indoor unit, 4 Way Cassette (system 2.07)	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	10E93005
AC 1.21	Air conditioning indoor unit, 4 Way Cassette (system 2.07)	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	49D41066
AC 1.22	Air conditioning indoor unit, 4 Way Cassette (system 2.07)	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	20E72160
AC 1.23	Air conditioning indoor unit, 4 Way Cassette (system 2.07)	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	77E99575
AC 1.24	Air conditioning indoor unit, 4 Way Cassette (system 2.07)	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	20E39322
AC 1.25	Air conditioning indoor unit, 4 Way Cassette (system 2.07)	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	23D78146
AC 1.26	Air conditioning indoor unit, 4 Way Cassette (system 2.07)	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	30E08786
AC 1.27	Air conditioning indoor unit, 4 Way Cassette (system 2.07)	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	66A83502

REF	DESCRIPTION	LOCATION	MAKE	MODEL	SERIAL
AC 1.28	Air conditioning indoor unit, 4 Way Cassette (system 2.04B)	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	SN2793924
AC 1.29	Air conditioning indoor unit, 4 Way Cassette (system 2.04B)	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	SN3549704
AC 1.30	Air conditioning indoor unit, 4 Way Cassette (system 2.04B)	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	SN9433288
AC 1.31	Air conditioning indoor unit, 4 Way Cassette (system 2.04B)	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	SN6102402
AC 1.32	Air conditioning indoor unit, 4 Way Cassette (system 2.04B)	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	SN7003809
AC 1.33	Air conditioning indoor unit, 4 Way Cassette (system 2.04B)	01.06 Fitness Suite	Toshiba	MMU-UP0561HP-E	SN1335604
AC 1.34	Air conditioning indoor unit, 4 Way Cassette (system 2.02)	01.05 Consult 1	Toshiba S116 p14	RAV-HM561UTP-E S108 p10	52300130 S108 p10
AC 1.35	Air conditioning indoor unit, 4 Way Cassette (system 2.03)	01.04 Consult 2	Toshiba	RAV-HM561UTP-E S108 p10	52300140 S108 p10
AC 1.36	Air conditioning indoor unit, 4 Way Cassette (system 2.06A)	Manager's Office	Toshiba	MMU-UP0241HP-E S108 p9	43000277 S108 p9
AC 1.37	Air conditioning indoor unit, High Wall (system 2.10)	Gym Office	Toshiba S116 p4	RAV-HM561UTP-E	52700509 S108 p11
AC 2.01	Air conditioning indoor unit, 4 Way Cassette (system 2.09)	Squash Viewing Area	Toshiba	MMU-UP0361HP-E	SN3382765
AC 2.02	Air conditioning indoor unit, 4 Way Cassette (system 2.09)	Squash Viewing Area	Toshiba	MMU-UP0361HP-E	SN7960087
AC 2.03	Air conditioning indoor unit, 4 Way Cassette (system 2.09)	Staff Room	Toshiba	MMU-UP0361HP-E	SN5554990
AC 2.04	Air conditioning indoor unit, 4 Way Cassette (system 2.01)	02.01 Spin Studio	Toshiba	MMU-UP0481HP-E	SN1986871
AC 2.05	Air conditioning indoor unit, 4 Way Cassette (system 2.01)	02.01 Spin Studio	Toshiba	MMU-UP0481HP-E	SN3979050
AC 2.06	Air conditioning indoor unit, 4 Way Cassette (system 2.01)	02.01 Spin Studio	Toshiba	MMU-UP0481HP-E	SN1235324
AC 2.07	Air conditioning indoor unit, 4 Way Cassette (system 2.01)	02.01 Spin Studio	Toshiba	MMU-UP0481HP-E	SN6847892

REF	DESCRIPTION	LOCATION	MAKE	MODEL	SERIAL
CU 2.01	Condenser, external condensing unit, 2 Pipe Heat Pump VRF, serves AC 2.04, AC 2.05, AC 2.06, AC 2.07	1st floor roof	Toshiba S65 p33	MMY-MUP2010HT8P-E	43200013 S65 p33
CU 2.02	Condenser, external condensing unit, Split System Max 50m Run, serves AC1.34	1st floor roof	Toshiba	RAV-GP561ATW-E S108 p10	01274128 S108 p10
CU 2.03	Condenser, external condensing unit, Split System Max 50m Run, serves AC 1.35	1st floor roof	Toshiba	RAV-GP561ATW-E S108 p10	01131124 S108 p10
CU 2.04A	Condenser, external condensing unit, 2 Pipe Heat Pump VRF, serves AC 1.14, AC 1.16, AC 1.18, AC 1.19	1st floor roof	Toshiba S65 p29	MMY-MUP2401HT8P-E S108 p7	52600005 S108 p7
CU 2.04B	Condenser, external condensing unit, 2 Pipe Heat Pump VRF, serves AC 1.28, AC 1.29, AC 1.30, AC 1.31, AC 1.32, AC 1.33	1st floor roof	Toshiba S65 p28	MMY-AP3611FT8P-E	52200017 / 43200002 S108 p6
CU 2.05	Condenser, external condensing unit, 2 Pipe Heat Pump VRF, serves AC 0.15, AC 0.16, AC 0.17, AC 0.18, AC 0.19, AC 0.20, AC 0.21, AC 0.22, AC 0.23, AC 0.27	1st floor roof	Toshiba S65 p16	MMY-MUP3811HT8P-E	52400003 / 52600002 S108 p1
CU 2.06A	Condenser, external condensing unit, 3 Pipe Heat Recovery VRF, serves AC 0.01, AC 0.02, AC 0.03, AC 0.04, AC 0.05, AC 0.06, AC 0.25, AC 1.13, AC 1.36	1st floor roof	Toshiba S116 p25	MMY-AP3416FT8P	43000001 / 431000002 S108 p9
CU 2.06B	Condenser, external condensing unit, 3 Pipe Heat Recovery VRF, serves AC 0.07, AC 0.08, AC 0.09, AC 0.10, AC 0.11, AC 0.12, AC 0.13, AC 0.14, AC 0.26	1st floor roof	Toshiba S116 p16	MMY-AP2816FT9P	43100013 / 43100017 S108 p2
CU 2.07	Condenser, external condensing unit, 2 Pipe Heat Pump VRF, serves AC 1.20, AC 1.21, AC 1.22, AC 1.23, AC1.24, AC1.25, AC 1.26, AC 1.27	2nd floor roof	Toshiba S65 p25	MMY-AP4211HT8P-E	43200009 / 52400008 S108 p5
CU 2.08	Condenser, external condensing unit, 2 Pipe Heat Pump VRF, serves AC 1.07, AC 1.08, AC 1.09, AC 1.10, AC 1.11, AC 1.12	2nd floor roof	Toshiba S65 p21	MMY-MUP2201HT8P-E S65 p21	33100020 S65 p21
CU 2.09	Condenser, external condensing unit, 3 Pipe Heat Recovery VRF, serves AC 1.01, AC 1.02, AC 1.03, AC 1.04, AC 1.05, AC 1.06, AC 2.01, AC 2.02, AC 2.03	2nd floor roof	Toshiba S114 p2	MMY-AP3016FT8P	43000002 / 431000003 S108 p4
CU 2.10	Condenser, external condensing unit, Split System Max 50m Run, serves AC1.37	1st floor roof	Toshiba	RAV-GP561ATW-E S108 p11	01272124 S108 p11
Ventilation					
AHU R.02	Air handling unit serving Wet Change, supply and extract with counterflow plate heat exchanger heat recovery and LTHW heating coil	Roof Plantroom, Internal	Trane	AT4-F 20x12/20x12, Interior S84 p15	ELJ01860
AHU R.03	Air handling unit serving Front of House and Ancillary Areas, supply and extract with thermal wheel heat recovery and LTHW heating coil	Roof, External	Trane S143 p3	AT4-F 24x12/24x12, Weatherproof S84 p31	ELJ03442

REF	DESCRIPTION	LOCATION	MAKE	MODEL	SERIAL
AHU R.04	Air handling unit serving Dance Studio, supply and extract with thermal wheel heat recovery and LTHW heating coil	Roof, External	Trane S1 31 p3	AT4-F 16x8/16x8, Weatherproof S84 p47	ELJ01528
AHU R.05	Air handling unit serving Soft Play, supply and extract with thermal wheel heat recovery and LTHW heating coil	Roof, External	Trane S1 33 p3	AT4-F 16x12/16x12, Weatherproof S84 p66	ELJ02770
AHU R.06	Air handling unit serving Spin Studio, supply and extract with thermal wheel heat recovery and LTHW heating coil	Roof, External	Trane S1 47 p3	AT4-F 12x8/12x8, Weatherproof S84 p84	ELJ09550
AHU R.07	Air handling unit serving Sports Hall, supply and extract with thermal wheel heat recovery and LTHW heating coil	Roof Plantroom, Internal	Trane S1 41 p3	AT4-F 32x16/32x16, Interior	ELJ02903
AHU R.08	Air handling unit serving Fitness Suite, supply and extract with thermal wheel heat recovery and LTHW heating coil	Roof Plantroom, Internal	Trane S1 35 p3	AT4-F 24x12/24x12, Interior	ELJ09894

REF	DESCRIPTION	LOCATION	MAKE	MODEL	SERIAL
AHU R.09	Air handling unit serving Squash Courts and Viewing, supply and extract with thermal wheel heat recovery and LTHW heating coil	Roof, External	Trane S137 p3	AT4-F 16x12 /16x12, Weatherproof	SN2360874
AHU R.01	Air handling unit serving Main Pool, supply and extract with counterflow plate heat exchanger heat recovery and LTHW heating coil	Plantroom Roof, Internal	Trane S139 p3	AT4-F 49x20 /49x20, Interior S84 p1	SN6229865
SG-TYPE A	Supply diffuser, swirl diffuser	00.09 Party Room; 00.08 Community Room; 00.24 Office; 00.21 Reception; 00.01 Café Seating; 00.42 First Aid; 00.13 Innerva Studio; 00.25 Kitchen; 00.22 Servery; 00.27 Vanity; 00.31 Changing Places; 00.28 Changing Village; 00.30 ACC Change; 00.32 Group Change; 00.33 Group Change; 00.34 Group Change; 01.07 Membership Office; 01.01 Lower Fitness Suite; 01.02 Upper Fitness Suite; 01.04 Consultation Room 01; 01.05 Consultation Room 02; 02.01 Squash Viewing Area; 02.07 Staff Room; 02.02 Spin Studio	Waterloo	SDVSA .../9010-Matt 20%	SN7601560
SG-TYPE B	Supply diffuser, 4 way diffuser	00.14 Female Dry Change; 00.17 Male Dry Change	Waterloo	DF-MD/41/.../9010-Matt 20%/OBSS	SN8498491
SG-TYPE C	Supply diffuser, linear bar	01.03 Admin / Timing Office	Waterloo	Aircell S…/9010-Matt 20%	SN1632071
SG-TYPE D	Supply diffuser, linear bar grille	01.09 Squash Court 01; 01.10 Squash Court 02; 01.11 Squash Court 03	Waterloo	ALG(2)/.../PPM9010	SN7371880

REF	ITEM	LOCATION	MAKE	MODEL	SERIAL
EG-TYPE A	Extract grille (PER)	00.09 Party Room; 00.08 Community Room; 00.07 WC 02 (Play Zone); 00.06 WC 01 (Play Zone); 00.24 Office; 00.47 Circulation; 00.28 Changing Village; 00.13 Innerva Studio; 00.18 Male WC; 00.33 Group Change; 00.34 Group Change; 00.32 Group Change; 00.31 Changing Places; ACC. Changing; 00.12 Buggy Store; 01.07 Membership Office; 01.01 Lower Fitness Suite; 02.07 Staff Room; 02.02 Spin Studio	Waterlo o	PER/.../PPM9010	SN7772913
EG-TYPE B	Extract grille (AIRCELL G)	00.25 Kitchen; 00.39 Post Swim Showers	Waterlo o	AIRCELL G/.../PPM9010	SN2391096
EG-TYPE C	Extract grille, linear bar grille	01.02 Upper Fitness Suite; 01.09 Squash Court 01; 01.10 Squash Court 02; 01.11 Squash Court 03	Waterlo o	ALG(2)/.../PPM9010	SN8866050
EV-TYPE D	Extract grille, extract air valve	00.38 Acc WC; 00.23 WC; 00.24 WC; 00.19 Male Showers; 00.18 Male WC; 00.15 Female WC; 00.54 Female Showers; 00.38 Female WC; 00.36 Acc WC; 00.37 Male WC; 00.35 Acc WC; 00.29 Cleaner; 01.05 Acc WC; 01.03 Acc WC; 01.04 WC	Waterlo o	VB…	SN5342413
AS 0.01	Air sock, fabric supply duct 900ø x 55596 mm long, 5 pieces	Main Pool Hall	Prihoda	KE-DireJet System Ø900, ZeroWeave S78 p4	SN0933345
AS 0.02	Air sock, fabric supply duct 900ø x 54665 mm long, 3 pieces	Main Pool Hall	Prihoda	KE-DireJet System Ø900, ZeroWeave S78 p4	SN5414749
ATT-TYPE A	Attenuator, rectangular (LG01H/3C/L/S)	2nd Floor Roof Level, External; Roof Level, External	Caice S63 p1	LG01H/3C/L/S S63 p7	SN9351379
ATT-TYPE B	Attenuator, rectangular (LG01V/3C/L/S)	2nd Floor Roof Level, External; Roof Level, External	Caice S63 p1	LG01V/3C/L/S S63 p7	SN3673668

REF	DESCRIPTION	LOCATION	MAKE	MODEL	SERIAL
ATT-TYPE C	Attenuator, rectangular (SG01H/3C/L/S)	2nd Floor Roof Level, External; Roof Level, External; Roof Plantroom, Internal	Caice S63 p1	SG01H/3C/L/S S63 p9	SN5555633
ATT-TYPE D	Attenuator, rectangular (SG01V/3C/L/S)	2nd Floor Roof Level, External; Roof Level, External; Roof Plantroom, Internal	Caice S63 p1	SG01V/3C/L/S S63 p9	P6021470
ATT-TYPE E	Attenuator, modular (MG02H/3C/L/S)	Roof Plantroom, Internal	Caice S63 p1	MG02H/3C/L/S S63 p11	P3024971
ATT-TYPE F	Attenuator, rectangular (SG01H/2C/L/S)	Roof Plantroom, Internal	Caice S63 p1	SG01H/2C/L/S S63 p10	P0469721
ATT-TYPE G	Attenuator, rectangular (SG01V/3C/L/SM/B1)	Roof Plantroom, Internal	Caice S63 p1	SG01V/3C/L/SM/B1 S63 p10	SN9570340
ATT-TYPE H	Attenuator, rectangular (SG01H/3C/L/SM/B1)	Roof Plantroom, Internal	Caice S63 p1	SG01H/3C/L/SM/B1 S63 p10	P0801133
ATT-TYPE I	Attenuator, rectangular (LG01H/3C/L/SM/B1)	Roof Plantroom, Internal	Caice S63 p1	LG01H/3C/L/SM/B1 S63 p8	P5045977
EF B.01	Extract fan, wall (Shower)	Shower	Vent Axia	VASF100TC	SN1092693
EF B.02	Extract fan, wall (Toilet)	Toilet	Vent Axia	VASF100TC	SN9172530
EF B.03	Extract fan, in-line (Chemical Store)	Chemical Store	Nuaire	ILMEC-125	SN5348475
EF B.04	Extract fan, in-line (Hypo Store)	Hypo Store	Nuaire	ILMEC-125	SN5264081
FD 0.01	Fire damper, 600x200 duct, resetable thermal link	Kitchen	BSB S101 p8	FD	BSB958970
FD 0.02	Fire damper, 125 dia duct, resetable thermal link	Kitchen	BSB	FD	BSB206259
FD 0.03	Fire damper, 900x350 duct, resetable thermal link	Wet Change Corridor	BSB S101 p8	FD	BSB902438
FD 0.04	Fire damper, 900x350 duct, resetable thermal link	Wet Change Corridor	BSB S101 p8	FD	BSB306073
FD 0.05	Fire damper, 700x200 duct, resetable thermal link	Buggy Store	BSB S101 p8	FD	BSB124690
FD 0.06	Fire damper, 500x250 duct, resetable thermal link	Buggy Store	BSB S101 p8	FD	BSB344789

REF	DESCRIPTION	LOCATION	MAKE	MODEL	SERIAL
FD 0.07	Fire damper, 500 dia duct, resetable thermal link	Wet Change	BSB	FD	SN8998589
FD 0.08	Fire damper, 500 dia duct, resetable thermal link	Wet Change	BSB	FD	SN0855855
FD 1.01	Fire damper, 125 dia duct, resetable thermal link	WC 01	BSB	FD	SN2716507
FD 1.02	Fire damper, 125 dia duct, resetable thermal link	Acc WC	BSB	FD	SN9128523
FD 1.03	Fire damper, 125 dia duct, resetable thermal link	WC 02	BSB	FD	SN6516821
FD 1.04	Fire damper, 125 dia duct, resetable thermal link	Membership Office	BSB	FD	SN3708403
FD 1.05	Fire damper, 125 dia duct, resetable thermal link	Membership Office	BSB	FD	SN7881461
FD 1.06	Fire damper, 125 dia duct, resetable thermal link	Corridor 01	BSB	FD	SN5262538
FD 1.07	Fire damper, 125 dia duct, resetable thermal link	Corridor 01	BSB	FD	SN2163118
FD 1.08	Fire damper, 150 dia duct, resetable thermal link	Riser	BSB	FD	SN3477347
FD 1.09	Fire damper, 150 dia duct, resetable thermal link	Riser	BSB	FD	SN2148336
FD 1.10	Fire damper, 400x100 duct, resetable thermal link	Corridor 01	BSB S101 p8	FD	SN1873164
DTG-TYPE A	Door transfer grille, non vision	Kitchen; Female WC; Male WC	Gilberts	NVT-600	SN7371457

Life, replacement and maintenance planning

Expected life is indicative, from CIBSE Guide M and the manufacturers' literature. "Confirmed" means a document received states the installed model. The SFG20 column gives the schedule each asset is maintained to.

REF	DISCIPLINE	EXPECTED LIFE	INSTALLED MODEL	SFG20 SCHEDULE
HWH B.01	Public health	20 years	Confirmed	Water heaters, indirect
HWH B.02	Public health	20 years	Confirmed	Water heaters, indirect
BS B.01	Public health	15 years	Confirmed	Booster sets, cold water
BS B.02	Public health	15 years	Confirmed	Booster sets, cold water
P B.05	Mechanical	15 years	Confirmed	Pumps, circulating
ASHP 0.01	Mechanical	15 years	Confirmed	Heat pumps, air source
ASHP 0.02	Mechanical	15 years	Confirmed	Heat pumps, air source

REF	DISCIPLINE	EXPECTED LIFE	INSTALLED MODEL	SFG20 SCHEDULE
ASHP 0.03	Mechanical	15 years	Confirmed	Heat pumps, air source
EPH 0.01	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 0.02	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 0.03	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 0.04	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 0.05	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 0.06	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 0.07	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 0.08	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 0.09	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 0.10	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 0.11	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 0.12	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 0.13	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 1.01	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 1.02	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 1.03	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 1.04	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 1.05	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 1.06	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 1.07	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 1.08	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 1.09	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 1.10	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 2.01	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 2.02	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 2.03	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 2.04	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 2.05	Mechanical	15 years	Confirmed	Heaters, electric panel

REF	DISCIPLINE	EXPECTED LIFE	INSTALLED MODEL	SFG20 SCHEDULE
EPH 2.06	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 2.07	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 2.08	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 2.09	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 2.10	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 2.11	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 2.12	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 2.13	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 2.14	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 2.15	Mechanical	15 years	Confirmed	Heaters, electric panel
EPH 2.16	Mechanical	15 years	Confirmed	Heaters, electric panel
TS.0.01	Mechanical	20 years	Confirmed	Thermal stores
P B.01	Mechanical	15 years	Confirmed	Pumps, circulating
P B.02	Mechanical	15 years	Confirmed	Pumps, circulating
P B.03	Mechanical	15 years	Confirmed	Pumps, circulating
P B.04	Mechanical	15 years	Confirmed	Pumps, circulating
PU 0.01	Public health	15 years	Confirmed	Pressurisation units
AC 0.01	Mechanical	15 years	Confirmed	Air conditioning, split
AC 0.02	Mechanical	15 years	Confirmed	Air conditioning, split
AC 0.03	Mechanical	15 years	Confirmed	Air conditioning, split
AC 0.04	Mechanical	15 years	Confirmed	Air conditioning, split
AC 0.05	Mechanical	15 years	Confirmed	Air conditioning, split
AC 0.06	Mechanical	15 years	Confirmed	Air conditioning, split
AC 0.07	Mechanical	15 years	Confirmed	Air conditioning, split
AC 0.08	Mechanical	15 years	Confirmed	Air conditioning, split
AC 0.09	Mechanical	15 years	Confirmed	Air conditioning, split
AC 0.10	Mechanical	15 years	Confirmed	Air conditioning, split
AC 0.11	Mechanical	15 years	Confirmed	Air conditioning, split
AC 0.12	Mechanical	15 years	Confirmed	Air conditioning, split

REF	DISCIPLINE	EXPECTED LIFE	INSTALLED MODEL	SFG20 SCHEDULE
AC 0.13	Mechanical	15 years	Confirmed	Air conditioning, split
AC 0.14	Mechanical	15 years	Confirmed	Air conditioning, split
AC 0.15	Mechanical	15 years	Confirmed	Air conditioning, split
AC 0.16	Mechanical	15 years	Confirmed	Air conditioning, split
AC 0.17	Mechanical	15 years	Confirmed	Air conditioning, split
AC 0.18	Mechanical	15 years	Confirmed	Air conditioning, split
AC 0.19	Mechanical	15 years	Confirmed	Air conditioning, split
AC 0.20	Mechanical	15 years	Confirmed	Air conditioning, split
AC 0.21	Mechanical	15 years	Confirmed	Air conditioning, split
AC 0.22	Mechanical	15 years	Confirmed	Air conditioning, split
AC 0.23	Mechanical	15 years	Confirmed	Air conditioning, split
AC 0.25	Mechanical	15 years	Confirmed	Air conditioning, split
AC 0.26	Mechanical	15 years	Confirmed	Air conditioning, split
AC 0.27	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.01	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.02	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.03	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.04	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.05	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.06	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.07	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.08	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.09	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.10	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.11	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.12	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.13	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.14	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.16	Mechanical	15 years	Confirmed	Air conditioning, split

REF	DISCIPLINE	EXPECTED LIFE	INSTALLED MODEL	SFG20 SCHEDULE
AC 1.18	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.19	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.20	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.21	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.22	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.23	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.24	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.25	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.26	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.27	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.28	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.29	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.30	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.31	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.32	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.33	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.34	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.35	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.36	Mechanical	15 years	Confirmed	Air conditioning, split
AC 1.37	Mechanical	15 years	Confirmed	Air conditioning, split
AC 2.01	Mechanical	15 years	Confirmed	Air conditioning, split
AC 2.02	Mechanical	15 years	Confirmed	Air conditioning, split
AC 2.03	Mechanical	15 years	Confirmed	Air conditioning, split
AC 2.04	Mechanical	15 years	Confirmed	Air conditioning, split
AC 2.05	Mechanical	15 years	Confirmed	Air conditioning, split
AC 2.06	Mechanical	15 years	Confirmed	Air conditioning, split
AC 2.07	Mechanical	15 years	Confirmed	Air conditioning, split
CU 2.01	Mechanical	15 years	Confirmed	Air conditioning, split
CU 2.02	Mechanical	15 years	Confirmed	Air conditioning, split

REF	DISCIPLINE	EXPECTED LIFE	INSTALLED MODEL	SFG20 SCHEDULE
CU 2.03	Mechanical	15 years	Confirmed	Air conditioning, split
CU 2.04A	Mechanical	15 years	Confirmed	Air conditioning, split
CU 2.04B	Mechanical	15 years	Confirmed	Air conditioning, split
CU 2.05	Mechanical	15 years	Confirmed	Air conditioning, split
CU 2.06A	Mechanical	15 years	Confirmed	Air conditioning, split
CU 2.06B	Mechanical	15 years	Confirmed	Air conditioning, split
CU 2.07	Mechanical	15 years	Confirmed	Air conditioning, split
CU 2.08	Mechanical	15 years	Confirmed	Air conditioning, split
CU 2.09	Mechanical	15 years	Confirmed	Air conditioning, split
CU 2.10	Mechanical	15 years	Confirmed	Air conditioning, split
AHU R.02	Mechanical	20 years	Confirmed	Air handling units
AHU R.03	Mechanical	20 years	Confirmed	Air handling units
AHU R.04	Mechanical	20 years	Confirmed	Air handling units
AHU R.05	Mechanical	20 years	Confirmed	Air handling units
AHU R.06	Mechanical	20 years	Confirmed	Air handling units
AHU R.07	Mechanical	20 years	Confirmed	Air handling units
AHU R.08	Mechanical	20 years	Confirmed	Air handling units
AHU R.09	Mechanical	20 years	Confirmed	Air handling units
AHU R.01	Mechanical	20 years	Confirmed	Air handling units
SG-TYPE A	Mechanical	20 years	Confirmed	Grilles and diffusers
SG-TYPE B	Mechanical	20 years	Confirmed	Grilles and diffusers
SG-TYPE C	Mechanical	20 years	Confirmed	Grilles and diffusers
SG-TYPE D	Mechanical	20 years	Confirmed	Grilles and diffusers
EG-TYPE A	Mechanical	20 years	Confirmed	Grilles and diffusers
EG-TYPE B	Mechanical	20 years	Confirmed	Grilles and diffusers
EG-TYPE C	Mechanical	20 years	Confirmed	Grilles and diffusers
EV-TYPE D	Mechanical	20 years	Confirmed	Grilles and diffusers
AS 0.01	Mechanical	15 years	Confirmed	Fabric ductwork
AS 0.02	Mechanical	15 years	Confirmed	Fabric ductwork

