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 7 of 9: Certificates
Documents 7.13 to 7.41

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

CONTENTS

What's in Volume 7

Each document follows its own divider page and is bookmarked in the PDF. Volume 1 is the manual itself, and its contents pages list every document in every volume.

NO.	DOCUMENT	PAGE
7 Testing, commissioning and certificates		
7.13	ASHP 0.02 commissioning records	5
7.14	P B.01 commissioning certificate	31
7.15	ASHP 0.01 commissioning records	33
7.16	Pool plant room heating pressure test, sheet 1	59
7.17	Pool plant room heating pressure test, sheet 2	60
7.18	Pool plant room heating pressure test, sheet 3	62
7.19	Arbe thermal store factory hydraulic test, TS.0.01	63
7.20	BS B.02 commissioning sheet	65
7.21	Domestic water: water system disinfection certificate (BS EN 806 and BS 8558)	68
7.22	Polar Solutions Distribution site report, 28th of July 2026	70
7.23	P B.05 commissioning certificate	81
7.24	Domestic water pressure test mark-up, basement and ground floor	83
7.25	Domestic water pressure test, plant room to ground floor	84
7.26	HWH B.01 commissioning certificate (unvented, G3)	86
7.27	HWH B.02 commissioning certificate (unvented, G3)	88
7.28	LTHW pressure test, pool plant room to ground floor	90

CONTENTS, CONTINUED

NO.	DOCUMENT	PAGE
7.29	LTHW pressure test mark-up, basement and ground floor	92
7.30	P B.03 commissioning certificate	93
7.31	P B.04 commissioning certificate	95
7.32	Mains and tank cold water pressure test	97
7.33	BS B.01 commissioning sheet	99
7.34	LTHW pressure test, AHU R.03 and R.06 pipework	102
7.35	LTHW pressure test, AHU R.04, R.05 and R.09 pipework	104
7.36	LTHW heating system pressure test certificate	106
7.37	BKW domestic water pressure test certificates, dry and wet change	109
7.38	PU 0.01 commissioning sheet	111
7.39	TPS commissioning visit report C0578, 27th of April 2026	114
7.40	CU 2.01 commissioning records	121
7.41	CU 2.04B commissioning records	133

SECTION 7

7

Testing, commissioning and certificates

Documents 7.13 to 7.41 are in this volume, each exactly as received and checked.

7.13

ASHP 0.02 commissioning records

The following 25 pages are the document exactly as received and checked. It is bookmarked in the PDF.

Reference	HEN0203-ASHP002-CC
Asset	ASHP 0.02
Provided by	Trane UK Ltd
Source file	Trane start-up and F-gas report, ASHP 0.02.pdf
Pages	25

Trane UK Limited
Lawrence House - Jays Close - Basingstoke
Hampshire, UK RG22 4LT
Ph: +44 (0) 8457165162 Fax +44 (0) 1256306001

www.trane.com

Report #: Jon Fairbourne 3.692517388

Job #: 43NA875
Customer Ord.: -
Serial nr ELJ01863, Model CXAF 150

Building name	Elmwood Leisure Centre
Building addr.	Market Gate, Elmwood
Building city	Kent, EL6 4QT
Building #	Elmwood Leisure Centre

Customer company	Hensall Mechanical Services Ltd
Customer Nr	NA
Job completed?	Yes
Must produce a quotation?	No

Risk Evaluation	Extra PPE required (specify which ones)	AS PER JSA

Ergonomic (lifting, position, constrains)	Average
Fall	Average
Confined spaces	Average

Reason of call	Start the unit
Unit & plant status on tech arrival	Unit Stopped
Unit & plant status on tech leaving	Unit Running

Refrigerant type	R454B			
Refrigerant charge, kg	54	54	-	-
Complies with FGAS	Yes			
	This unit has been leak checked in accordance with f-gas regulations and there were no leaks found.			

Job description

First Start-Up according to the manufacturer's instructions. The detailed description of activities and related results are described in annex, where you can find the technical advice provided by Trane, which you must follow carefully for a safe, reliable and profitable use of your machine.

Technician name	Date	Trav. Start	Job start	Job end	Travel end	Pause	Job & travel	Travel mil.	Overnight
Jon Fairbourne	12/05/2026	12:00	12:00	16:00	17:00		5:00	10	No
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-

Unit starts & Unit run hour						
	Cmpr A	Cmpr B	Cmpr C	Cmpr D	Cmpr E	Cmpr F
Starts	-	-	-	-	-	-
Hours	-	-	-	-	-	-

Serial # of the refrigerant / recovery / reclaim cylinders used	-	-	-	-	-	-	-
	-	-	-	-	-	-	-

Suggested repair / upgrading

Installation is only partly acceptable, unit can be started, but Customer have to perform the modifications described in "Installation Remarks"

14/05/2026

Hensall Mechanical Services

Trane UK Limited

Lawrence House - Jays Close - Basingstoke

Hampshire, UK RG22 4LT

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www.trane.com

Report #: Jon Fairbourne 3.692517388

Job Number -

Job #: 43NA875

Customer Ord.: -

Building name	Elmwood Leisure Centre	Customer company	Hensall Mechanical Services Ltd
Building #	Elmwood Leisure Centre	Customer Nr	NA

F-Gas Unit Booklet, Regulation (EU) n° 573/2024 of the EU Parliament and of the Council - Cust. Reference ASHP 2

Data of Company responsible for Unit or Plant Maintenance

Name	Hensall Mechanical Services Ltd	Address	North Yorkshire
Phone		Email	
Fax		Activity	

Plant or Device data

Unit Model	CXAF 150			Serial number			ELJ01863
Building city	Kent, EL6 4QT			Refrigerant type	R454B	GWP	#N/A
Refrigerant charge, kg	ckt 1	54.00	ckt 2	54.00	ckt 3	-	ckt 4	-
Tons CO2 equivalent								

Maintenance company references

Name & Role (1)			Jon Fairbourne Certif. Tech.
Tech's Certification #			5.50031E+11
Company	Trane UK Limited	VAT #	GB 354 779609
Company's Certification #			REF1011421
Date of last intervention (by Trane)			Pls See previous report
Date of first intervention (by Trane, including StartUp)			Pls See previous report

Results of checks

Is The Machine Leak Free?		Yes	
Leak detection system installed?	No	Date of last checkout	N.A.
One or more leaks repaired:	No	Date of leak repair	-

Repair description

There are leaks requiring unit stoppage, to be repaired within (3):	
Next leak control to be carried out within:	14/05/2027
Serial number, Type and sensitivity of leak detector used	#0, 0
Date of last control of detector sensitivity	

Recovery of Controlled Fluids (Retrofit or Disposed)

Refrigerant movement details	Refriger.	ckt 1	ckt 2	ckt 3	ckt 4
Refrigerant transferred to bottles [kg]					
Refrigerant re-charged into unit [kg]					
Refrigerant to be disposed [kg]					
Refrigerant topping supplied by Trane [kg]					
Refrigerant topping supplied by Customer [kg]					
Reason for topping refrigerant		-	-	-	-
Pressure test: bars - minutes		-	-	-	-
Vacuum standing test: microns - minutes		-	-	-	-

Oil and waste records

Oil reclaimed, lts	-	-	-	-
New oil , lts	-	-	-	-
Waste has been grouped for later disposal?				Not Applicable

Note 1 Name of Maintenance company responsible for Unit or Plant

Note 2

Note 3 Leak greater than 10% of circuit charge must be repaired within 30 days, unit must be stopped until repair.

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www.trane.com

Serial number	ELJ01863

JOB SAFETY ASSESSMENT - EQUIPMENT

Job Site Name:	Elmwood Leisure Centre
Date:	14/05/2026
Performed By:	Jon Fairbourne
Job Number	**43NA875**

			Yes	No	N/A
Work Area and Material Handling	1.1	Is there a safe area for loading/unloading your vehicle?	X		
	1.2	Are the access to the unit and working area, free from slippery floor, debris, obstacles, holes etc...that may contribute to a slip, trip or fall ?	X		
	1.3	Is the working area provided with sufficient space, adequate lighting / noise level / ventilation / ambient temperature to perform the work?	X		
	1.4	The handling of materials and tools, to and from the working area, is safe.	X		
	1.5	If there is co-activity with other workers, the risks have been assessed and are under control.	X		
	1.6	If you are working as a lone worker, you have a mean to send an alert or the customer is visiting/contacting you frequenlty.	X		
	1.7	Overall, the access to the unit and work area, are free from high risk.	X		
Fire Safety and Emergency	2.1	In an emergency situation there is a clear escape route with the necessary emergency lighting available.	X		
	2.2	There are fire extinguishers readily available around the equipment or at least within 30m of the working area.	X		
	2.3	If you perform "Hot Work" (brazing, welding, grinding, etc) have you completed a hot work permit ?	X		
	2.4	Overall, this job can be completed without high risk from fire safety and emergency readiness.	X		
Work at Height	3.1	All steps, platforms, ladders, scaffolding are safe and have been fully inspected prior to use.	X		
	3.2	Will you be working at an height below 1.2 meters and more than 2 meters of an unprotected edge.	X		
	3.3	If the use of a safety harness is required, you have the relevant training, equipment and an appropriate anchor point available.	X		
	3.4	Roofs and ceiling voids are provided with safe walkways or other access and all skylights are secured with fixed safety devices to prevent fall through	X		
	3.5	Overall, this job can be completed without high risk from working at heights.	X		
Confined Spaces	4.1	Overall, this job can be completed without accessing a designated Confined Space.	X		
Electrical Safety and LoTo	5.1	The work on the unit can be done with the power OFF.	X		
	5.2	If yes, the equipment can be isolated to work safely and you have a full LoTo kit.	X		
	5.3	If no: your work is limited to inspection, test, troubleshooting and measurement of live parts.	X		
	5.4	If you work on live electricity, you have and wear all the company's required electrical PPE and arc flash kit to work safely on or near energised components.	X		
	5.5	All of your electrical leads or appliances, have been inspected for defects or damages prior to use.	X		
	5.6	Overall, you can perform safely your work on or near energised electrical systems.	X		
Tools Equipment and PPE	6.1	All the power tools have been carefully inspected and are safe to be used: electrical cords, guarding, etc	X		
	6.2	You have, ready at hand, all the necessary PPE to perform the planned tasks at this job site. All the PPE are clean, not expired and in good condition.	X		
	6.3	Overall, all the tools, equipment and PPE you will be using have been inspected and are safe to use.	X		
Hazardous Substances	7.1	If you are using chemicals, hazardous substances, dangerous goods (e.g. Lubricants, oils, refrigerants, aerosols, etc), you have all the necessary compatible tools and PPE to handle them in a safe way.	X		
	7.2	If you are working with units running on specific refrigerant (A2L, B2L, A2, B2, A1 or B1), you have the necessary training, equipment and PPE to perform your job safely.	X		
	7.3	You have access to all up to date SDS for all hazardous substances used by Trane on site or present in the unit.	X		
	7.4	Overall, you can safely perform your task with all the hazardous substances you will be working with .	X		

Found all okay

UNIT START UP REPORT

CXAF



SINTESIS™
ADVANTAGE

BUILDING NAME	Elmwood Leisure Centre
BUILDING ADDRESS	Lynch Gale Road, Elmwood, BR2 4QT
CUSTOMER	Henshall
UNIT MODEL	CXAF150HEXLN
CUST. REFERENCE	ASHP 2
SERIAL NUMBER	ELJ01863
REFRIGERANT TYPE [SEE OWU]	R454B
REFRIGERANT CHARGE, KG	C1-54KG , C2-54KG
EVAPORATOR TYPE	Brazed Plate Heat Exchanger
CONDENSER TYPE	Copper, Aluminium, Epoxy Protection, Fin and tube
COMPRESSOR MODEL NUMBER	DSH381C4ARE (6 Compressors)
NOMINAL VOLTAGE AND RLA	380v-415v, 72 Amp
COMPRESSOR SERIAL NUMBER	**RD1107039157, RD1107039156, RD1107037096, RD1107039153, RD1107040526, RD1107040526**
BUILDING NR	
TRANE EQUIPMENT SALES ORDER	43NA875
TECHNICIAN NAME	Louis Bowtell
UNIT STARTED ON	28/04/2026
UNIT DELIVERED ON	
UNIT WARRANTY EXPIRES ON	-
COMMUNICATION WITH A CPC/BMS SYSTEM	Trane Sequencer

1. PRE-STARTUP OPERATIONS

CHILLED WATER LOOP

	DESIGN VALUES	ACTUAL VALUES
- Inlet and outlet gauges, with proper reading scale	Y 8.7 kPa	10 kPa
- Vibration eliminators installed		Y
- Thermometer water inlet		Y
- Thermometer water outlet		Y
- Strainer		Y
- Volume of water circuit		m³
- Flow control switch is operative		Y %
- Water pump interlock		Y
- Water pump operated by chiller control		N/A
- Actual glycol type and %	%	%

ELECTRICAL POWER SUPPLY CIRCUIT

		UNIT OFF	UNIT ON
- L 1 - L 2		408 V	407 V
- L 2 - L 3		408 V	406 V
- L 3 - L 1		408 V	407 V
- Control power Supply Volts		115 V	114 V
- Control modules power supply		28 V	28 V
- Power supply protection breaker settings	400 Amp A magn.	A Therm	A
- Main Power wiring cross-section size	X2 4 core SWA	120mm	

2. CHECKS AND SETTINGS OF CHILLER UNIT

UNIT ASSEMBLY

	VALUES
- Unit is levelled within acceptable limits (see IOM)?	Y
- Chiller foundation	Y
- Shipping mounts removal	Y
- General unit control	Y
- Refrigerant unit charge check	C1- 10.4 C2-10.5 bar
at ambient temperature of	13.8 °C
- Leaks search	Y

LUBRICATION CIRCUIT

		Ckt 1	Ckt 2
- Charge Oil	Oil type: 0057E	Y 24 Litres per circuit	24 Litres per circuit
- Oil and evaporator heaters operate and draw design current?		x6 0.2 per heater A	x6 0.2 per heater A
- Oil and refrigerant valves are open or throttled as needed.?		Y	

- Refrigerant filter model: HTGR04811S

REFRIGERANT CIRCUIT

	Ckt 1	Ckt 2
- Oil and refrigerant valves are open or throttled as needed.?	Y	Y

EVAPORATOR

- Check sensors and transducers	Y		
- Record pressure setting for safety valve HP	Y	4 Bar	4 Bar

STARTER PANEL

- Correct phase sequence is verified in every passages	Y	
- Wiring connection have been tightened?	Y	
- Check main disconnect switch operations	Y	
- Check main disconnect switch aux contact operations	Y	
- Check electrical continuity of power circuit	Y	
- Designed RLA (label)	409	A
- CT ratio has been checked (record ratio)	N/A	

MOTOR INSULATION (NEVER APPLY MEGGER TO MACHINES UNDER VACUUM)

		1A	1B	1C	2A	2B	2C
- Terminal stud 1 vs ground	MΩ	1000	1000	1000	1000	1000	1000
- Terminal stud 2 vs ground	MΩ	1000	1000	1000	1000	1000	1000
- Terminal stud 3 vs ground	MΩ	1000	1000	1000	1000	1000	1000
- Terminal stud 4 vs ground	MΩ	1000	1000	1000	1000	1000	1000
- Terminal stud 5 vs ground	MΩ	1000	1000	1000	1000	1000	1000
- Terminal stud 6 vs ground	MΩ	1000	1000	1000	1000	1000	1000
- Terminal stud 1 vs terminal 2	MΩ	1000	1000	1000	1000	1000	1000
- Terminal stud 2 vs terminal 3	MΩ	1000	1000	1000	1000	1000	1000
- Terminal stud 2 vs terminal 3	MΩ	1000	1000	1000	1000	1000	1000

CONTROL SYSTEM

- Wiring connection have been tightened?		Y		
			Trip points	
	C	Y	-3.3	-3.3
- Check and set LP switch	Bar	Y	41	41
- Check and set HP switch, 1st stage	Bar	Y	41	41
- Check and set HP switch, 2st stage	Bar			
- Check and set UCM		Y		
- Trim RLA setting	Amp	Y	65A	65A
- Dry-Run Starter				
- Test UCM safeties		Y		

3. CHILLER OPERATING PARAMETERS

This Unit log is attached to "Chiller Service Report"

	Log 1	Log 2
Chilled water setpoint Set point °C	45.0	45.0
Chilled water entering temp. °C	27.0	38.9
Chilled water leaving temp. °C	34.9	46.3

	ckt 1	ckt 2	ckt 1	ckt 2
EVP sat °t	0.2	0.1	0.2	0.2
EVP press. kPa	629	618	636	634
EVP Approach °C	1.6	1.1	1.4	1.2
DP EVP water kPa	10	10	10	10
EXV Position %	68%	1	59%	62%
Outdoor air temp. °C	15.8	15.8	15.8	15.8
Cooling Air flow %	74%	71%	61%	62%
CDS sat °t	36.5	36.0	47.6	47.4
CDS press.kPa	1942	1916	2568	2544
Subcooling °K	8.8	6.5	6.2	6.7

	1A	1B	1C	2A	2B	2C
Operating Mode	Auto	Auto	Auto	Auto	Auto	Auto
Starts	4	3	4	4	4	3
Hours	01:36	01:17	01:29	01:23	01:26	01:56
Oil differential pressure	N/A	N/A	N/A	N/A	N/A	N/A
Oil level [cm]	0.5	0.5	0.5	0.5	0.5	0.5

4. SPECIFIC REMARKS ABOUT THIS REFRIGERATION MACHINE.

IMPORTANT REMARKS

The commissioning has been performed by a qualified Trane Technician, who thoroughly checked control and safeties of this equipment, and who has ensured the smooth operation of the refrigeration unit. In order to maintain this level of operations, a proper maintenance must be ensured by qualified personnel, as per recommendations by the Installation, Operation and Maintenance Manual ...

IOM

...that you received from Trane, and as per Maintenance Guide indications. It is also reccomended to have a Trane Technician to perform an "Extended Start" Inspection between 500p and 1000 hours of operation.

SPECIAL REMARKS ABOUT INSTALLATION

PLEASE SEE ATTACHED

CONCLUSIONS:

☐ **INSTALLATION IS ACCEPTABLE AND UNIT CAN BE OPERATED WITHOUT RESERVES.**
Chiller can be put into service.

☐ **INSTALLATION IS PARTIALLY ACCCEPTABLE, UNIT CAN BE OPERATED, BUT THE CUSTOMER HAS TO CARRY OUT THE MODIFICATION DESCRIBED IN NOTES.**

Chiller can be put into service, but Customer must perform those modifications described in "Special remarks about Installation".

☐ **INSTALLATION IS NOT ACCEPTABLE SINCE DO NOT COMPLIES WITH IOM MANUAL RECEIVED BY CUSTOMER: UNIT CANNOT BE OPERATED UNDER TRANE RESPONSIBILITY.**

Chiller CANNOT be put into service under Trane's responsibility due to current installation status.

14/05/2026

Tuesday, May 12, 2026
04:02:52 PM

Chiller Service Report

Prepared for: ASHP 2



Technician:	Jon Fairbourne
Chiller Name:	Elmwood
Model Number:	CXAF150DEBARCXE3WWN BNBX1XB1EBXF1XLXXFXX XX1EXBAXX2XAXXBA2XX
Serial Number:	ELJ01863
Job Name:	ASHP 2
Work Order Number:	
Location:	
Sales Office Name:	
Sales Order Number:	43NA875
Sales Office Address:	
Sales Office Phone Number:	
Customer Name:	
Customer Address:	
Customer Phone Number:	

Notes: Partial Sign Off

Chiller Status

Chiller Modes

Top Level Mode	**Run Inhibit**	Sub Level Mode 4
Sub Level Mode 1	**Start Inhibited by BAS**	Sub Level Mode 5
Sub Level Mode 2	**Hot Water Control**	Sub Level Mode 6
Sub Level Mode 3		

Circuit 1 Modes

Top Level Mode Ckt1	**Auto**	Sub Level Mode 4 Ckt1
Sub Level Mode 1 Ckt1		Sub Level Mode 5 Ckt1
Sub Level Mode 2 Ckt1		Sub Level Mode 6 Ckt1
Sub Level Mode 3 Ckt1		

Circuit 2 Modes

Top Level Mode Ckt2	**Auto**	Sub Level Mode 4 Ckt2

Sub Level Mode 1 Ckt2	Sub Level Mode 5 Ckt2
Sub Level Mode 2 Ckt2	Sub Level Mode 6 Ckt2
Sub Level Mode 3 Ckt2	

Diagnostic Modes

Chiller Mode at Time of Last Diagnostic	Circuit 1 Sub Mode at Time of Last Diag.
Chiller Sub Mode 1 at Time of Last Diag	Circuit 1 Sub Mode at Time of Last Diag.
Chiller Sub Mode 2 at Time of Last Diag	Circuit 1 Sub Mode at Time of Last
Chiller Sub Mode 3 at Time of Last Diag	Circuit 2 Mode at Time of Last Diag.
Chiller Sub Mode 4 at Time of Last Diag	Circuit 2 Sub Mode at Time of Last Diag.
Chiller Sub Mode 5 at Time of Last Diag	Circuit 2 Sub Mode at Time of Last Diag.
Chiller Sub Mode 6 at Time of Last Diag	Circuit 2 Sub Mode at Time of Last
Circuit 1 Mode at Time of last Diag.	Circuit 2 Sub Mode at Time of Last Diag.
Circuit 1 Sub Mode at Time of Last Diag.	Circuit 2 Sub Mode at Time of Last Diag.
Circuit 1 Sub Mode at Time of Last Diag.	Circuit 2 Sub Mode at Time of Last
Circuit 1 Sub Mode at Time of Last Diag.	