REF	DISCIPLINE	EXPECTED LIFE	INSTALLED MODEL	SFG20 SCHEDULE
ATT-TYPE A	Mechanical	25 years	Confirmed	Attenuators
ATT-TYPE B	Mechanical	25 years	Confirmed	Attenuators
ATT-TYPE C	Mechanical	25 years	Confirmed	Attenuators
ATT-TYPE D	Mechanical	25 years	Confirmed	Attenuators
ATT-TYPE E	Mechanical	25 years	Confirmed	Attenuators
ATT-TYPE F	Mechanical	25 years	Confirmed	Attenuators
ATT-TYPE G	Mechanical	25 years	Confirmed	Attenuators
ATT-TYPE H	Mechanical	25 years	Confirmed	Attenuators
ATT-TYPE I	Mechanical	25 years	Confirmed	Attenuators
EF B.01	Mechanical	15 years	Confirmed	Fans, extract
EF B.02	Mechanical	15 years	Confirmed	Fans, extract
EF B.03	Mechanical	15 years	Confirmed	Fans, extract
EF B.04	Mechanical	15 years	Confirmed	Fans, extract
FD 0.01	Mechanical	20 years	Confirmed	Fire dampers
FD 0.02	Mechanical	20 years	Confirmed	Fire dampers
FD 0.03	Mechanical	20 years	Confirmed	Fire dampers
FD 0.04	Mechanical	20 years	Confirmed	Fire dampers
FD 0.05	Mechanical	20 years	Confirmed	Fire dampers
FD 0.06	Mechanical	20 years	Confirmed	Fire dampers
FD 0.07	Mechanical	20 years	Confirmed	Fire dampers
FD 0.08	Mechanical	20 years	Confirmed	Fire dampers
FD 1.01	Mechanical	20 years	Confirmed	Fire dampers
FD 1.02	Mechanical	20 years	Confirmed	Fire dampers
FD 1.03	Mechanical	20 years	Confirmed	Fire dampers
FD 1.04	Mechanical	20 years	Confirmed	Fire dampers
FD 1.05	Mechanical	20 years	Confirmed	Fire dampers
FD 1.06	Mechanical	20 years	Confirmed	Fire dampers
FD 1.07	Mechanical	20 years	Confirmed	Fire dampers
FD 1.08	Mechanical	20 years	Confirmed	Fire dampers

REF	DISCIPLINE	EXPECTED LIFE	INSTALLED MODEL	SFG20 SCHEDULE
FD 1.09	Mechanical	20 years	Confirmed	Fire dampers
FD 1.10	Mechanical	20 years	Confirmed	Fire dampers
DTG-TYPE A	Mechanical	20 years	Confirmed	Grilles and diffusers

Key settings recorded at commissioning

ASSET	PARAMETER	SETTING	BMS POINT	SOURCE
	Heat pump sequencer common setpoint (HMI graphic)	45.0 °C	Common SETPOINT	S7 p4
	Tracer SC+ IP address	192.168.1.10 / 192.168.2.10		S7 p6
	Tracer SC+ serial number	E25F11324		S7 p6
	Sequencer control mode at completion	automatic control		S7 p5
P B.01	Inverter setting	45.0 Hz		S10 p3
P B.01	Main commissioning valve (Peglar 955, 150 mm) setting	f/o		S10 p4
P B.02	Inverter setting	50.0 Hz		S13 p3
P B.02	Main commissioning valve (Peglar 955, 150 mm) setting	f/o		S13 p4
AHU R.01	PIC valve AHU 1 (Siemens 80 mm) set point	3.5		S13 p5
AHU R.02	PIC valve AHU 2 (Siemens 50 mm) set point	3.4		S13 p5
AHU R.03	PIC valve AHU 3 (Siemens 32 mm) set point	2.9		S13 p5
AHU R.04	PIC valve AHU 4 (Siemens 20 mm) set point	2.3		S13 p5
AHU R.05	PIC valve AHU 5 (Siemens 25 mm) set point	1.4		S13 p5
AHU R.06	PIC valve AHU 6 (Siemens 20 mm) set point	0.7		S13 p5
AHU R.07	PIC valve AHU 7 (Siemens 65 mm) set point	3.4		S13 p5
AHU R.08	PIC valve AHU 8 (Siemens 32 mm) set point	2.4		S13 p5
AHU R.09	PIC valve AHU 9 (Siemens 32 mm) set point	1.9		S13 p5

ASSET	PARAMETER	SETTING	BMS POINT	SOURCE
P B.03	Inverter setting	45.0 Hz		S14 p3
P B.03	Main commissioning valve (Peglar 955, 80 mm) setting	f/o		S14 p4
ASHP 0.01	Internal pump speed (ASHP 1 and 2)	30.00 Hz		S15 p2
ASHP 0.02	Internal pump speed	30.00 Hz		S15 p2
ASHP 0.03	Internal pump speed	28 Hz		S15 p2
P B.05	Secondary return pump speed	speed 3		S16 p2
	Design return loop temperature (all outlets)	55 °C		S16 p3
	Return temperature balancing	automatic temperature balancing valves, valve setting auto		S16 p2
	Tap temperatures	set using the mixing valve fitted within the tap		S16 p2
ASHP 0.01	Measured flow rate through each machine (110% of design), LTHW pumps fixed at 30 Hz	13.2 Litres per second		S20 p1
ASHP 0.02	Measured flow rate through each machine (110% of design), LTHW pumps fixed at 30 Hz	13.2 Litres per second		S20 p1
ASHP 0.01	Three way bypass valve minimum position (adjusted from 50%)	60 %	Elmwood_WSHP_1_Valve_Control	S20 p1
ASHP 0.02	Three way bypass valve minimum position (adjusted from 50%)	60 %	Elmwood_WSHP_1_Valve_Control	S20 p1
ASHP 0.01	Valve control temperature deadband	15 'C	Elmwood_WSHP_1_Valve_Control	S20 p1
ASHP 0.02	Valve control temperature deadband	15 'C	Elmwood_WSHP_1_Valve_Control	S20 p1
ASHP 0.01	IFM flow sensor flow trip point	30 %	TMS_Llid_Flow_Conversion	S20 p1
ASHP 0.02	IFM flow sensor flow trip point	30 %	TMS_Llid_Flow_Conversion	S20 p1
ASHP 0.01	Trane sequencer mode left on	Hand mode		S20 p1

ASSET	PARAMETER	SETTING	BMS POINT	SOURCE
ASHP 0.02	Trane sequencer mode left on	Hand mode		S20 p1
ASHP 0.03	Front Panel Hot Water Setpoint	45 °C	Front Panel Hot Water Setpoint	S21 p12
ASHP 0.03	BAS Hot Water Setpoint	45 °C	BAS Hot Water Setpoint	S21 p12
ASHP 0.03	Setpoint Source	Front Panel	Setpoint Source	S21 p12
ASHP 0.03	Low Evaporator Water Temp Cutout	3 °C	Low Evaporator Water Temp Cutout	S21 p12
ASHP 0.03	Heating Low Ambient Lockout	-18 °C	Heating Low Ambient Lockout	S21 p15
ASHP 0.03	High Evaporator Water Temp Cutout	55 °C	High Evaporator Water Temp Cutout	S21 p15
ASHP 0.03	HP switch, 1st stage	41 Bar		S21 p7
ASHP 0.03	LP Pressure Switch (CH532-CH530)	-3.3 C		S21 p7
ASHP 0.03	Compressor thermic setting	17 (A) 22 (A) 17 (A) 22 (A) A		S21 p7
ASHP 0.03	Pump thermic setting	10 (A) 10 (A) A		S21 p7
ASHP 0.03	Heating entering / leaving temperature at commissioning, circuit 1	37.1 / 42.3 °C		S21 p9
ASHP 0.03	Chiller Service Interval Setpoint	6000 Hr	Chiller Service Interval Setpoint	S21 p17
ASHP 0.03	Unit started on (start up by Louis Bowtell)	29/04/2026		S21 p5
P B.02	Control mode	Constant Pressure		S36 p1
P B.02	Set point	2.0 Bar		S36 p1
ASHP 0.02	Front Panel Hot Water Setpoint	45 °C	Front Panel Hot Water Setpoint	S38 p11
ASHP 0.02	BAS Hot Water Setpoint	45 °C	BAS Hot Water Setpoint	S38 p11
ASHP 0.02	Front Panel Heating Differential to Stop	3.5 °C	Front Panel Heating Differential to Stop	S38 p18

ASSET	PARAMETER	SETTING	BMS POINT	SOURCE
ASHP 0.02	Evaporator Water Pump Speed	60 %	Evaporator Water Pump Speed	S38 p16
ASHP 0.02	HP switch, 1st stage	41 Bar		S38 p7
ASHP 0.02	LP switch trip point	-3.3 C		S38 p7
ASHP 0.02	Trim RLA setting	65 A		S38 p7
ASHP 0.02	Power supply protection breaker setting	400 Amp		S38 p6
ASHP 0.02	Water side pressure drop, design / actual	8.7 / 10 kPa		S38 p6
ASHP 0.02	Refrigerant unit charge check	C1- 10.4 C2-10.5 bar		S38 p6
ASHP 0.02	Chiller Service Interval Setpoint	6000 Hr	Chiller Service Interval Setpoint	S38 p17
ASHP 0.02	Water Pump Service Interval Setpoint	20000 Hr	Water Pump Service Interval Setpoint	S38 p18
ASHP 0.02	Unit started on (start up by Louis Bowtell)	28/04/2026		S38 p5
ASHP 0.02	Unit log setpoint (Log 1 / Log 2)	45.0 / 45.0 °C		S38 p8
P B.01	Control mode	Constant Pressure		S39 p1
P B.01	Set point	0.65 Bar		S39 p1
ASHP 0.01	Front Panel Hot Water Setpoint	45 °C	Front Panel Hot Water Setpoint	S40 p11
ASHP 0.01	BAS Hot Water Setpoint	45 °C	BAS Hot Water Setpoint	S40 p11
ASHP 0.01	Front Panel Heating Differential to Stop	3.5 °C	Front Panel Heating Differential to Stop	S40 p18
ASHP 0.01	Evaporator Water Pump Speed	60 %	Evaporator Water Pump Speed	S40 p16
ASHP 0.01	HP switch, 1st stage	41 Bar		S40 p7
ASHP 0.01	LP switch trip point	-3.3 C		S40 p7
ASHP 0.01	Trim RLA setting	65 A		S40 p7

ASSET	PARAMETER	SETTING	BMS POINT	SOURCE
ASHP 0.01	Power supply protection breaker setting	400 Amp		S40 p6
ASHP 0.01	Water side pressure drop, design / actual	8.7 / 10 kPa		S40 p6
ASHP 0.01	Refrigerant unit charge check	C1-10.7 C2-11.2 at ambient 13.8 °C bar		S40 p6
ASHP 0.01	Chiller Service Interval Setpoint	6000 Hr	Chiller Service Interval Setpoint	S40 p17
ASHP 0.01	Water Pump Service Interval Setpoint	20000 Hr	Water Pump Service Interval Setpoint	S40 p18
ASHP 0.01	Unit started on (start up by Louis Bowtell)	28/04/2026		S40 p5
	System tested	POOL PLANTROOM PIPEWORK		S51 p1
	Test method	PRESSURE TEST		S51 p1
	Test medium	AIR		S51 p1
	Test pressure	1 BAR		S51 p1
	Test duration	1 HR		S51 p1
	Result	NO PRESSURE DROP DETECTED DURING THE TEST PERIOD		S51 p1
	Test carried out by	VINCENT SWINNEY		S51 p1
TS.0.01	Hydraulic test pressure (shell)	6.0 BarG		S57 p1
TS.0.01	Test period	1 hour		S57 p1
TS.0.01	Test result	successfully passed the hydraulic test procedure		S57 p1
BS B.02	Set point	3.0 Bar		S58 p1
BS B.02	Vessel pre-charge as found	1.0 bar		S58 p1
BS B.02	Vessel air charge replenished to	2.5 bar		S58 p1

ASSET	PARAMETER	SETTING	BMS POINT	SOURCE
BS B.02	Pumps 1 and 2 operating mode	Auto		S58 p1
	Chlorine dosage rate (hot and cold domestic services)	50 ppm		S64 p1
	Contact time	1 hour		S64 p1
	Minimum level after contact time	not dropped below 30 ppm		S64 p1
	Flushed residual on completion	less than 0.3 ppm		S64 p1
P B.05	Control mode	Constant Pressure		S66 p1
P B.05	Set point	0.85 Bar		S66 p1
	Waste producer premises	ELMWOOD LEISURE CENTRE, MARKET GATE RD, ELMWOOD EL6 4QT		S70 p2
	Process giving rise to waste	Refrigerant Plant Service		S70 p2
	Waste description	Recovered Refrigerant, EWC 140601		S70 p2
	Refrigerant recovered, cylinder 1N280330	R410A, 12.85 kg		S70 p2
	Refrigerant recovered, cylinder 1N281030	R410A, 12.4 kg		S70 p2
	Refrigerant recovered, cylinder 1N348631	R410A, 12.4 kg		S70 p3
	Carrier and consignor	Z. MANN on behalf of CLIMACOOL		S70 p2
	Consignee	KOOLTECH LTD, B46 1JH, received 22/01/2025 14:05		S70 p2
	Waste management operation	R03, R13, D09, D14, D15		S70 p2
	Cylinders returned to Kooltech	3 x EMPTY LARGE REFRIGERANT CYLINDER		S70 p1
	System tested	Pipework from the Plantroom serving the Ground Floor (Scheme: 1st Fix Domestic Services)		S74 p1
	Test method	Pressure Test		S74 p1

ASSET	PARAMETER	SETTING	BMS POINT	SOURCE
	Test medium	Compressed Air		S74 p1
	Test pressure	1 Bar		S74 p1
	Test duration	1 Hr		S74 p1
	Result	No pressure drop detected with the time limit		S74 p1
	Test carried out by	Vincent Swinney		S74 p1
	Witnessed by	Terry Lewin		S74 p1
	Primary circuit	Sealed		S79 p1
	Maximum primary flow temperature	40 °C		S79 p1
	Incoming static cold water pressure	4.4 bar		S79 p1
	Scale reducer type	WATER KING WK4		S79 p1
	Hot water thermostat set temperature	60 °C		S79 p1
	Maximum hot water flow rate at set thermostat temperature	6 l/min		S79 p1
	Type of control system	Other		S79 p1
	Hot water temperature at nearest outlet	60 °C		S79 p1
	Pressure reducing valve location	BEHIND CYLINDER		S79 p1
	Pressure reducing valve setting	3 bar		S79 p1
	Primary circuit	Sealed		S80 p1
	Maximum primary flow temperature	40 °C		S80 p1
	Incoming static cold water pressure	4.4 bar		S80 p1

ASSET	PARAMETER	SETTING	BMS POINT	SOURCE
	Scale reducer type	WATER KING WK4		S80 p1
	Hot water thermostat set temperature	60 °C		S80 p1
	Maximum hot water flow rate at set thermostat temperature	6 l/min		S80 p1
	Type of control system	Other		S80 p1
	Hot water temperature at nearest outlet	59 °C		S80 p1
	Pressure reducing valve location	BEHIND THE CYLINDER		S80 p1
	Pressure reducing valve setting	3 bar		S80 p1
	Pressure test, heating pipework from Pool plantroom to Ground Floor, compressed air	14Bar for 1Hr		S81 p1
PB.03	Control mode	Constant Pressure		S88 p1
PB.03	Set point	1.6 Bar		S88 p1
PB.04	Control mode	Constant Pressure		S89 p1
PB.04	Set point	0.85 Bar		S89 p1
	System tested (scheme)	MCWS/TCWS		S91 p1
	System tested (mark-up)	MCWS (serving storage tank) and TCWS (returning from storage tank), lower basement		S91 p4
	Test method	PRESSURE TEST		S91 p1
	Test medium	AIR		S91 p1
	Test pressure	1 BAR		S91 p1

ASSET	PARAMETER	SETTING	BMS POINT	SOURCE
	Test duration	1 HR		S91 p1
	Result	NO PRESSURE DROP DURING THIS TIME		S91 p1
	Test carried out by	Seb Healey		S91 p1
	Witnessed by	T Lewis		S91 p1
	Gauge photo start	10 Oct 2025 07:35:27 BST		S91 p2
	Gauge photo end	10 Oct 2025 08:35:22 BST		S91 p3
BS B.01	Set point	4.5 Bar		S92 p1
BS B.01	Vessel pre-charge as found	1.0 bar		S92 p1
BS B.01	Vessel air charge replenished to	3.5 bar		S92 p1
BS B.01	Pumps 1 to 3 operating mode	Auto		S92 p1
	System tested	HEATING PIPEWORK 1ST FIX AHU 3 AND 6		S95 p1
	Test method	PRESSURE TEST		S95 p1
	Test medium	AIR		S95 p1
	Test pressure	1 BAR		S95 p1
	Test duration	1 HR		S95 p1
	Result	NO PRESSURE DROP DETECTED DURING TEST PERIOD		S95 p1
	Test carried out by	DAVID SEBING		S95 p1
	Witnessed by	Terry Lewin		S95 p1
	Gauge photo start	6 Nov 2025 08:57:52 GMT		S95 p2
	Gauge photo end	6 Nov 2025 11:22:55 GMT		S95 p3
	System tested	HEATING PIPEWORK ROOF NO1 AHU 4, 5, 9		S96 p1
	Test method	PRESSURE TEST		S96 p1
	Test medium	AIR		S96 p1
	Test pressure	1 BAR		S96 p1
	Test duration	1 HR		S96 p1
	Result	NO PRESSURE DROP DETECTED DURING TEST PERIOD		S96 p1

ASSET	PARAMETER	SETTING	BMS POINT	SOURCE
	Test carried out by	DAVID SEBING		S96 p1
	Witnessed by	Terry Lewin		S96 p1
	Gauge photo	3 Nov 2025 13:37:22 GMT		S96 p3
	Gauge photo	3 Nov 2025 14:54:41 GMT		S96 p2
	System tested	LTHW SYSTEM		S97 p1
	Test method	PRESSURE TEST		S97 p1
	Test medium	AIR		S97 p1
	Test pressure	1 BAR		S97 p1
	Test duration	2 HRS		S97 p1
	Result	NO PRESSURE DROP DETECTED DURING TEST PERIOD		S97 p1
	Test carried out by	VINCENT SWINNEY		S97 p1
	Witnessed by	Terry Lewin		S97 p1
	System tested	Dry/Wet Change Domestics (Scheme: 1st Fix Domestic Pipework)		S98 p1
	Test method	Pressure Test		S98 p1
	Test medium	Compressed Air		S98 p1
	Test pressure	1.2 Bar		S98 p1
	Test duration	1 HR		S98 p1
	Result	No pressure drop detected within the hour		S98 p1
	Test carried out by	VINCENT SWINNEY		S98 p1
	Gauge photo start	THURSDAY 15TH MAY 13:00 PM		S98 p2
	Gauge photo end	THURSDAY 15TH MAY 14:00 PM		S98 p3
PU 0.01	Cold fill	1.5 bar		S99 p1
PU 0.01	Low pressure	0.8 bar		S99 p1
PU 0.01	High pressure	3.0 bar		S99 p1

ASSET	PARAMETER	SETTING	BMS POINT	SOURCE
PU 0.01	Vessel pre-charge as found	1.5 bar		S99 p1
PU 0.01	Vessel air charge replenished to	1.5 bar		S99 p1
BS B.01	Set point	4.5 Bar		S102 p2
BS B.01	Vessels charge	3x 24 litre @ 4.0 Bar		S102 p2
BS B.02	Set point	3.0 Bar		S102 p2
BS B.02	Vessel charge	1x 24 litre @ 2.5 bar		S102 p2
PU 0.01	Cold fill	1.5 Bar		S102 p2
PU 0.01	High pressure	3.0 Bar		S102 p2
PU 0.01	Low pressure	0.8 Bar		S102 p2
PU 0.01	Vessel charge	1x 300 litre @ 1.5 Bar		S102 p2
PU 0.01	Cold fill (narrative)	3.0 bar		S102 p1
P B.01	Set point	Constant Pressure 0.65 Bar		S102 p1
P B.02	Set point	Constant Pressure 2.0 Bar		S102 p1
P B.03	Set point	Constant Pressure 1.6 bar		S102 p1
P B.04	Set point	Constant Pressure 0.85 bar		S102 p1
P B.05	Set point	Constant Pressure 0.85 bar		S102 p2
CU 2.05	Holding refrigerant gas charge	15KG		S108 p1
CU 2.05	Additional refrigerant gas charge	20.7KG		S108 p1
CU 2.05	Total system refrigerant gas charge	35.7KG		S108 p1
CU 2.05	System pressure test	12 BAR		S108 p1
CU 2.05	System evacuation	0.5 Hg		S108 p1
CU 2.05	Discharge pressures	230 / 235		S108 p1
CU 2.05	Suction pressures	58 / 60		S108 p1
CU 2.05	Ambient air temperature at condenser	21 °C		S108 p1
CU 2.05	Maximum pipe length	100 M		S108 p1
CU 2.06B	Holding refrigerant gas charge	22KG		S108 p2
CU 2.06B	Additional refrigerant gas charge	38.2KG		S108 p2
CU 2.06B	Total system refrigerant gas charge	60.2KG		S108 p2
CU 2.06B	System pressure test	12 BAR		S108 p2

ASSET	PARAMETER	SETTING	BMS POINT	SOURCE
CU 2.06B	System evacuation	0.5 Hg		S108 p2
CU 2.06B	Discharge pressures	230 / 235		S108 p2
CU 2.06B	Suction pressures	58 / 60		S108 p2
CU 2.06B	Ambient air temperature at condenser	21 °C		S108 p2
CU 2.06B	Maximum pipe length	100 M		S108 p2
CU 2.08	Holding refrigerant gas charge	9KG		S108 p3
CU 2.08	Additional refrigerant gas charge	10.2KG		S108 p3
CU 2.08	Total system refrigerant gas charge	19.2KG		S108 p3
CU 2.08	System pressure test	12 BAR		S108 p3
CU 2.08	System evacuation	0.5 Hg		S108 p3
CU 2.08	Discharge pressures	230 / 235		S108 p3
CU 2.08	Suction pressures	58 / 60		S108 p3
CU 2.08	Ambient air temperature at condenser	21 °C		S108 p3
CU 2.08	Maximum pipe length	100 M		S108 p3
CU 2.09	Holding refrigerant gas charge	22KG		S108 p4
CU 2.09	Additional refrigerant gas charge	18.1KG		S108 p4
CU 2.09	Total system refrigerant gas charge	40.1KG		S108 p4
CU 2.09	System pressure test	12 BAR		S108 p4
CU 2.09	System evacuation	0.5 Hg		S108 p4
CU 2.09	Discharge pressures	230 / 235		S108 p4
CU 2.09	Suction pressures	58 / 60		S108 p4
CU 2.09	Ambient air temperature at condenser	21 °C		S108 p4
CU 2.09	Maximum pipe length	100 M		S108 p4
CU 2.07	Holding refrigerant gas charge	9KG		S108 p5
CU 2.07	Additional refrigerant gas charge	6KG		S108 p5
CU 2.07	Total system refrigerant gas charge	19.2KG		S108 p5
CU 2.07	System pressure test	12 BAR		S108 p5
CU 2.07	System evacuation	0.5 Hg		S108 p5
CU 2.07	Discharge pressures	230 / 235		S108 p5

ASSET	PARAMETER	SETTING	BMS POINT	SOURCE
CU 2.07	Suction pressures	58 / 60		S108 p5
CU 2.07	Ambient air temperature at condenser	21 °C		S108 p5
CU 2.07	Maximum pipe length	100 M		S108 p5
CU 2.04B	Holding refrigerant gas charge	18KG		S108 p6
CU 2.04B	Additional refrigerant gas charge	15.4KG		S108 p6
CU 2.04B	Total system refrigerant gas charge	33.4KG		S108 p6
CU 2.04B	System pressure test	12 BAR		S108 p6
CU 2.04B	System evacuation	0.5 Hg		S108 p6
CU 2.04B	Discharge pressures	230 / 235		S108 p6
CU 2.04B	Suction pressures	58 / 60		S108 p6
CU 2.04B	Ambient air temperature at condenser	21 °C		S108 p6
CU 2.04B	Maximum pipe length	100 M		S108 p6
CU 2.04A	Holding refrigerant gas charge	9KG		S108 p7
CU 2.04A	Additional refrigerant gas charge	11.8KG		S108 p7
CU 2.04A	Total system refrigerant gas charge	20.8KG		S108 p7
CU 2.04A	System pressure test	12 BAR		S108 p7
CU 2.04A	System evacuation	0.5 Hg		S108 p7
CU 2.04A	Discharge pressures	230 / 235		S108 p7
CU 2.04A	Suction pressures	58 / 60		S108 p7
CU 2.04A	Ambient air temperature at condenser	21 °C		S108 p7
CU 2.04A	Maximum pipe length	100 M		S108 p7
CU 2.01	Holding refrigerant gas charge	9KG		S108 p8
CU 2.01	Additional refrigerant gas charge	6.24G		S108 p8
CU 2.01	Total system refrigerant gas charge	15.24KG		S108 p8
CU 2.01	System pressure test	12 BAR		S108 p8
CU 2.01	System evacuation	0.5 Hg		S108 p8
CU 2.01	Discharge pressures	230 / 235		S108 p8
CU 2.01	Suction pressures	58 / 60		S108 p8
CU 2.01	Ambient air temperature at condenser	21 °C		S108 p8

ASSET	PARAMETER	SETTING	BMS POINT	SOURCE
CU 2.01	Maximum pipe length	100 M		S108 p8
CU 2.06A	Holding refrigerant gas charge	22KG		S108 p9
CU 2.06A	Additional refrigerant gas charge	26.5KG		S108 p9
CU 2.06A	Total system refrigerant gas charge	48.5KG		S108 p9
CU 2.06A	System pressure test	12 BAR		S108 p9
CU 2.06A	System evacuation	0.5 Hg		S108 p9
CU 2.06A	Discharge pressures	230 / 235		S108 p9
CU 2.06A	Suction pressures	58 / 60		S108 p9
CU 2.06A	Ambient air temperature at condenser	21 °C		S108 p9
CU 2.06A	Maximum pipe length	100 M		S108 p9
CU 2.02	System pressure test	38BAR FOR 24 HOURS		S108 p10
CU 2.02	System evacuation	2 TORR		S108 p10
CU 2.02	Refrigerant holding charge	1.35 KG		S108 p10
CU 2.02	Additional refrigerant charge	N/A KG		S108 p10
CU 2.02	Maximum pipe length	30 M		S108 p10
CU 2.02	Voltage at unit	238 V		S108 p10
CU 2.03	System pressure test	38BAR FOR 24 HOURS		S108 p10
CU 2.03	System evacuation	2 TORR		S108 p10
CU 2.03	Refrigerant holding charge	1.35 KG		S108 p10
CU 2.03	Additional refrigerant charge	N/A KG		S108 p10
CU 2.03	Maximum pipe length	30 M		S108 p10
CU 2.03	Voltage at unit	238 V		S108 p10
CU 2.10	System pressure test	38BAR FOR 24 HOURS		S108 p11
CU 2.10	System evacuation	2 TORR		S108 p11
CU 2.10	Refrigerant holding charge	1.35 KG		S108 p11
CU 2.10	Additional refrigerant charge	N/A KG		S108 p11
CU 2.10	Maximum pipe length	30 M		S108 p11
CU 2.10	Voltage at unit	238 V		S108 p11
CU 2.04B	Holding refrigerant gas charge	18KG		S109 p1

ASSET	PARAMETER	SETTING	BMS POINT	SOURCE
CU 2.04 B	Additional refrigerant gas charge	13.2KG		S109 p1
CU 2.04 B	Total system refrigerant gas charge	31.2KG		S109 p1
CU 2.04 B	System pressure test	12 BAR		S109 p1
CU 2.04 B	System evacuation	0.5 Hg		S109 p1
CU 2.04 B	Discharge pressure	355		S109 p1
CU 2.04 B	Suction pressure	125		S109 p1
CU 2.04 B	Ambient air temperature at condenser	29 °C		S109 p1
CU 2.04 B	Maximum pipe length	100 M		S109 p1
CU 2.09	Refrigerant pipework pressure test, SQUASH COURTS / VIEWING AREA / STAFF ROOM, nitrogen (OFN)	35 BAR for 15 HRS		S114 p1
CU 2.05	Refrigerant pipework pressure test, SOFTPLAY / PLAYZONE, nitrogen (OFN)	35 BAR for 16HRS		S114 p4
	Certificate 1 system tested	POOL PLANTROOM PIPEWORK		S115 p1
	Certificate 1 test	AIR at 1 BAR for 1 HR		S115 p1
	Certificate 1 result	NO PRESSURE DROP DETECTED DURING THE TEST PERIOD		S115 p1
	Certificate 1 date and signatures	11-12-2025, tested VINCENT SWINNEY, witnessed (name not clearly legible)		S115 p1
	Certificate 2 system tested	LTHW SYSTEM		S115 p4
	Certificate 2 test	AIR at 1 BAR for 2 HRS		S115 p4

ASSET	PARAMETER	SETTING	BMS POINT	SOURCE
	Certificate 2 result	NO PRESSURE DROP DETECTED DURING TEST PERIOD		S115 p4
	Certificate 2 date and signatures	03-02-2026, tested VINCENT SWINNEY, witnessed Terry Lewin		S115 p4
	Refrigerant pipework pressure test, LOWER FITNESS SUIT SYSTEM 2, nitrogen (OFN)	35 BAR for 15HRS		S119 p2
	Refrigerant pipework pressure test, RECEPTION / BOH SYSTEM, nitrogen (OFN)	35 BAR for 15 HRS		S119 p4
AHU R.04	Extract fan inverter setting	44.0 %		S131 p3
AHU R.04	Extract tested volume at AHU	0.999 m^3/s		S131 p3
AHU R.04	Extract % of design stated on plant test sheet	102 %		S131 p3
AHU R.04	Extract measured static pressure at AHU	47 Pa		S131 p3
AHU R.04	Extract duct traverse TP 1 Roof tested volume (104% of design)	0.463 m^3/s		S131 p4
AHU R.04	Extract duct traverse TP 2 Roof tested volume (99% of design)	0.442 m^3/s		S131 p5
AHU R.04	Supply fan inverter setting	44.0 %		S132 p3
AHU R.04	Supply tested volume at AHU	0.924 m^3/s		S132 p3
AHU R.04	Supply % of design stated on plant test sheet	108 %		S132 p3
AHU R.04	Supply measured static pressure at AHU	45 Pa		S132 p3
AHU R.04	Supply duct traverse TP 1 Roof tested volume (107% of design)	0.475 m^3/s		S132 p4
AHU R.04	Supply duct traverse TP 2 Roof tested volume (108% of design)	0.482 m^3/s		S132 p5
AHU R.05	Extract fan inverter setting	80.0 %		S133 p3
AHU R.05	Extract tested volume at AHU	1.789 m^3/s		S133 p3
AHU R.05	Extract % of design stated on plant test sheet	108 %		S133 p3

ASSET	PARAMETER	SETTING	BMS POINT	SOURCE
AHU R.05	Extract measured static pressure at AHU	233 Pa		S133 p3
AHU R.05	Extract duct traverse TP 1 Roof tested volume (108% of design)	1.789 m³/s		S133 p4
AHU R.05	Supply fan inverter setting	80.0 %		S134 p3
AHU R.05	Supply tested volume at AHU	1.942 m³/s		S134 p3
AHU R.05	Supply % of design stated on plant test sheet	105 %		S134 p3
AHU R.05	Supply measured static pressure at AHU	245 Pa		S134 p3
AHU R.05	Supply duct traverse TP 1 Roof tested volume (105% of design)	0.942 m³/s		S134 p4
AHU R.05	Supply duct traverse TP 2 Roof tested volume (101% of design)	0.906 m³/s		S134 p5
AHU R.08	Extract fan inverter setting	80.0 %		S135 p3
AHU R.08	Extract tested volume at AHU	2.304 m³/s		S135 p3
AHU R.08	Extract % of design stated on plant test sheet	100 %		S135 p3
AHU R.08	Extract measured static pressure at AHU	136 Pa		S135 p3
AHU R.08	Extract duct traverse TP 1 Roof tested volume (100% of design)	2.304 m³/s		S135 p4
AHU R.08	Extract terminal eg oe 01 (lower) tested factored volume, 108% of design	1.185 m³/s		S135 p5
AHU R.08	Extract terminal eg oe 02 (lower) tested factored volume, 103% of design	1.133 m³/s		S135 p5
AHU R.08	Extract terminal eg 1.03 (upper) tested factored volume, 104% of design	0.440 m³/s		S135 p5
AHU R.08	Extract terminal eg 1.04 (upper) tested factored volume, 101% of design	0.430 m³/s		S135 p5
AHU R.08	Supply fan inverter setting	80.0 %		S136 p3
AHU R.08	Supply tested volume at AHU	2.563 m³/s		S136 p3

ASSET	PARAMETER	SETTING	BMS POINT	SOURCE
AHU R.08	Supply % of design stated on plant test sheet	107 %		S136 p3
AHU R.08	Supply measured static pressure at AHU	225 Pa		S136 p3
AHU R.08	Supply duct traverse TP 1 roof plantroom tested volume (107% of design)	2.563 m^3/s		S136 p4
AHU R.08	Supply terminal sg 1.20 (upper gym) tested factored volume, 103% of design	151 l/s		S136 p5
AHU R.08	Supply terminal sg 1.21 (upper gym) tested factored volume, 106% of design	156 l/s		S136 p5
AHU R.08	Supply terminal sg 1.22 (upper gym) tested factored volume, 107% of design	158 l/s		S136 p5
AHU R.08	Supply terminal sg 1.23 (upper gym) tested factored volume, 107% of design	157 l/s		S136 p5
AHU R.08	Supply terminal sg 1.24 (upper gym) tested factored volume, 109% of design	160 l/s		S136 p5
AHU R.08	Supply terminal sg 1.25 (consult 1) tested factored volume, 770% of design	154 l/s		S136 p5
AHU R.08	Supply terminal sg 1.26 (consult 2) tested factored volume, 760% of design	152 l/s		S136 p5
AHU R.08	Supply terminal sg 1.04 (lower gym) tested factored volume, 101% of design	149 l/s		S136 p5
AHU R.08	Supply terminal sg 1.05 (lower gym) tested factored volume, 100% of design	147 l/s		S136 p5
AHU R.08	Supply terminal sg 1.06 (lower gym) tested factored volume, 103% of design	152 l/s		S136 p5
AHU R.08	Supply terminal sg 1.11 (lower gym) tested factored volume, 103% of design	152 l/s		S136 p5
AHU R.08	Supply terminal sg 1.12 (lower gym) tested factored volume, 104% of design	153 l/s		S136 p5
AHU R.08	Supply terminal sg 1.07 (lower gym) tested factored volume, 105% of design	154 l/s		S136 p5
AHU R.08	Supply terminal sg 1.08 (lower gym) tested factored volume, 110% of design	161 l/s		S136 p5
AHU R.08	Supply terminal sg 1.09 (lower gym) tested factored volume, 103% of design	152 l/s		S136 p5
AHU R.08	Supply terminal sg 1.10 (lower gym) tested factored volume, 101% of design	148 l/s		S136 p5

ASSET	PARAMETER	SETTING	BMS POINT	SOURCE
AHU R.08	Supply terminal sg 1.18 (lower gym) tested factored volume, 107% of design	158 l/s		S136 p5
AHU R.08	Supply terminal sg 1.19 (lower gym) tested factored volume, 105% of design	155 l/s		S136 p5
AHU R.09	Extract fan inverter setting	70.0 %		S137 p3
AHU R.09	Extract tested volume at AHU	1.696 m^3/s		S137 p3
AHU R.09	Extract % of design stated on plant test sheet	103 %		S137 p3
AHU R.09	Extract measured static pressure at AHU	144 Pa		S137 p3
AHU R.09	Extract duct traverse TP 1 Roof tested volume (102% of design)	1.695 m^3/s		S137 p4
AHU R.09	Extract terminal eg viewing (viewing) tested factored volume, 102% of design	0.061 m^3/s		S137 p5
AHU R.09	Extract terminal eg 2.04 (staff) tested factored volume, 100% of design	0.050 m^3/s		S137 p5
AHU R.09	Extract deduced squash court air volume	1.543 m3/s		S137 p2
AHU R.09	Supply fan inverter setting	70.0 %		S138 p3
AHU R.09	Supply tested volume at AHU	1.654 m^3/s		S138 p3
AHU R.09	Supply % of design stated on plant test sheet	104 %		S138 p3
AHU R.09	Supply measured static pressure at AHU	321 Pa		S138 p3
AHU R.09	Supply duct traverse TP 1 Roof tested volume (100% of design)	1.654 m^3/s		S138 p4
AHU R.09	Supply terminal sg 2.04 (viewing) tested factored volume, 110% of design	66 l/s		S138 p5
AHU R.09	Supply terminal sg 2.07 (staff) tested factored volume, 104% of design	52 l/s		S138 p5
AHU R.09	Supply deduced squash court air volume	1.536 m3/s		S138 p2
AHU R.01	Extract fan inverter setting	100.0 %		S139 p3

ASSET	PARAMETER	SETTING	BMS POINT	SOURCE
AHU R.01	Extract tested volume at AHU	7.365 m³/s		S139 p3
AHU R.01	Extract % of design stated on plant test sheet	93% %		S139 p3
AHU R.01	Extract measured static pressure at AHU	420 Pa		S139 p3
AHU R.01	Extract duct traverse TP 1 plantdeck tested volume (93% of design)	7.365 m³/s		S139 p4
AHU R.01	Supply fan inverter setting	70.0 %		S140 p3
AHU R.01	Supply tested volume at AHU	8.368 m³/s		S140 p3
AHU R.01	Supply % of design stated on plant test sheet	109% %		S140 p3
AHU R.01	Supply measured static pressure at AHU	415 Pa		S140 p3
AHU R.01	Supply duct traverse TP 1 plantdeck tested volume (109% of design)	8.386 m³/s		S140 p4
AHU R.07	Extract fan inverter setting	70.0 %		S141 p3
AHU R.07	Extract tested volume at AHU	3.745 m³/s		S141 p3
AHU R.07	Extract % of design stated on plant test sheet	104% %		S141 p3
AHU R.07	Extract measured static pressure at AHU	109 Pa		S141 p3
AHU R.07	Extract duct traverse TP 1 plantroom tested volume (104% of design)	3.796 m³/s		S141 p4
AHU R.07	Supply fan inverter setting	80.0 %		S142 p3
AHU R.07	Supply tested volume at AHU	3.692 m³/s		S142 p3
AHU R.07	Supply % of design stated on plant test sheet	102% %		S142 p3
AHU R.07	Supply measured static pressure at AHU	63 Pa		S142 p3
AHU R.07	Supply duct traverse TP 1 plantroom tested volume (101% of design)	3.692 m³/s		S142 p4
AHU R.03	Extract fan inverter setting	100.0 %		S143 p3

ASSET	PARAMETER	SETTING	BMS POINT	SOURCE
AHU R.03	Extract tested volume at AHU	2.950 m³/s		S143 p3
AHU R.03	Extract % of design stated on plant test sheet	104 %		S143 p3
AHU R.03	Extract measured static pressure at AHU	468 Pa		S143 p3
AHU R.03	Extract terminal eg 09 (office) tested factored volume, 106% of design	31.72 l/s		S143 p6
AHU R.03	Extract terminal eg 0 11 (kitchen) tested factored volume, 100% of design	204.96 l/s		S143 p6
AHU R.03	Extract terminal eg 0 10 (kitchen) tested factored volume, 101% of design	207.4 l/s		S143 p6
AHU R.03	Extract terminal eg 0 07 (wc) tested factored volume, 100% of design	65.88 l/s		S143 p6
AHU R.03	Extract terminal eg 0 08 (wc) tested factored volume, 106% of design	71.98 l/s		S143 p6
AHU R.03	Extract terminal OE 01 (male dry) tested factored volume, 103% of design	0.134 m³/s		S143 p7
AHU R.03	Extract terminal OE 2 (male dry shower) tested factored volume, 103% of design	0.134 m³/s		S143 p7
AHU R.03	Extract terminal OE 2 (female dry) tested factored volume, 102% of design	0.265 m³/s		S143 p7
AHU R.03	Extract terminal EV 08 (male wc) tested factored volume, 102% of design	0.015 m³/s		S143 p7
AHU R.03	Extract terminal EV 09 (male wc) tested factored volume, 107% of design	0.016 m³/s		S143 p7
AHU R.03	Extract terminal EV 10 (female wc) tested factored volume, 102% of design	0.031 m³/s		S143 p7
AHU R.03	Extract terminal EV 11 (female wc) tested factored volume, 102% of design	0.031 m³/s		S143 p7
AHU R.03	Extract terminal EV 12 (female wc) tested factored volume, 104% of design	0.031 m³/s		S143 p7
AHU R.03	Extract terminal EV 0 01 (wc 02) tested factored volume, 104% of design	0.024 m³/s		S143 p7
AHU R.03	Extract terminal EV 0 02 (wc 03) tested factored volume, 104% of design	0.024 m³/s		S143 p7
AHU R.03	Extract terminal OE 03 (community & party) tested factored volume, 108% of design	0.699 m³/s		S143 p7

ASSET	PARAMETER	SETTING	BMS POINT	SOURCE
AHU R.03	Extract terminal EV 0 03 (wc) tested factored volume, 104% of design	0.022 m³/s		S143 p7
AHU R.03	Extract terminal EV 0 04 (wc) tested factored volume, 101% of design	0.028 m³/s		S143 p7
AHU R.03	Extract terminal OE 03 (seating) tested factored volume, 105% of design	0.314 m³/s		S143 p7
AHU R.03	Extract terminal OE 04 (inerva) tested factored volume, 109% of design	0.164 m³/s		S143 p7
AHU R.03	Extract terminal OE 05 (inerva) tested factored volume, 104% of design	0.156 m³/s		S143 p7
AHU R.03	Extract terminal EV 1 01 (access wc) tested factored volume, 101% of design	0.050 m³/s		S143 p7
AHU R.03	Extract terminal EV 1 02 (wc) tested factored volume, 101% of design	0.030 m³/s		S143 p7
AHU R.03	Extract terminal EV 1 03 (wc) tested factored volume, 103% of design	0.031 m³/s		S143 p7
AHU R.03	Extract terminal OE 06 (admin training) tested factored volume, 103% of design	0.051 m³/s		S143 p7
AHU R.03	Supply fan inverter setting	80.0 %		S144 p3
AHU R.03	Supply tested volume at AHU	2.797 m³/s		S144 p3
AHU R.03	Supply % of design stated on plant test sheet	110% %		S144 p3
AHU R.03	Supply measured static pressure at AHU	416 Pa		S144 p3
AHU R.03	Supply terminal sg 0 19 (male dry change) tested factored volume, 100% of design	190 l/s		S144 p5
AHU R.03	Supply terminal sg 0 20 (male dry change) tested factored volume, 103% of design	195 l/s		S144 p5
AHU R.03	Supply terminal sg 0 21 (female dry chage) tested factored volume, 109% of design	208 l/s		S144 p5
AHU R.03	Supply terminal sg 0 22 (female dry chage) tested factored volume, 109% of design	208 l/s		S144 p5
AHU R.03	Supply terminal sg 0 07 (office) tested factored volume, 110% of design	33 l/s		S144 p5
AHU R.03	Supply terminal sg 0 08 (reception) tested factored volume, 110% of design	33 l/s		S144 p5

ASSET	PARAMETER	SETTING	BMS POINT	SOURCE
AHU R.03	Supply terminal sg 0 09 (café seating) tested factored volume, 165% of design	330 l/s		S144 p5
AHU R.03	Supply terminal sg 0 11 (café seating) tested factored volume, 109% of design	174 l/s		S144 p5
AHU R.03	Supply terminal sg 0 12 (café seating) tested factored volume, 109% of design	174 l/s		S144 p5
AHU R.03	Supply terminal sg 0 18 (servery) tested factored volume, 104% of design	200 l/s		S144 p5
AHU R.03	Supply terminal sg 0 16 (kitchen) tested factored volume, 106% of design	35 l/s		S144 p5
AHU R.03	Supply terminal sg 0 03 (community) tested factored volume, 109% of design	88 l/s		S144 p5
AHU R.03	Supply terminal sg 0 04 (community) tested factored volume, 104% of design	84 l/s		S144 p5
AHU R.03	Supply terminal sg 0 05 (community) tested factored volume, 106% of design	86 l/s		S144 p5
AHU R.03	Supply terminal sg 0 06 (community) tested factored volume, 109% of design	88 l/s		S144 p5
AHU R.03	Supply terminal sg 0 01 (party) tested factored volume, 106% of design	90 l/s		S144 p5
AHU R.03	Supply terminal sg 0 02 (party) tested factored volume, 105% of design	89 l/s		S144 p5
AHU R.03	Supply terminal sg 0 010 (first aid) tested factored volume, 107% of design	32 l/s		S144 p5
AHU R.03	Supply terminal sg 0 013 (inerva) tested factored volume, 107% of design	142 l/s		S144 p5
AHU R.03	Supply terminal sg 0 014 (inerva) tested factored volume, 106% of design	141 l/s		S144 p5
AHU R.03	Supply terminal sg 0 015 (inerva) tested factored volume, 105% of design	140 l/s		S144 p5
AHU R.03	Supply terminal sg 1 01 (admin/training) tested factored volume, 17% of design	5 l/s		S144 p5
AHU R.03	Supply terminal sg 1 02 (corridor) tested factored volume, 107% of design	32 l/s		S144 p5
AHU R.02	Extract fan inverter setting	80.0 %		S145 p3
AHU R.02	Extract tested volume at AHU	1.640 m^3/s		S145 p3

ASSET	PARAMETER	SETTING	BMS POINT	SOURCE
AHU R.02	Extract % of design stated on plant test sheet	106% %		S145 p3
AHU R.02	Extract measured static pressure at AHU	153 Pa		S145 p3
AHU R.02	Extract duct traverse TP 1 main volume plantroom tested volume (106% of design)	1.640 m³/s		S145 p4
AHU R.02	Extract terminal EG 0 30 tested factored volume, 105% of design	0.038 m³/s		S145 p6
AHU R.02	Extract terminal EG 0 29 tested factored volume, 105% of design	0.038 m³/s		S145 p6
AHU R.02	Extract terminal EG 0 28 tested factored volume, 105% of design	0.038 m³/s		S145 p6
AHU R.02	Extract terminal EG 0 32 tested factored volume, 108% of design	0.027 m³/s		S145 p6
AHU R.02	Extract terminal EG 0 36 tested factored volume, 108% of design	0.027 m³/s		S145 p6
AHU R.02	Extract terminal EG 0 33 tested factored volume, 107% of design	0.051 m³/s		S145 p6
AHU R.02	Extract terminal EG 0 34 tested factored volume, 105% of design	0.050 m³/s		S145 p6
AHU R.02	Extract terminal EG 0 35 tested factored volume, 105% of design	0.050 m³/s		S145 p6
AHU R.02	Extract terminal EG 0 37 tested factored volume, 108% of design	0.022 m³/s		S145 p6
AHU R.02	Extract terminal EG 0 31 tested factored volume, 105% of design	0.038 m³/s		S145 p6
AHU R.02	Extract terminal eg 0 18 (post swim showers) tested factored volume, 108% of design	165 l/s		S145 p7
AHU R.02	Extract terminal eg 0 25 (post swim showers) tested factored volume, 107% of design	164 l/s		S145 p7
AHU R.02	Extract terminal eg 0 24 (post swim showers) tested factored volume, 108% of design	165 l/s		S145 p7
AHU R.02	Extract terminal eg 0 26 (acc change) tested factored volume, 106% of design	54 l/s		S145 p7
AHU R.02	Extract terminal eg 0 21 (group change) tested factored volume, 103% of design	164 l/s		S145 p7
AHU R.02	Extract terminal eg 0 20 (group change 1) tested factored volume, 106% of design	169 l/s		S145 p7

ASSET	PARAMETER	SETTING	BMS POINT	SOURCE
AHU R.02	Extract terminal eg 0 22 (group change 2) tested factored volume, 106% of design	169 l/s		S145 p7
AHU R.02	Extract terminal eg 0 23 (group change 3) tested factored volume, 100% of design	118 l/s		S145 p7
AHU R.02	Extract terminal eg 0 24 (corridor) tested factored volume, 106% of design	90 l/s		S145 p7
AHU R.02	Supply fan inverter setting	80.0 %		S146 p3
AHU R.02	Supply tested volume at AHU	2.223 m^3/s		S146 p3
AHU R.02	Supply % of design stated on plant test sheet	100% %		S146 p3
AHU R.02	Supply measured static pressure at AHU	125 Pa		S146 p3
AHU R.02	Supply duct traverse TP 1 Primary Air Plantroom tested volume (100% of design)	2.223 m^3/s		S146 p4
AHU R.02	Supply terminal sg 0 24 (changing places) tested factored volume, 100% of design	117.52 l/s		S146 p6
AHU R.02	Supply terminal sg 0 34 (group change) tested factored volume, 101% of design	161.2 l/s		S146 p6
AHU R.02	Supply terminal sg 0 35 (change) tested factored volume, 100% of design	160.16 l/s		S146 p6
AHU R.02	Supply terminal sg 0 36 (group change) tested factored volume, 100% of design	160.16 l/s		S146 p6
AHU R.02	Supply terminal sg 0 26 (change village) tested factored volume, 101% of design	198.64 l/s		S146 p6
AHU R.02	Supply terminal sg 0 25 (change village) tested factored volume, 100% of design	196.56 l/s		S146 p6
AHU R.02	Supply terminal sg 0 27 (change village) tested factored volume, 100% of design	197.6 l/s		S146 p6
AHU R.02	Supply terminal sg 0 30 (change village) tested factored volume, 100% of design	196.56 l/s		S146 p6
AHU R.02	Supply terminal sg 0 31 (change village) tested factored volume, 100% of design	196.56 l/s		S146 p6
AHU R.02	Supply terminal sg 0 33 (change village) tested factored volume, 100% of design	196.56 l/s		S146 p6
AHU R.02	Supply terminal sg 0 29 (access change) tested factored volume, 102% of design	52 l/s		S146 p6

ASSET	PARAMETER	SETTING	BMS POINT	SOURCE
AHU R.02	Supply terminal sg 0 28 (vanity) tested factored volume, 100% of design	197.6 l/s		S146 p6
AHU R.02	Supply terminal sg 0 32 (vanity) tested factored volume, 100% of design	196.56 l/s		S146 p6
AHU R.06	Extract fan inverter setting	90.0 %		S147 p3
AHU R.06	Extract tested volume at AHU	0.811 m³/s		S147 p3
AHU R.06	Extract % of design stated on plant test sheet	102 %		S147 p3
AHU R.06	Extract terminal eg 2 05/06 (spin studio) tested factored volume, 100% of design	401 l/s		S147 p4
AHU R.06	Extract terminal eg 2 07/08 (spin studio) tested factored volume, 103% of design	410 l/s		S147 p4
AHU R.06	Supply fan inverter setting	80.0 %		S148 p3
AHU R.06	Supply tested volume at AHU	0.855 m³/s		S148 p3
AHU R.06	Supply % of design stated on plant test sheet	108 %		S148 p3
AHU R.06	Supply measured static pressure at AHU	101 Pa		S148 p3
AHU R.06	Supply terminal sg 2 06 (spin studio) tested factored volume, 103% of design	205 l/s		S148 p4
AHU R.06	Supply terminal sg 2 07 (spin studio) tested factored volume, 105% of design	210 l/s		S148 p4
AHU R.06	Supply terminal sg 2 08 (spin studio) tested factored volume, 110% of design	220 l/s		S148 p4
AHU R.06	Supply terminal sg 2 09 (spin studio) tested factored volume, 110% of design	220 l/s		S148 p4

5 Planned maintenance

What needs doing and when. Tasks and frequencies come from the manufacturers' literature and the regulations noted. Annual tasks fall in the anniversary month of practical completion.