Chiller

BAS Demand Limit Setpoint	**100 %**	Corrected Defrost Entry Approach Max Ambient Temp Ckt1	**------**
BAS Chilled Water Setpoint	**7 °C**	Corrected Defrost Entry Approach Max Ambient Temp Ckt2	**------**
BAS Hot Water Setpoint	**45 °C**	Front Panel Demand Limit Setpoint	**100 %**
BAS Hot Water Command	**On**	Discharge Temp HWR Current Value	**0 °C**
Evaporator Water Pump Request BAS	**Auto**	Outdoor Air Temperature	**16.99 °C**
Active Chilled Water Setpoint	**7.456 °C**	Power Up Delay Inhibit:	**00:00 Min:Sec**
Active Hot Water Setpoint	**45 °C**	Setpoint Source	**BAS/Ext/FP**
Active Hot Water Command	**On**	Unit Running Status	**Off**
Active Demand Limit Setpoint	**100 %**	Unit Running Powered Indicator	**Off**
Active Evap Water Pump Speed Setpt	**100 %**	Evaporator Water Flow Status	**No Flow**
Arbitrated Chilled Water Setpoint	**7 °C**	Evaporator Pump Off Delay Timer	**00:00 Min:Sec**
Arbitrated Hot Water Setpoint	**45 °C**	Evaporator Water Pump Command	**Off**
Capacity Control Softload Time	**900 Sec**	Evaporator Water Pump Output Status	**Auto**
Front Panel Chilled Water Setpoint	**7.5 °C**	Evaporator Water Flow Switch	**No Flow**
Front Panel Hot Water Setpoint	**45 °C**	Evaporator Entering Water Temperature	**42.48 °C**
Front Panel Hot Water Command	**On**	Evaporator Leaving Water Temperature	**41.16 °C**
External Chiller Mode Command	**Cool**	Low Evaporator Water Temp Cutout	**4.4 °C**
Actual Degrees of Chilled Water Reset	**0 °C**	Maximum Capacity Relay	**Inactive**
Desired Degrees of Reset	**0 °C**	Evap Water Freeze Avoid Request Relay	**Open**

Total Degrees of Hot Water Reset	**0 °C**	Max Restart Time Remaining	**0**
HWR Actual Degrees of Reset	**0 °C**	Evaporator Water Pump Command Pump 1	**Off**
HWR Desired Degrees of Reset	**0 °C**	Evaporator Water Pump Command Pump 2	**Off**
High Hot Water Temperature Limit Reset	**0 °C**	Evap Inverter 1 Run Command	**Off**
Chiller Last Service	**05/05/2025 17:38:40**	Evaporator Water Pump Running Time Pump 1	**09:22 Hr:Min**
Chiller Load Command	**0 %**	Evaporator Water Pump Running Time Pump 2	**05:27 Hr:Min**
Supplemental Heater Status	**0 %**	Evaporator Water Pump Speed Command	**100 %**
Supplemental Heater Enable	**Enable**	Evap Water Pump 1 Last Service	**05/05/2025 17:12:04**
Chiller Running Time	**03:10 Hr:Min**	Evap Water Pump 1 Service Time Remaining	**0 Hr**
Chiller Service Time Remaining	**0 Hr**	Evap Water Pump 2 Last Service	**05/05/2025 16:39:53**
Cooling Low Ambient Lockout	**Enable**	Evap Water Pump 2 Service Time Remaining	**0 Hr**
Cooling Low Ambient Lockout Temperature	**-10 °C**	Evaporator Pump Command: Unit Off	**Auto**
Heating Low Ambient Lockout	**Enable**	Evaporator Pump Command: Unit On	**Auto**
Heating Low Ambient Lockout Temperature	**-18 °C**		

Evaporator Circuit 1

Evaporator Approach Temperature Ckt1	**------**	EXV Command (%) Ckt1	**0 %**
Compressor Suction Refrigerant Temp Ckt1	**20.9 °C**	EXV Command (steps) Ckt1	**0 steps**
Compressor Suction Superheat Ckt1	**4.117 °C**	EXV Maximum Steps Ckt1	**------**
Active Superheat Setpoint Ckt1	**5 °C**	EXV Percent Open Ckt1	**0 %**
Evaporator Refrigerant Pressure Ckt1	**1108.2 kPaG**	EXV Position Steps Ckt1	**0 steps**
Evaporator Saturated Rfgt Temp Ckt1	**16.783 °C**	EXV Flow Coefficient Ckt1	**0 %**
Front Panel Circuit Lockout Ckt1	**Not Locked Out**	SLHX Valve Percent Open Ckt1	**0 %**
Running Indicator Ckt1	**Off**	SLHX Entering Refrigerant Temp Ckt1	**19.86 °C**
Running Powered Indicator Ckt1	**Off**	SLHX Delta Refrigerant Temp Ckt1	**1.04 °C**
Service Pumpdown Status Ckt1	**Inactive**	Running Time Ckt1	**02:14 Hr:Min**
Low Refrigerant Temperature Integral Ckt1	**------**		

Evaporator Circuit 2

Evaporator Approach Temperature Ckt2	**------**	EXV Command (%) Ckt2	**0 %**
Compressor Suction Refrigerant Temp Ckt2	**21.29 °C**	EXV Command (steps) Ckt2	**0 steps**
Compressor Suction Superheat Ckt2	**5.784 °C**	EXV Maximum Steps Ckt2	**------**
Active Superheat Setpoint Ckt2	**6.318 °C**	EXV Percent Open Ckt2	**0 %**
Evaporator Refrigerant Pressure Ckt2	**1064.4 kPaG**	EXV Position Steps Ckt2	**0 steps**
Evaporator Saturated Rfgt Temp Ckt2	**15.506 °C**	EXV Flow Coefficient Ckt2	**0**
Front Panel Circuit Lockout Ckt2	**Not Locked Out**	SLHX Valve Percent Open Ckt2	**0 %**
Running Indicator Ckt2	**Off**	SLHX Entering Refrigerant Temp Ckt2	**19.59 °C**

Running Powered Indicator Ckt2	**Off**	SLHX Delta Refrigerant Temp Ckt2	**1.7 °C**
Service Pumpdown Status Ckt2	**Inactive**	Running Time Ckt2	**02:30 Hr:Min**
Low Refrigerant Temperature Integral Ckt2	**------**		

Condenser Circuit 1

Condenser Refrigerant Pressure Ckt1	**2049.6 kPaG**	Air Flow Shared Deck	**0 %**
Condenser Saturated Rfgt Temp Ckt1	**38.61 °C**	Defrost Active Ckt1	**Inactive**
Differential Refrigerant Pressure Ckt1	**941.4 kPaD**	Warm-Up Cycle Ignore Time Ckt1	**30 Min**
Active Discharge Pressure Limit Setpoint	**85 %**	Fan Speed Ckt1	**0 rpm**
Condenser Temperature Target Ckt1	**------**	Fan Speed Shared Deck	**0 rpm**
Evaporator Temperature Target Ckt1	**17.18 °C**	Minimum Fan Speed	**100 rpm**
Fan Control Air Flow Goal Ckt1	**0 %**	Maximum Fan Speed	**920 rpm**
Fan Control Feedforward Flow Estimate Ckt1	**------**	Shared Condenser Fan Relay 1	**Off**
Predicted Condensing Temp Ckt1	**3.665 °C**	Shared Condenser Fan Relay 2	**Off**
Air Flow Ckt1	**0 %**	Shared V Coil Valve Position Ckt1	**100 %**
Air Flow Goal Ckt1	**0 %**	Defrost Entry Approach Temp Ckt1	**------**

Condenser Circuit 2

Condenser Refrigerant Pressure Ckt2	**2135 kPaG**	Defrost Active Ckt2	**Inactive**
Condenser Saturated Rfgt Temp Ckt2	**40.19 °C**	Warm-Up Cycle Ignore Time Ckt2	**30 Min**
Differential Refrigerant Pressure Ckt2	**1070.6 kPaD**	Fan Speed Ckt2	**0 rpm**
Active Discharge Pressure Limit Setpoint	**85 %**	Fan Speed Shared Deck	**0 rpm**
Condenser Temperature Target Ckt2	**------**	Minimum Fan Speed	**100 rpm**
Evaporator Temperature Target Ckt2	**17.999 °C**	Maximum Fan Speed	**920 rpm**
Fan Control Air Flow Goal Ckt2	**0 %**	Shared Condenser Fan Relay 1	**Off**
Fan Control Feedforward Flow Estimate Ckt2	**------**	Shared Condenser Fan Relay 2	**Off**
Predicted Condensing Temp Ckt2	**3.263 °C**	Shared V Coil Valve Position Ckt2	**100 %**
Air Flow Ckt2	**0 %**	Defrost Entry Approach Temp Ckt2	**------**
Air Flow Goal Ckt2	**0 %**		

Motor 1A

Restart Inhibit Time Cprsr1A	**00:00 Min:Sec**	Motor Avail To Start Indicator Cprsr1A	**Yes**
Motor Run Command Cprsr1A	**False**		

Motor 1B

Restart Inhibit Time Cprsr1B	**00:00 Min:Sec**	Motor Avail To Start Indicator Cprsr1B	**Yes**
Motor Run Command Cprsr1B	**False**		

Motor 1C

Restart Inhibit Time Cprsr1C	**00:00 Min:Sec**	Motor Avail To Start Indicator Cprsr1C	**Yes**
Motor Run Command Cprsr1C	**False**		

Motor 2A

Restart Inhibit Time Cprsr2A	**00:00 Min:Sec**	Motor Avail To Start Indicator Cprsr2A	**Yes**
Motor Run Command Cprsr2A	**False**		

Motor 2B

Restart Inhibit Time Cprsr2B	**00:00 Min:Sec**	Motor Avail To Start Indicator Cprsr2B	**Yes**
Motor Run Command Cprsr2B	**False**		

Motor 2C

Restart Inhibit Time Cprsr2C	**00:00 Min:Sec**	Motor Avail To Start Indicator Cprsr2C	**Yes**
Motor Run Command Cprsr2C	**False**		

Compressor 1A

Differential Refrigerant Pressure Ckt1	**941.4 kPaD**	Running Time Cprsr1A	**01:36 Hr:Min**
Compressor Involute Press Diff Ckt1	**-1356.84 kPaD**	Service Pumpdown Status Cprsr1A	**Not Available**
Evaporator Refrigerant Pressure Ckt1	**1108.2 kPaG**	Starts Cprsr1A	**4**
Compressor Discharge Temperature Ckt1	**36.9 °C**	Last Service Cprsr1A	**05/05/2025 17:38:40**
Front Panel Compressor Lockout Cprsr1A	**Not Locked Out**	Service Time Remaining % Cprsr1A	**0 %**
Running Status Cprsr1A	**Off**		

Compressor 1B

Front Panel Compressor Lockout Cprsr1B	**Not Locked Out**	Starts Cprsr1B	**3**
Running Status Cprsr1B	**Off**	Last Service Cprsr1B	**05/05/2025 17:38:40**
Running Time Cprsr1B	**01:17 Hr:Min**	Service Time Remaining % Cprsr1B	**0 %**
Service Pumpdown Status Cprsr1B	**Not Available**		

Compressor 1C

Front Panel Compressor Lockout Cprsr1C	**Not Locked Out**	Starts Cprsr1C	**4**
Running Status Cprsr1C	**Off**	Last Service Cprsr1C	**05/05/2025 17:38:40**
Running Time Cprsr1C	**01:29 Hr:Min**	Service Time Remaining % Cprsr1C	**0 %**
Service Pumpdown Status Cprsr1C	**Not Available**		

Compressor 2A

Differential Refrigerant Pressure Ckt2	**1070.6 kPaD**	Running Time Cprsr2A	**01:23 Hr:Min**
Compressor Involute Press Diff Ckt2	**-1144.42 kPaD**	Service Pumpdown Status Cprsr2A	**Not Available**
Evaporator Refrigerant Pressure Ckt2	**1064.4 kPaG**	Starts Cprsr2A	**4**
Compressor Discharge Temperature Ckt2	**37.46 °C**	Last Service Cprsr2A	**05/05/2025 17:38:40**
Front Panel Compressor Lockout Cprsr2A	**Not Locked Out**	Service Time Remaining % Cprsr2A	**0 %**
Running Status Cprsr2A	**Off**		

Compressor 2B

Front Panel Compressor Lockout Cprsr2B	**Not Locked Out**	Starts Cprsr2B	**4**
Running Status Cprsr2B	**Off**	Last Service Cprsr2B	**05/05/2025 17:38:40**
Running Time Cprsr2B	**01:26 Hr:Min**	Service Time Remaining % Cprsr2B	**0 %**
Service Pumpdown Status Cprsr2B	**Not Available**		

Compressor 2C

Front Panel Compressor Lockout Cprsr2C	**Not Locked Out**	Starts Cprsr2C	**3**
Running Status Cprsr2C	**Off**	Last Service Cprsr2C	**05/05/2025 17:38:40**
Running Time Cprsr2C	**01:56 Hr:Min**	Service Time Remaining % Cprsr2C	**0 %**
Service Pumpdown Status Cprsr2C	**Not Available**		

Chiller Setpoints

Feature Settings

Cooling Low Ambient Lockout	**Enable**	High Evaporator Water Temp Cutout	**55 °C**
Cooling Low Ambient Lockout Temperature	**-10 °C**	Limit Relay Filter Time	**1200 Sec**
Heating Low Ambient Lockout	**Enable**	Low Evaporator Water Temp Cutout	**4.4 °C**
Heating Low Ambient Lockout Temperature	**-18 °C**	Low Refrigerant Temperature Cutout	**-3.333 °C**
Evaporator Water Pump Off Delay	**1 Min**	Maximum Capacity Relay Filter Time	**1200 Sec**

Level 4 Gains and Start Sequence

Air Flow Damping Coefficient	**10 %**	Part-Load Efficiency Setpt Settling Time	**300 Sec**
Antifreeze Heater Evap Soft Threshold Temp	**2.222 °C**	Part-Load Eff Adjustment Offset Ckt1	**0 kPaD**
Compressor Fault Free Auto Reset Setpoint	**5**	Part-Load Eff Adjustment Offset Ckt2	**0 kPaD**
Compressor Minimum On Time	**2 Min**	Part-Load Eff Adjustment Factor Ckt1	**1**
Compressor Minimum On Time In Defrost	**10 Sec**	Part-Load Eff Adjustment Factor Ckt2	**1**
Condenser Fan Startup Delta Temperature	**2.5 °C**	Loss of Charge Detection	**Disable**
Condenser Size Adjustment Factor Ckt1	**2**	Loss of Charge Detection Flow Ratio	**1.75**
Condenser Size Adjustment Factor Ckt2	**1**	Restart Inhibit Diagnostic	**Disable**
Cooling Open Loop Dryout Percent	**70 %**	Restart Inhibit Free Starts	**2**
Cooling Open Loop Dryout Return Percent	**90 %**	Restart Inhibit Start To Start Time	**10 Min**
Cooling Pre-Position Interval Percent	**65 %**	Cprsr Suction Superheat Cooling Setpt Ckt1	**5 °C**
Cooling Start Closed Loop Percent	**110 %**	Cprsr Suction Superheat Cooling Setpt Ckt2	**5 °C**
Heating Max Fan Speed Correction	**Enable**	Cprsr Suction Superheat Heating Setpt Ckt1	**5 °C**
Heating Max Fan Speed Correction	**50 %**	Cprsr Suction Superheat Heating Setpt	**5 °C**

Limit High Load		Ckt2	
Heating Max Fan Speed Correction Limit Low Load	**30 %**	Superheat Setpoint Slew Rate	**1 °C**
Heating Max Fan Speed, Max Sat. Temp, High Load	**1 °C**	Superheat Integral Gain	**0.09**
Heating Max Fan Speed, Max Sat. Temp, Low Load	**1 °C**	Superheat Proportional Gain	**3**
Heating Max Fan Speed, Min Sat. Temp, High Load	**-3 °C**	Superheat Derivative Gain	**10**
Heating Max Fan Speed, Min Sat. Temp, Low Load	**-3 °C**	Suction Temperature Filter Multiplier	**0**
Heating Max Fan Speed Correction Slew Rate	**0.03 %**	Heating Superheat Integral Gain	**0.03**
Heating Open Loop Dryout Percent	**65 %**	Heating Superheat Proportional Gain	**3**
Heating Open Loop Dryout Return Percent	**70 %**	Heating Superheat Derivative Gain	**10**
Heating Pre-Position Interval Percent	**30 %**	Heating Suction Temperature Filter Multiplier	**3**
Heating Start Closed Loop Percent	**60 %**	Warm-Up Cycle Enable	**Enable**
Discharge Temperature Filter Initial Value	**37.78 °C**	Warm-Up Cprsr Staging High Condensing Timer	**120 Sec**
Discharge Temperature Filter Time Constant	**50 Sec**	Warm-Up Cprsr Staging Low Condensing Timer	**50 Sec**
Discharge Temp HWR Unload Offset	**4 °C**	Water Flow Est Min Temp Diff Setpoint	**8.89 °C**
Discharge Temp Trip Level	**140 °C**	Water Flow Est Min Water Flow Setpoint	**50 %**
Discharge Temp Unload Level	**136 °C**	Water Flow Est Temp Diff Adj Setpoint	**0 °C**
Discharge Temp Hold Level	**120 °C**	SLHX Valve Modulation Proportional Gain	**0.5**
Defrost Shared V Transition Time	**10 Sec**	SLHX Valve Modulation Integral Time	**30 Sec**
Estimated Discharge Temperature Offset	**-2.78 °C**	SLHX Stage On Ignore Time	**30 Sec**
Estimated Water Flow Protection Enable	**Enable**	SLHX Stage Off Ignore Time	**120 Sec**
Estimated Discharge Temp Trip Level	**134 °C**	SLHX Delta Temp Target Max Ambient	**4 °C**
Estimated Discharge Temp Unload Level	**132 °C**	SLHX Delta Temp Target Min Ambient	**0 °C**
Estimated Discharge Temp Hold Level	**115 °C**	SLHX Maximum Ambient Setpoint	**8 °C**
Evap Wtr Loop Freeze Avoid Type	**Adaptive**	SLHX Minimum Ambient Setpoint	**3 °C**
Evap Wtr Loop Freeze Avoid Temp Margin	**2 °C**	Low Ambient Heating Superheat ResetMinimum	**-1.5 °C**
Evap Wtr Loop Freeze Avoid Time Constant	**242 Min**	Evap Lvg Water Temp Staging StepDeadband	**1 °C**
Evap Wtr Loop Freeze Avoid Pump Max Off	**300 Min**	High Hot Water Temperature LimitEnable	**Enable**
Evap Water Flow Loss Debounce Time	**1 Sec**	High Hot Water Temperature Limit X1	**-15 °C**
Evaporator Water Pump Speed Minimum	**60 %**	High Hot Water Temperature Limit X2	**10 °C**
Defrost Entry Equalization Pressure	**300 kPaD**	High Hot Water Temperature Limit Y1	**41 °C**
Defrost Exit Equalization Pressure	**300 kPaD**	High Hot Water Temperature Limit Y2	**60 °C**
Defrost Entry Press Equal EXV Position	**50 %**	Warm-Up Cycle Ignore Timer Type	**Fixed**
Defrost Exit Press Equal EXV Position	**50 %**	Warm-Up Cycle Ignore Time at Min Approach	**480 Min**
EXV Pre-Position Hold Time	**0 Sec**	Warm-Up Cycle Ignore Time at Max Approach	**30 Min**

EXV Pre-Position Setpoint	**90 %**	Warm-Up Cycle Ignore Max Approach	**20 °C**
Fan Control Diff Pressure Setpoint	**830 kPaD**	EXV Transition To Close Loop Max Delay Time	**60 Sec**
Fan Control Minimum Pressure Ratio Setpoint	**1.5**	Low Pressure Cutout Setpoint	**133.6 kPaG**
Fan Control Minimum Sat Suction Temperature Setpoint	**-2.5 °C**	Reversed Pressure Drop Ckt1	**400 kPaD**
Fan Control Staging Integral Gain	**1**	Reversed Pressure Drop Ckt2	**400 kPaD**
Fan Staging Deadband	**2.5 °C**	Non-Reversed Pressure Drop Ckt1	**400 kPaD**
Fan Staging Time Constant	**6 Sec**	Non-Reversed Pressure Drop Ckt2	**400 kPaD**
Low Pressure Ratio Ignore Time Setting	**30 Sec**	Defrost Exit Limit Timer	**60 Sec**
Low Suction Pressure Limit Buffer	**20 kPaD**	Defrost Inter-Circuit Time Delay	**60 Sec**
Low Suction Pressure Limit Decay Rate	**2 kPaD**	Defrost Start Ignore Time	**600 Sec**
Low Suction Superheat Trip Time Heating	**180 Sec**	Sat Suction Temp Dryout Corr Factor	**1.0**
Inverted Water Temp Diagnostic Severity	**Normal Shutdown**	Superheat Control Feed Forward Gain	**1.0**
Operational Pumpdown Enable	**Enable**	Superheat Control Feed Back Gain	**1.0**
Operational Pumpdown Term Sat Temp	**-17.778 °C**	EXV Low Pressure Limit Max Factor	**2.0**
Op Pumpdown Cond Term Pressure	**90 %**	EXV Low Pressure Limit Slew Rate	**0.1**
Part-Load Efficiency Integral Gain	**0.02**	EXV Low Pressure Limit Prop Band	**50 kPaD**
Part-Load Efficiency Optimization Enable	**Enable**	Compressor Fault Diagnostic Severity	**Compressor**

Chiller

Capacity Control Softload Time	**900 Sec**	Front Panel Chilled Water Setpoint	**7.5 °C**
Chilled Water Reset Type	**Disable**	Front Panel Hot Water Command	**On**
Hot Water Reset Type	**Disable**	Front Panel Hot Water Setpoint	**45 °C**
Chiller Service Enable	**Disable**	Front Panel Demand Limit Setpoint	**100 %**
Chiller Service Interval Setpoint	**6000 Hr**	External Chiller Mode Command Enable	**Enable**
Compressor Service Enable	**Disable**	Local Atmospheric Pressure	**101.4 kPaA**
Compressor Target Trip Setpoint	**50 %**	Outdoor Air Maximum Reset	**2.778 °C**
Circuit Staging	**Balanced**	Outdoor Air Reset Ratio	**10 %**
Compressor Staging	**Balanced**	Outdoor Air Start Reset	**32.222 °C**
Condenser Pressure Limit Hold Setpoint	**85 %**	Discharge Temp HWR Enable	**Enable**
Condenser Pressure Limit Unload Setpoint	**95 %**	Discharge Temp HWR Offset	**1.5 °C**
Cooling Design Delta Temp (Waterside)	**5 °C**	Discharge Temp HWR Ignore Time	**300 Sec**
Heating Design Delta Temp (Waterside)	**7 °C**	Discharge Temp HWR Hold Time	**1800 Sec**
Defrost Entry Approach Min Ambient Temp	**10 °C**	Discharge Temp HWR Slew Rate	**3 °C**
Defrost Entry Approach Max Ambient Temp	**23 °C**	HWR Outdoor Air Maximum Reset	**2.778 °C**
Defrost Entry Approach Offset	**-10 °C**	HWR Outdoor Air Reset Ratio	**20 %**
Defrost Maximum Ambient Setpoint	**16 °C**	HWR Outdoor Air Start Reset	**10 °C**
Defrost Termination Setpoint	**78 %**	Power-Up Start Delay	**105 Sec**
Defrost Drying Time	**9 Sec**	Reference Water Temp Difference PAF	**1.07**
Maximum Defrost Time	**7 Min**	Reset Chiller Service Time	**No**

Minimum Time Between Defrost Cycles	**20 Min**	Reset Evap Water Pump 1 Service Time	**No**
Maximum Time Between Defrost Cycles	**1440 Min**	Reset Evap Water Pump 2 ServiceTime	**No**
Front Panel Cooling Differential to Start	**2.5 °C**	Return Water Maximum Reset	**2.778 °C**
Front Panel Cooling Differential to Stop	**2.5 °C**	Return Water Reset Ratio	**50 %**
Front Panel Heating Differential to Start	**3.5 °C**	Return Water Start Reset	**5.556 °C**
Front Panel Heating Differential to Stop	**3.5 °C**	Setpoint Source	**BAS/Ext/FP**
Evap Flow Overdue Wait Time	**1200 Sec**	Supplemental Heater Enable	**Enable**
Evap Wtr Loop Freeze Avoid Pump Cntrl	**Enable**	Compressor Staging DeadbandAdjustment	**0.5 °C**
Evap Water Pump Service Enable	**Disable**	Water Pump Service Interval Setpoint	**20000 Hr**

Circuit 1

Reset Service Time Cprsr1A	**No**	Reset Service Time Cprsr1C	**No**
Reset Service Time Cprsr1B	**No**	SLHX Valve Control Enable Ckt1	**Enable**

Circuit 2

Reset Service Time Cprsr2A	**No**	Reset Service Time Cprsr2C	**No**
Reset Service Time Cprsr2B	**No**	SLHX Valve Control Enable Ckt2	**Enable**

Level 4 Timers

Chiller Running Time Set	**03:10 Hr:Min**	Set Cprsr2A Starts	**4**
Set Ckt1 Run Time	**02:14 Hr:Min**	Set Cprsr2B Run Time	**01:26 Hr:Min**
Set Ckt2 Run Time	**02:30 Hr:Min**	Set Cprsr2B Starts	**4**
Set Cprsr1A Run Time	**01:36 Hr:Min**	Set Cprsr2C Run Time	**01:56 Hr:Min**
Set Cprsr1A Starts	**4**	Set Cprsr2C Starts	**3**
Set Cprsr1B Run Time	**01:17 Hr:Min**	Evap Pump 1 Run Time Setpoint	**09:22 Hr:Min**
Set Cprsr1B Starts	**3**	Evap Pump 1 Starts Count Setpoint	**13**
Set Cprsr1C Run Time	**01:29 Hr:Min**	Evap Pump 2 Run Time Setpoint	**05:27 Hr:Min**
Set Cprsr1C Starts	**4**	Evap Pump 2 Starts Count Setpoint	**16**
Set Cprsr2A Run Time	**01:23 Hr:Min**		

Device List

Antifreeze Heater Relays	Evaporator Leaving Water Temperature Sensor
Compressor 1A 1B 2A 2B Run Command Relays	Evaporator Water Pump Inverter Speed Output, Frequency and Setpoint Input
Compressor 1A and 1B Fault Inputs	External Auto/Stop and Emergency Stop Inputs
Compressor 1C 2C Run Command Relays	External Heat Command and Refrigerant Leak Detector
Compressor 1C and 2C Fault Inputs	High Pressure Cutout
Compressor 2A and 2B Fault Inputs	Operating Status Programmable Relays Module 1
Condenser Fan Analog Speed Outputs, Circuits 1 and 2	Outdoor Air Temperature Sensor
Condenser Fan Analog Speed Outputs, Shared Fan Deck	Reversing Valves Relays, Circuits 1 and 2
Condenser Fan Enable, Non-Shared Variable-Speed, Circuits 1 and 2	Shared V Coil Isolating Valve Circuit 1
Condenser Fan Enable, Shared Fan Deck	Shared V Coil Isolating Valve Circuit 2
Discharge Pressure Transducer Circuit 1 (0-700 psia)	Suction Line Heat Exchanger Entering Temp Sensor, Circuit 1

Discharge Pressure Transducer Circuit 2 (0-700 psia)	Suction Line Heat Exchanger Entering Temp Sensor, Circuit 2
Discharge Refrigerant Temperature Sensor Ckt1	Suction Line Heat Exchanger Valve, Circuit 1
Discharge Refrigerant Temperature Sensor Ckt2	Suction Line Heat Exchanger Valve, Circuit 2
Electronic Expansion Valve, Circuit 1	Suction Pressure Transducer Circuit 1 (0-700 psia)
Electronic Expansion Valve, Circuit 2	Suction Pressure Transducer Circuit 2 (0-700 psia)
Evap Pump Fault Inputs	Suction Temperature Sensor Circuit 1
Evap Water Flow Switch and Phase Protection Inputs (Enhanced)	Suction Temperature Sensor Circuit 2
Evap Water Pump Relays (single inverter, dual pumps)	Supplemental Heat Command Relays
Evaporator Entering Water Temperature Sensor	

Alarms and Events

Date	Time	Active / Historic	Description	Target	Severity	Persistence
05/12/2026	15:52	Historic	High Pressure Cutout	Circuit 1	Immediate Shutdown	Latching
05/12/2026	10:03	Historic	Evaporator Water Flow Lost - Pump2	Chiller	Warning	Nonlatching
05/12/2026	10:03	Historic	Evaporator Water Flow Lost	Chiller	Immediate Shutdown	Nonlatching
05/12/2026	07:31	Historic	Evaporator Water Flow Overdue - Pump1	Chiller	Warning	Nonlatching
05/12/2026	07:11	Historic	Evaporator Water Flow Overdue - Pump2	Chiller	Warning	Nonlatching
05/12/2026	06:51	Historic	Evaporator Water Flow Overdue - Pump1	Chiller	Warning	Nonlatching
05/12/2026	06:31	Historic	Evaporator Water Flow Overdue - Pump2	Chiller	Warning	Nonlatching
05/12/2026	06:31	Historic	Evaporator Water Flow Overdue	Chiller	Immediate Shutdown	Nonlatching
05/11/2026	07:06	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
05/11/2026	01:46	Historic	Evaporator Water Flow Overdue - Pump1	Chiller	Warning	Nonlatching
05/11/2026	01:26	Historic	Evaporator Water Flow Overdue - Pump2	Chiller	Warning	Nonlatching
05/11/2026	01:06	Historic	Evaporator Water Flow Overdue - Pump1	Chiller	Warning	Nonlatching
05/11/2026	00:46	Historic	Evaporator Water Flow Overdue - Pump2	Chiller	Warning	Nonlatching
05/11/2026	00:46	Historic	Evaporator Water Flow Overdue	Chiller	Immediate Shutdown	Nonlatching
05/08/2026	08:05	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
05/08/2026	07:33	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
05/07/2026	10:48	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
05/07/2026	08:49	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
05/07/2026	08:47	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
05/06/2026	13:13	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
05/05/2026	14:12	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
05/05/2026	14:05	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
02/03/2026	15:07	Historic	Evaporator Water Flow Overdue - Pump2	Chiller	Warning	Nonlatching
02/03/2026	15:07	Historic	Evaporator Water Flow Overdue	Chiller	Immediate Shutdown	Nonlatching
02/03/2026	14:45	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching

05/05/2025	17:33	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
05/05/2025	17:29	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
05/05/2025	17:09	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
05/05/2025	17:07	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
05/05/2025	17:04	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
05/05/2025	16:43	Historic	Comm Loss: Compressor Fault Input	Compressor 2C	Immediate Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Compressor Fault Input	Compressor 2B	Immediate Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Compressor Fault Input	Compressor 2A	Immediate Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: SLHX Entering Refrigerant Temp	Circuit 2	Normal Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: SLHX Valve	Circuit 2	Normal Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Shared V Coil Isolating Valve	Circuit 2	Normal Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: High Pressure Cutout Switch	Circuit 2	Immediate Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Suction Temperature	Circuit 2	Immediate Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Suction Pressure Transducer	Circuit 2	Immediate Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Discharge Pressure Transducer	Circuit 2	Immediate Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Discharge Temperature Sensor	Circuit 2	Immediate Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Compressor Fault Input	Compressor 1C	Immediate Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Compressor Fault Input	Compressor 1B	Immediate Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Compressor Fault Input	Compressor 1A	Immediate Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: SLHX Entering Refrigerant Temp	Circuit 1	Normal Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: SLHX Valve	Circuit 1	Normal Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Shared V Coil Isolating Valve	Circuit 1	Normal Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: High Pressure Cutout Switch	Circuit 1	Immediate Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Suction Temperature	Circuit 1	Immediate Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Suction Pressure Transducer	Circuit 1	Immediate Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Discharge Pressure Transducer	Circuit 1	Immediate Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Discharge Temperature Sensor	Circuit 1	Immediate Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Evap Pump Inv1 Fault Input	Chiller	Warning	Latching
05/05/2025	16:43	Historic	Comm Loss: Evap Pump Inv1 Freq Feedback	Chiller	Normal Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: External Hot Water Command	Chiller	Normal Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Programmable Relay Board 1	Chiller	Warning	Latching

05/05/2025	16:43	Historic	Comm Loss: Emergency Stop Feedback Input	Chiller	Normal Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: External Auto/Stop	Chiller	Normal Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Evap Leaving Water Temp	Chiller	Normal Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Evap Entering Water Temp	Chiller	Normal Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Evaporator Water Flow Switch	Chiller	Immediate Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Phase Protection Fault Input	Chiller	Normal Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Outdoor Air Temperature	Chiller	Normal Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Reversing Valve	Circuit 2	Normal Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Reversing Valve	Circuit 1	Normal Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Evaporator Antifreeze Heater	Chiller	Warning	Latching
05/05/2025	16:43	Historic	Comm Loss: Run Command Compressor C	Compressor 2C	Immediate Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Run Command Compressor C	Compressor 1C	Immediate Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Condenser Fan Enable	Circuit 2	Normal Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Evaporator Water Pump 2 Relay	Chiller	Normal Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Evaporator Water Pump 1 Relay	Chiller	Normal Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Fan Inverter Speed Command	Circuit 2	Normal Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Fan Inverter Speed Command	Circuit 1	Normal Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Condenser Fan Enable	Circuit 1	Normal Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Run Command Compressor B	Compressor 2B	Immediate Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Run Command Compressor A	Compressor 2A	Immediate Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Run Command Compressor B	Compressor 1B	Immediate Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Run Command Compressor A	Compressor 1A	Immediate Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Fan Inv Spd Cmd, Shrd Ckt1&2	Circuit 1	Warning	Latching
05/05/2025	16:43	Historic	Comm Loss: Cond Fan Enbl Shared Ckt 1&2	Circuit 1	Warning	Latching
05/05/2025	16:43	Historic	A020010 - Not In Current Configuration	Circuit 2	Normal Shutdown	Latching
05/05/2025	16:43	Historic	A010010 - Not In Current Configuration	Circuit 1	Normal Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Supplemental Heater Relay 1	Chiller	Warning	Latching
05/05/2025	16:43	Historic	Comm Loss: Evap Water Pump Inverter Speed	Chiller	Normal Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Evap Pump Inv1 Run Command	Chiller	Normal Shutdown	Latching

05/05/2025	16:43	Historic	Comm Loss: Electronic Expansion Valve	Circuit 2	Immediate Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Electronic Expansion Valve	Circuit 1	Immediate Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Electronic Expansion Valve	Circuit 2	Immediate Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Electronic Expansion Valve	Circuit 1	Immediate Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Electronic Expansion Valve	Circuit 2	Immediate Shutdown	Latching
05/05/2025	16:43	Historic	Comm Loss: Electronic Expansion Valve	Circuit 1	Immediate Shutdown	Latching
05/05/2025	16:43	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
05/05/2025	16:41	Historic	Comm Loss: Compressor Fault Input	Compressor 2C	Immediate Shutdown	Latching
05/05/2025	16:41	Historic	Comm Loss: Compressor Fault Input	Compressor 2B	Immediate Shutdown	Latching
05/05/2025	16:41	Historic	Comm Loss: Compressor Fault Input	Compressor 2A	Immediate Shutdown	Latching
05/05/2025	16:41	Historic	Comm Loss: SLHX Entering Refrigerant Temp	Circuit 2	Normal Shutdown	Latching
05/05/2025	16:41	Historic	Comm Loss: SLHX Valve	Circuit 2	Normal Shutdown	Latching
05/05/2025	16:41	Historic	Comm Loss: Shared V Coil Isolating Valve	Circuit 2	Normal Shutdown	Latching
05/05/2025	16:41	Historic	Comm Loss: High Pressure Cutout Switch	Circuit 2	Immediate Shutdown	Latching
05/05/2025	16:41	Historic	Comm Loss: Suction Temperature	Circuit 2	Immediate Shutdown	Latching

Tracer TU Configuration

Version	**Version - 12.0.212**

PC Environment

Operating System	**Microsoft Windows 11 Enterprise**
System Architecture	**x64**
Operating System Version	**6.2**

TU Display Units

Unit System	**SI**
Pressure Units	**kPa**

Date and Time

Time Format	**24-Hour**
Date Format	**DDMMYYYY**
Date Separator	**Slash (/)**
Date and Time	**12/05/2026 16:02:51**
Time Zone	**(UTC+01:00) Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London**
Daylight Saving Time	**Enabled**

Protocol

Bacnet MSTP

Enabled	**False**
Baud Rate	**76800**

Bacnet Wireless

Enabled	**False**

Bacnet IP

Enabled	**True**
UDP Port	**47808**
BBMD Enabled	**False**
Link	**link1**
Network Number	**2**

Bacnet Settings

Device ID	**2002**
Rotary Dial Setting	**2**
Bacnet segment timeout	**5000**
Bacnet APDU timeout	**10000**
Bacnet APDU retries	**3**

Modbus TCP

Enabled	**False**

Modbus RTU

Enabled	**False**
Address	**2 (Default Address)**
Baud Rate	**19200**
Parity	**Even**
Stop Bits	**1**

LON

U60 Module	**Disconnected**
Neuron ID	**00.00.00.00.00.00**
Link Status	**Invalid**

Chiller Configuration

Controller

Connected To	**Local USB**	Build Part Number	**62000856-2.20.0002**
Firmware Version	**2.20.0002**	Boot Part Number	**-**
Application Part Number	**-**	Unit Sales Order Number	**43NA875**
Hardware Serial Number	**E24F04180**	Unit Model Number	**CXAF150DEB ARCXE3WWNB NBX1XB1EBX F1XLXXFXXX X1EXBAXX2X AXXBA2XX**
Hardware Part Number	**X13651678-01**	Unit Serial Number	**ELJ01863**

Options

Compressor Staging Pattern (for 3 cprsr circuits)	**AB,ABC**	Liquid Line Isolation Service Valve	**Installed**
Energy Meter	**Not Installed**	Evaporator Water Flow Estimation	**Installed**
External Circuit Lockout	**Not Installed**	Phase Monitor Protection	**Installed**
External Setpoint Package	**Not Installed**	Fan Fault Inputs	**Not Installed**
Master Slave Chiller	**Not Installed**	Drain Pan Antifreeze Heater	**Not Installed**

Programmable Status Relays (STAT)	**One Relay Card Installed**	Supplemental Heater	**One Stage**
Generic Monitoring Package	**Not Installed**	Heat Pump Dynamic Receiver	**Not Installed**
Noise Reduction Request	**Not Installed**	Optimal Sump Heater Control	**Not Installed**
Heat Recovery	**No Heat Recovery**	Suction Line Heat Exchanger	**Installed**
Variable Primary Flow	**No Variable Primary Flow**	Flow Proving Type	**High Voltage Paddle**
Evaporator Water Pumps	**Dual Pump Variable Speed**	Oil Loss Level Sensor	**Not Installed**
Antifreeze Heater Control	**Installed w/ Software Thermostat Control**	Fan Maximum Permissible Speed (at 10V)	**1060 RPM**
Refrigerant Leak Detector	**Not Installed**		