TASK	FREQUENCY	J	F	M	A	M	J	J	A	S	O	N	D
General													
Acoustic door set: clean all surfaces with a mild detergent and non-abrasive cloth, then rinse with clean water; pay particular attention to perforated metal faces Manufacturer S23 p1	Annually (a) non-coastal areas; Quarterly (b) coastal areas and areas susceptible to high levels of pollution			●			●			●			●
Acoustic door set: visual inspection for defects to the galvanised surface; rub down, clean and paint damage with two generous coats of zinc rich paint Manufacturer S23 p1	Annually (a) non-coastal areas; Quarterly (b) coastal areas and areas susceptible to high levels of pollution			●			●			●			●
Acoustic door set: if powder coated, visual inspection of the painted surface; repair with zinc rich paint and a topcoat to match the existing colour Manufacturer S23 p1	Annually (a) non-coastal areas; Quarterly (b) coastal areas and areas susceptible to high levels of pollution			●			●			●			●
Acoustic panels: clean all surfaces with a mild detergent and non-abrasive cloth, rinse with clean water Manufacturer S23 p2	Annually (a) non-coastal areas; Quarterly (b) coastal areas and areas susceptible to high levels of pollution			●			●			●			●
Acoustic panels and louvres: visual inspection for defects to galvanised and powder coated surfaces; repair with zinc rich paint (and topcoat if powder coated) Manufacturer S23 p2	Annually (a) non-coastal areas; Quarterly (b) coastal areas and areas susceptible to high levels of pollution			●			●			●			●
Acoustic louvres: visual inspection to check for any blockages to the airways, remove as required Manufacturer S23 p2	Annually (a); Annually (b)						●						
Attenuators: visual inspection to check for any blockages to the airways, remove as required Manufacturer S23 p2	Annually (a); Annually (b)						●						
Attenuators: clean surfaces, inspect galvanised and painted surfaces and repair with zinc rich paint and topcoat Manufacturer S23 p2	Annually (a) non-coastal areas; Quarterly (b) coastal areas and areas susceptible to high levels of pollution			●			●			●			●
Ironmongery and hardware: clean and lubricate moving parts with 3-in-1 oil or similar Manufacturer S23 p2	Annually (a) non-coastal areas; Quarterly (b) coastal areas and areas susceptible to high levels of pollution			●			●			●			●

TASK	FREQUENCY	J	F	M	A	M	J	J	A	S	O	N	D
Ironmongery and hardware: check all screws, bolts and other fixings are tight, adjust as necessary Manufacturer S23 p2	Quarterly (a); Quarterly (b)			●			●			●			●
Ironmongery and hardware: check for damage or fatigue and replace if necessary Manufacturer S23 p2	Annually (a); Annually (b)						●						
Seals and gaskets: remove dust and debris and clean using mild detergent and non-abrasive cloth, rinse with clean water Manufacturer S23 p2	Annually (a) non-coastal areas; Quarterly (b) coastal areas and areas susceptible to high levels of pollution			●			●			●			●
Seals and gaskets: check for damage or fatigue and replace if necessary Manufacturer S23 p3	Annually (a); Annually (b)						●						
Fixings: check that all fixings are tight and secure, adjust as necessary Manufacturer S23 p3	Annually (a); Annually (b)						●						
Actuators are maintenance-free Manufacturer S24 p7													
The actuators require no maintenance Manufacturer S25 p10													
The V..P46.. PICV valves are maintenance-free without cartridge; valve plug, stem, presetting, diaphragm may not be disassembled Manufacturer S29 p12													
Stem sealing gland cannot be exchanged; if leakage occurs replace the whole valve Manufacturer S29 p12													
The actuators are maintenance-free Manufacturer S30 p7													
The actuators are maintenance-free Manufacturer S31 p17													
SKC6..: trigger stroke calibration after maintenance Manufacturer S31 p18													
Valves VVG44.. and VXG44.. are maintenance free Manufacturer S32 p12													
Stem sealing gland cannot be exchanged; replace the entire valve in the event of leakage Manufacturer S32 p12													
All VPF.. PICVs are maintenance-free; VPF44../VPF54.. allow easy exchange of the differential pressure controller (DPR) Manufacturer S33 p20													

TASK	FREQUENCY	J	F	M	A	M	J	J	A	S	O	N	D
Stem sealing gland cannot be exchanged; in case of leakage replace the whole valve Manufacturer S33 p20													
All VPF.. PICVs are maintenance-free; VPF44../VPF54.. allow easy exchange of the differential pressure controller (DPR) Manufacturer S34 p19													
Stem sealing gland cannot be exchanged; in case of leakage replace the whole valve Manufacturer S34 p19													
The valves are maintenance-free Manufacturer S35 p10													
The actuators are maintenance-free Manufacturer S104 p22													
Back-up battery replacement Manufacturer S120 p1	every 5 years												
Valves are equipped with maintenance-free, continuously lubricated stem sealing glands; see page 13 for replacement stem sealing glands Manufacturer S127 p9													
If valve is inoperative, replace it; do not attempt to repair the valve Manufacturer S128 p4													
Keep an active Software Maintenance Agreement (SMA) for the Niagara licence to run the latest Niagara version; initial SMA 18 months, extended agreements 3 years and 5 years Manufacturer S130 p2	initial SMA is for 18 months												
Domestic water													
HWH B.01: Unvented hot water: annual service, expansion vessel and safety valve checks (Building Regulations Part G3 and the manufacturer) Statutory guidance	Every year						●						
HWH B.02: Unvented hot water: annual service, expansion vessel and safety valve checks (Building Regulations Part G3 and the manufacturer) Statutory guidance	Every year						●						
Water hygiene monitoring: hot and cold water temperature checks at sentinel outlets (ACoP L8, HSG274) Statutory guidance	Monthly	●	●	●	●	●	●	●	●	●	●	●	●
Legionella risk assessment review (ACoP L8; at least every 2 years, sooner after changes) Statutory guidance	Every 2 years						●						
Flush little-used outlets at least weekly, and clean and descale shower heads and hoses at least every 3 months (HSG274 Part 2) Statutory guidance	Weekly	●	●	●	●	●	●	●	●	●	●	●	●

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TASK	FREQUENCY	J	F	M	A	M	J	J	A	S	O	N	D
Pressure systems: check the PSSR written scheme of examination and book any examination it says is due (Pressure Systems Safety Regulations 2000; the scheme sets the interval) Statutory guidance	Every year						●						
Heating													
ASHP 0.03: "Extended Start" Inspection by a Trane Technician Manufacturer S21 p10	between 500p and 1000 hours of operation												
ASHP 0.03: Next leak control (F-gas) Trane F-gas unit booklet S21 p2	within 27/05/2027												
ASHP 0.02: "Extended Start" Inspection by a Trane Technician Manufacturer S38 p9	between 500p and 1000 hours of operation												
ASHP 0.02: Next leak control (F-gas) Trane F-gas unit booklet S38 p2	within 14/05/2027												
ASHP 0.01: "Extended Start" Inspection by a Trane Technician Manufacturer S40 p9	between 500p and 1000 hours of operation												
ASHP 0.01: Next leak control (F-gas) Trane F-gas unit booklet S40 p2	within 14/05/2027												
Pressure systems: check the PSSR written scheme of examination and book any examination it says is due (Pressure Systems Safety Regulations 2000; the scheme sets the interval) Statutory guidance	Every year						●						
Air conditioning													
CU 2.01: F-gas leak check by a certified engineer (F-gas Regulation; 12 months assumed, 6 months if the charge is 50 t CO2e or more) Statutory guidance	Every year						●						
CU 2.02: F-gas leak check by a certified engineer (F-gas Regulation; 12 months assumed, 6 months if the charge is 50 t CO2e or more) Statutory guidance	Every year						●						
CU 2.03: F-gas leak check by a certified engineer (F-gas Regulation; 12 months assumed, 6 months if the charge is 50 t CO2e or more) Statutory guidance	Every year						●						
CU 2.04A: F-gas leak check by a certified engineer (F-gas Regulation; 12 months assumed, 6 months if the charge is 50 t CO2e or more) Statutory guidance	Every year						●						
CU 2.04B: F-gas leak check by a certified engineer (F-gas Regulation; 12 months assumed, 6 months if the charge is 50 t CO2e or more) Statutory guidance	Every year						●						

TASK	FREQ.	J	F	M	A	M	J	J	A	S	O	N	D
CU 2.05: F-gas leak check by a certified engineer (F-gas Regulation; 12 months assumed, 6 months if the charge is 50 t CO2e or more) Statutory guidance	Every year						●						
CU 2.06A: F-gas leak check by a certified engineer (F-gas Regulation; 12 months assumed, 6 months if the charge is 50 t CO2e or more) Statutory guidance	Every year						●						
CU 2.06B: F-gas leak check by a certified engineer (F-gas Regulation; 12 months assumed, 6 months if the charge is 50 t CO2e or more) Statutory guidance	Every year						●						
CU 2.07: F-gas leak check by a certified engineer (F-gas Regulation; 12 months assumed, 6 months if the charge is 50 t CO2e or more) Statutory guidance	Every year						●						
CU 2.08: F-gas leak check by a certified engineer (F-gas Regulation; 12 months assumed, 6 months if the charge is 50 t CO2e or more) Statutory guidance	Every year						●						
CU 2.09: F-gas leak check by a certified engineer (F-gas Regulation; 12 months assumed, 6 months if the charge is 50 t CO2e or more) Statutory guidance	Every year						●						
CU 2.10: F-gas leak check by a certified engineer (F-gas Regulation; 12 months assumed, 6 months if the charge is 50 t CO2e or more) Statutory guidance	Every year						●						
Air conditioning inspection (TM44) by an accredited assessor, where the total cooling output is over 12 kW: within 5 years of first use, then at least every 5 years Statutory guidance	Every 5 years						●						
Ventilation													
AHU R.02: Hygiene inspection by trained qualified staff in accordance with VDI 6022 Sheet 4 (AC systems without humidification) Manufacturer S37 p125	every 3 years												
AHU R.02: Outdoor air intakes and exhaust air outlets: check for soiling, damage and corrosion; clean completely and repair Manufacturer S37 p125	12 monthly						●						
AHU R.02: Unit housing: inspect for soiling, damage and corrosion on the air side; clean and repair Manufacturer S37 p125	12 monthly						●						
AHU R.02: Unit housing: check for water formation (condensate, leaks); clean and identify the cause Manufacturer S37 p125	6 monthly						●						●
AHU R.02: Unit housing: check function of drains; clean, if necessary Manufacturer S37 p125	12 monthly						●						
AHU R.02: Unit housing: check flexible connections for leaks Manufacturer S37 p125	12 monthly						●						

TASK	FREQ.	J	F	M	A	M	J	J	A	S	O	N	D
AHU R.02: Unit housing: doors and locks for ease of movement and leaktightness; repair Manufacturer S37 p125	12 monthly						●						
AHU R.02: Air filter: check for impermissible soiling, damage (leaks) and odours Manufacturer S37 p125	3 monthly			●			●			●			●
AHU R.02: Air filter: check differential pressure; if the maximum differential pressure is exceeded replace the filter stage Manufacturer S37 p125	1 monthly	●	●	●	●	●	●	●	●	●	●	●	●
AHU R.02: Air filter: latest filter change, 1st filter stage Manufacturer S37 p125	12 monthly						●						
AHU R.02: Air filter: latest filter change, 2nd filter stage Manufacturer S37 p125	24 monthly	●	●	●	●	●	●	●	●	●	●	●	●
AHU R.02: Air filter: check the hygiene condition Manufacturer S37 p125	12 monthly						●						
AHU R.02: Heat exchangers, general: check for soiling, damage and corrosion; clean and repair Manufacturer S37 p128	3 monthly			●			●			●			●
AHU R.02: Heat exchangers, general: check wet cooler, condensate drip tray and droplet eliminator; repair Manufacturer S37 p128	3 monthly			●			●			●			●
AHU R.02: Heat exchangers, general: check function of siphon; repair Manufacturer S37 p128	3 monthly			●			●			●			●
AHU R.02: Heat exchangers, general: check the hygiene condition Manufacturer S37 p128	12 monthly						●						
AHU R.02: Air heater: inspect on the air side for soiling, damage and corrosion; repair Manufacturer S37 p128	3 monthly			●			●			●			●
AHU R.02: Air heater: clean to preserve function (air-side) Manufacturer S37 p128	12 monthly						●						
AHU R.02: Air heater: check function of flow and return flow Manufacturer S37 p128	12 monthly						●						
AHU R.02: Air heater: venting Manufacturer S37 p128	12 monthly						●						
AS 0.01, AS 0.02: Washing not needed in order to maintain functionality; only for hygienic and aesthetic reasons Manufacturer S78 p13	not stated												

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TASK	FREQUENCY	J	F	M	A	M	J	J	A	S	O	N	D
FD 0.01, FD 0.02, FD 0.03, FD 0.04, FD 0.05, FD 0.06, FD 0.07, FD 0.08, FD 1.01, FD 1.02, FD 1.03, FD 1.04, FD 1.05, FD 1.06, FD 1.07, FD 1.08, FD 1.09, FD 1.10: Inspect and test damper in accordance with BS 9999 Annex W.1; more frequently where corrosive or dirty conditions prevail; review maintenance log at each inspection Manufacturer S101 p5	annually (BSB recommend a maximum of 1 year between inspections)						●						
FD 0.01, FD 0.02, FD 0.03, FD 0.04, FD 0.05, FD 0.06, FD 0.07, FD 0.08, FD 1.01, FD 1.02, FD 1.03, FD 1.04, FD 1.05, FD 1.06, FD 1.07, FD 1.08, FD 1.09, FD 1.10: Check damper is clean and free of dust and debris; clean using lightly oiled rag (DEB duck oil recommended) Manufacturer S101 p5	at each inspection												
FD 0.01, FD 0.02, FD 0.03, FD 0.04, FD 0.05, FD 0.06, FD 0.07, FD 0.08, FD 1.01, FD 1.02, FD 1.03, FD 1.04, FD 1.05, FD 1.06, FD 1.07, FD 1.08, FD 1.09, FD 1.10: If corrosion observed on blade axle, apply 2 drops of oil on each axis bearing and operate a few times Manufacturer S101 p5	at each inspection, as needed												
FD 0.01, FD 0.02, FD 0.03, FD 0.04, FD 0.05, FD 0.06, FD 0.07, FD 0.08, FD 1.01, FD 1.02, FD 1.03, FD 1.04, FD 1.05, FD 1.06, FD 1.07, FD 1.08, FD 1.09, FD 1.10: Drop test: unscrew the Fusible Link quickly and check the blade closes fully; reset blade to previous position; complete maintenance log Manufacturer S101 p5	at each inspection												
FD 0.01, FD 0.02, FD 0.03, FD 0.04, FD 0.05, FD 0.06, FD 0.07, FD 0.08, FD 1.01, FD 1.02, FD 1.03, FD 1.04, FD 1.05, FD 1.06, FD 1.07, FD 1.08, FD 1.09, FD 1.10: Fire dampers tested by a competent person at intervals not exceeding 12 months; spring operated dampers and those in dust laden atmospheres more frequently Testing contractor's note citing BS 9999:2017 S113 p4	not exceeding 12 months						●						
FD 0.01, FD 0.02, FD 0.03, FD 0.04, FD 0.05, FD 0.06, FD 0.07, FD 0.08, FD 1.01, FD 1.02, FD 1.03, FD 1.04, FD 1.05, FD 1.06, FD 1.07, FD 1.08, FD 1.09, FD 1.10: Planned inspection including full operational checks, correct interface with and function of any control systems, cleaning and light lubrication; repeat more regularly if exposed to inclement or dusty conditions or fresh air intakes Manufacturer S121 p13	as a guide, a maximum of six months intervals						●						●

Legal duties at a glance

Inspections the law or a named standard expects of the building owner or responsible person, for the plant in this building. They are in the grid above too. Keep the records: insurers, building control and enforcing authorities ask for them.

INSPECTION OR TEST	APPLIES TO	HOW OFTEN
Unvented hot water: annual service, expansion vessel and safety valve checks (Building Regulations Part G3 and the manufacturer)	HWH B.01, HWH B.02	Every year
Water hygiene monitoring: hot and cold water temperature checks at sentinel outlets (ACoP L8, HSG274)	Domestic water	Monthly
Legionella risk assessment review (ACoP L8; at least every 2 years, sooner after changes)	Domestic water	Every 2 years
Flush little-used outlets at least weekly, and clean and descale shower heads and hoses at least every 3 months (HSG274 Part 2)	Domestic water	Weekly

INSPECTION OR TEST	APPLIES TO	HOW OFTEN
Pressure systems: check the PSSR written scheme of examination and book any examination it says is due (Pressure Systems Safety Regulations 2000; the scheme sets the interval)	Domestic water, Heating	Every year
F-gas leak check by a certified engineer (F-gas Regulation; 12 months assumed, 6 months if the charge is 50 t CO2e or more)	CU 2.01, CU 2.02, CU 2.03, CU 2.04A, CU 2.04B, CU 2.05, CU 2.06A, CU 2.06B, CU 2.07, CU 2.08, CU 2.09, CU 2.10	Every year
Air conditioning inspection (TM44) by an accredited assessor, where the total cooling output is over 12 kW: within 5 years of first use, then at least every 5 years	Air conditioning	Every 5 years

Tasks marked "Statutory guidance" are inspections set by law or by the standard named, added where the documents received do not give them. Frequencies must be confirmed against the latest manufacturers' literature and the building's risk assessments. Warranty cover often depends on servicing (Section 9).

6 Emergency and isolation

Where to isolate each system safely, and what happens when you do.

In an emergency make the area safe, isolate using the points below, then call the service company in Section 1. Only competent, authorised people should isolate plant, following site lock off and permit procedures.

SYSTEM	PLANT	ISOLATION POINT	NOTES
		Pump, power supply and shut-off valves S24 p6	When servicing the actuator: switch off the pump and disconnect power supply, close the shut-off valves in the piping network, allow the piping to cool off. Actuator brackets can reach 100 °C.
		Operating voltage S25 p11	Operating voltage must be switched off during any maintenance. Switch off operating voltage; if necessary disconnect electrical connections from the terminals.
		Pump, power supply and shut-off valves S29 p12	Switch off the pump and disconnect power supply; close the shut-off valves in the piping network; fully reduce pressure and allow the pipes to cool down completely.
		Pump, operating voltage and main shutoff valve S30 p5	When servicing the actuator: switch off both pump and operating voltage; close the main shutoff valve in the piping; allow the piping to cool off.
		Pump, operating voltage and main shutoff valve S31 p17	When servicing the actuator: switch off both pump and operating voltage; close the main shutoff valve in the piping; release pressure in the pipes and allow them to cool off completely.
		Pump, operating voltage and shutoff valves S32 p11	When servicing a valve/actuator: switch off both pump and operating voltage; close shutoff valves; release pressure in the pipes and allow them to cool down completely; disconnect electrical connections as needed.
		Pump, power supply and shut-off valves S33 p20	Switch off the pump and disconnect power supply; close the shut-off valves in the piping network; fully reduce pressure and allow the pipes to cool down completely; remove electrical connections only if necessary.
		Pump, power supply and shut-off valves S34 p19	Switch off the pump and disconnect power supply; close the shut-off valves in the piping network; fully reduce pressure and allow the pipes to cool down completely; remove electrical connections only if necessary.
		Pump, power supply and shutoff valves S35 p10	When servicing valves or actuators: deactivate the pump and turn off the power supply; close the shutoff valves; fully reduce the pressure in the piping system and allow pipes to completely cool down; if necessary disconnect the electrical wires.

SYSTEM	PLANT	ISOLATION POINT	NOTES
		Pump, power supply and shutoff valves S127 p9	When servicing valves or actuators: deactivate the pump and turn off the power supply; close the shutoff valves; fully reduce the pressure in the piping system and allow pipes to completely cool down; if necessary disconnect the electrical wires.
Domestic water	HWH B.01	Fused spur on the cylinder; cold feed isolating valve in the plant room	
Domestic water	HWH B.02	Fused spur on the cylinder; cold feed isolating valve in the plant room	
Domestic water	BS B.01	Isolator on the booster set panel; inlet and outlet isolating valves	
Domestic water	BS B.02	Isolator on the booster set panel; inlet and outlet isolating valves	
Domestic water	P B.05	Pump isolator at the plant panel; isolating valves either side of the pump	
Heating	ASHP 0.01	Rotary isolator at the unit; LTHW flow and return valves at the unit	
Heating	ASHP 0.02	Rotary isolator at the unit; LTHW flow and return valves at the unit	
Heating	ASHP 0.03	Rotary isolator at the unit; LTHW flow and return valves at the unit	
Heating	P B.01	Pump isolator at the plant panel; isolating valves either side of the pump	
Heating	P B.02	Pump isolator at the plant panel; isolating valves either side of the pump	
Heating	P B.03	Pump isolator at the plant panel; isolating valves either side of the pump	
Heating	P B.04	Pump isolator at the plant panel; isolating valves either side of the pump	
Heating	PU 0.01	Fused spur by the unit; isolating valve on the system connection	
Air conditioning	CU 2.01	Rotary isolator next to the unit; refrigerant service valves on the unit	
Air conditioning	CU 2.02	Rotary isolator next to the unit; refrigerant service valves on the unit	
Air conditioning	CU 2.03	Rotary isolator next to the unit; refrigerant service valves on the unit	
Air conditioning	CU 2.04A	Rotary isolator next to the unit; refrigerant service valves on the unit	
Air conditioning	CU 2.04B	Rotary isolator next to the unit; refrigerant service valves on the unit	
Air conditioning	CU 2.05	Rotary isolator next to the unit; refrigerant service valves on the unit	

SYSTEM	PLANT	ISOLATION POINT	NOTES
Air conditioning	CU 2.06A	Rotary isolator next to the unit; refrigerant service valves on the unit	
Air conditioning	CU 2.06B	Rotary isolator next to the unit; refrigerant service valves on the unit	
Air conditioning	CU 2.07	Rotary isolator next to the unit; refrigerant service valves on the unit	
Air conditioning	CU 2.08	Rotary isolator next to the unit; refrigerant service valves on the unit	
Air conditioning	CU 2.09	Rotary isolator next to the unit; refrigerant service valves on the unit	
Air conditioning	CU 2.10	Rotary isolator next to the unit; refrigerant service valves on the unit	
Ventilation	AHU R.02	Mains power supply, all poles; media supply (water, gas, etc.) S37 p121	Disconnect from the mains on all poles and secure against restart; close the media supply; wait at least 3 minutes until the fan impellers are stationary before opening the inspection doors
Ventilation	AHU R.03	Rotary isolator at the AHU control panel; LTHW coil isolating valves	
Ventilation	AHU R.04	Rotary isolator at the AHU control panel; LTHW coil isolating valves	
Ventilation	AHU R.05	Rotary isolator at the AHU control panel; LTHW coil isolating valves	
Ventilation	AHU R.06	Rotary isolator at the AHU control panel; LTHW coil isolating valves	
Ventilation	AHU R.07	Rotary isolator at the AHU control panel; LTHW coil isolating valves	
Ventilation	AHU R.08	Rotary isolator at the AHU control panel; LTHW coil isolating valves	
Ventilation	AHU R.09	Rotary isolator at the AHU control panel; LTHW coil isolating valves	
Ventilation	AHU R.01	Rotary isolator at the AHU control panel; LTHW coil isolating valves	
Ventilation	EF B.01	Local rotary isolator next to the fan	
Ventilation	EF B.02	Local rotary isolator next to the fan	
Ventilation	EF B.03	Local rotary isolator next to the fan	
Ventilation	EF B.04	Local rotary isolator next to the fan	

If something goes wrong

General first actions. They don't replace the building's own emergency and fire procedures, or the site's permit to work and lock off rules.

Refrigerant leak	Keep people out of the room or plant area and ventilate it: refrigerant can displace the air in small rooms. Isolate the unit at the point listed above and call an engineer holding an F-gas certificate.
Water leak or flood	Isolate the affected supply at the nearest valve listed above. If water is near electrical equipment, keep clear unless it is safe to isolate the power. Call the service company in Section 1.
Fire alarm goes off	Follow the building's fire procedure. Plant linked to the fire alarm may stop or change mode as set out in the cause and effect records in this section. Don't reset the fire alarm or the plant until the responsible person says it is safe.
Plant alarm or fault	Note the alarm or fault code, check the BMS or the unit's display, and follow the reset steps in Section 3 or the manufacturer's literature. If it comes back, call the service company in Section 1.

Health, safety and fire information

Residual hazards, substances left in the installation, fire safety information and fire system records. Each is inserted at the end of this section.

DOCUMENT	ASSET	PROVIDED BY	STATUS
COSHH safety data sheets for substances left in the installation (water treatment chemicals, glycol, refrigerant oil)		Hensall Mechanical Services Ltd	Received
Health and safety file input (CDM 2015): residual hazards, safe access for maintenance and safe removal of the services		Hensall Mechanical Services Ltd	Received
Fire safety information for the responsible person (Building Regulations regulation 38): the as-installed fire safety services and how to maintain them		Hensall Mechanical Services Ltd	Received
Fire stopping and penetration seals (regulation 38 fire safety information): where the services pass through fire resisting walls and floors, with locations, products used and photographs, including any done by others		Hensall Mechanical Services Ltd	Received
Fire and smoke dampers (regulation 38 fire safety information): every damper in the services, including any installed by others, its location, the access panel and how to reach it for testing, or written confirmation that there are none		RJ Ashton Group (Ashton LLP)	Received
Fire alarm cause and effect interface (regulation 38 fire safety information): plant that stops, starts or changes mode when the fire alarm operates, or written confirmation that there is none		KVT Controls	Received

7 Testing, commissioning and certificates

Certificates come only from the company that did the work. They are inserted here exactly as received, and bookmarked.