Options Setup

Cooling EXV Selection Circuit 1	**SERI-KS and X13650736-13 or greater**	Module 1 Programmable Status Relay 1 (J2-1,2,3)	**Evaporator Freeze Avoidance Request**
Cooling EXV Selection Circuit 2	**SERI-KS and X13650736-13 or greater**	Module 1 Programmable Status Relay 2 (J2-4,5,6)	**Maximum Capacity**
Minimum VFD Fan Speed	**100 RPM**	Module 1 Programmable Status Relay 3 (J2-7,8,9)	**Compressor Running**
Cooling Maximum VFD Fan Speed	**920 RPM**	Module 1 Programmable Status Relay 4 (J2-10,11,12)	**Latching Alarm**
Heating Maximum VFD Fan Speed	**920 RPM**	Evaporator Low Water Pressure Protection	**Not Installed**

Symbio 800

Unit Model (MODL)	**CXAF**

Design

Number of Circuits	**2 (TWO)**	Manufacturing Location	**Charmes**

General

Number of Compressors, Circuit 1	**3 (THREE)**	High Pressure Cutout Reference	**4100 kPa (gauge)**
Number of Compressors, Circuit 2	**3 (THREE)**	Condenser Fan Control Type	**All Variable Speed**
Evaporator Application (EVLT)	**Standard**	Total Number of Fans on Chiller	**10**
Refrigerant Type	**R454B**	Number of EXV per Circuit	**One**

Compressor 1A

Compressor 1A Nameplate Frequency, Volt	**50Hz, 400V**	Compressor 1A Size	**DSH381**

Compressor 1B

Compressor 1B Nameplate Frequency, Volt	**50Hz, 400V**	Compressor 1B Size	**DSH381**

Compressor 1C

Compressor 1C Nameplate Frequency, Volt	**50Hz, 400V**	Compressor 1C Size	**DSH381**

Compressor 2A

Compressor 2A Nameplate Frequency, Volt	**50Hz, 400V**	Compressor 2A Size	**DSH381**

Compressor 2B

Compressor 2B Nameplate Frequency, Volt	**50Hz, 400V**	Compressor 2B Size	**DSH381**

Compressor 2C

Compressor 2C Nameplate Frequency,	**50Hz, 400V**	Compressor 2C Size	**DSH381**

Volt

Signed: _____

Date: _____

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7.14

P B.01 commissioning certificate

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

Reference	HEN0203-PB01-CC
Asset	P B.01
Provided by	TPS Ltd
Source file	TPS commissioning sheet, P B.01 ASHP primary pumps.pdf
Pages	1

Commissioning / Maintenance Report

Customer:	TPS
Site address:	Elmwood Leisure Centre, BR2
Engineer:	Tom Sparling
Date of visit:	27/10/25

Pump Data	
Site ref:	ASHP Primary
Description of Unit:	Twin head Lowara set
Model No:	LNTSH 125-160
Serial No.:	703935120

Inverter Data	
Site ref:	
Description of Unit:	
Model No:	
Serial No.:	

Condition Inspection	
Visual inspection of condition	Pass
Inspection of control efficiency & smooth operation of pumps	Pass
Inspection of condition of adjacent area	Pass

Visual checks	
Check mechanical seal for leaks	Pass
Check the direction of rotation	Pass
Check Mechanical connections	Pass
Check electrical connections	Pass
Check Motor / pump coupling	Pass
Check Pulleys and belts	N/A
Grease Motor bearings	N/A

Controls/Parameters		
Control Mode	Constant	Pressure
Set Point	0.65	Bar

Comments
All ok.

7.15

ASHP 0.01 commissioning records

The following 25 pages are the document exactly as received and checked. It is bookmarked in the PDF.

Reference	HEN0203-ASHP001-CC
Asset	ASHP 0.01
Provided by	Trane UK Ltd
Source file	Trane start-up and F-gas report, ASHP 0.01.pdf
Pages	25

Trane UK Limited
Lawrence House - Jays Close - Basingstoke
Hampshire, UK RG22 4LT
Ph: +44 (0) 8457165162 Fax +44 (0) 1256306001

www.trane.com

Report #: Jon Fairbourne 3.692516014

Job #: 43NA875
Customer Ord.: -
Serial nr ELJ01864, Model CXAF 150

Building name	Elmwood Leisure Centre
Building addr.	Market Gate, Elmwood
Building city	Kent, EL6 4QT
Building #	Elmwood Leisure Centre

Customer company	Hensall Mechancal Services Ltd
Customer Nr	NA
Job completed?	Yes
Must produce a quotation?	No

Risk Evaluation	Extra PPE required (specify which ones)
	AS PER JSA

Ergonomic (lifting, position, constrains)	Average
Fall	Average
Confined spaces	Average

Reason of call	Start the unit
Unit & plant status on tech arrival	Unit Stopped
Unit & plant status on tech leaving	Unit Running

Refrigerant type	R454B			
Refrigerant charge, kg	54	54	-	-
Complies with FGAS	Yes			
	This unit has been leak checked in accordance with f-gas regulations and there were no leaks found.			

Job description

First Start-Up according to the manufacturer's instructions. The detailed description of activities and related results are described in annex, where you can find the technical advice provided by Trane, which you must follow carefully for a safe, reliable and profitable use of your machine.

Technician name	Date	Trav. Start	Job start	Job end	Travel end	Pause	Job & travel	Travel mil.	Overnight
Jon Fairbourne	12/05/2026	7:00	8:00	12:00	12:00		5:00	10	No
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-

Unit starts & Unit run hour						
	Cmpr A	Cmpr B	Cmpr C	Cmpr D	Cmpr E	Cmpr F
Starts	-	-	-	-	-	-
Hours	-	-	-	-	-	-

Serial # of the refrigerant / recovery / reclaim cylinders used	-	-	-	-	-	-	
	-	-	-	-	-	-	

Suggested repair / upgrading

Installation is only partly acceptable, unit can be started, but Customer have to perform the modifications described in "Installation Remarks"

14/05/2026

Trane UK Limited

Lawrence House - Jays Close - Basingstoke

Hampshire, UK RG22 4LT

Ph: +44 (0) 8457165162 Fax +44 (0) 1256306001

www.trane.com

Report #: Jon Fairbourne 3.692516014

Job Number -

Job #: 43NA875

Customer Ord.: -

Building name	Elmwood Leisure Centre	Customer company	Hensall Mechancal Services Ltd
Building #	Elmwood Leisure Centre	Customer Nr	NA

F-Gas Unit Booklet, Regulation (EU) n° 573/2024 of the EU Parliament and of the Council - Cust. Reference ASHP 1

Data of Company responsible for Unit or Plant Maintenance

Name	Hensall Mechancal Services Ltd	Address	North Yorkshire
Phone		Email	
Fax		Activity	

Plant or Device data

Unit Model	CXAF 150			Serial number			ELJ01864
Building city	Kent, EL6 4QT			Refrigerant type	R454B	GWP	#N/A
Refrigerant charge, kg	ckt 1	54.00	ckt 2	54.00	ckt 3	-	ckt 4	-
Tons CO2 equivalent								

Maintenance company references

Name & Role (1)			Jon Fairbourne Certif. Tech.
Tech's Certification #			5.50031E+11
Company	Trane UK Limited	VAT #	GB 354 779609
Company's Certification #			REF1011421
Date of last intervention (by Trane)			Pls See previous report
Date of first intervention (by Trane, including StartUp)			Pls See previous report

Results of checks

Is The Machine Leak Free?		Yes	
Leak detection system installed?	No	Date of last checkout	N.A.
One or more leaks repaired:	No	Date of leak repair	-

Repair description

There are leaks requiring unit stoppage, to be repaired within (3):	
Next leak control to be carried out within:	14/05/2027
Serial number, Type and sensitivity of leak detector used	#0, 0
Date of last control of detector sensitivity	

Recovery of Controlled Fluids (Retrofit or Disposed)

Refrigerant movement details	Refriger.	ckt 1	ckt 2	ckt 3	ckt 4
Refrigerant transferred to bottles [kg]					
Refrigerant re-charged into unit [kg]					
Refrigerant to be disposed [kg]					
Refrigerant topping supplied by Trane [kg]					
Refrigerant topping supplied by Customer [kg]					
Reason for topping refrigerant		-	-	-	-
Pressure test: bars - minutes		-	-	-	-
Vacuum standing test: microns - minutes		-	-	-	-

Oil and waste records

Oil reclaimed, lts		-	-	-	-
New oil , lts		-	-	-	-
Waste has been grouped for later disposal?					Not Applicable

Note 1 Name of Maintenance company responsible for Unit or Plant

Note 2

Note 3 Leak greater than 10% of circuit charge must be repaired within 30 days, unit must be stopped until repair.

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Hampshire, UK RG22 4LT

Ph: +44 (0) 8457165162 Fax +44 (0) 1256306001

0

www.trane.com

Serial number	ELJ01864

JOB SAFETY ASSESSMENT - EQUIPMENT

Job Site Name:	Elmwood Leisure Centre
Date:	14/05/2026
Performed By:	Jon Fairbourne
Job Number	**43NA875**

			Yes	No	N/A
Work Area and Material Handling	1.1	Is there a safe area for loading/unloading your vehicle?	X		
	1.2	Are the access to the unit and working area, free from slippery floor, debris, obstacles, holes etc...that may contribute to a slip, trip or fall ?	X		
	1.3	Is the working area provided with sufficient space, adequate lighting / noise level / ventilation / ambient temperature to perform the work?	X		
	1.4	The handling of materials and tools, to and from the working area, is safe.	X		
	1.5	If there is co-activity with other workers, the risks have been assessed and are under control.	X		
	1.6	If you are working as a lone worker, you have a mean to send an alert or the customer is visiting/contacting you frequenlty.	X		
	1.7	Overall, the access to the unit and work area, are free from high risk.	X		
Fire Safety and Emergency	2.1	In an emergency situation there is a clear escape route with the necessary emergency lighting available.	X		
	2.2	There are fire extinguishers readily available around the equipment or at least within 30m of the working area.	X		
	2.3	If you perform "Hot Work" (brazing, welding, grinding, etc) have you completed a hot work permit ?	X		
	2.4	Overall, this job can be completed without high risk from fire safety and emergency readiness.	X		
Work at Height	3.1	All steps, platforms, ladders, scaffolding are safe and have been fully inspected prior to use.	X		
	3.2	Will you be working at an height below 1.2 meters and more than 2 meters of an unprotected edge.	X		
	3.3	If the use of a safety harness is required, you have the relevant training, equipment and an appropriate anchor point available.	X		
	3.4	Roofs and ceiling voids are provided with safe walkways or other access and all skylights are secured with fixed safety devices to prevent fall through	X		
	3.5	Overall, this job can be completed without high risk from working at heights.	X		
Confined Spaces	4.1	Overall, this job can be completed without accessing a designated Confined Space.	X		
Electrical Safety and LoTo	5.1	The work on the unit can be done with the power OFF.	X		
	5.2	If yes, the equipment can be isolated to work safely and you have a full LoTo kit.	X		
	5.3	If no: your work is limited to inspection, test, troubleshooting and measurement of live parts.	X		
	5.4	If you work on live electricity, you have and wear all the company's required electrical PPE and arc flash kit to work safely on or near energised components.	X		
	5.5	All of your electrical leads or appliances, have been inspected for defects or damages prior to use.	X		
	5.6	Overall, you can perform safely your work on or near energised electrical systems.	X		
Tools Equipment and PPE	6.1	All the power tools have been carefully inspected and are safe to be used: electrical cords, guarding, etc	X		
	6.2	You have, ready at hand, all the necessary PPE to perform the planned tasks at this job site. All the PPE are clean, not expired and in good condition.	X		
	6.3	Overall, all the tools, equipment and PPE you will be using have been inspected and are safe to use.	X		
Hazardous Substances	7.1	If you are using chemicals, hazardous substances, dangerous goods (e.g. Lubricants, oils, refrigerants, aerosols, etc), you have all the necessary compatible tools and PPE to handle them in a safe way.	X		
	7.2	If you are working with units running on specific refrigerant (A2L, B2L, A2, B2, A1 or B1), you have the necessary training, equipment and PPE to perform your job safely.	X		
	7.3	You have access to all up to date SDS for all hazardous substances used by Trane on site or present in the unit.	X		
	7.4	Overall, you can safely perform your task with all the hazardous substances you will be working with .	X		

Found all okay

UNIT START UP REPORT

CXAF



SINTESIS™
ADVANTAGE

BUILDING NAME	Elmwood Leisure Centre
BUILDING ADDRESS	Lynch Gale Road, Elmwood, BR2 4QT
CUSTOMER	Henshall
UNIT MODEL	CXAF150HEXLN
CUST. REFERENCE	ASHP 1
SERIAL NUMBER	ELJ01864
REFRIGERANT TYPE [SEE OWU]	R454B
REFRIGERANT CHARGE, KG	C1-54KG , C2-54KG
EVAPORATOR TYPE	Brazed Plate Heat Exchanger
CONDENSER TYPE	Copper, Aluminium, Epoxy Protection, Fin and tube
COMPRESSOR MODEL NUMBER	DSH381C4ARE (6 Compressors)
NOMINAL VOLTAGE AND RLA	380v-415v, 72 Amp
COMPRESSOR SERIAL NUMBER	**RD1107040513, RD1107040532, RD1107040528, RD1107040515, RD1107040523, RD1107040522**
BUILDING NR	
TRANE EQUIPMENT SALES ORDER	43NA875
TECHNICIAN NAME	Louis Bowtell
UNIT STARTED ON	28/04/2026
UNIT DELIVERED ON	
UNIT WARRANTY EXPIRES ON	-
COMMUNICATION WITH A CPC/BMS SYSTEM	Trane Sequencer

1. PRE-STARTUP OPERATIONS

CHILLED WATER LOOP

	DESIGN VALUES	ACTUAL VALUES
- Inlet and outlet gauges, with proper reading scale	8.7 kPa	10 kPa
- Vibration eliminators installed		Y
- Thermometer water inlet		Y
- Thermometer water outlet		Y
- Strainer		Y
- Volume of water circuit		m^3
- Flow control switch is operative		Y %
- Water pump interlock		Y
- Water pump operated by chiller control		N/A
- Actual glycol type and %	%	%

ELECTRICAL POWER SUPPLY CIRCUIT

		UNIT OFF	UNIT ON
- L 1 - L 2		408 V	407 V
- L 2 - L 3		408 V	406 V
- L 3 - L 1		408 V	407 V
- Control power Supply Volts		115 V	114 V
- Control modules power supply		28 V	28 V
- Power supply protection breaker settings	400 Amp A magn.	A Therm	A
- Main Power wiring cross-section size	X2 4 core SWA	120mm	

2. CHECKS AND SETTINGS OF CHILLER UNIT

UNIT ASSEMBLY

	VALUES
- Unit is levelled within acceptable limits (see IOM)?	Y
- Chiller foundation	Y
- Shipping mounts removal	Y
- General unit control	Y
- Refrigerant unit charge check	C1-10.7 C2-11.2 bar
at ambient temperature of	13.8 °C
- Leaks search	Y

LUBRICATION CIRCUIT

		Ckt 1	Ckt 2
- Charge Oil	Oil type: 0057E	Y 24 Litres per circuit	24 Litres per circuit
- Oil and evaporator heaters operate and draw design current?		x6 0.2 per heater A	x6 0.2 per heater A
- Oil and refrigerant valves are open or throttled as needed.?		Y	

- Refrigerant filter model: HTGR04811S

REFRIGERANT CIRCUIT

	Ckt 1	Ckt 2
- Oil and refrigerant valves are open or throttled as needed.?	Y	Y

EVAPORATOR

-	Check sensors and transducers	Y		
-	Record pressure setting for safety valve HP	Y	4 Bar	4 Bar

STARTER PANEL

-	Correct phase sequence is verified in every passages	Y		
-	Wiring connection have been tightened?	Y		
-	Check main disconnect switch operations	Y		
-	Check main disconnect switch aux contact operations	Y		
-	Check electrical continuity of power circuit	Y		
-	Designed RLA (label)		409 A	
-	CT ratio has been checked (record ratio)		N/A	

MOTOR INSULATION (NEVER APPLY MEGGER TO MACHINES UNDER VACUUM)

			1A	1B	1C	2A	2B	2C
-	Terminal stud 1 vs ground	MΩ	1000	1000	1000	1000	1000	1000
-	Terminal stud 2 vs ground	MΩ	1000	1000	1000	1000	1000	1000
-	Terminal stud 3 vs ground	MΩ	1000	1000	1000	1000	1000	1000
-	Terminal stud 4 vs ground	MΩ	1000	1000	1000	1000	1000	1000
-	Terminal stud 5 vs ground	MΩ	1000	1000	1000	1000	1000	1000
-	Terminal stud 6 vs ground	MΩ	1000	1000	1000	1000	1000	1000
-	Terminal stud 1 vs terminal 2	MΩ	1000	1000	1000	1000	1000	1000
-	Terminal stud 2 vs terminal 3	MΩ	1000	1000	1000	1000	1000	1000
-	Terminal stud 2 vs terminal 3	MΩ	1000	1000	1000	1000	1000	1000

CONTROL SYSTEM

-	Wiring connection have been tightened?		Y			
				Trip points		
		C	Y	-3.3		-3.3
-	Check and set LP switch	Bar	Y	41		41
-	Check and set HP switch, 1st stage	Bar	Y	41		41
-	Check and set HP switch, 2st stage	Bar				
-	Check and set UCM		Y			
-	Trim RLA setting	Amp	Y	65 A		65 A
-	Dry-Run Starter					
-	Test UCM safeties		Y			

3. CHILLER OPERATING PARAMETERS

This Unit log is attached to "Chiller Service Report"

	Log 1	Log 2
Chilled water setpoint Set point °C	7.5	7.5
Chilled water entering temp. °C	37.2	12.0
Chilled water leaving temp. °C	29.1	6.8

	ckt 1	ckt 2	ckt 1	ckt 2
EVP sat °t	16.5	6.0	1.3	0.8
EVP press. kPa	1099	781	661	635
EVP Approach °C	12.5	23.0	5.4	7.5
DP EVP water kPa	10	10	10	10
EXV Position %	100	100	53%	61%
Outdoor air temp. °C	15.1	15.1	15.1	15.1
Cooling Air flow %	53%	51%	76%	77%
CDS sat °t	37.1	36.0	29.2	31.8
CDS press.kPa	1972	1955	1584	1712
Subcooling °K	6.8	8.2	5.9	6.0

	1A	1B	1C	2A	2B	2C
Operating Mode	Auto	Locked Out	Auto	Auto	Auto	Auto
Starts	8	0	7	7	6	7
Hours	03:23	0	03:26	02:30	02:18	02:13
Oil differential pressure	N/A	N/A	N/A	N/A	N/A	N/A
Oil level [cm]	0.5	0.5	0.5	0.5	0.5	0.5

4. SPECIFIC REMARKS ABOUT THIS REFRIGERATION MACHINE.

IMPORTANT REMARKS

The commissioning has been performed by a qualified Trane Technician, who thoroughly checked control and safeties of this equipment, and who has ensured the smooth operation of the refrigeration unit. In order to maintain this level of operations, a proper maintenance must be ensured by qualified personnel, as per recommendations by the Installation, Operation and Maintenance Manual ...

IOM

...that you received from Trane, and as per Maintenance Guide indications. It is also reccomended to have a Trane Technician to perform an "Extended Start" Inspection between 500p and 1000 hours of operation.

SPECIAL REMARKS ABOUT INSTALLATION

PLEASE SEE ATTACHED

CONCLUSIONS:

☐ **INSTALLATION IS ACCEPTABLE AND UNIT CAN BE OPERATED WITHOUT RESERVES.**
Chiller can be put into service.

☐ **INSTALLATION IS PARTIALLY ACCCEPTABLE, UNIT CAN BE OPERATED, BUT THE CUSTOMER HAS TO CARRY OUT THE MODIFICATION DESCRIBED IN NOTES.**

Chiller can be put into service, but Customer must perform those modifications described in "Special remarks about Installation".

☐ **INSTALLATION IS NOT ACCEPTABLE SINCE DO NOT COMPLIES WITH IOM MANUAL RECEIVED BY CUSTOMER: UNIT CANNOT BE OPERATED UNDER TRANE RESPONSIBILITY.**

Chiller CANNOT be put into service under Trane's responsibility due to current installation status.