DOCUMENT	ASSET	PROVIDED BY	STATUS
HWH B.01 commissioning certificate (unvented, G3)	HWH B.01	Arbe Integrated Engineering Ltd	Received
HWH B.01 temperature and safety valve check record	HWH B.01	Arbe Integrated Engineering Ltd	Received
HWH B.02 commissioning certificate (unvented, G3)	HWH B.02	Arbe Integrated Engineering Ltd	Received
HWH B.02 temperature and safety valve check record	HWH B.02	Arbe Integrated Engineering Ltd	Received
BS B.01 commissioning sheet	BS B.01	TPS Ltd	Received
BS B.02 commissioning sheet	BS B.02	TPS Ltd	Received
ASHP 0.01 commissioning records	ASHP 0.01	Trane UK Ltd	Received
ASHP 0.01 F-gas record and refrigerant log	ASHP 0.01	Trane UK Ltd	Received
ASHP 0.02 commissioning records	ASHP 0.02	Trane UK Ltd	Received
ASHP 0.02 F-gas record and refrigerant log	ASHP 0.02	Trane UK Ltd	Received
ASHP 0.03 commissioning records	ASHP 0.03	Trane UK Ltd	Received
ASHP 0.03 F-gas record and refrigerant log	ASHP 0.03	Trane UK Ltd	Received
P B.01 commissioning certificate	P B.01	TPS Ltd	Received
P B.02 commissioning certificate	P B.02	TPS Ltd	Received
P B.03 commissioning certificate	P B.03	TPS Ltd	Received
P B.04 commissioning certificate	P B.04	TPS Ltd	Received
P B.05 commissioning certificate	P B.05	TPS Ltd	Received
PU 0.01 commissioning sheet	PU 0.01	TPS Ltd	Received
AC 0.01 commissioning records	AC 0.01	Frost Air Conditioning	Received
AC 0.02 commissioning records	AC 0.02	Frost Air Conditioning	Received
AC 0.03 commissioning records	AC 0.03	Frost Air Conditioning	Received
AC 0.04 commissioning records	AC 0.04	Frost Air Conditioning	Received
AC 0.05 commissioning records	AC 0.05	Frost Air Conditioning	Received

DOCUMENT	ASSET	PROVIDED BY	STATUS
AC 0.06 commissioning records	AC 0.06	Frost Air Conditioning	Received
AC 0.07 commissioning records	AC 0.07	Frost Air Conditioning	Received
AC 0.08 commissioning records	AC 0.08	Frost Air Conditioning	Received
AC 0.09 commissioning records	AC 0.09	Frost Air Conditioning	Received
AC 0.10 commissioning records	AC 0.10	Frost Air Conditioning	Received
AC 0.11 commissioning records	AC 0.11	Frost Air Conditioning	Received
AC 0.12 commissioning records	AC 0.12	Frost Air Conditioning	Received
AC 0.13 commissioning records	AC 0.13	Frost Air Conditioning	Received
AC 0.14 commissioning records	AC 0.14	Frost Air Conditioning	Received
AC 0.15 commissioning records	AC 0.15	Frost Air Conditioning	Received
AC 0.16 commissioning records	AC 0.16	Frost Air Conditioning	Received
AC 0.17 commissioning records	AC 0.17	Frost Air Conditioning	Received
AC 0.18 commissioning records	AC 0.18	Frost Air Conditioning	Received
AC 0.19 commissioning records	AC 0.19	Frost Air Conditioning	Received
AC 0.20 commissioning records	AC 0.20	Frost Air Conditioning	Received
AC 0.21 commissioning records	AC 0.21	Frost Air Conditioning	Received
AC 0.22 commissioning records	AC 0.22	Frost Air Conditioning	Received
AC 0.23 commissioning records	AC 0.23	Frost Air Conditioning	Received
AC 0.25 commissioning records	AC 0.25	Frost Air Conditioning	Received
AC 0.26 commissioning records	AC 0.26	Frost Air Conditioning	Received
AC 0.27 commissioning records	AC 0.27	Frost Air Conditioning	Received
AC 1.01 commissioning records	AC 1.01	Frost Air Conditioning	Received
AC 1.02 commissioning records	AC 1.02	Frost Air Conditioning	Received
AC 1.03 commissioning records	AC 1.03	Frost Air Conditioning	Received
AC 1.04 commissioning records	AC 1.04	Frost Air Conditioning	Received
AC 1.05 commissioning records	AC 1.05	Frost Air Conditioning	Received
AC 1.06 commissioning records	AC 1.06	Frost Air Conditioning	Received
AC 1.07 commissioning records	AC 1.07	Frost Air Conditioning	Received
AC 1.08 commissioning records	AC 1.08	Frost Air Conditioning	Received

DOCUMENT	ASSET	PROVIDED BY	STATUS
AC 1.09 commissioning records	AC 1.09	Frost Air Conditioning	Received
AC 1.10 commissioning records	AC 1.10	Frost Air Conditioning	Received
AC 1.11 commissioning records	AC 1.11	Frost Air Conditioning	Received
AC 1.12 commissioning records	AC 1.12	Frost Air Conditioning	Received
AC 1.13 commissioning records	AC 1.13	Frost Air Conditioning	Received
AC 1.14 commissioning records	AC 1.14	Frost Air Conditioning	Received
AC 1.16 commissioning records	AC 1.16	Frost Air Conditioning	Received
AC 1.18 commissioning records	AC 1.18	Frost Air Conditioning	Received
AC 1.19 commissioning records	AC 1.19	Frost Air Conditioning	Received
AC 1.20 commissioning records	AC 1.20	Frost Air Conditioning	Received
AC 1.21 commissioning records	AC 1.21	Frost Air Conditioning	Received
AC 1.22 commissioning records	AC 1.22	Frost Air Conditioning	Received
AC 1.23 commissioning records	AC 1.23	Frost Air Conditioning	Received
AC 1.24 commissioning records	AC 1.24	Frost Air Conditioning	Received
AC 1.25 commissioning records	AC 1.25	Frost Air Conditioning	Received
AC 1.26 commissioning records	AC 1.26	Frost Air Conditioning	Received
AC 1.27 commissioning records	AC 1.27	Frost Air Conditioning	Received
AC 1.28 commissioning records	AC 1.28	Frost Air Conditioning	Received
AC 1.29 commissioning records	AC 1.29	Frost Air Conditioning	Received
AC 1.30 commissioning records	AC 1.30	Frost Air Conditioning	Received
AC 1.31 commissioning records	AC 1.31	Frost Air Conditioning	Received
AC 1.32 commissioning records	AC 1.32	Frost Air Conditioning	Received
AC 1.33 commissioning records	AC 1.33	Frost Air Conditioning	Received
AC 1.34 commissioning records	AC 1.34	Frost Air Conditioning	Received
AC 1.35 commissioning records	AC 1.35	Frost Air Conditioning	Received
AC 1.36 commissioning records	AC 1.36	Frost Air Conditioning	Received
AC 1.37 commissioning records	AC 1.37	Frost Air Conditioning	Received
AC 2.01 commissioning records	AC 2.01	Frost Air Conditioning	Received
AC 2.02 commissioning records	AC 2.02	Frost Air Conditioning	Received

DOCUMENT	ASSET	PROVIDED BY	STATUS
AC 2.03 commissioning records	AC 2.03	Frost Air Conditioning	Received
AC 2.04 commissioning records	AC 2.04	Frost Air Conditioning	Received
AC 2.05 commissioning records	AC 2.05	Frost Air Conditioning	Received
AC 2.06 commissioning records	AC 2.06	Frost Air Conditioning	Received
AC 2.07 commissioning records	AC 2.07	Frost Air Conditioning	Received
CU 2.01 commissioning records	CU 2.01	Frost Air Conditioning	Received
CU 2.01 F-gas record and refrigerant log	CU 2.01	Frost Air Conditioning	Received
CU 2.01 refrigerant pipework pressure test certificate	CU 2.01	Frost Air Conditioning	Received
CU 2.02 commissioning records	CU 2.02	Frost Air Conditioning	Received
CU 2.02 F-gas record and refrigerant log	CU 2.02	Frost Air Conditioning	Received
CU 2.02 refrigerant pipework pressure test certificate	CU 2.02	Frost Air Conditioning	Received
CU 2.03 commissioning records	CU 2.03	Frost Air Conditioning	Received
CU 2.03 F-gas record and refrigerant log	CU 2.03	Frost Air Conditioning	Received
CU 2.03 refrigerant pipework pressure test certificate	CU 2.03	Frost Air Conditioning	Received
CU 2.04A commissioning records	CU 2.04A	Frost Air Conditioning	Received
CU 2.04A F-gas record and refrigerant log	CU 2.04A	Frost Air Conditioning	Received
CU 2.04A refrigerant pipework pressure test certificate	CU 2.04A	Frost Air Conditioning	Received
CU 2.04B commissioning records	CU 2.04B	Frost Air Conditioning	Received
CU 2.04B F-gas record and refrigerant log	CU 2.04B	Frost Air Conditioning	Received
CU 2.04B refrigerant pipework pressure test certificate	CU 2.04B	Frost Air Conditioning	Received
CU 2.05 commissioning records	CU 2.05	Frost Air Conditioning	Received
CU 2.05 F-gas record and refrigerant log	CU 2.05	Frost Air Conditioning	Received
CU 2.05 refrigerant pipework pressure test certificate	CU 2.05	Frost Air Conditioning	Received
CU 2.06A commissioning records	CU 2.06A	Frost Air Conditioning	Received
CU 2.06A F-gas record and refrigerant log	CU 2.06A	Frost Air Conditioning	Received
CU 2.06A refrigerant pipework pressure test certificate	CU 2.06A	Frost Air Conditioning	Received
CU 2.06B commissioning records	CU 2.06B	Frost Air Conditioning	Received
CU 2.06B F-gas record and refrigerant log	CU 2.06B	Frost Air Conditioning	Received
CU 2.06B refrigerant pipework pressure test certificate	CU 2.06B	Frost Air Conditioning	Received

DOCUMENT	ASSET	PROVIDED BY	STATUS
CU 2.07 commissioning records	CU 2.07	Frost Air Conditioning	Received
CU 2.07 F-gas record and refrigerant log	CU 2.07	Frost Air Conditioning	Received
CU 2.07 refrigerant pipework pressure test certificate	CU 2.07	Frost Air Conditioning	Received
CU 2.08 commissioning records	CU 2.08	Frost Air Conditioning	Received
CU 2.08 F-gas record and refrigerant log	CU 2.08	Frost Air Conditioning	Received
CU 2.08 refrigerant pipework pressure test certificate	CU 2.08	Frost Air Conditioning	Received
CU 2.09 commissioning records	CU 2.09	Frost Air Conditioning	Received
CU 2.09 F-gas record and refrigerant log	CU 2.09	Frost Air Conditioning	Received
CU 2.09 refrigerant pipework pressure test certificate	CU 2.09	Frost Air Conditioning	Received
CU 2.10 commissioning records	CU 2.10	Frost Air Conditioning	Received
CU 2.10 F-gas record and refrigerant log	CU 2.10	Frost Air Conditioning	Received
CU 2.10 refrigerant pipework pressure test certificate	CU 2.10	Frost Air Conditioning	Received
AHU R.02 commissioning certificate	AHU R.02	Trane UK Ltd	Received
AHU R.03 commissioning certificate	AHU R.03	Trane UK Ltd	Received
AHU R.04 commissioning certificate	AHU R.04	Trane UK Ltd	Received
AHU R.05 commissioning certificate	AHU R.05	Trane UK Ltd	Received
AHU R.06 commissioning certificate	AHU R.06	Trane UK Ltd	Received
AHU R.07 commissioning certificate	AHU R.07	Trane UK Ltd	Received
AHU R.08 commissioning certificate	AHU R.08	Trane UK Ltd	Received
AHU R.09 commissioning certificate	AHU R.09	Trane UK Ltd	Received
AHU R.01 commissioning certificate	AHU R.01	Trane UK Ltd	Received
EF B.01 commissioning certificate	EF B.01	Ventilation Direct Ltd	Received
EF B.02 commissioning certificate	EF B.02	Ventilation Direct Ltd	Received
EF B.03 commissioning certificate	EF B.03	Ventilation Direct Ltd	Received
EF B.04 commissioning certificate	EF B.04	Ventilation Direct Ltd	Received
FD 0.01 drop test certificate	FD 0.01	RJ Ashton Group (Ashton LLP)	Received
FD 0.02 drop test certificate	FD 0.02	RJ Ashton Group (Ashton LLP)	Received

DOCUMENT	ASSET	PROVIDED BY	STATUS
FD 0.03 drop test certificate	FD 0.03	RJ Ashton Group (Ashton LLP)	Received
FD 0.04 drop test certificate	FD 0.04	RJ Ashton Group (Ashton LLP)	Received
FD 0.05 drop test certificate	FD 0.05	RJ Ashton Group (Ashton LLP)	Received
FD 0.06 drop test certificate	FD 0.06	RJ Ashton Group (Ashton LLP)	Received
FD 0.07 drop test certificate	FD 0.07	RJ Ashton Group (Ashton LLP)	Received
FD 0.08 drop test certificate	FD 0.08	RJ Ashton Group (Ashton LLP)	Received
FD 1.01 drop test certificate	FD 1.01	RJ Ashton Group (Ashton LLP)	Received
FD 1.02 drop test certificate	FD 1.02	RJ Ashton Group (Ashton LLP)	Received
FD 1.03 drop test certificate	FD 1.03	RJ Ashton Group (Ashton LLP)	Received
FD 1.04 drop test certificate	FD 1.04	RJ Ashton Group (Ashton LLP)	Received
FD 1.05 drop test certificate	FD 1.05	RJ Ashton Group (Ashton LLP)	Received
FD 1.06 drop test certificate	FD 1.06	RJ Ashton Group (Ashton LLP)	Received
FD 1.07 drop test certificate	FD 1.07	RJ Ashton Group (Ashton LLP)	Received
FD 1.08 drop test certificate	FD 1.08	RJ Ashton Group (Ashton LLP)	Received
FD 1.09 drop test certificate	FD 1.09	RJ Ashton Group (Ashton LLP)	Received
FD 1.10 drop test certificate	FD 1.10	RJ Ashton Group (Ashton LLP)	Received
Domestic water: water system disinfection certificate (BS EN 806 and BS 8558)	Domestic water	RJ Ashton Group (Ashton LLP)	Received
Domestic water: post-disinfection microbiological results	Domestic water	RJ Ashton Group (Ashton LLP)	Received
Domestic water: legionella risk assessment before occupation and written scheme of control (ACoP L8, HSG274)	Domestic water	RJ Ashton Group (Ashton LLP)	Received

DOCUMENT	ASSET	PROVIDED BY	STATUS
Domestic water: flushing record and sentinel outlet temperatures at handover (hot 50 °C or above, cold below 20 °C)	Domestic water	RJ Ashton Group (Ashton LLP)	Received
Domestic water: water Supply (Water Fittings) Regulations 1999: the approved contractor's certificate, or the water supplier's consent for the installation	Domestic water	RJ Ashton Group (Ashton LLP)	Received
Ventilation: air flow balancing report, supply and extract, design and measured flows (also the Part F commissioning record)	Ventilation	Linden Ductwork	Received
Ventilation: ductwork air leakage test (DW/143)	Ventilation	Linden Ductwork	Received
Ventilation: ductwork internal cleanliness verification at handover (BESA TR19 Air), or confirmation it was installed to the clean protocol specified	Ventilation	Linden Ductwork	Received
Domestic water: pre-commission cleaning, flushing and water treatment certificate (BSRIA BG 29), with laboratory water analysis	Domestic water	RJ Ashton Group (Ashton LLP)	Received
Domestic water: PSSR written scheme of examination (Pressure Systems Safety Regulations 2000), or written confirmation that none is needed	Domestic water	BKW Mechanical	Received
Heating: pre-commission cleaning, flushing and water treatment certificate (BSRIA BG 29), with laboratory water analysis	Heating	RJ Ashton Group (Ashton LLP)	Received
Heating: PSSR written scheme of examination (Pressure Systems Safety Regulations 2000), or written confirmation that none is needed	Heating	BKW Mechanical	Received
Air conditioning: PSSR written scheme of examination (Pressure Systems Safety Regulations 2000) for refrigeration over 25 kW, or written confirmation that none is needed	Air conditioning	Frost Air Conditioning	Received
Above ground drainage pipework pressure test certificates to BS 5572	Project	Hensall Mechanical Services Ltd	Received
Commissioning summary: every system commissioned and witnessed, results against design, anything left open, and the seasonal commissioning still to do	Project	TPS Ltd	Received
Commissioning notice for building control (Building Regulations regulation 44): fixed building services commissioned and performing as designed	Project	TPS Ltd	Received
Competent person scheme compliance certificates (for example BESCA, Gas Safe or NICEIC) for work self certified instead of through building control	Project	Hensall Mechanical Services Ltd	Received

Seasonal commissioning

Checks at each season's conditions after occupation. Each record is inserted here as it arrives.

Left open at commissioning

None. Every item raised during commissioning was closed out and re-tested before handover.

PLANT	OPEN ITEM, AS WRITTEN
	Communication and addressing issues identified across the systems; rectified by correcting line address settings S65 p2
	Systems not tested in heating mode due to high outdoor ambient temperature S65 p2
CU 2.04B	Lower Fitness system appears to have a refrigerant related fault; possible overcharge or contamination S65 p2
CU 2.04B	No records available to confirm the quantity of refrigerant previously added S65 p2
CU 2.04B	Lower Fitness System B not operating correctly: unusually high standing pressure and elevated running pressures S65 p2
CU 2.04B	Recover refrigerant into a cylinder and carry out a standing pressure test on the recovered refrigerant S65 p2
	Correct refrigerant charge to be recalculated and verified for every system on site S65 p2
	Installer to return to site to recalculate the refrigerant charge for each system and label every system with its correct charge (F-Gas) S65 p3
CU 2.05	Party Zone system had previously experienced a high pressure fault S65 p2
CU 2.07	Upper Fitness system: previous high pressure faults noted S65 p2
CU 2.08	Dance Studio fault history: all faults are addressing issues S65 p13
	The tundish and discharge pipework have been connected and terminated to Part G of the Building Regulations: Yes box not ticked S79 p1
	Customer's Signature (To confirm satisfactory demonstration and receipt of manufacturer's literature): blank S79 p1
	Building Regulations Notification Number (if applicable): blank S79 p1
	The tundish and discharge pipework have been connected and terminated to Part G of the Building Regulations: Yes box not ticked S80 p1
	Customer's Signature (To confirm satisfactory demonstration and receipt of manufacturer's literature): blank S80 p1
	Building Regulations Notification Number (if applicable): blank S80 p1
P B.04	On arrival I found the pump installed incorrectly. Site to re-orientate the pump as per manufacturer instructions. S89 p1
P B.04	On arrival I found the pump installed incorrectly in the wrong orientation. Recommend site reinstall the pump as per manufacturer literature. S102 p1
P B.04	Left all units available to use with the only recommendation to re-orientate the LTHW to DHWS pump as per manufacturer instructions. S102 p2
P B.04	Found all okay, left isolated as requested. S102 p1
P B.05	Found all okay, left isolated as requested. S102 p2
	Gym Extract Ductwork (17 Mar 2026): remedial work required Yes but Remedial Details left blank S112 p24

PLANT	OPEN ITEM, AS WRITTEN
	Remedial Works Summary table left empty despite one section requiring remedial work S112 p5
	Damper FD/05 (Main Gym, x250) tested but not in the asset register S113 p14
	Damper Fdd/06 (Main Gym, x200) tested but not in the asset register S113 p16
	Damper FD/07 (Main Gym, 250x250) tested but not in the asset register S113 p18
	Damper FD/08 (Main Gym, 250x250) tested but not in the asset register S113 p20
	Damper FD/09 (Main Gym, x150) tested but not in the asset register S113 p22
	Damper FD/10 (Main Gym, 250 xx250) tested but not in the asset register S113 p24
	Damper FD/12 (Plantroom, 300x350) tested but not in the asset register S113 p28
	Damper FD/13 (Plantroom, 600x600) tested but not in the asset register S113 p30
	Damper FD/14 (Plantroom, 600x600) tested but not in the asset register S113 p32
	Damper FD/15 (Plantroom, 300x350) tested but not in the asset register S113 p34
	Damper FD/16 (Plantroom, 600x600) tested but not in the asset register S113 p36
	Damper FD/17 (Plantroom, 600x600) tested but not in the asset register S113 p38
	Damper FD/19 (Plantroom, 550x400) tested but not in the asset register S113 p40
	Damper FD/19 (Plantroom, 800x400) tested but not in the asset register S113 p42
	Damper FD/20 (Plantroom, 650x350) tested but not in the asset register S113 p44
	Damper FD/21 (Plantroom, 650x450) tested but not in the asset register S113 p46
	Damper FD/22 (Dance Studio Store Room, x250) tested but not in the asset register S113 p48
	Damper FD/26 (D/Doors Leading Into Changing Rooms, 400x400) tested but not in the asset register S113 p56
	FD/10 Main Gym not tested: No Access. Solid ceiling, ceiling hatch required, Estates to address S113 p24
	FD/02 (Buggle Store) recorded as not fire stopped S113 p7
FD 0.01	Ff/03 (Inside Kitchen) recorded as not fire stopped S113 p9
	FD/04 (Changing Rooms) recorded as not fire stopped S113 p11
	FD/04 (Changing Rooms) not drop tested but reported as Pass S113 p11
	FD/05 (Main Gym) recorded as not fire stopped S113 p14
	Fdd/06 (Main Gym) recorded as not fire stopped S113 p16
	FD/09 (Main Gym) recorded as not fire stopped S113 p22
	FD/07 (Main Gym, intumescent) visual inspection only S113 p18
	FD/08 (Main Gym, intumescent) visual inspection only S113 p20

PLANT	OPEN ITEM, AS WRITTEN
	FD/13 (Plantroom) remedial: Yes400x400 on each side S113 p31
	FD/14 (Plantroom) remedial: Yes400x400 on side S113 p33
	FD/16 (Plantroom) remedial: Panel needs fitting on other side of duct S113 p37
	FD/17 (Plantroom) remedial: Door needs fitting on other side S113 p39
	Damper ref FD/19 is used for two different dampers (550x400 supply and 800x400 extract) and FD/18 does not appear S113 p42
FD 1.01	Register damper FD 1.01 (WC 01) has no test record in this report (report uses its own FD/01 to FD/26 labels and no location matches) S113 p4
FD 1.02	Register damper FD 1.02 (Acc WC) has no test record in this report (report uses its own FD/01 to FD/26 labels and no location matches) S113 p4
FD 1.03	Register damper FD 1.03 (WC 02) has no test record in this report (report uses its own FD/01 to FD/26 labels and no location matches) S113 p4
FD 1.04	Register damper FD 1.04 (Membership Office) has no test record in this report (report uses its own FD/01 to FD/26 labels and no location matches) S113 p4
FD 1.05	Register damper FD 1.05 (Membership Office) has no test record in this report (report uses its own FD/01 to FD/26 labels and no location matches) S113 p4
FD 1.06	Register damper FD 1.06 (Corridor 01) has no test record in this report (report uses its own FD/01 to FD/26 labels and no location matches) S113 p4
FD 1.07	Register damper FD 1.07 (Corridor 01) has no test record in this report (report uses its own FD/01 to FD/26 labels and no location matches) S113 p4
FD 1.08	Register damper FD 1.08 (Riser) has no test record in this report (report uses its own FD/01 to FD/26 labels and no location matches) S113 p4
FD 1.09	Register damper FD 1.09 (Riser) has no test record in this report (report uses its own FD/01 to FD/26 labels and no location matches) S113 p4
FD 1.10	Register damper FD 1.10 (Corridor 01) has no test record in this report (report uses its own FD/01 to FD/26 labels and no location matches) S113 p4
AHU R.04	Due to access restrictions we were requested just to obtain a main volume on this system, the grilles are at high level (grilles not measured or balanced) S131 p2
AHU R.04	Tested Volume 0.924 m^3/s against Design Volume 0.990 m^3/s (about 93% of design), although the sheet states 108% S132 p3
AHU R.04	No supply grille readings recorded; grilles are located at high level in the dance area S132 p2
AHU R.05	Diffusers are at very high level above the soft play equipment; only a traverse into the open area was obtained (terminals not measured) S133 p2
AHU R.05	Diffusers are at very high level above the soft play equipment; only traverses into the open area were obtained (diffusers not measured) S134 p2
AHU R.08	Tested Volume 2.304 m^3/s below Design Volume 2.392 m^3/s (about 96%), although the sheet states 100% S135 p3

PLANT	OPEN ITEM, AS WRITTEN
AHU R.08	Terminal sg 1.25 (consult 1) above design tolerance: 770% of design S136 p5
AHU R.08	Terminal sg 1.26 (consult 2) above design tolerance: 760% of design S136 p5
AHU R.08	sg 1.16 and sg 1.17 shown on the system schematic but no test results recorded S136 p6
AHU R.09	Due to access restrictions and configuration of ductwork we were unable to measure the flow rates into the squash courts S137 p2
AHU R.09	There was no way of regulating thw squash court diffusers S137 p2
AHU R.09	Tested Volume 1.654 m³/s below Design Volume 1.661 m³/s, although the sheet states 104% S138 p3
AHU R.09	Due to access restrictions and configuration of ductwork we were unable to measure the flow rates into the squash courts S138 p2
AHU R.09	There is no way to regulate squash court diffusers S138 p2
AHU R.01	Pool extract tested volume 7.365 m³/s is 93% of the 7.898 m³/s design with the fan at 100% (design not achieved) S139 p3
AHU R.03	Due to ductwork configuration we were unable to acheive a total pitot traverse on this system S143 p2
AHU R.03	Terminal sg 0 09 (café seating) above design tolerance: 165% of design S144 p5
AHU R.03	Terminal sg 1 01 (admin/training) below design: 17% of design S144 p5
AHU R.03	Due to ductwork configuration we were unable to acheive a total pitot traverse on this system S144 p2
AHU R.02	Tested Volume 2.223 m³/s marginally below Design Volume 2.225 m³/s (stated as 100%) S146 p3
AHU R.06	Due to access restrictions we were unable to perform a pitot traverse on this system S147 p2
AHU R.06	Fan suction, fan discharge and static pressure not recorded S147 p3
AHU R.06	Due to access restrictions we were unable to perform a pitot traverse on this system S148 p2

Inserted documents. 65 of this section's documents are in Volumes 6, 7, 8 and 9. The contents pages list each one with its volume and page.

8 Manufacturers' literature

Product literature for each asset, matched to the model installed.

ASSET	DOCUMENT	PROVIDED BY	STATUS	PAGES
HWH B.01	HWH B.01 installation and servicing instructions	Arbe Integrated Engineering Ltd	Received	7, see 8.1 (Vol 2)
HWH B.02	HWH B.02 installation and servicing instructions	Arbe Integrated Engineering Ltd	Received	
BS B.01	BS B.01 operation and maintenance manual	TPS Ltd	Received	3, see 8.4 (Vol 2)
BS B.02	BS B.02 operation and maintenance manual	TPS Ltd	Received	
ASHP 0.01	ASHP 0.01 operation and maintenance manual	Trane UK Ltd	Received	
ASHP 0.02	ASHP 0.02 operation and maintenance manual	Trane UK Ltd	Received	
ASHP 0.03	ASHP 0.03 operation and maintenance manual	Trane UK Ltd	Received	
EPH 0.01	EPH 0.01 installation and user instructions	Rexel UK Ltd	Received	1, see 8.70 (Vol 3)
EPH 0.02	EPH 0.02 installation and user instructions	Rexel UK Ltd	Received	
EPH 0.03	EPH 0.03 installation and user instructions	Rexel UK Ltd	Received	
EPH 0.04	EPH 0.04 installation and user instructions	Rexel UK Ltd	Received	
EPH 0.05	EPH 0.05 installation and user instructions	Rexel UK Ltd	Received	
EPH 0.06	EPH 0.06 installation and user instructions	Rexel UK Ltd	Received	2, see 8.60 (Vol 3)
EPH 0.07	EPH 0.07 installation and user instructions	Rexel UK Ltd	Received	
EPH 0.08	EPH 0.08 installation and user instructions	Rexel UK Ltd	Received	
EPH 0.09	EPH 0.09 installation and user instructions	Rexel UK Ltd	Received	
EPH 0.10	EPH 0.10 installation and user instructions	Rexel UK Ltd	Received	
EPH 0.11	EPH 0.11 installation and user instructions	Rexel UK Ltd	Received	
EPH 0.12	EPH 0.12 installation and user instructions	Rexel UK Ltd	Received	

ASSET	DOCUMENT	PROVIDED BY	STATUS	PAGES
EPH 0.13	EPH 0.13 installation and user instructions	Rexel UK Ltd	Received	
EPH 1.01	EPH 1.01 installation and user instructions	Rexel UK Ltd	Received	
EPH 1.02	EPH 1.02 installation and user instructions	Rexel UK Ltd	Received	
EPH 1.03	EPH 1.03 installation and user instructions	Rexel UK Ltd	Received	
EPH 1.04	EPH 1.04 installation and user instructions	Rexel UK Ltd	Received	
EPH 1.05	EPH 1.05 installation and user instructions	Rexel UK Ltd	Received	
EPH 1.06	EPH 1.06 installation and user instructions	Rexel UK Ltd	Received	
EPH 1.07	EPH 1.07 installation and user instructions	Rexel UK Ltd	Received	
EPH 1.08	EPH 1.08 installation and user instructions	Rexel UK Ltd	Received	
EPH 1.09	EPH 1.09 installation and user instructions	Rexel UK Ltd	Received	
EPH 1.10	EPH 1.10 installation and user instructions	Rexel UK Ltd	Received	
EPH 2.01	EPH 2.01 installation and user instructions	Rexel UK Ltd	Received	
EPH 2.02	EPH 2.02 installation and user instructions	Rexel UK Ltd	Received	
EPH 2.03	EPH 2.03 installation and user instructions	Rexel UK Ltd	Received	
EPH 2.04	EPH 2.04 installation and user instructions	Rexel UK Ltd	Received	
EPH 2.05	EPH 2.05 installation and user instructions	Rexel UK Ltd	Received	
EPH 2.06	EPH 2.06 installation and user instructions	Rexel UK Ltd	Received	
EPH 2.07	EPH 2.07 installation and user instructions	Rexel UK Ltd	Received	
EPH 2.08	EPH 2.08 installation and user instructions	Rexel UK Ltd	Received	
EPH 2.09	EPH 2.09 installation and user instructions	Rexel UK Ltd	Received	
EPH 2.10	EPH 2.10 installation and user instructions	Rexel UK Ltd	Received	
EPH 2.11	EPH 2.11 installation and user instructions	Rexel UK Ltd	Received	
EPH 2.12	EPH 2.12 installation and user instructions	Rexel UK Ltd	Received	
EPH 2.13	EPH 2.13 installation and user instructions	Rexel UK Ltd	Received	
EPH 2.14	EPH 2.14 installation and user instructions	Rexel UK Ltd	Received	
EPH 2.15	EPH 2.15 installation and user instructions	Rexel UK Ltd	Received	
EPH 2.16	EPH 2.16 installation and user instructions	Rexel UK Ltd	Received	
TS.0.01	TS.0.01 product datasheet and maintenance instructions	BKW Mechanical	Received	
P B.01	P B.01 operation and maintenance manual	TPS Ltd	Received	
P B.02	P B.02 operation and maintenance manual	TPS Ltd	Received	
P B.03	P B.03 operation and maintenance manual	TPS Ltd	Received	
P B.04	P B.04 operation and maintenance manual	TPS Ltd	Received	
P B.05	P B.05 operation and maintenance manual	TPS Ltd	Received	

ASSET	DOCUMENT	PROVIDED BY	STATUS	PAGES
PU 0.01	PU 0.01 operation and maintenance manual	TPS Ltd	Received	12, see 8.5 (Vol 2)
AC 0.01	AC 0.01 installation and user guide	Frost Air Conditioning	Received	
AC 0.02	AC 0.02 installation and user guide	Frost Air Conditioning	Received	
AC 0.03	AC 0.03 installation and user guide	Frost Air Conditioning	Received	
AC 0.04	AC 0.04 installation and user guide	Frost Air Conditioning	Received	
AC 0.05	AC 0.05 installation and user guide	Frost Air Conditioning	Received	
AC 0.06	AC 0.06 installation and user guide	Frost Air Conditioning	Received	
AC 0.07	AC 0.07 installation and user guide	Frost Air Conditioning	Received	
AC 0.08	AC 0.08 installation and user guide	Frost Air Conditioning	Received	
AC 0.09	AC 0.09 installation and user guide	Frost Air Conditioning	Received	
AC 0.10	AC 0.10 installation and user guide	Frost Air Conditioning	Received	
AC 0.11	AC 0.11 installation and user guide	Frost Air Conditioning	Received	
AC 0.12	AC 0.12 installation and user guide	Frost Air Conditioning	Received	
AC 0.13	AC 0.13 installation and user guide	Frost Air Conditioning	Received	
AC 0.14	AC 0.14 installation and user guide	Frost Air Conditioning	Received	
AC 0.15	AC 0.15 installation and user guide	Frost Air Conditioning	Received	
AC 0.16	AC 0.16 installation and user guide	Frost Air Conditioning	Received	
AC 0.17	AC 0.17 installation and user guide	Frost Air Conditioning	Received	
AC 0.18	AC 0.18 installation and user guide	Frost Air Conditioning	Received	
AC 0.19	AC 0.19 installation and user guide	Frost Air Conditioning	Received	
AC 0.20	AC 0.20 installation and user guide	Frost Air Conditioning	Received	

ASSET	DOCUMENT	PROVIDED BY	STATUS	PAGES
AC 0.21	AC 0.21 installation and user guide	Frost Air Conditioning	Received	
AC 0.22	AC 0.22 installation and user guide	Frost Air Conditioning	Received	
AC 0.23	AC 0.23 installation and user guide	Frost Air Conditioning	Received	
AC 0.25	AC 0.25 installation and user guide	Frost Air Conditioning	Received	
AC 0.26	AC 0.26 installation and user guide	Frost Air Conditioning	Received	
AC 0.27	AC 0.27 installation and user guide	Frost Air Conditioning	Received	
AC 1.01	AC 1.01 installation and user guide	Frost Air Conditioning	Received	
AC 1.02	AC 1.02 installation and user guide	Frost Air Conditioning	Received	
AC 1.03	AC 1.03 installation and user guide	Frost Air Conditioning	Received	
AC 1.04	AC 1.04 installation and user guide	Frost Air Conditioning	Received	
AC 1.05	AC 1.05 installation and user guide	Frost Air Conditioning	Received	
AC 1.06	AC 1.06 installation and user guide	Frost Air Conditioning	Received	
AC 1.07	AC 1.07 installation and user guide	Frost Air Conditioning	Received	
AC 1.08	AC 1.08 installation and user guide	Frost Air Conditioning	Received	
AC 1.09	AC 1.09 installation and user guide	Frost Air Conditioning	Received	
AC 1.10	AC 1.10 installation and user guide	Frost Air Conditioning	Received	
AC 1.11	AC 1.11 installation and user guide	Frost Air Conditioning	Received	
AC 1.12	AC 1.12 installation and user guide	Frost Air Conditioning	Received	
AC 1.13	AC 1.13 installation and user guide	Frost Air Conditioning	Received	
AC 1.14	AC 1.14 installation and user guide	Frost Air Conditioning	Received	
AC 1.16	AC 1.16 installation and user guide	Frost Air Conditioning	Received	
AC 1.18	AC 1.18 installation and user guide	Frost Air Conditioning	Received	
AC 1.19	AC 1.19 installation and user guide	Frost Air Conditioning	Received	
AC 1.20	AC 1.20 installation and user guide	Frost Air Conditioning	Received	
AC 1.21	AC 1.21 installation and user guide	Frost Air Conditioning	Received	
AC 1.22	AC 1.22 installation and user guide	Frost Air Conditioning	Received	
AC 1.23	AC 1.23 installation and user guide	Frost Air Conditioning	Received	
AC 1.24	AC 1.24 installation and user guide	Frost Air Conditioning	Received	
AC 1.25	AC 1.25 installation and user guide	Frost Air Conditioning	Received	
AC 1.26	AC 1.26 installation and user guide	Frost Air Conditioning	Received	
AC 1.27	AC 1.27 installation and user guide	Frost Air Conditioning	Received	
AC 1.28	AC 1.28 installation and user guide	Frost Air Conditioning	Received	
AC 1.29	AC 1.29 installation and user guide	Frost Air Conditioning	Received	
AC 1.30	AC 1.30 installation and user guide	Frost Air Conditioning	Received	

ASSET	DOCUMENT	PROVIDED BY	STATUS	PAGES
AC 1.31	AC 1.31 installation and user guide	Frost Air Conditioning	Received	
AC 1.32	AC 1.32 installation and user guide	Frost Air Conditioning	Received	
AC 1.33	AC 1.33 installation and user guide	Frost Air Conditioning	Received	
AC 1.34	AC 1.34 installation and user guide	Frost Air Conditioning	Received	
AC 1.35	AC 1.35 installation and user guide	Frost Air Conditioning	Received	
AC 1.36	AC 1.36 installation and user guide	Frost Air Conditioning	Received	
AC 1.37	AC 1.37 installation and user guide	Frost Air Conditioning	Received	
AC 2.01	AC 2.01 installation and user guide	Frost Air Conditioning	Received	
AC 2.02	AC 2.02 installation and user guide	Frost Air Conditioning	Received	
AC 2.03	AC 2.03 installation and user guide	Frost Air Conditioning	Received	
AC 2.04	AC 2.04 installation and user guide	Frost Air Conditioning	Received	
AC 2.05	AC 2.05 installation and user guide	Frost Air Conditioning	Received	
AC 2.06	AC 2.06 installation and user guide	Frost Air Conditioning	Received	
AC 2.07	AC 2.07 installation and user guide	Frost Air Conditioning	Received	
CU 2.01	CU 2.01 operation and maintenance manual	Frost Air Conditioning	Received	26, see 8.91 (Vol 4)
CU 2.02	CU 2.02 operation and maintenance manual	Frost Air Conditioning	Received	
CU 2.03	CU 2.03 operation and maintenance manual	Frost Air Conditioning	Received	
CU 2.04A	CU 2.04A operation and maintenance manual	Frost Air Conditioning	Received	
CU 2.04B	CU 2.04B operation and maintenance manual	Frost Air Conditioning	Received	
CU 2.05	CU 2.05 operation and maintenance manual	Frost Air Conditioning	Received	
CU 2.06A	CU 2.06A operation and maintenance manual	Frost Air Conditioning	Received	

ASSET	DOCUMENT	PROVIDED BY	STATUS	PAGES
CU 2.06B	CU 2.06B operation and maintenance manual	Frost Air Conditioning	Received	
CU 2.07	CU 2.07 operation and maintenance manual	Frost Air Conditioning	Received	
CU 2.08	CU 2.08 operation and maintenance manual	Frost Air Conditioning	Received	
CU 2.09	CU 2.09 operation and maintenance manual	Frost Air Conditioning	Received	
CU 2.10	CU 2.10 operation and maintenance manual	Frost Air Conditioning	Received	
AHU R.02	AHU R.02 operation and maintenance manual	Trane UK Ltd	Received	
AHU R.02	AHU R.02 datasheet and technical submittal	Trane UK Ltd	Received	
AHU R.03	AHU R.03 operation and maintenance manual	Trane UK Ltd	Received	
AHU R.03	AHU R.03 datasheet and technical submittal	Trane UK Ltd	Received	
AHU R.04	AHU R.04 operation and maintenance manual	Trane UK Ltd	Received	
AHU R.04	AHU R.04 datasheet and technical submittal	Trane UK Ltd	Received	
AHU R.05	AHU R.05 operation and maintenance manual	Trane UK Ltd	Received	
AHU R.05	AHU R.05 datasheet and technical submittal	Trane UK Ltd	Received	
AHU R.06	AHU R.06 operation and maintenance manual	Trane UK Ltd	Received	
AHU R.06	AHU R.06 datasheet and technical submittal	Trane UK Ltd	Received	
AHU R.07	AHU R.07 operation and maintenance manual	Trane UK Ltd	Received	
AHU R.07	AHU R.07 datasheet and technical submittal	Trane UK Ltd	Received	
AHU R.08	AHU R.08 operation and maintenance manual	Trane UK Ltd	Received	
AHU R.08	AHU R.08 datasheet and technical submittal	Trane UK Ltd	Received	
AHU R.09	AHU R.09 operation and maintenance manual	Trane UK Ltd	Received	
AHU R.09	AHU R.09 datasheet and technical submittal	Trane UK Ltd	Received	

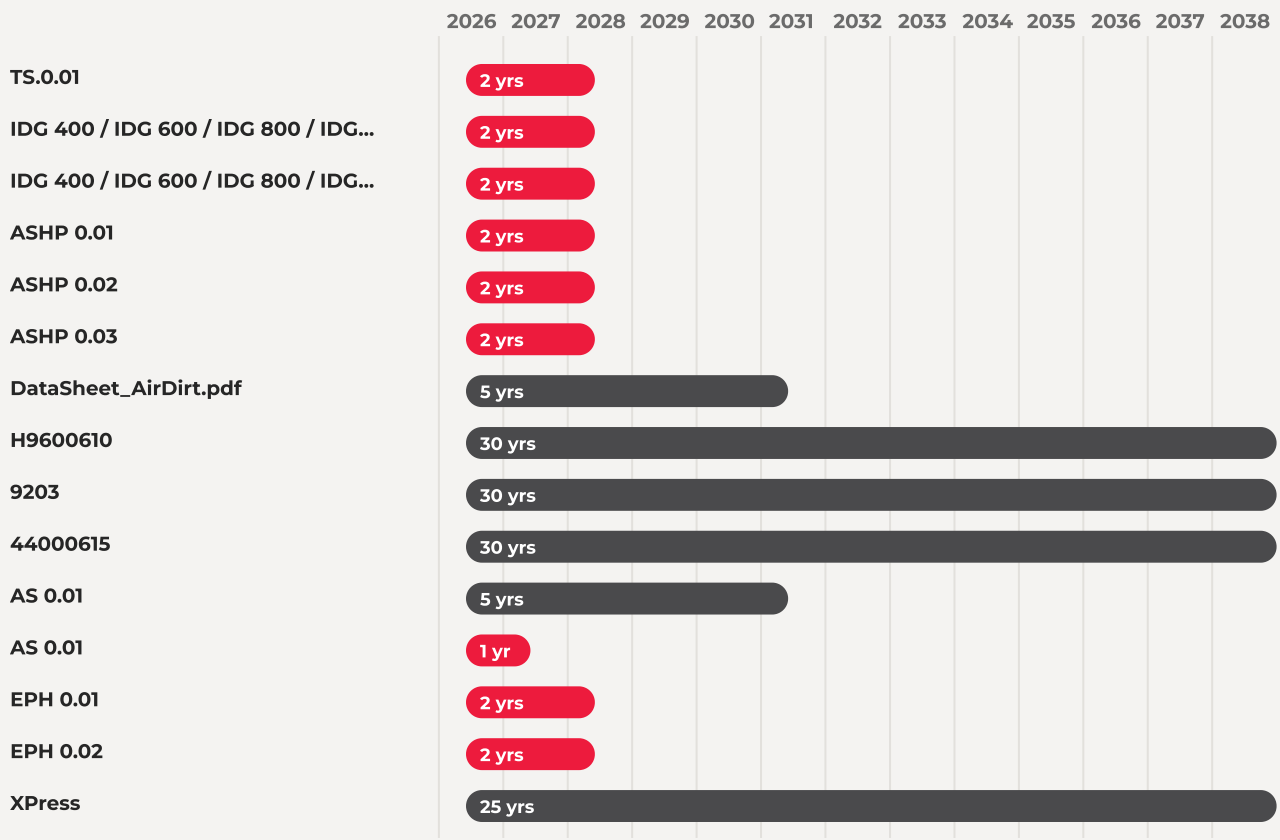
ASSET	DOCUMENT	PROVIDED BY	STATUS	PAGES
AHU R.01	AHU R.01 operation and maintenance manual	Trane UK Ltd	Received	132, see 8.26 (Vol 2)
AHU R.01	AHU R.01 datasheet and technical submittal	Trane UK Ltd	Received	94, see 8.67 (Vol 3)
SG-TYPE A	SG-TYPE A product datasheet	Ventilation Direct Ltd	Received	8, see 8.90 (Vol 4)
SG-TYPE B	SG-TYPE B product datasheet	Ventilation Direct Ltd	Received	20, see 8.87 (Vol 4)
SG-TYPE C	SG-TYPE C product datasheet	Ventilation Direct Ltd	Received	
SG-TYPE D	SG-TYPE D product datasheet	Ventilation Direct Ltd	Received	16, see 8.89 (Vol 4)
EG-TYPE A	EG-TYPE A product datasheet	Ventilation Direct Ltd	Received	10, see 8.88 (Vol 4)
EG-TYPE B	EG-TYPE B product datasheet	Ventilation Direct Ltd	Received	
EG-TYPE C	EG-TYPE C product datasheet	Ventilation Direct Ltd	Received	
EV-TYPE D	EV-TYPE D product datasheet	Ventilation Direct Ltd	Received	
AS 0.01	AS 0.01 product datasheet	Ventilation Direct Ltd	Received	15, see 8.64 (Vol 3)
AS 0.02	AS 0.02 product datasheet	Ventilation Direct Ltd	Received	
ATT-TYPE A	ATT-TYPE A product datasheet	Caice Acoustic Air Movement Ltd	Received	11, see 8.48 (Vol 3)
ATT-TYPE B	ATT-TYPE B product datasheet	Caice Acoustic Air Movement Ltd	Received	
ATT-TYPE C	ATT-TYPE C product datasheet	Caice Acoustic Air Movement Ltd	Received	
ATT-TYPE D	ATT-TYPE D product datasheet	Caice Acoustic Air Movement Ltd	Received	
ATT-TYPE E	ATT-TYPE E product datasheet	Caice Acoustic Air Movement Ltd	Received	
ATT-TYPE F	ATT-TYPE F product datasheet	Caice Acoustic Air Movement Ltd	Received	
ATT-TYPE G	ATT-TYPE G product datasheet	Caice Acoustic Air Movement Ltd	Received	
ATT-TYPE H	ATT-TYPE H product datasheet	Caice Acoustic Air Movement Ltd	Received	
ATT-TYPE I	ATT-TYPE I product datasheet	Caice Acoustic Air Movement Ltd	Received	
EF B.01	EF B.01 operation and maintenance manual	Ventilation Direct Ltd	Received	9, see 8.57 (Vol 3)
EF B.02	EF B.02 operation and maintenance manual	Ventilation Direct Ltd	Received	

ASSET	DOCUMENT	PROVIDED BY	STATUS	PAGES
EF B.03	EF B.03 operation and maintenance manual	Ventilation Direct Ltd	Received	12, see 8.58 (Vol 3)
EF B.04	EF B.04 operation and maintenance manual	Ventilation Direct Ltd	Received	
FD 0.01	FD 0.01 product datasheet and installation instructions	BSB Engineering Services Ltd	Received	8, see 8.77 (Vol 3)
FD 0.02	FD 0.02 product datasheet and installation instructions	BSB Engineering Services Ltd	Received	16, see 8.95 (Vol 4)
FD 0.03	FD 0.03 product datasheet and installation instructions	BSB Engineering Services Ltd	Received	
FD 0.04	FD 0.04 product datasheet and installation instructions	BSB Engineering Services Ltd	Received	
FD 0.05	FD 0.05 product datasheet and installation instructions	BSB Engineering Services Ltd	Received	
FD 0.06	FD 0.06 product datasheet and installation instructions	BSB Engineering Services Ltd	Received	
FD 0.07	FD 0.07 product datasheet and installation instructions	BSB Engineering Services Ltd	Received	
FD 0.08	FD 0.08 product datasheet and installation instructions	BSB Engineering Services Ltd	Received	
FD 1.01	FD 1.01 product datasheet and installation instructions	BSB Engineering Services Ltd	Received	
FD 1.02	FD 1.02 product datasheet and installation instructions	BSB Engineering Services Ltd	Received	
FD 1.03	FD 1.03 product datasheet and installation instructions	BSB Engineering Services Ltd	Received	
FD 1.04	FD 1.04 product datasheet and installation instructions	BSB Engineering Services Ltd	Received	
FD 1.05	FD 1.05 product datasheet and installation instructions	BSB Engineering Services Ltd	Received	
FD 1.06	FD 1.06 product datasheet and installation instructions	BSB Engineering Services Ltd	Received	
FD 1.07	FD 1.07 product datasheet and installation instructions	BSB Engineering Services Ltd	Received	
FD 1.08	FD 1.08 product datasheet and installation instructions	BSB Engineering Services Ltd	Received	
FD 1.09	FD 1.09 product datasheet and installation instructions	BSB Engineering Services Ltd	Received	
FD 1.10	FD 1.10 product datasheet and installation instructions	BSB Engineering Services Ltd	Received	
DTG-TYPE A	DTG-TYPE A product datasheet	Ventilation Direct Ltd	Received	8, see 8.73 (Vol 3)

Inserted documents. 107 of this section's documents are in Volumes 2, 3, 4 and 5. The contents pages list each one with its volume and page.

9 Warranties

Warranties run from practical completion on 2nd of June 2026 unless stated otherwise.