14/05/2026

Tuesday, May 12, 2026
03:40:33 PM

Chiller Service Report

Prepared for: Elmwood



Technician:	Jon Fairbourne
Chiller Name:	ASHP 1
Model Number:	CXAF150DEBARCXE3WWN BNBX1XB1EBXF1XLXXFXX XX1EXBAXX2XAXXBA2XX
Serial Number:	ELJ01864
Job Name:	Elmwood
Work Order Number:	
Location:	
Sales Office Name:	
Sales Order Number:	43NA875
Sales Office Address:	
Sales Office Phone Number:	
Customer Name:	
Customer Address:	
Customer Phone Number:	

Notes: Partial Sign Off

Chiller Status

Chiller Modes

Top Level Mode	**Run Inhibit**	Sub Level Mode 4
Sub Level Mode 1	**Start Inhibited by BAS**	Sub Level Mode 5
Sub Level Mode 2	**Hot Water Control**	Sub Level Mode 6
Sub Level Mode 3		

Circuit 1 Modes

Top Level Mode Ckt1	**Auto**	Sub Level Mode 4 Ckt1
Sub Level Mode 1 Ckt1	**Compressor B Locked Out**	Sub Level Mode 5 Ckt1
Sub Level Mode 2 Ckt1		Sub Level Mode 6 Ckt1
Sub Level Mode 3 Ckt1		

Circuit 2 Modes

Top Level Mode Ckt2	**Auto**	Sub Level Mode 4 Ckt2

Sub Level Mode 1 Ckt2	Sub Level Mode 5 Ckt2
Sub Level Mode 2 Ckt2	Sub Level Mode 6 Ckt2
Sub Level Mode 3 Ckt2	

Diagnostic Modes

Chiller Mode at Time of Last Diagnostic	Circuit 1 Sub Mode at Time of Last Diag.
Chiller Sub Mode 1 at Time of Last Diag	Circuit 1 Sub Mode at Time of Last Diag.
Chiller Sub Mode 2 at Time of Last Diag	Circuit 1 Sub Mode at Time of Last
Chiller Sub Mode 3 at Time of Last Diag	Circuit 2 Mode at Time of Last Diag.
Chiller Sub Mode 4 at Time of Last Diag	Circuit 2 Sub Mode at Time of Last Diag.
Chiller Sub Mode 5 at Time of Last Diag	Circuit 2 Sub Mode at Time of Last Diag.
Chiller Sub Mode 6 at Time of Last Diag	Circuit 2 Sub Mode at Time of Last
Circuit 1 Mode at Time of last Diag.	Circuit 2 Sub Mode at Time of Last Diag.
Circuit 1 Sub Mode at Time of Last Diag.	Circuit 2 Sub Mode at Time of Last Diag.
Circuit 1 Sub Mode at Time of Last Diag.	Circuit 2 Sub Mode at Time of Last
Circuit 1 Sub Mode at Time of Last Diag.	

Chiller

BAS Demand Limit Setpoint	**100 %**	Corrected Defrost Entry Approach Max Ambient Temp Ckt1	**13 °C**
BAS Chilled Water Setpoint	**7 °C**	Corrected Defrost Entry Approach Max Ambient Temp Ckt2	**13 °C**
BAS Hot Water Setpoint	**45 °C**	Front Panel Demand Limit Setpoint	**100 %**
BAS Hot Water Command	**On**	Discharge Temp HWR Current Value	**0 °C**
Evaporator Water Pump Request BAS	**Auto**	Outdoor Air Temperature	**15.99 °C**
Active Chilled Water Setpoint	**7.456 °C**	Power Up Delay Inhibit:	**00:00 Min:Sec**
Active Hot Water Setpoint	**45 °C**	Setpoint Source	**BAS/Ext/FP**
Active Hot Water Command	**On**	Unit Running Status	**Off**
Active Demand Limit Setpoint	**100 %**	Unit Running Powered Indicator	**Off**
Active Evap Water Pump Speed Setpt	**100 %**	Evaporator Water Flow Status	**No Flow**
Arbitrated Chilled Water Setpoint	**7 °C**	Evaporator Pump Off Delay Timer	**00:00 Min:Sec**
Arbitrated Hot Water Setpoint	**45 °C**	Evaporator Water Pump Command	**Off**
Capacity Control Softload Time	**900 Sec**	Evaporator Water Pump Output Status	**Auto**
Front Panel Chilled Water Setpoint	**7.5 °C**	Evaporator Water Flow Switch	**No Flow**
Front Panel Hot Water Setpoint	**45 °C**	Evaporator Entering Water Temperature	**41.31 °C**
Front Panel Hot Water Command	**On**	Evaporator Leaving Water Temperature	**41.25 °C**
External Chiller Mode Command	**Cool**	Low Evaporator Water Temp Cutout	**4.4 °C**
Actual Degrees of Chilled Water Reset	**0 °C**	Maximum Capacity Relay	**Inactive**
Desired Degrees of Reset	**0 °C**	Evap Water Freeze Avoid Request Relay	**Open**

Total Degrees of Hot Water Reset	**0 °C**	Max Restart Time Remaining	**0**
HWR Actual Degrees of Reset	**0 °C**	Evaporator Water Pump Command Pump 1	**Off**
HWR Desired Degrees of Reset	**0 °C**	Evaporator Water Pump Command Pump 2	**Off**
High Hot Water Temperature Limit Reset	**0 °C**	Evap Inverter 1 Run Command	**Off**
Chiller Last Service	**27/04/2026 14:16:49**	Evaporator Water Pump Running Time Pump 1	**03:29 Hr:Min**
Chiller Load Command	**0 %**	Evaporator Water Pump Running Time Pump 2	**04:49 Hr:Min**
Supplemental Heater Status	**0 %**	Evaporator Water Pump Speed Command	**100 %**
Supplemental Heater Enable	**Enable**	Evap Water Pump 1 Last Service	**27/04/2026 13:30:31**
Chiller Running Time	**04:50 Hr:Min**	Evap Water Pump 1 Service Time Remaining	**0 Hr**
Chiller Service Time Remaining	**0 Hr**	Evap Water Pump 2 Last Service	**02/05/2025 11:08:17**
Cooling Low Ambient Lockout	**Enable**	Evap Water Pump 2 Service Time Remaining	**0 Hr**
Cooling Low Ambient Lockout Temperature	**-10 °C**	Evaporator Pump Command: Unit Off	**Auto**
Heating Low Ambient Lockout	**Enable**	Evaporator Pump Command: Unit On	**Auto**
Heating Low Ambient Lockout Temperature	**-18 °C**		

Evaporator Circuit 1

Evaporator Approach Temperature Ckt1	**------**	EXV Command (%) Ckt1	**0 %**
Compressor Suction Refrigerant Temp Ckt1	**21.94 °C**	EXV Command (steps) Ckt1	**0 steps**
Compressor Suction Superheat Ckt1	**4.505 °C**	EXV Maximum Steps Ckt1	**------**
Active Superheat Setpoint Ckt1	**6.168 °C**	EXV Percent Open Ckt1	**0 %**
Evaporator Refrigerant Pressure Ckt1	**1130.6 kPaG**	EXV Position Steps Ckt1	**0 steps**
Evaporator Saturated Rfgt Temp Ckt1	**17.435 °C**	EXV Flow Coefficient Ckt1	**0 %**
Front Panel Circuit Lockout Ckt1	**Not Locked Out**	SLHX Valve Percent Open Ckt1	**0 %**
Running Indicator Ckt1	**Off**	SLHX Entering Refrigerant Temp Ckt1	**19.51 °C**
Running Powered Indicator Ckt1	**Off**	SLHX Delta Refrigerant Temp Ckt1	**2.43 °C**
Service Pumpdown Status Ckt1	**Inactive**	Running Time Ckt1	**04:36 Hr:Min**
Low Refrigerant Temperature Integral Ckt1	**------**		

Evaporator Circuit 2

Evaporator Approach Temperature Ckt2	**------**	EXV Command (%) Ckt2	**0 %**
Compressor Suction Refrigerant Temp Ckt2	**20.8 °C**	EXV Command (steps) Ckt2	**0 steps**
Compressor Suction Superheat Ckt2	**8.736 °C**	EXV Maximum Steps Ckt2	**------**
Active Superheat Setpoint Ckt2	**5 °C**	EXV Percent Open Ckt2	**0 %**
Evaporator Refrigerant Pressure Ckt2	**954.4 kPaG**	EXV Position Steps Ckt2	**0 steps**
Evaporator Saturated Rfgt Temp Ckt2	**12.064 °C**	EXV Flow Coefficient Ckt2	**0**
Front Panel Circuit Lockout Ckt2	**Not Locked Out**	SLHX Valve Percent Open Ckt2	**0 %**
Running Indicator Ckt2	**Off**	SLHX Entering Refrigerant Temp Ckt2	**18.45 °C**

Running Powered Indicator Ckt2	**Off**	SLHX Delta Refrigerant Temp Ckt2	**2.35 °C**
Service Pumpdown Status Ckt2	**Inactive**	Running Time Ckt2	**03:23 Hr:Min**
Low Refrigerant Temperature Integral Ckt2	**------**		

Condenser Circuit 1

Condenser Refrigerant Pressure Ckt1	**1966 kPaG**	Air Flow Shared Deck	**0 %**
Condenser Saturated Rfgt Temp Ckt1	**37.01 °C**	Defrost Active Ckt1	**Inactive**
Differential Refrigerant Pressure Ckt1	**835.4 kPaD**	Warm-Up Cycle Ignore Time Ckt1	**30 Min**
Active Discharge Pressure Limit Setpoint	**85 %**	Fan Speed Ckt1	**0 rpm**
Condenser Temperature Target Ckt1	**------**	Fan Speed Shared Deck	**0 rpm**
Evaporator Temperature Target Ckt1	**17.223 °C**	Minimum Fan Speed	**100 rpm**
Fan Control Air Flow Goal Ckt1	**0 %**	Maximum Fan Speed	**920 rpm**
Fan Control Feedforward Flow Estimate Ckt1	**------**	Shared Condenser Fan Relay 1	**Off**
Predicted Condensing Temp Ckt1	**4.157 °C**	Shared Condenser Fan Relay 2	**Off**
Air Flow Ckt1	**0 %**	Shared V Coil Valve Position Ckt1	**100 %**
Air Flow Goal Ckt1	**0 %**	Defrost Entry Approach Temp Ckt1	**12.999 °C**

Condenser Circuit 2

Condenser Refrigerant Pressure Ckt2	**2441.8 kPaG**	Defrost Active Ckt2	**Inactive**
Condenser Saturated Rfgt Temp Ckt2	**45.544 °C**	Warm-Up Cycle Ignore Time Ckt2	**30 Min**
Differential Refrigerant Pressure Ckt2	**1487.4 kPaD**	Fan Speed Ckt2	**0 rpm**
Active Discharge Pressure Limit Setpoint	**85 %**	Fan Speed Shared Deck	**0 rpm**
Condenser Temperature Target Ckt2	**------**	Minimum Fan Speed	**100 rpm**
Evaporator Temperature Target Ckt2	**22.36 °C**	Maximum Fan Speed	**920 rpm**
Fan Control Air Flow Goal Ckt2	**0 %**	Shared Condenser Fan Relay 1	**Off**
Fan Control Feedforward Flow Estimate Ckt2	**------**	Shared Condenser Fan Relay 2	**Off**
Predicted Condensing Temp Ckt2	**2.63 °C**	Shared V Coil Valve Position Ckt2	**100 %**
Air Flow Ckt2	**0 %**	Defrost Entry Approach Temp Ckt2	**12.999 °C**
Air Flow Goal Ckt2	**0 %**		

Motor 1A

Restart Inhibit Time Cprsr1A	**00:00 Min:Sec**	Motor Avail To Start Indicator Cprsr1A	**Yes**
Motor Run Command Cprsr1A	**False**		

Motor 1B

Restart Inhibit Time Cprsr1B	**00:00 Min:Sec**	Motor Avail To Start Indicator Cprsr1B	**Yes**
Motor Run Command Cprsr1B	**False**		

Motor 1C

Restart Inhibit Time Cprsr1C	**00:00 Min:Sec**	Motor Avail To Start Indicator Cprsr1C	**Yes**
Motor Run Command Cprsr1C	**False**		

Motor 2A

Restart Inhibit Time Cprsr2A	**00:00 Min:Sec**	Motor Avail To Start Indicator Cprsr2A	**Yes**
Motor Run Command Cprsr2A	**False**		

Motor 2B

Restart Inhibit Time Cprsr2B	**00:00 Min:Sec**	Motor Avail To Start Indicator Cprsr2B	**Yes**
Motor Run Command Cprsr2B	**False**		

Motor 2C

Restart Inhibit Time Cprsr2C	**00:00 Min:Sec**	Motor Avail To Start Indicator Cprsr2C	**Yes**
Motor Run Command Cprsr2C	**False**		

Compressor 1A

Differential Refrigerant Pressure Ckt1	**835.4 kPaD**	Running Time Cprsr1A	**03:23 Hr:Min**
Compressor Involute Press Diff Ckt1	**-1505.4 kPaD**	Service Pumpdown Status Cprsr1A	**Not Available**
Evaporator Refrigerant Pressure Ckt1	**1130.6 kPaG**	Starts Cprsr1A	**8**
Compressor Discharge Temperature Ckt1	**35.93 °C**	Last Service Cprsr1A	**27/04/2026 14:16:49**
Front Panel Compressor Lockout Cprsr1A	**Not Locked Out**	Service Time Remaining % Cprsr1A	**0 %**
Running Status Cprsr1A	**Off**		

Compressor 1B

Front Panel Compressor Lockout Cprsr1B	**Locked Out**	Starts Cprsr1B	**0**
Running Status Cprsr1B	**Off**	Last Service Cprsr1B	**27/04/2026 14:16:49**
Running Time Cprsr1B	**00:00 Hr:Min**	Service Time Remaining % Cprsr1B	**0 %**
Service Pumpdown Status Cprsr1B	**Not Available**		

Compressor 1C

Front Panel Compressor Lockout Cprsr1C	**Not Locked Out**	Starts Cprsr1C	**7**
Running Status Cprsr1C	**Off**	Last Service Cprsr1C	**27/04/2026 14:16:49**
Running Time Cprsr1C	**03:26 Hr:Min**	Service Time Remaining % Cprsr1C	**0 %**
Service Pumpdown Status Cprsr1C	**Not Available**		

Compressor 2A

Differential Refrigerant Pressure Ckt2	**1487.4 kPaD**	Running Time Cprsr2A	**02:30 Hr:Min**
Compressor Involute Press Diff Ckt2	**-518.62 kPaD**	Service Pumpdown Status Cprsr2A	**Not Available**
Evaporator Refrigerant Pressure Ckt2	**954.4 kPaG**	Starts Cprsr2A	**7**
Compressor Discharge Temperature Ckt2	**38.14 °C**	Last Service Cprsr2A	**27/04/2026 14:16:49**
Front Panel Compressor Lockout Cprsr2A	**Not Locked Out**	Service Time Remaining % Cprsr2A	**0 %**
Running Status Cprsr2A	**Off**		

Compressor 2B

Front Panel Compressor Lockout Cprsr2B	**Not Locked Out**	Starts Cprsr2B	**6**
Running Status Cprsr2B	**Off**	Last Service Cprsr2B	**27/04/2026 14:16:49**
Running Time Cprsr2B	**02:18 Hr:Min**	Service Time Remaining % Cprsr2B	**0 %**
Service Pumpdown Status Cprsr2B	**Not Available**		

Compressor 2C

Front Panel Compressor Lockout Cprsr2C	**Not Locked Out**	Starts Cprsr2C	**7**
Running Status Cprsr2C	**Off**	Last Service Cprsr2C	**27/04/2026 14:16:49**
Running Time Cprsr2C	**02:13 Hr:Min**	Service Time Remaining % Cprsr2C	**0 %**
Service Pumpdown Status Cprsr2C	**Not Available**		

Chiller Setpoints

Feature Settings

Cooling Low Ambient Lockout	**Enable**	High Evaporator Water Temp Cutout	**55 °C**
Cooling Low Ambient Lockout Temperature	**-10 °C**	Limit Relay Filter Time	**1200 Sec**
Heating Low Ambient Lockout	**Enable**	Low Evaporator Water Temp Cutout	**4.4 °C**
Heating Low Ambient Lockout Temperature	**-18 °C**	Low Refrigerant Temperature Cutout	**-3.333 °C**
Evaporator Water Pump Off Delay	**1 Min**	Maximum Capacity Relay Filter Time	**1200 Sec**

Level 4 Gains and Start Sequence

Air Flow Damping Coefficient	**10 %**	Part-Load Efficiency Setpt Settling Time	**300 Sec**
Antifreeze Heater Evap Soft Threshold Temp	**2.222 °C**	Part-Load Eff Adjustment Offset Ckt1	**0 kPaD**
Compressor Fault Free Auto Reset Setpoint	**5**	Part-Load Eff Adjustment Offset Ckt2	**0 kPaD**
Compressor Minimum On Time	**2 Min**	Part-Load Eff Adjustment Factor Ckt1	**1**
Compressor Minimum On Time In Defrost	**10 Sec**	Part-Load Eff Adjustment Factor Ckt2	**1**
Condenser Fan Startup Delta Temperature	**2.5 °C**	Loss of Charge Detection	**Disable**
Condenser Size Adjustment Factor Ckt1	**2**	Loss of Charge Detection Flow Ratio	**1.75**
Condenser Size Adjustment Factor Ckt2	**1**	Restart Inhibit Diagnostic	**Disable**
Cooling Open Loop Dryout Percent	**70 %**	Restart Inhibit Free Starts	**2**
Cooling Open Loop Dryout Return Percent	**90 %**	Restart Inhibit Start To Start Time	**10 Min**
Cooling Pre-Position Interval Percent	**65 %**	Cprsr Suction Superheat Cooling Setpt Ckt1	**5 °C**
Cooling Start Closed Loop Percent	**110 %**	Cprsr Suction Superheat Cooling Setpt Ckt2	**5 °C**
Heating Max Fan Speed Correction	**Enable**	Cprsr Suction Superheat Heating Setpt Ckt1	**5 °C**
Heating Max Fan Speed Correction	**50 %**	Cprsr Suction Superheat Heating Setpt	**5 °C**

Limit High Load		Ckt2	
Heating Max Fan Speed Correction Limit Low Load	**30 %**	Superheat Setpoint Slew Rate	**1 °C**
Heating Max Fan Speed, Max Sat. Temp, High Load	**1 °C**	Superheat Integral Gain	**0.09**
Heating Max Fan Speed, Max Sat. Temp, Low Load	**1 °C**	Superheat Proportional Gain	**3**
Heating Max Fan Speed, Min Sat. Temp, High Load	**-3 °C**	Superheat Derivative Gain	**10**
Heating Max Fan Speed, Min Sat. Temp, Low Load	**-3 °C**	Suction Temperature Filter Multiplier	**0**
Heating Max Fan Speed Correction Slew Rate	**0.03 %**	Heating Superheat Integral Gain	**0.03**
Heating Open Loop Dryout Percent	**65 %**	Heating Superheat Proportional Gain	**3**
Heating Open Loop Dryout Return Percent	**70 %**	Heating Superheat Derivative Gain	**10**
Heating Pre-Position Interval Percent	**30 %**	Heating Suction Temperature Filter Multiplier	**3**
Heating Start Closed Loop Percent	**60 %**	Warm-Up Cycle Enable	**Enable**
Discharge Temperature Filter Initial Value	**37.78 °C**	Warm-Up Cprsr Staging High Condensing Timer	**120 Sec**
Discharge Temperature Filter Time Constant	**50 Sec**	Warm-Up Cprsr Staging Low Condensing Timer	**50 Sec**
Discharge Temp HWR Unload Offset	**4 °C**	Water Flow Est Min Temp Diff Setpoint	**8.89 °C**
Discharge Temp Trip Level	**140 °C**	Water Flow Est Min Water Flow Setpoint	**50 %**
Discharge Temp Unload Level	**136 °C**	Water Flow Est Temp Diff Adj Setpoint	**0 °C**
Discharge Temp Hold Level	**120 °C**	SLHX Valve Modulation Proportional Gain	**0.5**
Defrost Shared V Transition Time	**10 Sec**	SLHX Valve Modulation Integral Time	**30 Sec**
Estimated Discharge Temperature Offset	**-2.78 °C**	SLHX Stage On Ignore Time	**30 Sec**
Estimated Water Flow Protection Enable	**Enable**	SLHX Stage Off Ignore Time	**120 Sec**
Estimated Discharge Temp Trip Level	**134 °C**	SLHX Delta Temp Target Max Ambient	**4 °C**
Estimated Discharge Temp Unload Level	**132 °C**	SLHX Delta Temp Target Min Ambient	**0 °C**
Estimated Discharge Temp Hold Level	**115 °C**	SLHX Maximum Ambient Setpoint	**8 °C**
Evap Wtr Loop Freeze Avoid Type	**Adaptive**	SLHX Minimum Ambient Setpoint	**3 °C**
Evap Wtr Loop Freeze Avoid Temp Margin	**2 °C**	Low Ambient Heating Superheat ResetMinimum	**-1.5 °C**
Evap Wtr Loop Freeze Avoid Time Constant	**270 Min**	Evap Lvg Water Temp Staging StepDeadband	**1 °C**
Evap Wtr Loop Freeze Avoid Pump Max Off	**300 Min**	High Hot Water Temperature LimitEnable	**Enable**
Evap Water Flow Loss Debounce Time	**1 Sec**	High Hot Water Temperature Limit X1	**-15 °C**
Evaporator Water Pump Speed Minimum	**60 %**	High Hot Water Temperature Limit X2	**10 °C**
Defrost Entry Equalization Pressure	**300 kPaD**	High Hot Water Temperature Limit Y1	**41 °C**
Defrost Exit Equalization Pressure	**300 kPaD**	High Hot Water Temperature Limit Y2	**60 °C**
Defrost Entry Press Equal EXV Position	**50 %**	Warm-Up Cycle Ignore Timer Type	**Fixed**
Defrost Exit Press Equal EXV Position	**50 %**	Warm-Up Cycle Ignore Time at Min Approach	**480 Min**
EXV Pre-Position Hold Time	**0 Sec**	Warm-Up Cycle Ignore Time at Max Approach	**30 Min**

EXV Pre-Position Setpoint	**90 %**	Warm-Up Cycle Ignore Max Approach	**20 °C**
Fan Control Diff Pressure Setpoint	**830 kPaD**	EXV Transition To Close Loop Max Delay Time	**60 Sec**
Fan Control Minimum Pressure Ratio Setpoint	**1.5**	Low Pressure Cutout Setpoint	**133.6 kPaG**
Fan Control Minimum Sat Suction Temperature Setpoint	**-2.5 °C**	Reversed Pressure Drop Ckt1	**400 kPaD**
Fan Control Staging Integral Gain	**1**	Reversed Pressure Drop Ckt2	**400 kPaD**
Fan Staging Deadband	**2.5 °C**	Non-Reversed Pressure Drop Ckt1	**400 kPaD**
Fan Staging Time Constant	**6 Sec**	Non-Reversed Pressure Drop Ckt2	**400 kPaD**
Low Pressure Ratio Ignore Time Setting	**30 Sec**	Defrost Exit Limit Timer	**60 Sec**
Low Suction Pressure Limit Buffer	**20 kPaD**	Defrost Inter-Circuit Time Delay	**60 Sec**
Low Suction Pressure Limit Decay Rate	**2 kPaD**	Defrost Start Ignore Time	**600 Sec**
Low Suction Superheat Trip Time Heating	**180 Sec**	Sat Suction Temp Dryout Corr Factor	**1.0**
Inverted Water Temp Diagnostic Severity	**Normal Shutdown**	Superheat Control Feed Forward Gain	**1.0**
Operational Pumpdown Enable	**Enable**	Superheat Control Feed Back Gain	**1.0**
Operational Pumpdown Term Sat Temp	**-17.778 °C**	EXV Low Pressure Limit Max Factor	**2.0**
Op Pumpdown Cond Term Pressure	**90 %**	EXV Low Pressure Limit Slew Rate	**0.1**
Part-Load Efficiency Integral Gain	**0.02**	EXV Low Pressure Limit Prop Band	**50 kPaD**
Part-Load Efficiency Optimization Enable	**Enable**	Compressor Fault Diagnostic Severity	**Compressor**

Chiller

Capacity Control Softload Time	**900 Sec**	Front Panel Chilled Water Setpoint	**7.5 °C**
Chilled Water Reset Type	**Disable**	Front Panel Hot Water Command	**On**
Hot Water Reset Type	**Disable**	Front Panel Hot Water Setpoint	**45 °C**
Chiller Service Enable	**Disable**	Front Panel Demand Limit Setpoint	**100 %**
Chiller Service Interval Setpoint	**6000 Hr**	External Chiller Mode Command Enable	**Enable**
Compressor Service Enable	**Disable**	Local Atmospheric Pressure	**101.4 kPaA**
Compressor Target Trip Setpoint	**50 %**	Outdoor Air Maximum Reset	**2.778 °C**
Circuit Staging	**Balanced**	Outdoor Air Reset Ratio	**10 %**
Compressor Staging	**Balanced**	Outdoor Air Start Reset	**32.222 °C**
Condenser Pressure Limit Hold Setpoint	**85 %**	Discharge Temp HWR Enable	**Enable**
Condenser Pressure Limit Unload Setpoint	**95 %**	Discharge Temp HWR Offset	**1.5 °C**
Cooling Design Delta Temp (Waterside)	**5 °C**	Discharge Temp HWR Ignore Time	**300 Sec**
Heating Design Delta Temp (Waterside)	**7 °C**	Discharge Temp HWR Hold Time	**1800 Sec**
Defrost Entry Approach Min Ambient Temp	**10 °C**	Discharge Temp HWR Slew Rate	**3 °C**
Defrost Entry Approach Max Ambient Temp	**23 °C**	HWR Outdoor Air Maximum Reset	**2.778 °C**
Defrost Entry Approach Offset	**-10 °C**	HWR Outdoor Air Reset Ratio	**20 %**
Defrost Maximum Ambient Setpoint	**16 °C**	HWR Outdoor Air Start Reset	**10 °C**
Defrost Termination Setpoint	**78 %**	Power-Up Start Delay	**105 Sec**
Defrost Drying Time	**9 Sec**	Reference Water Temp Difference PAF	**1.07**
Maximum Defrost Time	**7 Min**	Reset Chiller Service Time	**No**

Minimum Time Between Defrost Cycles	**20 Min**	Reset Evap Water Pump 1 Service Time	**No**
Maximum Time Between Defrost Cycles	**1440 Min**	Reset Evap Water Pump 2 ServiceTime	**No**
Front Panel Cooling Differential to Start	**2.5 °C**	Return Water Maximum Reset	**2.778 °C**
Front Panel Cooling Differential to Stop	**2.5 °C**	Return Water Reset Ratio	**50 %**
Front Panel Heating Differential to Start	**3.5 °C**	Return Water Start Reset	**5.556 °C**
Front Panel Heating Differential to Stop	**3.5 °C**	Setpoint Source	**BAS/Ext/FP**
Evap Flow Overdue Wait Time	**1200 Sec**	Supplemental Heater Enable	**Enable**
Evap Wtr Loop Freeze Avoid Pump Cntrl	**Enable**	Compressor Staging DeadbandAdjustment	**0.5 °C**
Evap Water Pump Service Enable	**Disable**	Water Pump Service Interval Setpoint	**20000 Hr**

Circuit 1

Reset Service Time Cprsr1A	**No**	Reset Service Time Cprsr1C	**No**
Reset Service Time Cprsr1B	**No**	SLHX Valve Control Enable Ckt1	**Enable**

Circuit 2

Reset Service Time Cprsr2A	**No**	Reset Service Time Cprsr2C	**No**
Reset Service Time Cprsr2B	**No**	SLHX Valve Control Enable Ckt2	**Enable**

Level 4 Timers

Chiller Running Time Set	**04:50 Hr:Min**	Set Cprsr2A Starts	**7**
Set Ckt1 Run Time	**04:36 Hr:Min**	Set Cprsr2B Run Time	**02:18 Hr:Min**
Set Ckt2 Run Time	**03:23 Hr:Min**	Set Cprsr2B Starts	**6**
Set Cprsr1A Run Time	**03:23 Hr:Min**	Set Cprsr2C Run Time	**02:13 Hr:Min**
Set Cprsr1A Starts	**8**	Set Cprsr2C Starts	**7**
Set Cprsr1B Run Time	**00:00 Hr:Min**	Evap Pump 1 Run Time Setpoint	**03:29 Hr:Min**
Set Cprsr1B Starts	**0**	Evap Pump 1 Starts Count Setpoint	**13**
Set Cprsr1C Run Time	**03:26 Hr:Min**	Evap Pump 2 Run Time Setpoint	**04:49 Hr:Min**
Set Cprsr1C Starts	**7**	Evap Pump 2 Starts Count Setpoint	**17**
Set Cprsr2A Run Time	**02:30 Hr:Min**		

Device List

Antifreeze Heater Relays	Evaporator Leaving Water Temperature Sensor
Compressor 1A 1B 2A 2B Run Command Relays	Evaporator Water Pump Inverter Speed Output, Frequency and Setpoint Input
Compressor 1A and 1B Fault Inputs	External Auto/Stop and Emergency Stop Inputs
Compressor 1C 2C Run Command Relays	External Heat Command and Refrigerant Leak Detector
Compressor 1C and 2C Fault Inputs	High Pressure Cutout
Compressor 2A and 2B Fault Inputs	Operating Status Programmable Relays Module 1
Condenser Fan Analog Speed Outputs, Circuits 1 and 2	Outdoor Air Temperature Sensor
Condenser Fan Analog Speed Outputs, Shared Fan Deck	Reversing Valves Relays, Circuits 1 and 2
Condenser Fan Enable, Non-Shared Variable-Speed, Circuits 1 and 2	Shared V Coil Isolating Valve Circuit 1
Condenser Fan Enable, Shared Fan Deck	Shared V Coil Isolating Valve Circuit 2
Discharge Pressure Transducer Circuit 1 (0-700 psia)	Suction Line Heat Exchanger Entering Temp Sensor, Circuit 1

Discharge Pressure Transducer Circuit 2 (0-700 psia)	Suction Line Heat Exchanger Entering Temp Sensor, Circuit 2
Discharge Refrigerant Temperature Sensor Ckt1	Suction Line Heat Exchanger Valve, Circuit 1
Discharge Refrigerant Temperature Sensor Ckt2	Suction Line Heat Exchanger Valve, Circuit 2
Electronic Expansion Valve, Circuit 1	Suction Pressure Transducer Circuit 1 (0-700 psia)
Electronic Expansion Valve, Circuit 2	Suction Pressure Transducer Circuit 2 (0-700 psia)
Evap Pump Fault Inputs	Suction Temperature Sensor Circuit 1
Evap Water Flow Switch and Phase Protection Inputs (Enhanced)	Suction Temperature Sensor Circuit 2
Evap Water Pump Relays (single inverter, dual pumps)	Supplemental Heat Command Relays
Evaporator Entering Water Temperature Sensor	

Alarms and Events

Date	Time	Active / Historic	Description	Target	Severity	Persistence
05/12/2026	13:52	Historic	Evaporator Water Flow Lost - Pump1	Chiller	Warning	Nonlatching
05/12/2026	13:52	Historic	Evaporator Water Flow Lost	Chiller	Immediate Shutdown	Nonlatching
05/11/2026	10:40	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
05/11/2026	05:41	Historic	Evaporator Water Flow Overdue - Pump2	Chiller	Warning	Nonlatching
05/11/2026	05:21	Historic	Evaporator Water Flow Overdue - Pump1	Chiller	Warning	Nonlatching
05/11/2026	05:01	Historic	Evaporator Water Flow Overdue - Pump2	Chiller	Warning	Nonlatching
05/11/2026	05:01	Historic	Evaporator Water Flow Overdue	Chiller	Immediate Shutdown	Nonlatching
05/08/2026	12:12	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
05/08/2026	11:42	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
05/08/2026	11:30	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
05/08/2026	11:14	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
05/07/2026	11:36	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
05/07/2026	11:24	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
05/06/2026	10:49	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
05/05/2026	15:18	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
04/28/2026	10:00	Historic	Evaporator Water Flow Lost - Pump2	Chiller	Warning	Nonlatching
04/28/2026	10:00	Historic	Evaporator Water Flow Lost	Chiller	Immediate Shutdown	Nonlatching
04/28/2026	09:54	Historic	Evaporator Water Flow Lost - Pump1	Chiller	Warning	Nonlatching
04/28/2026	09:54	Historic	Evaporator Water Flow Lost	Chiller	Immediate Shutdown	Nonlatching
04/28/2026	09:43	Historic	Evaporator Water Flow Lost - Pump2	Chiller	Warning	Nonlatching
04/28/2026	09:43	Historic	Evaporator Water Flow Lost	Chiller	Immediate Shutdown	Nonlatching
04/28/2026	09:35	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
04/27/2026	14:49	Historic	Compressor Fault Lockout	Compressor 1B	Immediate Shutdown	Latching
04/27/2026	14:05	Historic	Compressor B Fault	Compressor 1B	Immediate Shutdown	Nonlatching
04/27/2026	14:03	Historic	Compressor B Fault	Compressor 1B	Immediate Shutdown	Nonlatching
04/27/2026	14:02	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
04/27/2026	13:47	Historic	Compressor B Fault	Compressor	Immediate	Nonlatching

				1B	Shutdown	
04/27/2026	13:46	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
04/27/2026	13:26	Historic	Compressor B Fault	Compressor 1B	Immediate Shutdown	Nonlatching
04/27/2026	13:25	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
04/27/2026	12:42	Historic	Compressor A Fault	Compressor 2A	Immediate Shutdown	Nonlatching
04/27/2026	12:42	Historic	Compressor A Fault	Compressor 1A	Immediate Shutdown	Nonlatching
04/27/2026	12:42	Historic	Compressor C Fault	Compressor 1C	Immediate Shutdown	Nonlatching
04/27/2026	12:42	Historic	Compressor C Fault	Compressor 2C	Immediate Shutdown	Nonlatching
04/27/2026	12:42	Historic	Compressor B Fault	Compressor 2B	Immediate Shutdown	Nonlatching
04/27/2026	12:42	Historic	Compressor B Fault	Compressor 1B	Immediate Shutdown	Nonlatching
04/27/2026	12:42	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
05/02/2025	11:34	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
05/02/2025	11:31	Historic	MP: Reset Has Occurred	Platform	Warning	Nonlatching
05/02/2025	11:12	Historic	Comm Loss: Compressor Fault Input	Compressor 2C	Immediate Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Compressor Fault Input	Compressor 2B	Immediate Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Compressor Fault Input	Compressor 2A	Immediate Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: SLHX Entering Refrigerant Temp	Circuit 2	Normal Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: SLHX Valve	Circuit 2	Normal Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Shared V Coil Isolating Valve	Circuit 2	Normal Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: High Pressure Cutout Switch	Circuit 2	Immediate Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Suction Temperature	Circuit 2	Immediate Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Suction Pressure Transducer	Circuit 2	Immediate Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Discharge Pressure Transducer	Circuit 2	Immediate Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Discharge Temperature Sensor	Circuit 2	Immediate Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Compressor Fault Input	Compressor 1C	Immediate Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Compressor Fault Input	Compressor 1B	Immediate Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Compressor Fault Input	Compressor 1A	Immediate Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: SLHX Entering Refrigerant Temp	Circuit 1	Normal Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: SLHX Valve	Circuit 1	Normal Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Shared V Coil Isolating Valve	Circuit 1	Normal Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: High Pressure Cutout Switch	Circuit 1	Immediate Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Suction Temperature	Circuit 1	Immediate	Latching

					Shutdown	
05/02/2025	11:12	Historic	Comm Loss: Suction Pressure Transducer	Circuit 1	Immediate Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Discharge Pressure Transducer	Circuit 1	Immediate Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Discharge Temperature Sensor	Circuit 1	Immediate Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Evap Pump Inv1 Fault Input	Chiller	Warning	Latching
05/02/2025	11:12	Historic	Comm Loss: Evap Pump Inv1 Freq Feedback	Chiller	Normal Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: External Hot Water Command	Chiller	Normal Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Programmable Relay Board 1	Chiller	Warning	Latching
05/02/2025	11:12	Historic	Comm Loss: Emergency Stop Feedback Input	Chiller	Normal Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: External Auto/Stop	Chiller	Normal Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Evap Leaving Water Temp	Chiller	Normal Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Evap Entering Water Temp	Chiller	Normal Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Evaporator Water Flow Switch	Chiller	Immediate Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Phase Protection Fault Input	Chiller	Normal Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Outdoor Air Temperature	Chiller	Normal Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Reversing Valve	Circuit 2	Normal Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Reversing Valve	Circuit 1	Normal Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Evaporator Antifreeze Heater	Chiller	Warning	Latching
05/02/2025	11:12	Historic	Comm Loss: Run Command Compressor C	Compressor 2C	Immediate Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Run Command Compressor C	Compressor 1C	Immediate Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Condenser Fan Enable	Circuit 2	Normal Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Evaporator Water Pump 2 Relay	Chiller	Normal Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Evaporator Water Pump 1 Relay	Chiller	Normal Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Fan Inverter Speed Command	Circuit 2	Normal Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Fan Inverter Speed Command	Circuit 1	Normal Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Condenser Fan Enable	Circuit 1	Normal Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Run Command Compressor B	Compressor 2B	Immediate Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Run Command Compressor A	Compressor 2A	Immediate Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Run Command Compressor B	Compressor 1B	Immediate Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Run Command	Compressor	Immediate	Latching

			Compressor A	1A	Shutdown	
05/02/2025	11:12	Historic	Comm Loss: Fan Inv Spd Cmd, Shrd Ckt1&2	Circuit 1	Warning	Latching
05/02/2025	11:12	Historic	Comm Loss: Cond Fan Enbl Shared Ckt 1&2	Circuit 1	Warning	Latching
05/02/2025	11:12	Historic	A020010 - Not In Current Configuration	Circuit 2	Normal Shutdown	Latching
05/02/2025	11:12	Historic	A010010 - Not In Current Configuration	Circuit 1	Normal Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Supplemental Heater Relay 1	Chiller	Warning	Latching
05/02/2025	11:12	Historic	Comm Loss: Evap Water Pump Inverter Speed	Chiller	Normal Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Evap Pump Inv1 Run Command	Chiller	Normal Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Electronic Expansion Valve	Circuit 2	Immediate Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Electronic Expansion Valve	Circuit 1	Immediate Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Electronic Expansion Valve	Circuit 2	Immediate Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Electronic Expansion Valve	Circuit 1	Immediate Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Electronic Expansion Valve	Circuit 2	Immediate Shutdown	Latching
05/02/2025	11:12	Historic	Comm Loss: Electronic Expansion Valve	Circuit 1	Immediate Shutdown	Latching

Tracer TU Configuration

Version	**Version - 12.0.212**

PC Environment

Operating System	**Microsoft Windows 11 Enterprise**
System Architecture	**x64**
Operating System Version	**6.2**

TU Display Units

Unit System	**SI**
Pressure Units	**kPa**

Date and Time

Time Format	**24-Hour**
Date Format	**DDMMYYYY**
Date Separator	**Slash (/)**
Date and Time	**12/05/2026 15:40:32**
Time Zone	**(UTC+01:00) Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London**
Daylight Saving Time	**Enabled**

Protocol

Bacnet MSTP

Enabled	**False**
Baud Rate	**76800**

Bacnet Wireless

Enabled	**False**

Bacnet IP

Enabled	**True**
UDP Port	**47808**
BBMD Enabled	**False**
Link	**link1**
Network Number	**2**

Bacnet Settings

Device ID	**2001**
Rotary Dial Setting	**1**
Bacnet segment timeout	**5000**
Bacnet APDU timeout	**10000**
Bacnet APDU retries	**3**

Modbus TCP

Enabled	**False**

Modbus RTU

Enabled	**False**
Address	**1 (Default Address)**
Baud Rate	**19200**
Parity	**Even**
Stop Bits	**1**

LON

U60 Module	**Disconnected**
Neuron ID	**00.00.00.00.00.00**
Link Status	**Invalid**

Chiller Configuration

Controller

Connected To	**Local USB**	Build Part Number	**62000856-2.20.0002**
Firmware Version	**2.20.0002**	Boot Part Number	**-**
Application Part Number	**-**	Unit Sales Order Number	**43NA875**
Hardware Serial Number	**E24F04199**	Unit Model Number	**CXAF150DEB ARCXE3WWNB NBX1XB1EBX F1XLXXFXXX X1EXBAXX2X AXXBA2XX**
Hardware Part Number	**X13651678-01**	Unit Serial Number	**ELJ01864**