ASSET	YEARS	COVER
TS.0.01	2	Shell: 2 Years, All Other Equipment: 1 Year S1 p5
IDG 400 / IDG 600 / IDG 800 / IDG 1200 / IDG 1600	2	UPS S5 p2
IDG 400 / IDG 600 / IDG 800 / IDG 1200 / IDG 1600	2	UPS S8 p2
ASHP 0.01	2	Full Parts and Labour, 24 Months from delivery; completion of warranty period 18/09/2027; Trane 1st year maintenance included; maintenance is carried out to ensure the validity of the warranty, by a reputable company of the same standard as Trane S22 p1
ASHP 0.02	2	Full Parts and Labour, 24 Months from delivery; completion of warranty period 18/09/2027; Trane 1st year maintenance included; maintenance is carried out to ensure the validity of the warranty, by a reputable company of the same standard as Trane S22 p1

ASSET	YEARS	COVER
ASHP 0.03	2	Full Parts and Labour, 24 Months from delivery; completion of warranty period 18/09/2027; Trane 1st year maintenance included; maintenance is carried out to ensure the validity of the warranty, by a reputable company of the same standard as Trane S22 p1
SAV31.. / SAV61.. / SAV61../MO / SAV81..	2	Application-specific technical data, Guaranteed only in combination with the Siemens products listed in Device combinations; third-party products invalidate any Siemens guarantee. S24 p8
SSD131.09U / SSD131.29U / SSD161S.05DU / SSD161S.25DU	2	Technical data on specific applications, Siemens rejects any and all warranties in the event that third-party products are used; technical data valid only with Siemens products listed under Equipment combinations. S25 p11
VPP46.. / VPP46..Q / VPI46.. / VPI46..Q	2	Application-related technical data, Application-related technical data are guaranteed only when the valves are used with the Siemens actuators listed under Equipment combinations; with actuators of other manufacture any warranty by Siemens becomes void. S29 p12
SAY31P03 / SAY61P03 / SAY61P03/MO / SAY81P03	2	Technical data on specific applications, Siemens rejects any and all warranties in the event that third-party products are used; technical data valid only with Siemens products listed under Equipment combinations. S30 p7
SKC32.. / SKC82.. / SKC6..	2	Technical data on specific applications, Siemens rejects any and all warranties in the event that third-party products are used; technical data valid only with Siemens products listed under Equipment combinations. S31 p18
VVG44.. / VXG44..	2	Technical data on specific applications, Siemens rejects any and all warranties in the event that third-party products are used; technical data valid only with Siemens products listed under Equipment combinations. S32 p13
VPF43.. / VPF44.. / VPF53.. / VPF54..	2	Technical data on specific applications, Siemens rejects any and all warranties in the event that third-party products are used; technical data valid only with Siemens products listed under Equipment combinations. S33 p20
VPF43.. / VPF44.. / VPF53.. / VPF54..	2	Technical data on specific applications, Siemens rejects any and all warranties in the event that third-party products are used; technical data valid only with Siemens products listed under Equipment combinations. S34 p19
VVF43.. / VVF43..K / VXF43..	2	Application-related technical data, Application-related technical data are guaranteed only when the valves are used with the Siemens actuators listed under Equipment combinations; with actuators of other manufacture any warranty by Siemens becomes void. S35 p10
DataSheet_AirDirt.pdf	5	5 Year Warranty S68 p2
H9600610	30	SECURITHERM thermostatic basin mixer S71 p1

ASSET	YEARS	COVER
9203	30	Eye wash and safety shower combination S72 p1
44000615	30	TEMPOMATIC 4 electronic tap S73 p1
AS 0.01	5	ZeroWeave materials, zips/bulbs, DireJet nozzles and accessories, suspension material, Systems in aggressive environments such as swimming pool facilities covered by the standard 5 year warranty; void if incorrectly installed, repaired or modified, or not maintained to KE washing and maintenance instructions S78 p15
AS 0.01	1	Design and technical function (pulsations, pressure loss and air velocity in the occupied zone), only if stated in the order confirmation, KE may measure the system before accepting a claim S78 p15
EPH 0.01	2	Heater S87 p1
EPH 0.02	2	Heater S87 p1
SAS31.. / SAS61.. / SAS81.. / SAT..	2	Engineering data in chapter 2.5 Equipment combinations, Only guaranteed in connection with the Siemens valves listed; with valves of other manufacture Siemens will assume no responsibility. S104 p13
XPress	25	XPress Copper, Copper Gas, Stainless and Stainless Gas fittings with approved tube; XPress Carbon fittings 10 Years, To qualify for guarantees, all products must be installed in accordance with our instructions on specified applications. S118 p11
FD 0.01	2	Installations involving corrosive and/or aggressive hostile environmental conditions (e.g. swimming pools) may invalidate the warranty and should be referred to BSB Sales Office S121 p8
VVF42.. / VVF42..K / VXF42..	2	Application-related technical data, Application-related technical data are guaranteed only when the valves are used with the Siemens actuators listed under Equipment combinations; with actuators of other manufacture any warranty by Siemens becomes void. S127 p10
HWH B.01	2	Parts and labour, from practical completion
HWH B.02	2	Parts and labour, from practical completion
BS B.01	2	Parts and labour, from practical completion
BS B.02	2	Parts and labour, from practical completion
EPH 0.03	2	Parts and labour, from practical completion
EPH 0.04	2	Parts and labour, from practical completion
EPH 0.05	2	Parts and labour, from practical completion
EPH 0.06	2	Parts and labour, from practical completion
EPH 0.07	2	Parts and labour, from practical completion
EPH 0.08	2	Parts and labour, from practical completion
EPH 0.09	2	Parts and labour, from practical completion

ASSET	YEARS	COVER
EPH 0.10	2	Parts and labour, from practical completion
EPH 0.11	2	Parts and labour, from practical completion
EPH 0.12	2	Parts and labour, from practical completion
EPH 0.13	2	Parts and labour, from practical completion
EPH 1.01	2	Parts and labour, from practical completion
EPH 1.02	2	Parts and labour, from practical completion
EPH 1.03	2	Parts and labour, from practical completion
EPH 1.04	2	Parts and labour, from practical completion
EPH 1.05	2	Parts and labour, from practical completion
EPH 1.06	2	Parts and labour, from practical completion
EPH 1.07	2	Parts and labour, from practical completion
EPH 1.08	2	Parts and labour, from practical completion
EPH 1.09	2	Parts and labour, from practical completion
EPH 1.10	2	Parts and labour, from practical completion
EPH 2.01	2	Parts and labour, from practical completion
EPH 2.02	2	Parts and labour, from practical completion
EPH 2.03	2	Parts and labour, from practical completion
EPH 2.04	2	Parts and labour, from practical completion
EPH 2.05	2	Parts and labour, from practical completion
EPH 2.06	2	Parts and labour, from practical completion
EPH 2.07	2	Parts and labour, from practical completion
EPH 2.08	2	Parts and labour, from practical completion
EPH 2.09	2	Parts and labour, from practical completion
EPH 2.10	2	Parts and labour, from practical completion
EPH 2.11	2	Parts and labour, from practical completion
EPH 2.12	2	Parts and labour, from practical completion
EPH 2.13	2	Parts and labour, from practical completion
EPH 2.14	2	Parts and labour, from practical completion
EPH 2.15	2	Parts and labour, from practical completion

ASSET	YEARS	COVER
EPH 2.16	2	Parts and labour, from practical completion
P B.01	2	Parts and labour, from practical completion
P B.02	2	Parts and labour, from practical completion
P B.03	2	Parts and labour, from practical completion
P B.04	2	Parts and labour, from practical completion
P B.05	2	Parts and labour, from practical completion
PU 0.01	2	Parts and labour, from practical completion
AC 0.01	2	Parts and labour, from practical completion
AC 0.02	2	Parts and labour, from practical completion
AC 0.03	2	Parts and labour, from practical completion
AC 0.04	2	Parts and labour, from practical completion
AC 0.05	2	Parts and labour, from practical completion
AC 0.06	2	Parts and labour, from practical completion
AC 0.07	2	Parts and labour, from practical completion
AC 0.08	2	Parts and labour, from practical completion
AC 0.09	2	Parts and labour, from practical completion
AC 0.10	2	Parts and labour, from practical completion
AC 0.11	2	Parts and labour, from practical completion
AC 0.12	2	Parts and labour, from practical completion
AC 0.13	2	Parts and labour, from practical completion
AC 0.14	2	Parts and labour, from practical completion
AC 0.15	2	Parts and labour, from practical completion
AC 0.16	2	Parts and labour, from practical completion
AC 0.17	2	Parts and labour, from practical completion
AC 0.18	2	Parts and labour, from practical completion
AC 0.19	2	Parts and labour, from practical completion
AC 0.20	2	Parts and labour, from practical completion
AC 0.21	2	Parts and labour, from practical completion
AC 0.22	2	Parts and labour, from practical completion

ASSET	YEARS	COVER
AC 0.23	2	Parts and labour, from practical completion
AC 0.25	2	Parts and labour, from practical completion
AC 0.26	2	Parts and labour, from practical completion
AC 0.27	2	Parts and labour, from practical completion
AC 1.01	2	Parts and labour, from practical completion
AC 1.02	2	Parts and labour, from practical completion
AC 1.03	2	Parts and labour, from practical completion
AC 1.04	2	Parts and labour, from practical completion
AC 1.05	2	Parts and labour, from practical completion
AC 1.06	2	Parts and labour, from practical completion
AC 1.07	2	Parts and labour, from practical completion
AC 1.08	2	Parts and labour, from practical completion
AC 1.09	2	Parts and labour, from practical completion
AC 1.10	2	Parts and labour, from practical completion
AC 1.11	2	Parts and labour, from practical completion
AC 1.12	2	Parts and labour, from practical completion
AC 1.13	2	Parts and labour, from practical completion
AC 1.14	2	Parts and labour, from practical completion
AC 1.16	2	Parts and labour, from practical completion
AC 1.18	2	Parts and labour, from practical completion
AC 1.19	2	Parts and labour, from practical completion
AC 1.20	2	Parts and labour, from practical completion
AC 1.21	2	Parts and labour, from practical completion
AC 1.22	2	Parts and labour, from practical completion
AC 1.23	2	Parts and labour, from practical completion
AC 1.24	2	Parts and labour, from practical completion
AC 1.25	2	Parts and labour, from practical completion
AC 1.26	2	Parts and labour, from practical completion
AC 1.27	2	Parts and labour, from practical completion

ASSET	YEARS	COVER
AC 1.28	2	Parts and labour, from practical completion
AC 1.29	2	Parts and labour, from practical completion
AC 1.30	2	Parts and labour, from practical completion
AC 1.31	2	Parts and labour, from practical completion
AC 1.32	2	Parts and labour, from practical completion
AC 1.33	2	Parts and labour, from practical completion
AC 1.34	2	Parts and labour, from practical completion
AC 1.35	2	Parts and labour, from practical completion
AC 1.36	2	Parts and labour, from practical completion
AC 1.37	2	Parts and labour, from practical completion
AC 2.01	2	Parts and labour, from practical completion
AC 2.02	2	Parts and labour, from practical completion
AC 2.03	2	Parts and labour, from practical completion
AC 2.04	2	Parts and labour, from practical completion
AC 2.05	2	Parts and labour, from practical completion
AC 2.06	2	Parts and labour, from practical completion
AC 2.07	2	Parts and labour, from practical completion
CU 2.01	2	Parts and labour, from practical completion
CU 2.02	2	Parts and labour, from practical completion
CU 2.03	2	Parts and labour, from practical completion
CU 2.04A	2	Parts and labour, from practical completion
CU 2.04B	2	Parts and labour, from practical completion
CU 2.05	2	Parts and labour, from practical completion
CU 2.06A	2	Parts and labour, from practical completion
CU 2.06B	2	Parts and labour, from practical completion
CU 2.07	2	Parts and labour, from practical completion
CU 2.08	2	Parts and labour, from practical completion
CU 2.09	2	Parts and labour, from practical completion
CU 2.10	2	Parts and labour, from practical completion

ASSET	YEARS	COVER
AHU R.02	2	Parts and labour, from practical completion
AHU R.03	2	Parts and labour, from practical completion
AHU R.04	2	Parts and labour, from practical completion
AHU R.05	2	Parts and labour, from practical completion
AHU R.06	2	Parts and labour, from practical completion
AHU R.07	2	Parts and labour, from practical completion
AHU R.08	2	Parts and labour, from practical completion
AHU R.09	2	Parts and labour, from practical completion
AHU R.01	2	Parts and labour, from practical completion
EF B.01	2	Parts and labour, from practical completion
EF B.02	2	Parts and labour, from practical completion
EF B.03	2	Parts and labour, from practical completion
EF B.04	2	Parts and labour, from practical completion

9.1

ASHP 0.01 warranty certificate

The following page is the document exactly as received and checked. It is bookmarked in the PDF.

Reference	HEN0203-ASHP001-WC
Asset	ASHP 0.01
Provided by	Trane UK Ltd
Source file	Trane heat pump warranty commencement, ASHP 0.01 to 0.03.pdf
Pages	1

Trane UK Limited
Lawrence HOUSE,
Viables Industrial Estate,
A1 Jays Close,
Basingstoke
RG22 4LT
Tel: 08457 165 162
www.trane.co.uk

Subject: Warranty Commencement

Dear Customer,

We would like to take this opportunity to notify you of our warranty period & provide contact details for you moving forward to commissioning & maintaining of the units on this project.

Project: **Elmwood Leisure Centre ASHPs**
Our Reference: **43NA875**
Your Reference: **1486/HEN0203**

Delivery date/Commencement of Warranty Period	**19/09/2025**
Completion Date of Warranty Period	**18/09/2027**
Warranty Period	**24 Months from delivery**
Warranty Type	**Full Parts and Labour**
Trane 1st Year Maintenance	**Included**

Monitoring first-year operation & critical parameters is crucial during the initial break-in months of any new Equipment. To ensure your investment is properly integrated into your Environment and is providing peak performance and efficient energy use, maintenance is carried out to ensure the validity of the warranty. This needs to be undertaken by a reputable company of the same standard as Trane.

Trane Service Contacts

Please contact the following to arrange Commissioning visit for your project.

Service Deployer	**Dana Tici**	**01256 306058**	**Dana.Tici@trane.com**
	Lydia Dos Santos	**01256 306016**	**Lydia.Dossantos@trane.com**
Service Sales Engineer	**Tamer Yildiz 07801 633067**		**Tamer_Yildiz@trane.com**

Should you have any queries or require further information please do not hesitate to contact the above or the undersigned.

Yours Sincerely,

Lynn Steed
Equipment Project Coordinator
Trane UK Ltd

10 Spares and consumables

Recommended spares and consumables to hold on site.

ASSET	ITEM	QUANTITY	REPLACEMENT
	Spare parts from Quinway Acoustics Limited S23 p3		
	Stem sealing gland (stock number by series and DN, see table) S35 p15		
	Integrated 123 6V Lithium batteries S73 p1		
AHU R.01	Supply filter stage 1 bag filter element 592x592, class ePM10-55 % / M5 S84 p2	12	
AHU R.01	Supply filter stage 1 bag filter element 287x592, class ePM10-55 % / M5 S84 p2	6	
AHU R.01	Supply filter stage 2 bag filter element 592x592, class ePM1-60 % / F7 S84 p4	12	
AHU R.01	Supply filter stage 2 bag filter element 287x592, class ePM1-60 % / F7 S84 p4	6	
AHU R.01	Exhaust filter stage 1 bag filter element 592x592, class ePM10-55 % / M5 S84 p7	12	
AHU R.01	Exhaust filter stage 1 bag filter element 287x592, class ePM10-55 % / M5 S84 p7	6	
AHU R.02	Supply filter stage 1 bag filter element 592x592, class ePM10-55 % / M5 S84 p15	2	
AHU R.02	Supply filter stage 1 bag filter element 287x592, class ePM10-55 % / M5 S84 p15	3	
AHU R.02	Supply filter stage 1 bag filter element 287x287, class ePM10-55 % / M5 S84 p16	1	
AHU R.02	Supply filter stage 2 bag filter element 592x592, class ePM1-60 % / F7 S84 p16	2	
AHU R.02	Supply filter stage 2 bag filter element 287x592, class ePM1-60 % / F7 S84 p16	3	
AHU R.02	Supply filter stage 2 bag filter element 287x287, class ePM1-60 % / F7 S84 p16	1	
AHU R.02	Exhaust filter stage 1 bag filter element 592x592, class ePM10-55 % / M5 S84 p21	2	
AHU R.02	Exhaust filter stage 1 bag filter element 287x592, class ePM10-55 % / M5 S84 p21	3	
AHU R.02	Exhaust filter stage 1 bag filter element 287x287, class ePM10-55 % / M5 S84 p21	1	

ASSET	ITEM	QUANTITY	REPLACEMENT
AHU R.03	Supply filter stage 1 bag filter element 592x592, class ePM10-55 % / M5 S84 p32	3	
AHU R.03	Supply filter stage 1 bag filter element 287x592, class ePM10-55 % / M5 S84 p32	3	
AHU R.03	Supply filter stage 2 bag filter element 592x592, class ePM1-60 % / F7 S84 p32	3	
AHU R.03	Supply filter stage 2 bag filter element 287x592, class ePM1-60 % / F7 S84 p32	3	
AHU R.03	Exhaust filter stage 1 bag filter element 592x592, class ePM10-55 % / M5 S84 p36	3	
AHU R.03	Exhaust filter stage 1 bag filter element 287x592, class ePM10-55 % / M5 S84 p36	3	
AHU R.04	Supply filter stage 1 bag filter element 592x592, class ePM10-55 % / M5 S84 p48	2	
AHU R.04	Supply filter stage 2 bag filter element 592x592, class ePM1-60 % / F7 S84 p48	2	
AHU R.04	Exhaust filter stage 1 bag filter element 592x592, class ePM10-55 % / M5 S84 p55	2	
AHU R.05	Supply filter stage 1 bag filter element 592x592, class ePM10-55 % / M5 S84 p67	2	
AHU R.05	Supply filter stage 1 bag filter element 287x592, class ePM10-55 % / M5 S84 p67	2	
AHU R.05	Supply filter stage 2 bag filter element 592x592, class ePM1-60 % / F7 S84 p67	2	
AHU R.05	Supply filter stage 2 bag filter element 287x592, class ePM1-60 % / F7 S84 p67	2	
AHU R.05	Exhaust filter stage 1 bag filter element 592x592, class ePM10-55 % / M5 S84 p70	2	
AHU R.05	Exhaust filter stage 1 bag filter element 287x592, class ePM10-55 % / M5 S84 p70	2	
AHU R.06	Supply filter stage 1 bag filter element 592x592, class ePM10-55 % / M5 S84 p85	1	
AHU R.06	Supply filter stage 1 bag filter element 287x592, class ePM10-55 % / M5 S84 p85	1	
AHU R.06	Supply filter stage 2 bag filter element 592x592, class ePM1-60 % / F7 S84 p85	1	
AHU R.06	Supply filter stage 2 bag filter element 287x592, class ePM1-60 % / F7 S84 p85	1	

ASSET	ITEM	QUANTITY	REPLACEMENT
AHU R.06	Exhaust filter stage 1 bag filter element 592x592, class ePM10-55 % / M5 S84 p88	1	
AHU R.06	Exhaust filter stage 1 bag filter element 287x592, class ePM10-55 % / M5 S84 p88	1	
EPH 0.01	1 x CR2032 Lithium Manganese Dioxide 3V coin cell battery (user replaceable, backs up real time clock) S87 p1	1	Battery life > 5 years
EPH 0.02	1 x CR2032 Lithium Manganese Dioxide 3V coin cell battery (user replaceable, backs up real time clock) S87 p1	1	Battery life > 5 years
FD 0.01	Fusible Link, Part No: 201448 (replace if overall length less than 28mm; normally 29.5mm) S101 p6		when missing or activated
	Housing cover with screws and light conductor as an assembly, stock number 8000069479 S104 p11		
	Stem sealing gland, stock number 4 284 8806 0 (DN 15...80, Series A) S127 p13		

10a Training records

Who was trained on each system, when and by whom. Signed attendance records are inserted here; training videos are kept in the online repository.

SYSTEM	TRAINING	PROVIDED BY	STATUS
Domestic water	Client training before handover, with signed attendance records	Arbe Integrated Engineering Ltd	Received
Heating	Client training before handover, with signed attendance records	Trane UK Ltd	Received
Air conditioning	Client training before handover, with signed attendance records	Frost Air Conditioning	Received
Ventilation	Client training before handover, with signed attendance records	Trane UK Ltd	Received

10a.1

Air conditioning: client training before handover, with signed attendance records

The following 4 pages are the document exactly as received and checked. It is bookmarked in the PDF.

Reference	HEN0203-AC-TR
Asset	Air conditioning
Provided by	Frost Air Conditioning
Source file	Client training sign off sheets, 2nd of June 2026.pdf
Pages	4

HENSALL

BUILDING MANAGEMENT SYSTEMS WITNESS TEST

PROJECT No: HENO 203

PROJECT TITLE: Elmwood Leisure Centre

AREA: Plantoom

Items Included – Overview of BMS system inc, AHU, Boilers, Booster set and hydrolics

BUILDING MANAGEMENT SYSTEMS WITNSS ACCEPTANCE FORM

I, the undersigned, can confirm that Equipment Demonstrations have been witnessed and are acceptable as per the specification, conditions of contract and/or current regulations.

Name	Company	Date
Alan Bevan	MyTime Active	02/06/2026
Mark Grantham	MyTime Active	02/06/2026.
Jack Weeks	MyTime Active	02/06/26

AIR CONDITIONING WITNESS TEST

HENSALL

AIR CONDITIONING

PROJECT No: HENO203

PROJECT TITLE: Elmwood Leisure Centre

AREA: Site Wide

Items Included – Condensers, Internal units, Main controller, Localized controller

AIR CONDITIONING WITNSS ACCEPTANCE FORM

I, the undersigned, can confirm that Equipment Demonstrations have been witnessed and are acceptable as per the specification, conditions of contract and/or current regulations.

Name	Company	Date
JACK WEEKS	FITLIFE ACTIVE	02/06/26
MARK GRANTHAM	M/TIME ACTIVE	02/06/26
Alan Berry	M/TIME ACTIVE	02/06/26

DOMESTIC SERVICES WITNESS TEST

PROJECT No: HENO203

PROJECT TITLE: Elmwood Leisure Centre

AREA: Site Wide

Items Included – General sanitaryware items

DOMESTIC SERVICES WITNSS ACCEPTANCE FORM

I, the undersigned, can confirm that Equipment Demonstrations have been witnessed and are acceptable as per the specification, conditions of contract and/or current regulations.

Name	Company	Date
JACK WEEKS	MYTIME ACTIVE	02/06/26
MARK GRANTHAM	MYTIME ACTIVE	02/06/26
Alan Brown	MYTIME ACTIVE	02/06/26

HENSALL | GROUP OF BUILDING SERVICES COMPANIES

Training Record

Project No: HENO 203
Project Name: Elmwood Leisure Centre
Date of training:
Contractor Name:
Client Name: EKON

TRAINING PROVIDED (ASHP SEQUENCER)

M. GRANTHAM – M.
JACK WEEKS
Alan Bowe

SIGN OFF			
	NAME	SIGNATURE	DATE
HENSALL	VINCENT SWEENEY	VSweeney	02-06-2026
MAIN CONTRACTOR			
CLIENT			

10b Disposal and decommissioning

How to take plant out of service and dispose of it safely and legally at the end of its life.

Standard UK requirements. These apply whatever the manufacturer says.

Electrical equipment	Fans, pumps, controls, motors, heaters and luminaires are electrical and electronic equipment under the Waste Electrical and Electronic Equipment (WEEE) Regulations 2013. They must not go in general waste: return them through the supplier's take back scheme or a licensed waste contractor.
Refrigerant	Refrigerant must be recovered before any refrigerant circuit is opened or plant is removed, and only by an engineer holding the right F-gas certificate. Record the amount recovered in the refrigerant log. Plant here with refrigerant: CU 2.01, CU 2.02, CU 2.03, CU 2.04A, CU 2.04B, CU 2.05, CU 2.06A, CU 2.06B, CU 2.07, CU 2.08, CU 2.09, CU 2.10.
Hazardous waste	Recovered refrigerant, compressor oil, glycol, batteries and fluorescent lamps are hazardous waste. Use a registered carrier and keep the consignment notes for at least 3 years.
Waste records	Under the waste duty of care, keep a waste transfer note for every other load removed, for at least 2 years.
Before removal	Isolate and lock off as Section 6, drain and make safe, update the asset register (Section 4) and the building log book.

Manufacturers' disposal instructions

ASSET	INSTRUCTION
General	Product, packaging and any batteries may not be disposed of as domestic waste. Delete all personal data and dispose of the item(s) at separate collection and recycling facilities in accordance with local and national legislation. S24 p8
General	Product, packaging and any batteries may not be disposed of as domestic waste. Delete all personal data and dispose of the item(s) at separate collection and recycling facilities in accordance with local and national legislation. S25 p11
General	WEEE Category 5. Small Equipment (No External Dimension More Than 50 cm) S26 p3
General	WEEE Category 5. Small Equipment (No External Dimension More Than 50 cm) S27 p3
General	WEEE Category 5. Small Equipment (No External Dimension More Than 50 cm) S28 p4
General	Do not dispose of the device as household waste. Special handling of individual components may be mandated by law or make ecological sense. Observe all local and currently applicable laws and regulations. S29 p12
General	The device is considered an electronic device for disposal in accordance with the European Guidelines and may not be disposed of as domestic garbage. Dispose of the device through channels provided for this purpose. Comply with all local and currently applicable laws and regulations. S30 p7

ASSET	INSTRUCTION
General	Do not open the actuator housing (tensioned spring return). The device is considered an electronic device for disposal in accordance with the European Guidelines and may not be disposed of as domestic garbage. Dispose of the device through channels provided for this purpose. Comply with all local and currently applicable laws and regulations. S31 p18
General	Do not open the valve body (tensioned return spring). The valve is considered electrical and electronic equipment and may not be disposed of as domestic garbage; dispose of it through channels provided for this purpose. S32 p12
General	The valve is considered an electronic device for disposal in accordance with European guidelines and may not be disposed of as domestic waste. Dispose of the valve through channels provided for this purpose. Comply with all local and currently applicable laws and regulations. S33 p20
General	The valve is considered an electronic device for disposal in accordance with European guidelines and may not be disposed of as domestic waste. Dispose of the valve through channels provided for this purpose. Comply with all local and currently applicable laws and regulations. S34 p19
General	Do not dispose of the device as unsorted municipal waste. Special handling of individual components may be mandated by law or make ecological sense. Observe all local and currently applicable laws and regulations. S35 p10
General	Disposal of waste materials in accordance with local Waste regulations. Recycle where it is practical to do so. S76 p5
General	ROCKWOOL stone wool insulation is approximately 97% recyclable; waste material from installation or at end of life can be returned to the ROCKWOOL factory for recycling by arrangement S103 p7
General	The products contain electrical and electronic components and must not be disposed of together with domestic waste. This applies in particular to the printed circuit board. Observe all local and currently valid legislation. S104 p22
General	Dispose of surplus and non-recyclable products via a licensed waste disposal contractor; hazardous waste, EWC 20 01 27* S111 p15
General	Do not allow to enter drains or watercourses S111 p15
General	Empty containers must be scrapped or reconditioned S111 p15
General	TS100 140CC: waste should be treated as controlled waste; dispose of to licensed waste disposal site in accordance with the local Waste Disposal Authority S123 p17
General	TS100 380CC: waste should be treated as controlled waste; dispose of to licensed waste disposal site S123 p35
General	Bostik Idenden 40-320 duct sealant: dispose of contents/container in accordance with regulations; do not reuse empty containers S123 p46
General	Tecseal 200 FRA: dispose of contents/container in accordance with licensed collector's sorting instructions S123 p57
General	Tecseal 300 Translucent: uncured product should be disposed of as hazardous waste; EWC 08 04 09* S123 p70
General	Do not dispose of the device as household waste. Special handling of individual components may be mandated by law or make ecological sense. Observe all local and currently applicable laws and regulations. S127 p9

ASSET	INSTRUCTION
General	Finished product can be recycled in accordance with British Standards S129 p2

No disposal instructions were found in the literature for HWH B.01, HWH B.02, BS B.01, BS B.02, P B.05, ASHP 0.01, ASHP 0.02, ASHP 0.03, P B.01, P B.02, P B.03, P B.04, PU 0.01, CU 2.01, CU 2.02, CU 2.03, CU 2.04A, CU 2.04B, CU 2.05, CU 2.06A, CU 2.06B, CU 2.07, CU 2.08, CU 2.09, CU 2.10, AHU R.02, AHU R.03, AHU R.04, AHU R.05, AHU R.06, AHU R.07, AHU R.08, AHU R.09, AHU R.01, EF B.01, EF B.02, EF B.03, EF B.04. Follow the standard requirements above.