Options

Compressor Staging Pattern (for 3 cprsr circuits)	**AB,ABC**	Liquid Line Isolation Service Valve	**Installed**
Energy Meter	**Not Installed**	Evaporator Water Flow Estimation	**Installed**
External Circuit Lockout	**Not Installed**	Phase Monitor Protection	**Installed**
External Setpoint Package	**Not Installed**	Fan Fault Inputs	**Not Installed**
Master Slave Chiller	**Not Installed**	Drain Pan Antifreeze Heater	**Not Installed**
Programmable Status Relays (STAT)	**One Relay Card Installed**	Supplemental Heater	**One Stage**

Generic Monitoring Package	**Not Installed**	Heat Pump Dynamic Receiver	**Not Installed**
Noise Reduction Request	**Not Installed**	Optimal Sump Heater Control	**Not Installed**
Heat Recovery	**No Heat Recovery**	Suction Line Heat Exchanger	**Installed**
Variable Primary Flow	**No Variable Primary Flow**	Flow Proving Type	**High Voltage Paddle**
Evaporator Water Pumps	**Dual Pump Variable Speed**	Oil Loss Level Sensor	**Not Installed**
Antifreeze Heater Control	**Installed w/ Software Thermostat Control**	Fan Maximum Permissible Speed (at 10V)	**1060 RPM**
Refrigerant Leak Detector	**Not Installed**		

Options Setup

Cooling EXV Selection Circuit 1	**SERI-KS and X13650736-13 or greater**	Module 1 Programmable Status Relay 1 (J2-1,2,3)	**Evaporator Freeze Avoidance Request**
Cooling EXV Selection Circuit 2	**SERI-KS and X13650736-13 or greater**	Module 1 Programmable Status Relay 2 (J2-4,5,6)	**Maximum Capacity**
Minimum VFD Fan Speed	**100 RPM**	Module 1 Programmable Status Relay 3 (J2-7,8,9)	**Compressor Running**
Cooling Maximum VFD Fan Speed	**920 RPM**	Module 1 Programmable Status Relay 4 (J2-10,11,12)	**Latching Alarm**
Heating Maximum VFD Fan Speed	**920 RPM**	Evaporator Low Water Pressure Protection	**Not Installed**

Symbio 800

Unit Model (MODL)	**CXAF**

Design

Number of Circuits	**2 (TWO)**	Manufacturing Location	**Charmes**

General

Number of Compressors, Circuit 1	**3 (THREE)**	High Pressure Cutout Reference	**4100 kPa (gauge)**
Number of Compressors, Circuit 2	**3 (THREE)**	Condenser Fan Control Type	**All Variable Speed**
Evaporator Application (EVLT)	**Standard**	Total Number of Fans on Chiller	**10**
Refrigerant Type	**R454B**	Number of EXV per Circuit	**One**

Compressor 1A

Compressor 1A Nameplate Frequency, Volt	**50Hz, 400V**	Compressor 1A Size	**DSH381**

Compressor 1B

Compressor 1B Nameplate Frequency, Volt	**50Hz, 400V**	Compressor 1B Size	**DSH381**

Compressor 1C

Compressor 1C Nameplate Frequency, Volt	**50Hz, 400V**	Compressor 1C Size	**DSH381**

Compressor 2A

Compressor 2A Nameplate Frequency, Volt	**50Hz, 400V**	Compressor 2A Size	**DSH381**

Compressor 2B

Compressor 2B Nameplate Frequency, Volt	**50Hz, 400V**	Compressor 2B Size	**DSH381**

Compressor 2C

Compressor 2C Nameplate Frequency, Volt	**50Hz, 400V**	Compressor 2C Size	**DSH381**

Signed: _____

Date: _____

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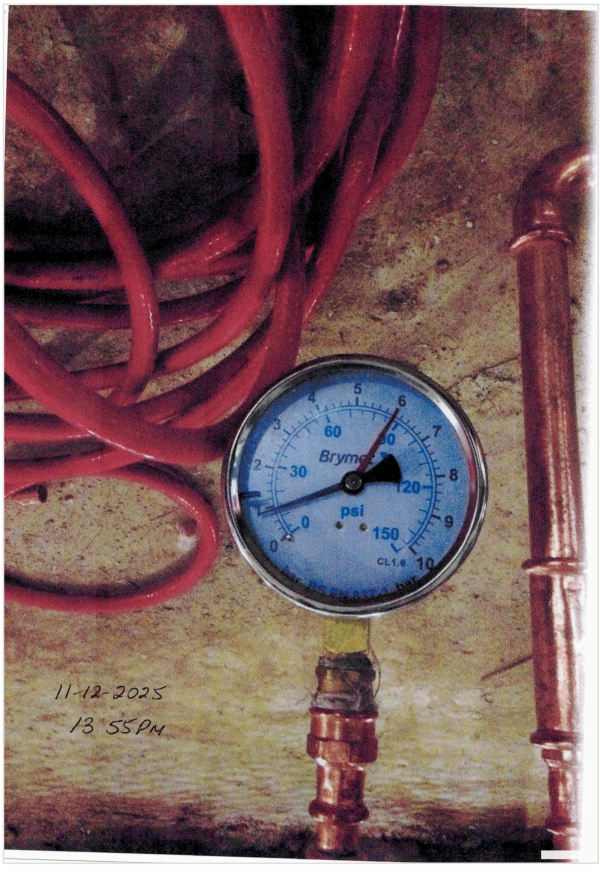
7.16

Pool plant room heating pressure test, sheet 1

The document is the gauge photo below, shown smaller to save paper.

Reference	
Asset	General
Provided by	Not recorded
Source file	`Pool plant room heating pressure test, sheet 1.pdf`
Pages	1

PHOTOS, SHOWN SMALLER



7.17

Pool plant room heating pressure test, sheet 2

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	`Pool plant room heating pressure test, sheet 2.pdf`
Pages	1

PRESSURE TEST CERTIFICATE

Roall Hall
Roall Lane
Eggborough
North Yorkshire
DN14 0NY

HENSALL

t 01977 661318
f 01977 662127
e admin@hensall.com
w www.hensall.com

Project: Elmwood Leisure Centre	Project Ref: HEN 0203
Scheme:	Sheet No.
Identification of Equipment/System: POOL PLANTROOM PIPEWORK	

Test Method	Medium	Pressure	Duration
PRESSURE TEST	AIR	1 BAR	1 HR

Observations / Comments:

PRESSURE TESTED AT 1 BAR FOR 1 HR, NO PRESSURE DROP DETECTED DURING THE TEST PERIOD.

Test Carried Out By:
Hensall Mechanical Services Operative VINCENT SWINNEY

Witnessed By:
Clients Authorised Signatory

Date: 11-12-2025

11.3.8

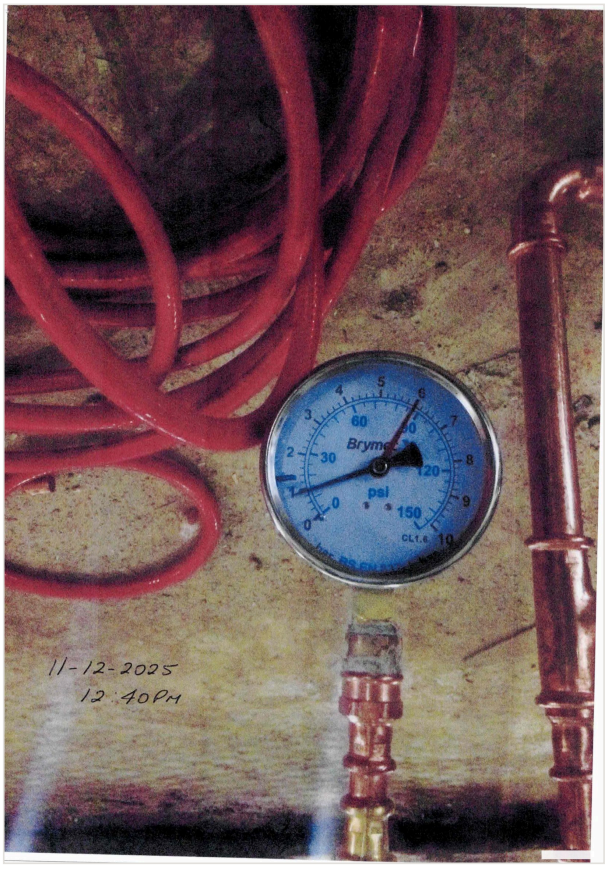
7.18

Pool plant room heating pressure test, sheet 3

The document is the gauge photo below, shown smaller to save paper.

Reference	
Asset	General
Provided by	Not recorded
Source file	`Pool plant room heating pressure test, sheet 3.pdf`
Pages	1

PHOTOS, SHOWN SMALLER



7.19

Arbe thermal store factory hydraulic test, TS.0.01

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	`Arbe thermal store factory hydraulic test, TS.0.01.pdf`
Pages	1

HYDRAULIC TEST CERTIFICATE

Customer:	Hensall Mechanical Services
Project Title:	Elmwood Leisure Centre
Arbe Contract Ref:	AC33369
Customer Order Number:	1476/HEN0203
Unit Serial Number:	AC33369-2
Unit Description:	AFTA6000-SEC3-4B-UN-V Thermal Store

	Shell
Design Pressure:	4.0 BarG
Test Pressure:	6.0 BarG
Applicable Standard:	UKCA PE(s)R 2016 – SEP

I certify that the equipment described above has successfully passed the hydraulic test procedure. The test period was 1 hour under the pressures stated above

---

For Arbe Integrated Engineering Ltd:

Name: R Brownlow

Date of Test: 15/06/25

7.20

BS B.02 commissioning sheet

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

Reference	HEN0203-BSB02-CC
Asset	BS B.02
Provided by	TPS Ltd
Source file	TPS commissioning sheet, BS B.02 category 5 booster set.pdf
Pages	2

Maintenance / Commissioning Report

Customer:	TPS
Site address:	Elmwood Leisure Centre, BR2
Engineer:	Tom Sparling
Date of visit:	27.04.26

Product Data	
Site ref:	CAT 5 Boosted Cold Water Set
Description of Unit:	Two pump VSD unit
Model No:	S-487645
Vessels:	1x 24 litre

	Pump 1	Pump 2	Pump 3	Pump 4
Pump Model	10HM04S	10HM04S		
Condition	Good	Good		
Operating mode	Auto	Auto		
Pump count	N/A	N/A		

Condition Inspection	
Visual inspection of condition	Pass
Inspection of control efficiency & smooth operation of pumps	Pass
Inspection of condition of adjacent area	Pass

Visual checks	
Check the function of isolation valves	Pass
Check the function of non return valves	Pass
Check pre-charge of vessel, pressure as found	1.0 bar
Replenished air charge to	2.5 bar
Check mechanical seal for leaks	Pass
Check the direction of rotation	Pass
Check dry running protection	Pass
Check settings of circuit breaker / motor overload	Pass
Check electrical connections	Pass
Check the function of panel lamps & switches / displays	Pass
Check duty pump rotation	Pass
Check the pumps cut off at no flow	Pass
Check start and stop of assist / standby pumps	Pass

Parameters / Settings		
Set point:	3.0	Bar

Attention

All pressure vessels over 24 litres have to be examined in accordance with the Pressure Systems Safety Regulations. This is not a scope of this work.

Maintenance / Commissioning Report

Comments
Commissioned CAT 5 booster set and tested. Found all in good working order, left set to auto as requested.

Engineer: Tom Sparling

7.21

Domestic water: water system disinfection certificate (BS EN 806 and BS 8558)

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

Reference	HEN0203-DWS-WH
Asset	Domestic water
Provided by	RJ Ashton Group (Ashton LLP)
Source file	Ashton chlorination (disinfection) certificate.pdf
Pages	1

CERTIFICATE OF COMPLETION

CHLORINATION TO BS 8558:2015 AND PD 855468:2015

This is to certify the completion of chlorination works via the injection point, has been carried out in line with BS 8558:2015 and PD 855468:2015 regulations, at the below premises.

Address

Elmwood Leisure Centre, Market Gate Road, Elmwood, EL6 4QT

PROJECT DETAILS:

Chlorination via injection point to all associated hot and cold domestic services chlorinated in accordance with British Standard Code of Practice
Dosage rate 50ppm with contact time of 1 hour after which time levels were checked to ensure they had not dropped below 30ppm
On completion, system pipework was flushed to less than 0.3ppm

DATE OF WORKS:

05/05/2026

Signed Tony Walton

Date 05/05/2026

Regional Hygiene Services Ltd (part of the RJ Ashton Group) | Mill Lane Works | Canal Street | Brindley | PR9 4ZZ
01632 960683 | 01257 262 687 | sales@rjashton.com | www.rjashton.com
Company Reg: 09848539 VAT No: 230 417 743 Doc Ref: RJU145

RJ ASHTON GROUP ACCREDITATIONS

7.22

Polar Solutions Distribution site report, 28th of July 2026

The following 10 pages are the report as received, with its photo pages printed four to a page.

Reference	
Asset	General
Provided by	Not recorded
Source file	`Polar Solutions Distribution site report, 28th of July 2026.pdf`
Pages	33

Polar Solutions

SITE REPORT

Polar Solutions Distribution Ltd

Unit 9 – 10 Kiln Way

Leeds, LS9 0QZ

Josh Burridge

28.7.2026



ELMWOOD LEISURE CENTRE

TOSHIBA

SITE REPORT

REPORT

CSD Technical attended Elmwood Leisure Centre to carry out a comprehensive survey of the site's air-conditioning systems.

The visit was arranged following activation of the high-pressure safety switch on two separate systems.

The purpose of the survey was to provide reassurance that the remaining systems were operating correctly and to reduce the likelihood of further issues.

A diagnostic laptop was connected to each VRF system on site so that its operating data and configuration could be reviewed.

Communication and addressing issues were identified across the systems. These were rectified by correcting the line-address settings.

Due to the high outdoor ambient temperature at the time of the visit, it was not possible to test the systems in heating mode.

Overall, the systems performed satisfactorily, with the exception of the Lower Fitness system. This system appears to have a refrigerant-related fault. As no records were available to confirm the quantity of refrigerant previously added, the observed pressures may indicate either an overcharge or contamination of the refrigerant circuit.

The Party Zone system was operating correctly during the inspection, although it had previously experienced a high-pressure fault.

The ground-floor back-of-house system was operating correctly, with no faults identified during the inspection.

The Spin Studio system was operating correctly, with no faults identified during the inspection.

The Squash and Gallery system was operating correctly, with no faults identified during the inspection.

The Upper Fitness system was operating correctly at the time of the inspection; however, previous high-pressure faults were noted.

Lower Fitness System B was not operating correctly. The system displayed unusually high standing pressure, together with elevated running pressures on both the high- and low-pressure sides. It is recommended that the refrigerant be recovered into a cylinder and that a standing-pressure test be carried out on the recovered refrigerant to help identify possible overcharging or contamination.

The correct refrigerant charge should also be recalculated and verified for every system on site.

Lower Fitness System A and the poolside system were both operating correctly, with no issues identified during the inspection.

The DN configuration for the louvres in the Upper Fitness area was corrected. The newer black fascia panels had not been configured correctly; following adjustment, all louvres are now operating as expected.

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SITE REPORT

We recommend that the installer return to site to recalculate the refrigerant charge for each system. In accordance with F-Gas regulations, every system should be labelled with its correct charge. Once the required measurements are available, we can assist with the calculations.

CU02-01 Spin Studio

	Total Operating Time	
Outdoor Unit Power ON Time	2019.0	Hour
Operating	608	Hour
U1(Header Unit) Comp ON Time	180	Hour
U2(Follower Unit 1) Comp ON Time	0	Hour
U3(Follower Unit 2) Comp ON Time	0	Hour
U4(Follower Unit 3) Comp ON Time	0	Hour
U5(Follower Unit 4) Comp ON Time	0	Hour
STOP	1408	Hour
Cooling	488	Hour
Heating	0	Hour
Simultaneous Cooling	0	Hour
Simultaneous Heating	0	Hour
U1(Header Unit) Comp 1 ON Time	180	Hour
U1(Header Unit) Comp 2 ON Time	0	Hour

	Latest	1 time before	2 time before	3 time before	4 time before	5 time before	6 time before	7 time before	8 time before	9 time before
Error Code	L08	L04	L08	L04	L08	L04	L08	L08	L04	L04
Error Sub Info1	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
Error Sub Info2	00	00	00	00	00	00	00	00	00	00
TD1	34.0	46.5	34.0	29.5	32.0	45.0	38.0	26.5	39.5	40.0
TD2	----	----	----	----	----	----	----	----	----	----
TE1	29.0	36.0	36.5	33.5	28.0	39.5	35.5	33.5	22.5	23.5
TE2	28.0	34.5	36.0	33.5	26.0	39.0	35.0	33.0	21.5	24.5
TE3	28.0	34.5	36.0	31.0	26.0	39.0	35.0	33.0	25.0	25.0
TE4	----	----	----	----	----	----	----	----	----	----
TS1	29.0	36.5	38.0	33.5	26.5	22.0	16.0	19.5	19.0	18.0
TS2	----	----	----	----	----	----	----	----	----	----
TS3	29.0	36.0	38.0	32.5	26.5	19.5	15.5	19.5	14.5	14.0
TL1	29.0	36.5	37.0	32.0	26.5	22.0	15.5	18.5	25.0	26.0
TL2	28.0	35.0	36.5	28.5	26.5	19.5	16.0	19.0	21.5	22.0
TL3	27.0	34.5	36.5	30.0	26.5	20.0	16.5	19.0	25.0	26.0
TG1	29.0	37.0	38.5	33.5	26.5	28.5	16.0	19.5	31.0	33.0
TG2	28.0	35.5	37.0	30.0	26.0	22.5	15.5	19.0	28.0	30.0
TG3	28.0	35.5	37.0	30.0	26.0	22.5	15.5	19.0	28.0	30.0
TG4	----	----	----	----	----	----	----	----	----	----
TO	28.5	37.0	36.5	31.5	28.0	19.5	15.0	20.0	11.5	11.0
TK1	36.0	46.5	35.5	31.0	33.0	39.0	37.5	28.0	33.0	35.0
TK2	----	----	----	----	----	----	----	----	----	----
PL	0	0	0	0	0	0	0	0	0	0
PD	241.8	256	248.9	241.8	227.6	184.9	170.7	184.9	163.6	163.6
PS	247.5	261.7	253.2	246.1	230.4	192	174.9	193.4	166.4	163.6
TH (Comp1)	33.0	----	41.5	----	----	33.5	----	26.0	25.5	----
TH (Comp2)	----	----	----	----	----	----	----	----	----	----
Current (Comp1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Current (Comp2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Comp1 Frequency	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Comp2 Frequency	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Out Fan1 Revolution	0	0	0	0	0	0	0	0	0	0
Out Fan2 Revolution	0	0	0	0	0	0	0	0	0	0
PMV1	0	0	0	0	0	0	0	0	0	0
PMV2	0	0	0	0	0	0	0	0	0	0
PMV3	0	0	0	0	0	0	0	0	0	0
PMV4	0	0	0	0	0	0	0	0	0	0
PMV5	0	0	0	0	0	0	0	0	0	0
PMV6	0	0	0	0	0	0	0	0	0	0
PMV7	0	0	0	0	0	0	0	0	0	0
4WV1	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
4WV2	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
MG-SW	ON	OFF	ON	OFF	ON	OFF	ON	ON	OFF	OFF

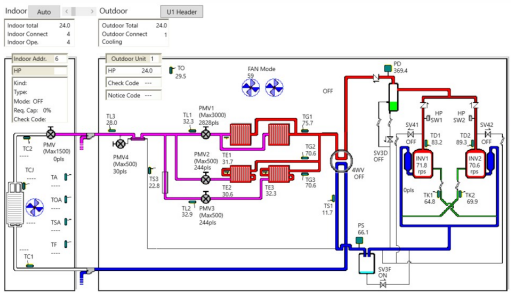
CU02-04 A Lower fitness

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SITE REPORT

Indoor Address	Central Address	Model Name	Serial No.	Kind	Type	HP	Operation Mode	Operation	RC Mode	RC Set Point	RC Fan Mode	RC Flap position	Freeze prevention Control	Requirement Capacity	Fan Mode	PMV	TC1	TC2 (TWO)	TCJ	Room Temperature TA (TW)
1	5	MMU-UP0561HP-E	P2364290T148	Normal	4-way	6.0	Cool	ON	Cool	18.0	H (Med)	F3	0	100%	Med	313	6.0	-8.5	-3.5	21.0
2	5	MMU-UP0561HP-E	P2364290T141	Normal	4-way	6.0	Cool	ON	Cool	18.0	H (Med)	F3	0	100%	Med	311	7.5	0.0	-2.0	22.0
3	5	MMU-UP0561HP-E	P2364290T124	Normal	4-way	6.0	Cool	ON	Cool	18.0	H (Med)	F3	0	100%	Med	335	7.5	0.5	-2.5	21.5
4	5	MMU-UP0561HP-E	P2364290T150	Normal	4-way	6.0	Cool	ON	Cool	18.0	H (Med)	F3	0	100%	Med	317	6.0	-1.0	-4.0	22.5