10b.1

Refrigerant recovery hazardous waste consignment note (strip out)

The following 3 pages are the document exactly as received and checked. It is bookmarked in the PDF.

Reference	
Asset	General
Provided by	Not recorded
Source file	`Refrigerant recovery hazardous waste consignment note (strip out).pdf`
Pages	3

kooltech

Unit 8 Forge Mills Park
Station Road
Coleshill
Birmingham
B46 1JH

Tel: 0345 034 4174
Fax: 0167 546 4450

Email: birmingham.branch@kooltech.co.uk
Website: www.kooltech.co.uk

Return Stock

Document Number
0009/00007069

Location:-

Birmingham
Unit 8
Forge Mills Park
Station Road
Coleshill
Birmingham
B46 1JH

Invoice to:-

Stock adjustment Birmingham
******* System Account *******
DO NOT DELETE

Account	Operator	Date	Time	Order Number
920009	Christopher Jones	22/01/2025	16:26	154347
Reference	**Reason**			**Page**
CLI010	Move to Overflow			1

Product		Quantity	Location
EMPTYLARGE	EMPTY LARGE REFRIGERANT CYLINDER Serial number: 1N280330	1 EA	9
EMPTYLARGE	EMPTY LARGE REFRIGERANT CYLINDER Serial number: 1N281030	1 EA	9
EMPTYLARGE	EMPTY LARGE REFRIGERANT CYLINDER Serial number: 1N348631	1 EA	9

Weight
27.00 Kgs

Address WALNUTS LEISURE CENTRE LYCH GATE RD, ORPINGTON

Postcode: BR6 0TJ Tel:
Fax: E-mail:

Name KOOLTECH COLESHILL
Address FORGE MILLS PARK

Postcode: B46 1JH Tel:
Fax: E-mail:

3. Premises code (where applicable:)

5. The waste producer was (if different from 2)

Name
Address

Postcode: Tel:
Fax: E-mail:

PART B Description of the waste

If continuation sheet used, tick here

1. Process giving rise to the waste was Refrigerant Plant Service.

2. SIC (2007) for the process giving rise to the waste

3. WASTE DETAILS

Description of Waste	EWC Code	Conc.	Physical Form	Hazard Code	UN No.	Proper Shipping Name	Class
Recovered Refrigerant	140601	99%	Liquefied Gas	HP14	1078	REFRIGERANT GAS N.O.S.	2.2
Indicate flammable gas cylinders with an asterisk * in **Type** column				HP3	3161	LIQUEFIED GAS, FLAMMABLE N.O.S.	2.1

Major Component	Quantity (kg)	Cylinder Type	Cylinder Serial No.	Type
R410A	IN280330/12.85	LARGE	IN280330 / 12.85KG	2.2
R410A	12.7KG	LARGE	IN281030	

PART C Carrier's certificate

(If more than one carrier is used please attach schedule for subsequent carriers. If a schedule of carriers is attached tick here ☐)

I certify that I today collected the consignment and the details in A2, A4 and B3 are correct and I have been advised of any specific handling requirements.

1. Carrier name: Z.MANN

On behalf of: CLIMACOOL

Name Z.MANN
Address 5 BROOM CLOSE, BIRMINGHAM

Postcode: B36 0LL Tel:
Fax: E-mail:

2. Carrier's registration no./reason for exemption:

3. Vehicle registration number: EF70 XMR

Signature:

Date 22/12/25 Time: 13:57

PART D Consignor's certificate

I certify that the information in A, B and C above is correct, that the carrier is registered or exempt and was advised of the appropriate precautionary measures. All of the waste is packaged and labelled correctly and the carrier has been advised of any special handling requirements.

I confirm that I have fulfilled my duty to apply the waste hierarchy as required by Regulation 12 of the Waste (England and Wales) Regulations 2011

1. Consignor name: Z.MANN

On behalf of: CLIMACOOL

Name Z.MANN
Address 5 BROOM CLOSE, BIRMINGHAM

Postcode: B36 0LL Tel:
Fax: E-mail:

Signature:

Date 22/12/25 Time: 13:57

PART E Consignee's certificate (where more than one type of waste is collected all of the information given below must be completed for each EWC)

Individual EWC Code(s) received	Quantity of each EWC code received (kg)	EWC code accepted/rejected	Waste management operation (R or D code)
140601	As Above		R03, R13, D09, D14, D15

1. I received this waste at the address given in A4 on: Date 22/12/2025 Time: 14:05

2. Vehicle registration no. EF70 XMR

3. Where waste is rejected please provide details:

I certify that waste management licence/authorised exemption no: KOOLBA

authorises the management of the waste described in B at the address given in A4

Signature:

Date 22/12/2025 Time: 14:05

Name: T.GERRONI

On behalf of:

Name
Address KOOLTECH LTD B46 1JH

Tel: 01675 Fax:
e-mail: 465555

National Refrigerants Ltd.

SR-006-F

Description of the waste

3. WASTE DETAILS

Description of Waste	EWC Code	Conc.	Physical Form	Hazard Code	UN No.	Proper Shipping Name	Class
Recovered Refrigerant	140601	99%	Liquefied Gas	HP14	1078	REFRIGERANT GAS N.O.S.	2.2
Indicate flammable gas cylinders with an asterisk * in **Type** column				HP3	3161	LIQUEFIED GAS, FLAMMABLE N.O.S.	2.1

Major Component	Quantity (kg)	Cylinder Type	Cylinder Serial No.	Type
R410A	1N348631/12.4	LARGE	1N348631/12.4	2.2

PART E Consignee's certificate (where more than one type of waste is collected all of the information given below must be completed for each EWC)

Individual EWC Code(s) received	Quantity of each EWC code received (kg)	EWC code accepted/rejected	Waste management operation (R or D code)
140601	As Above		R03, R13, D09, D14, D15

National Refrigerants Ltd.

11 As-built drawings

Record drawings of the installation as built.

DRAWING NUMBER	TITLE	REV	QR CODE
Doc 11.1	Trane heat pump sequencer panel drawings, as manufactured ontrackoandm.co.uk/d/3exN0MkaVAI1U773Xw_tbA	**As built**	
Doc 11.2	Quinway acoustic enclosure drawing 99307D 001 ontrackoandm.co.uk/d/PqCjnzCjiNyWHpWOSpbmbw	**ZA**	
Doc 11.3	Quinway acoustic enclosure drawing 99307D 002 ontrackoandm.co.uk/d/rMyBK33sO2x4zvPAZ1i22w	**ZA**	
Doc 11.4	Trane heat pump wiring architecture ontrackoandm.co.uk/d/u-u4nFmbW2eNxv69e9UlhA	**A**	
HEN0203-HEN-00-00-DR-M-5201	Ground Floor Above Ground Drainage Layout Sheet 1 of 4 ontrackoandm.co.uk/d/qGcVXbhmeh0GF5Af0rhxLA	**AF01**	
HEN0203-HEN-00-00-DR-M-5202	Ground Floor Above Ground Drainage Layout Sheet 2 of 4 ontrackoandm.co.uk/d/mct_F6Lut4WYVzhSk40umw	**AF01**	
HEN0203-HEN-00-00-DR-M-5203	Ground Floor Above Ground Drainage Layout Sheet 3 of 4 ontrackoandm.co.uk/d/g8VUAKc92mGRm-aLnijoAg	**AF01**	
HEN0203-HEN-00-00-DR-M-5204	Ground Floor Above Ground Drainage Layout Sheet 4 of 4 ontrackoandm.co.uk/d/30BgiHbLZbB5iBIiVIPq_A	**AF01**	

DRAWING NUMBER	TITLE	REV	QR CODE
HEN0203-HEN-00-00-DR-M-5301	Ground Floor Domestic Water Services Layout Sheet 1 of 4 ontrackoandm.co.uk/d/bv24y6ZH38HhMp7eVhiRzw	AF01	
HEN0203-HEN-00-00-DR-M-5302	Ground Floor Domestic Water Services Layout Sheet 2 of 4 ontrackoandm.co.uk/d/LUNo_wMUPUD7P6xI-H7zEg	AF01	
HEN0203-HEN-00-00-DR-M-5303	Ground Floor Domestic Water Services Layout Sheet 3 of 4 ontrackoandm.co.uk/d/QutWbAEETqE50JbqVIYvFw	AF01	
HEN0203-HEN-00-00-DR-M-5304	Ground Floor Domestic Water Services Layout Sheet 4 of 4 ontrackoandm.co.uk/d/ZuS5-SiUF642tUF_QidylQ	AF01	
HEN0203-HEN-00-00-DR-M-5601	Ground Floor Heating and Cooling Services Layout Sheet 1 of 4 ontrackoandm.co.uk/d/PoxRJAiH6D_qZ5ibPi_Vdg	AF01	
HEN0203-HEN-00-00-DR-M-5602	Ground Floor Heating and Cooling Services Layout Sheet 2 of 4 ontrackoandm.co.uk/d/WglqEYKF_c44zZdtbZQyPg	AF01	
HEN0203-HEN-00-00-DR-M-5603	Ground Floor Heating and Cooling Services Layout Sheet 3 of 4 ontrackoandm.co.uk/d/5ZtlttsOQgo2CQjMIDTuQw	AF01	
HEN0203-HEN-00-00-DR-M-5604	Ground Floor Heating and Cooling Services Layout Sheet 4 of 4 ontrackoandm.co.uk/d/ieMOyTFP9ZVrTnDXtAyXsw	AF01	
HEN0203-HEN-00-00-DR-M-5701	Ground Floor Ventilation Services Layout Sheet 1 of 4 ontrackoandm.co.uk/d/ZVGZF-lCYht06bTUIi9d5g	AF01	
HEN0203-HEN-00-00-DR-M-5702	Ground Floor Ventilation Services Layout Sheet 2 of 4 ontrackoandm.co.uk/d/S_U2QTfRrLmycWKrGtJ1AA	AF01	

DRAWING NUMBER	TITLE	REV	QR CODE
HEN0203-HEN-00-00-DR-M-5703	Ground Floor Ventilation Services Layout Sheet 3 of 4 ontrackoandm.co.uk/d/P36pbK3DQnLuGGqUhKF0Eg	AF01	
HEN0203-HEN-00-00-DR-M-5704	Ground Floor Ventilation Services Layout Sheet 4 of 4 ontrackoandm.co.uk/d/J8v_H62DyMb-QrQPLNUl6g	AF01	
HEN0203-HEN-00-00-DR-N-9001	Site Plan, External Services ontrackoandm.co.uk/d/RetpR5efIN49Svp61XKxcQ	AF01	
HEN0203-HEN-00-01-DR-M-5201	First Floor Above Ground Drainage Layout Sheet 1 of 4 ontrackoandm.co.uk/d/9jjOGHQZRsnpZnLvXnOt2w	AF01	
HEN0203-HEN-00-01-DR-M-5202	First Floor Above Ground Drainage Layout Sheet 2 of 4 ontrackoandm.co.uk/d/fdw2UIja1NGUSPUV-SRXTA	AF01	
HEN0203-HEN-00-01-DR-M-5203	First Floor Above Ground Drainage Layout Sheet 3 of 4 ontrackoandm.co.uk/d/yhf0wbQ-ssOu_Tn0eTShgg	AF01	
HEN0203-HEN-00-01-DR-M-5204	First Floor Above Ground Drainage Layout Sheet 4 of 4 ontrackoandm.co.uk/d/x3C8NcuAZcBDk5aJEv-h5w	AF01	
HEN0203-HEN-00-01-DR-M-5301	First Floor Domestic Water Services Layout Sheet 1 of 4 ontrackoandm.co.uk/d/iDIVHSr1OdnxT-CGKEb3Jw	AF01	
HEN0203-HEN-00-01-DR-M-5302	First Floor Domestic Water Services Layout Sheet 2 of 4 ontrackoandm.co.uk/d/A3jt-lX9JdDs4yuIA4e1zg	AF01	
HEN0203-HEN-00-01-DR-M-5303	First Floor Domestic Water Services Layout Sheet 3 of 4 ontrackoandm.co.uk/d/Vj3GxCMzqOBGo-1BvtQt_A	AF01	

DRAWING NUMBER	TITLE	REV	QR CODE
HEN0203-HEN-00-01-DR-M-5304	First Floor Domestic Water Services Layout Sheet 4 of 4 ontrackoandm.co.uk/d/yvn4-8pj8_EcV53nf8p_jg	AF01	
HEN0203-HEN-00-01-DR-M-5601	First Floor Heating and Cooling Services Layout Sheet 1 of 4 ontrackoandm.co.uk/d/RdMp4445SnpieO4vh8_0rg	AF01	
HEN0203-HEN-00-01-DR-M-5602	First Floor Heating and Cooling Services Layout Sheet 2 of 4 ontrackoandm.co.uk/d/ebK2ROfvW0ZRkqn2UlJIRQ	AF01	
HEN0203-HEN-00-01-DR-M-5603	First Floor Heating and Cooling Services Layout Sheet 3 of 4 ontrackoandm.co.uk/d/CIXxlSHAGetxPaCPxZ2QLQ	AF01	
HEN0203-HEN-00-01-DR-M-5604	First Floor Heating and Cooling Services Layout Sheet 4 of 4 ontrackoandm.co.uk/d/ePZ1x0kgZglmlcBusuFfQw	AF01	
HEN0203-HEN-00-01-DR-M-5701	First Floor Ventilation Services Layout Sheet 1 of 4 ontrackoandm.co.uk/d/8Xc-n075hO0cPbAO5wN3kA	AF01	
HEN0203-HEN-00-01-DR-M-5702	First Floor Ventilation Services Layout Sheet 2 of 4 ontrackoandm.co.uk/d/WejBfljW0BjGdNn2mj8o3A	AF01	
HEN0203-HEN-00-01-DR-M-5703	First Floor Ventilation Services Layout Sheet 3 of 4 ontrackoandm.co.uk/d/EIvxtH0vbRPemYZtyB2ppw	AF01	
HEN0203-HEN-00-01-DR-M-5704	First Floor Ventilation Services Layout Sheet 4 of 4 ontrackoandm.co.uk/d/bdFIRUssUQMEvwcwa9XxFg	AF01	
HEN0203-HEN-00-02-DR-M-5201	Second Floor Above Ground Drainage Layout Sheet 1 of 4 ontrackoandm.co.uk/d/fmqrgwC9Ci8p__T6apLGGQ	AF01	

DRAWING NUMBER	TITLE	REV	QR CODE
HEN0203-HEN-00-02-DR-M-5202	Second Floor Above Ground Drainage Layout Sheet 2 of 4 ontrackoandm.co.uk/d/GyRG8QQKN3u1d_d4aMcqtw	AF01	
HEN0203-HEN-00-02-DR-M-5203	Second Floor Above Ground Drainage Layout Sheet 3 of 4 ontrackoandm.co.uk/d/D3lT3PKmcEWhjGtIKvsEpg	AF01	
HEN0203-HEN-00-02-DR-M-5204	Second Floor Above Ground Drainage Layout Sheet 4 of 4 ontrackoandm.co.uk/d/2y8F0naf8_nIK02QNC91qA	AF01	
HEN0203-HEN-00-02-DR-M-5301	Second Floor Domestic Water Services Layout Sheet 1 of 4 ontrackoandm.co.uk/d/8OOhgr72w9IDq6LfF4ONIw	AF01	
HEN0203-HEN-00-02-DR-M-5302	Second Floor Domestic Water Services Layout Sheet 2 of 4 ontrackoandm.co.uk/d/9Trl6mCp7V7OW1vbEBS5Og	AF01	
HEN0203-HEN-00-02-DR-M-5303	Second Floor Domestic Water Services Layout Sheet 3 of 4 ontrackoandm.co.uk/d/Q3SmgXX9vI9-J76qlYuOxA	AF01	
HEN0203-HEN-00-02-DR-M-5304	Second Floor Domestic Water Services Layout Sheet 4 of 4 ontrackoandm.co.uk/d/CHufVQcbHnZag87unhsQtQ	AF01	
HEN0203-HEN-00-02-DR-M-5601	Second Floor Heating and Cooling Services Layout Sheet 1 of 4 ontrackoandm.co.uk/d/KgQYbZ2zYXtp6Q3T2PqqNg	AF01	
HEN0203-HEN-00-02-DR-M-5602	Second Floor Heating and Cooling Services Layout Sheet 2 of 4 ontrackoandm.co.uk/d/bx9QrFXxnpnsMQ0bpesZqg	AF01	
HEN0203-HEN-00-02-DR-M-5603	Second Floor Heating and Cooling Services Layout Sheet 3 of 4 ontrackoandm.co.uk/d/9_Pp-Rpaivj4aoJmjPSNBA	AF01	

DRAWING NUMBER	TITLE	REV	QR CODE
HEN0203-HEN-00-02-DR-M-5604	Second Floor Heating and Cooling Services Layout Sheet 4 of 4 ontrackoandm.co.uk/d/DTvjgzTw8_4ftgkA2Gg9pg	AF01	
HEN0203-HEN-00-02-DR-M-5701	Second Floor Ventilation Services Layout Sheet 1 of 4 ontrackoandm.co.uk/d/JrOJFgB8fRg2u5ysL6SKcw	AF01	
HEN0203-HEN-00-02-DR-M-5702	Second Floor Ventilation Services Layout Sheet 2 of 4 ontrackoandm.co.uk/d/YMmOg4TLUp_UnDmpo18iQw	AF01	
HEN0203-HEN-00-02-DR-M-5703	Second Floor Ventilation Services Layout Sheet 3 of 4 ontrackoandm.co.uk/d/hn-g17CYZ0-vWXmPTqPJEg	AF01	
HEN0203-HEN-00-02-DR-M-5704	Second Floor Ventilation Services Layout Sheet 4 of 4 ontrackoandm.co.uk/d/u7hAmdTaDGyvEMY15aSLpw	AF01	
HEN0203-HEN-00-B1-DR-M-5901	Upper Basement Combined Services Layout Sheet 1 of 1 ontrackoandm.co.uk/d/JKne6P1lLQHoDUDkWiMGCg	AF01	
HEN0203-HEN-00-B2-DR-M-5201	Mechanical Services Lower Basement Above Ground Drainage Layout Sheet 1 of 2 ontrackoandm.co.uk/d/MLeefUljlMc5Ddplj_ei4A	AF01	
HEN0203-HEN-00-B2-DR-M-5202	Mechanical Services Lower Basement Above Ground Drainage Layout Sheet 2 of 2 ontrackoandm.co.uk/d/r-b4v0cSINJPRlsCIQ_PNQ	AF01	
HEN0203-HEN-00-B2-DR-M-5901	Lower Basement Combined Servies Layout Sheet 1 of 2 ontrackoandm.co.uk/d/Gfzb_PksZG_9ziiZUfjBJQ	AF01	
HEN0203-HEN-00-B2-DR-M-5902	Lower Basement Combined Servies Layout Sheet 2 of 2 ontrackoandm.co.uk/d/UdbskkJ_b7uRlpFdpXzkKg	AF01	

DRAWING NUMBER	TITLE	REV	QR CODE
HEN0203-HEN-00-R1-DR-M-5201	Roof Level Combined Services Layout Sheet 1 ontrackoandm.co.uk/d/rlrPSVwXba6_lT38X1uDpQ	AF01	
HEN0203-HEN-00-R1-DR-M-5202	Roof Level Combined Services Layout Sheet 2 ontrackoandm.co.uk/d/8Itrf_FbUcdRl_jjXsDYbg	AF01	
HEN0203-HEN-00-R1-DR-M-5203	Roof Level Combined Services Layout Sheet 3 ontrackoandm.co.uk/d/Y_Hunla05Udn2CRAgc-eRA	AF01	
HEN0203-HEN-00-R1-DR-M-5601	Roof Level Heating and Cooling Services Layout Sheet 1 of 3 ontrackoandm.co.uk/d/EB20os9JTVfX5Oqj2xEYgg	AF01	
HEN0203-HEN-00-R1-DR-M-5602	Roof Level Heating and Cooling Services Layout Sheet 2 of 3 ontrackoandm.co.uk/d/_cl8d1T553oKeIh4vYXOdw	AF01	
HEN0203-HEN-00-R1-DR-M-5603	Roof Level Heating and Cooling Services Layout Sheet 3 of 3 ontrackoandm.co.uk/d/EKPpVW66GzLPRx9zpRCzJQ	AF01	
HEN0203-HEN-00-R1-DR-M-5701	Roof Level Ventilation Services Layout Sheet 1 of 3 ontrackoandm.co.uk/d/FZRGhW5qIUAbnd5gyQ9kGA	AF01	
HEN0203-HEN-00-R1-DR-M-5702	Roof Level Ventilation Services Layout Sheet 2 of 3 ontrackoandm.co.uk/d/4TyEyIKVyHjCuKU7Z2jF6A	AF01	
HEN0203-HEN-00-R1-DR-M-5703	Roof Level Ventilation Services Layout Sheet 3 of 3 ontrackoandm.co.uk/d/li7CrX8D8jEbwMpnXVkGTg	AF01	
HEN0203-HEN-00-R1-DR-M-5704	Roof Level Ventilation Services Layout Sheet 4 of 4 ontrackoandm.co.uk/d/v3unLFyCEkJ1DOX7Rt5XBQ	AF01	

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HEN0203-HEN-00-R1-DR-N-0001	Roof Level Coordinated Roof Layout Sheet 1 ontrackoandm.co.uk/d/ShXbhqMaRJ5lBD9P1G44Vw	AF01	
HEN0203-HEN-00-R1-DR-N-0002	Roof Level Coordinated Roof Layout Sheet 2 ontrackoandm.co.uk/d/jL3gxB-0BFxYzHB1hbe1Cw	AF01	
HEN0203-HEN-00-R1-DR-N-0003	Roof Level Coordinated Roof Layout Sheet 3 ontrackoandm.co.uk/d/5WulbBxw-B8oB9pjsO-FAQ	AF01	
HEN0203-HEN-00-R1-DR-N-0004	Roof Level Coordinated Roof Layout Sheet 4 ontrackoandm.co.uk/d/RMBF5eA1K6mUUBh5wjcEww	AF01	
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HEN0203-HEN-00-ZZ-DR-M-5302	Domestic Services Schematic Sheet 2 ontrackoandm.co.uk/d/_eDaZn30BSoe17moq7zYJA	AF01	
HEN0203-HEN-00-ZZ-DR-M-5303	Domestic Services Schematic Sheet 3 ontrackoandm.co.uk/d/XpplQ44dxGFL9bHXd03Iaw	AF01	
HEN0203-HEN-00-ZZ-DR-M-5701	Ventilation Schematic Sheet 1 ontrackoandm.co.uk/d/oTUddB9nWWGsNtJiUJXRdw	AF01	
HEN0203-HEN-00-ZZ-DR-M-5702	Ventilation Schematic Sheet 2 ontrackoandm.co.uk/d/9xqim6iKQEQzs4zEkZUvBw	AF01	
HEN0203-HEN-00-ZZ-DR-M-5703	Ventilation Schematic Sheet 3 ontrackoandm.co.uk/d/FEArTTVeswpj6S-jqyPS1g	AF01	

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HEN0203-HEN-00-ZZ-DR-M-5704	Ventilation Schematic Sheet 4 ontrackoandm.co.uk/d/Zm1FwwrwVXCSnTsDH8D88g	AF01	
HEN0203-HEN-00-ZZ-DR-M-5705	Ventilation Schematic Sheet 5 ontrackoandm.co.uk/d/2Juh28AyFgHMj5tJ2pTSvA	AF01	
HEN0203-HEN-00-ZZ-DR-M-5991	Primary Plant Room Schematic ontrackoandm.co.uk/d/KkGT8n9KVSBMMGdqYTc5MQ	AF01	
Doc 11.82	BMS panel wiring diagram AHU2 ontrackoandm.co.uk/d/DB4-VizAPSSuJuOipCAO2g	2FA	
Doc 11.83	BMS panel wiring diagram AHU3 ontrackoandm.co.uk/d/JHulqC5-cYYgS6FxTPsEjA	2FA	
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Doc 11.90	BMS panel wiring diagram MCP1 ontrackoandm.co.uk/d/MMybII_Zl_PwPsXGjxCTXQ	2FA	

Each code opens the latest revision of that drawing, with its revision history, from ontrackoandm.co.uk. If a code won't scan, type the web address printed next to it. The drawings are also in Volumes 5 and 6 of the digital manual.

A Source documents

The source documents behind this manual. A tag such as S3 p12 in the text means source 3, page 12, so every fact can be traced back to the document it came from.

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S1	Arbe hot water heater and thermal store data sheet.pdf	08 Manufacturers literature
S2	04. 104432- Data Sheet (1).pdf	08 Manufacturers literature
S3	Lowara SMB30 booster set data sheet, BS B.01.pdf	08 Manufacturers literature
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