	Total Operating Time	
Outdoor Unit Power ON Time	1344.1	Hour
Operating	1020	Hour
U1(Header Unit) Comp ON Time	568	Hour
U2(Follower Unit 1) Comp ON Time	0	Hour
U3(Follower Unit 2) Comp ON Time	0	Hour
U4(Follower Unit 3) Comp ON Time	0	Hour
U5(Follower Unit 4) Comp ON Time	0	Hour
STOP	324	Hour
Cooling	1000	Hour
Heating	0	Hour
Simultaneous Cooling	0	Hour
Simultaneous Heating	0	Hour
U1(Header Unit) Comp 1 ON Time	360	Hour
U1(Header Unit) Comp 2 ON Time	336	Hour

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SITE REPORT

	Latest	1 time before	2 time before	3 time before	4 time before	5 time before	6 time before	7 time before	8 time before	9 time before
Error Code	L08	L08	L08	L08	L04	L08	L04	L08	L04	L08
Error Sub Info1	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
Error Sub Info2	00	00	00	00	00	00	00	00	00	00
TD1	36.0	37.0	53.5	40.0	58.0	36.0	32.5	32.5	51.0	27.5
TD2	36.0	37.0	54.5	40.0	59.0	36.0	32.5	32.5	53.5	27.5
TE1	23.0	22.5	24.5	29.0	36.5	37.0	34.0	25.5	19.0	11.0
TE2	22.0	22.0	21.5	29.0	36.0	36.0	34.0	25.5	18.0	12.0
TE3	21.5	21.5	21.5	29.0	35.0	36.0	34.0	25.0	17.5	10.5
TE4	----	----	----	----	----	----	----	----	----	----
TS1	23.0	22.5	15.0	29.0	36.5	38.0	34.5	25.5	19.5	12.0
TS2	----	----	----	----	----	----	----	----	----	----
TS3	23.0	23.0	20.5	29.5	36.5	37.0	34.5	25.5	17.0	12.0
TL1	22.5	22.0	16.0	29.0	37.0	38.0	34.0	26.0	17.5	11.5
TL2	22.0	21.5	16.0	28.5	36.0	36.5	30.0	26.0	18.0	11.5
TL3	23.0	22.5	17.0	28.0	34.5	37.0	31.0	25.5	17.5	12.0
TG1	23.5	23.0	41.5	29.0	38.5	39.0	34.5	26.0	25.0	12.5
TG2	23.5	23.0	37.5	29.0	37.0	37.5	29.5	25.5	18.5	12.5
TG3	23.5	23.0	37.5	29.0	36.5	37.5	29.5	25.5	18.5	12.5
TG4	----	----	----	----	----	----	----	----	----	----
TO	22.0	22.0	18.5	32.5	37.0	38.0	39.5	26.0	18.0	12.5
TK1	32.5	32.5	43.5	37.0	52.5	38.0	33.5	30.5	43.0	23.0
TK2	33.0	33.0	41.0	37.5	53.0	38.5	34.5	31.0	40.5	24.0
PL	0	0	0	0	0	0	0	0	0	0
PD	213.4	213.4	199.1	248.9	234.7	234.7	241.8	220.5	177.8	149.3
PS	216.2	213.4	170.7	250.3	237.5	240.4	246.1	227.6	180.6	155
TH (Comp1)	29.5	29.0	27.5	40.5	----	47.5	----	35.0	----	20.0
TH (Comp2)	29.0	28.5	26.5	39.0	----	45.5	----	33.5	----	19.0
Current (Comp1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Current (Comp2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Comp1 Frequency	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Comp2 Frequency	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Out Fan1 Revolution	0	0	0	0	0	0	0	0	0	0
Out Fan2 Revolution	0	0	0	0	0	0	0	0	0	0
PMV1	0	0	0	0	0	0	0	0	0	0
PMV2	0	0	0	0	0	0	0	0	0	0
PMV3	0	0	0	0	0	0	0	0	0	0
PMV4	0	0	0	0	0	0	0	0	0	0
PMV5	0	0	0	0	0	0	0	0	0	0
PMV6	0	0	0	0	0	0	0	0	0	0
PMV7	0	0	0	0	0	0	0	0	0	0
4WV1	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
4WV2	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
MG-SW	ON	ON	ON	ON	OFF	ON	OFF	ON	OFF	ON

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SITE REPORT

CU02- 04B Lower fitness

	Total Operating Time	
Outdoor Unit Power ON Time	1503.5	Hour
Operating	1048	Hour
U1(Header Unit) Comp ON Time	424	Hour
U2(Follower Unit 1) Comp ON Time	388	Hour
U3(Follower Unit 2) Comp ON Time	0	Hour
U4(Follower Unit 3) Comp ON Time	0	Hour
U5(Follower Unit 4) Comp ON Time	0	Hour
STOP	452	Hour
Cooling	1012	Hour
Heating	20	Hour
Simultaneous Cooling	0	Hour
Simultaneous Heating	0	Hour
U1(Header Unit) Comp 1 ON Time	316	Hour
U1(Header Unit) Comp 2 ON Time	336	Hour

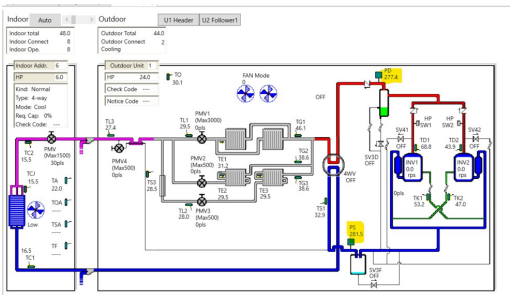
	Latest	1 time before	2 time before	3 time before	4 time before	5 time before	6 time before	7 time before	8 time before	9 time before
Error Code	L08	L08	L04	L08	L04	L08	L04	L08	E26	E26
Error Sub Info1	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
Error Sub Info2	00	00	00	00	00	00	00	00	00	00
TD1	67.0	40.0	38.0	32.0	29.0	35.5	68.0	40.0	40.0	40.0
TD2	40.5	40.0	45.5	32.0	29.0	35.5	70.0	40.0	40.0	40.0
TE1	30.5	26.5	36.0	34.0	30.5	32.5	19.0	25.0	25.5	25.5
TE2	29.5	27.0	35.0	33.5	30.5	32.0	18.0	24.5	24.5	24.5
TE3	30.0	27.0	35.0	33.5	30.5	32.0	17.5	24.5	25.0	25.0
TE4	----	----	----	----	----	----	----	----	----	----
TS1	23.0	27.0	37.0	35.0	31.0	34.0	23.5	26.5	26.5	26.5
TS2	----	----	----	----	----	----	----	----	----	----
TS3	25.5	26.5	36.0	34.5	31.0	33.5	17.0	26.0	26.0	26.0
TL1	25.0	27.0	36.5	35.0	31.0	33.5	19.0	26.5	26.5	26.5
TL2	25.5	27.0	36.0	34.5	30.5	32.5	17.5	25.0	25.5	25.5
TL3	24.0	27.0	36.5	35.0	31.5	32.5	17.0	25.0	25.5	25.5
TG1	59.0	27.0	37.5	35.0	31.0	33.5	31.0	26.5	27.0	27.0
TG2	51.0	27.0	36.5	34.5	30.0	32.5	23.0	25.5	25.5	25.5
TG3	52.5	27.0	35.5	33.5	30.0	32.5	23.0	25.0	25.0	25.5
TG4	----	----	----	----	----	----	----	----	----	----
TO	31.0	28.5	39.5	40.0	33.5	34.0	17.5	26.5	26.0	25.5
TK1	62.0	35.5	40.5	34.0	30.5	34.5	53.5	35.5	36.0	36.0
TK2	42.0	36.0	39.0	34.0	30.5	34.5	48.5	36.0	36.5	36.5
PL	0	0	0	0	0	0	0	0	0	0
PD	341.4	334.3	362.7	355.6	341.4	334.3	270.2	369.8	369.8	369.8
PS	304.4	314.3	314.3	314.3	314.3	314.3	275.9	314.3	314.3	314.3
TH (Comp1)	37.5	36.0	----	48.0	----	44.5	----	39.0	39.0	39.5
TH (Comp2)	34.0	33.5	----	46.0	----	41.0	----	37.0	37.0	37.0
Current (Comp1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Current (Comp2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Comp1 Frequency	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Comp2 Frequency	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Out Fan1 Revolution	0	0	0	0	0	0	0	0	0	0
Out Fan2 Revolution	0	0	0	0	0	0	0	0	0	0
PMV1	0	0	0	0	0	0	0	0	0	0
PMV2	0	0	0	0	0	0	0	0	0	0
PMV3	0	0	0	0	0	0	0	0	0	0
PMV4	0	0	0	0	0	0	0	0	0	0
PMV5	0	0	0	0	0	0	0	0	0	0
PMV6	0	0	0	0	0	0	0	0	0	0
PMV7	0	0	0	0	0	0	0	0	0	0
4WV1	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
4WV2	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
MG-SW	ON	ON	OFF	ON	OFF	ON	OFF	ON	ON	ON

TOSHIBA

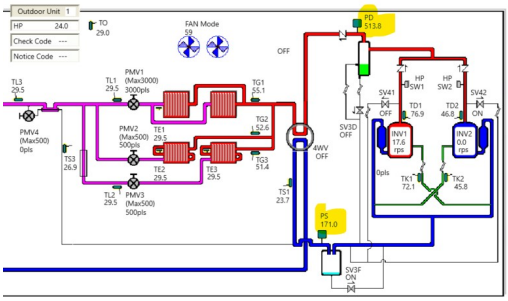
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SITE REPORT

Standing pressure high!



Running pressure very high.



TOSHIBA

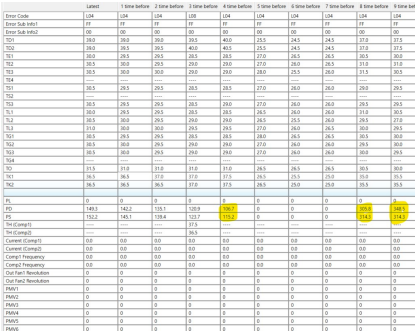
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SITE REPORT

CU02-05 Party Zone

Total Operating Time		
Outdoor Unit Power ON Time	1345.5	Hour
Operating	1124	Hour
U1(Header Unit) Comp ON Time	192	Hour
U2(Follower Unit 1) Comp ON Time	148	Hour
U3(Follower Unit 2) Comp ON Time	0	Hour
U4(Follower Unit 3) Comp ON Time	0	Hour
U5(Follower Unit 4) Comp ON Time	0	Hour
STOP	220	Hour
Cooling	696	Hour
Heating	0	Hour
Simultaneous Cooling	0	Hour
Simultaneous Heating	0	Hour
U1(Header Unit) Comp 1 ON Time	160	Hour
U1(Header Unit) Comp 2 ON Time	176	Hour

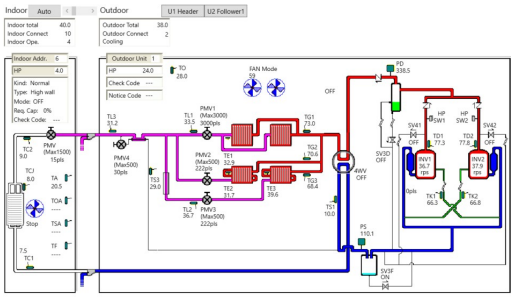
Addressing issues, notice the standing pressures this system were in previously before work completed.



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SITE REPORT



TOSHIBA

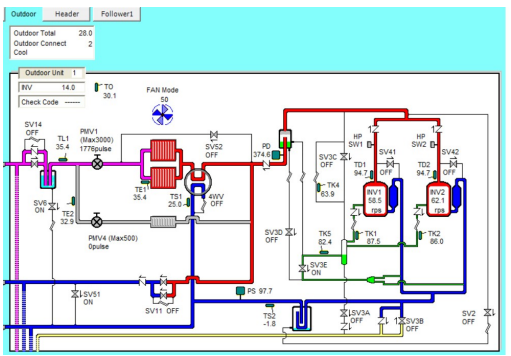
Polar Solutions

SITE REPORT

CU02-06 GF BOH

Indoor

Adr Cycle	No. NET	Kind	Type	HP	Ope. Mode	Requirement Capacity	Fan Mode	PMV	TC1	TC2 (TWO)	TCJ	TA(TW)
1	11	Normal	4-way	5.0	Auto Cool	50%	Low	304	11.0	3.0	1.0	23.0
2	16	Normal	4-way	2.0	Cool	100%	High	394	11.0	6.0	0.5	22.0
3	15	Normal	4-way	6.0	Cool	100%	High	335	12.0	3.5	1.0	23.5
4	13	Normal	Compact	1.0	Cool	100%	High	404	11.5	6.0	0.0	21.0
5	14	Normal	4-way	1.25	Cool	100%	High	461	15.5	9.0	1.5	24.5
6	1	Normal	High wall	4.0	Cool	100%	High	350	10.0	5.0	2.0	23.5
7	15	Normal	4-way	1.25	Cool	100%	High	415	14.5	7.0	1.5	21.5
8	9	Normal	4-way	6.0	Cool	100%	High	322	9.5	3.0	1.0	20.0
9	9	Normal	4-way	6.0	Cool	100%	High	352	10.0	4.5	1.0	20.5



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SITE REPORT

	Total Operating Time	
Outdoor unit Power ON Time	2104	Hour
Operating	1400	Hour
Header Unit Comp ON Time	892	Hour
Follower Unit 1 Comp ON Time	320	Hour
Follower Unit 2 Comp ON Time	0	Hour
Follower Unit 3 Comp ON Time	0	Hour
STOP	704	Hour
ALL Cooling	904	Hour
ALL Heating	0	Hour
Mainly Cooling	216	Hour
Mainly Heating	20	Hour
Header Unit Comp 1 ON Time	764	Hour
Header Unit Comp 2 ON Time	752	Hour
Header Unit Comp 3 ON Time	0	Hour

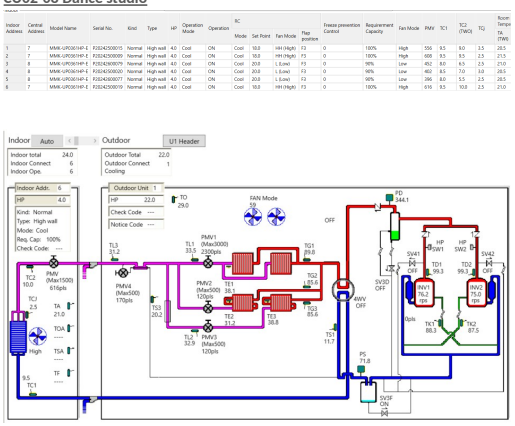
Latest	1 time before	2 time before	3 time before	4 time before	5 time before	6 time before	7 time before	8 time before	9 time be
L04	P10	P10	P10	P10	P10	P10	P10	P10	P10
FF	5	5	5	5	5	5	5	5	5
0	0	0	0	0	0	0	0	0	0
99.0	96.0	29.5	29.5	39.5	29.5	29.5	30.5	30.5	
102.0	98.0	29.5	29.5	40.5	29.5	29.5	29.5	29.5	
----	----	----	----	----	----	----	----	----	
32.0	44.0	10.5	11.0	-7.5	13.0	13.0	13.0	12.5	
36.0	43.5	11.0	16.5	18.5	13.0	13.0	12.0	13.0	
35.0	44.0	11.5	19.0	23.5	13.0	13.0	12.0	12.0	
28.5	25.5	12.5	6.0	10.5	14.0	13.5	13.0	12.5	
-13.0	-1.5	13.5	6.0	8.5	14.5	14.5	13.5	13.0	
29.0	17.5	9.5	12.5	11.0	14.5	14.0	13.5	13.0	
92.0	90.0	13.0	15.0	26.0	14.0	14.0	13.5	13.5	
94.0	91.0	13.5	16.0	26.5	14.5	14.5	14.0	14.0	

TOSHIBA

Polar Solutions

SITE REPORT

CU02-08 Dance studio



	Total Operating Time	
Outdoor Unit Power ON Time	1293.3	Hour
Operating	736	Hour
U1(Header Unit) Comp ON Time	580	Hour
U2(Follower Unit 1) Comp ON Time	0	Hour
U3(Follower Unit 2) Comp ON Time	0	Hour
U4(Follower Unit 3) Comp ON Time	0	Hour
U5(Follower Unit 4) Comp ON Time	0	Hour
STOP	556	Hour
Cooling	732	Hour
Heating	0	Hour
Simultaneous Cooling	0	Hour
Simultaneous Heating	0	Hour
U1(Header Unit) Comp 1 ON Time	436	Hour
U1(Header Unit) Comp 2 ON Time	440	Hour

TOSHIBA

Polar Solutions

SITE REPORT

All faults are addressing issues.

	Latest	1 time before	2 time before	3 time before	4 time before	5 time before	6 time before	7 time before	8 time before	9 time before
Error Code	L08	L04	L08	L04	L08	L04	L08	L08	L08	L04
Error Sub Info1	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
Error Sub Info2	00	00	00	00	00	00	00	00	00	00
TD1	39.5	35.5	35.0	32.5	37.0	57.0	23.0	23.0	10.0	10.0
TD2	39.5	35.0	34.0	32.0	37.0	57.0	17.5	17.5	8.5	8.5
TE1	29.5	37.0	35.0	35.0	32.0	19.0	9.5	9.5	8.0	8.0
TE2	29.5	36.5	35.0	34.0	32.0	19.0	9.0	9.0	8.0	8.0
TE3	29.5	36.5	35.0	34.0	31.5	18.5	9.0	9.0	8.0	8.0
TE4	----	----	----	----	----	----	----	----	----	----
TS1	30.5	39.5	36.5	36.0	34.0	19.5	11.5	12.0	8.0	8.0
TS2	----	----	----	----	----	----	----	----	----	----
TS3	30.5	39.5	36.5	35.0	33.5	18.5	10.0	10.0	8.0	7.5
TL1	30.5	38.5	36.5	34.0	34.0	21.5	7.5	7.5	6.5	6.0
TL2	29.0	37.0	36.0	29.0	32.5	18.5	7.0	7.0	7.0	7.0
TL3	29.0	38.5	36.5	31.5	33.5	19.0	8.0	8.0	6.5	6.0
TG1	30.0	39.0	37.0	35.5	33.5	31.0	10.5	11.0	8.0	8.0
TG2	29.5	37.0	35.5	33.0	33.0	23.5	10.0	10.0	8.0	8.0
TG3	29.5	37.0	35.5	33.0	33.0	23.0	9.5	10.0	8.0	7.5
TO4	----	----	----	----	----	----	----	----	----	----
TO	30.0	41.5	37.0	34.0	36.5	18.5	9.5	9.5	8.0	8.0
TK1	37.0	36.5	36.0	33.0	38.0	43.5	16.5	16.5	9.0	9.0
TK2	36.0	36.5	36.0	33.0	35.5	48.0	15.5	15.0	9.0	9.0
PL	0	0	0	0	0	0	0	0	0	0
PD	248.9	241.8	241.8	241.8	241.8	177.8	128	128	135.1	128
PS	253.2	247.5	248.9	247.5	246.1	184.9	132.3	130.9	136.5	135.1
TH (Comp1)	34.5	----	41.5	----	43.0	----	17.0	17.0	16.5	----

CU02-09 Squash & Gallery

TOSHIBA

Polar Solutions

SITE REPORT

Latest	1 time before	2 time before	3 time before	4 time before	5 time before	6 time before	7 time before	8 time before	9 time be
E07	L08	E06	L08	L08	E26	E19	E19	E19	E19
FF	FF	0	FF	FF	FF	2	2	2	2
0	0	0	0	0	0	0	0	0	0
86.0	88.0	66.0	8.5	8.5	8.5	32.5	35.5	36.0	
87.0	88.0	68.0	10.0	10.0	10.0	36.0	39.5	40.0	
----	----	----	----	----	----	----	----	----	
32.5	30.0	32.5	8.0	8.5	8.5	17.0	17.5	17.5	
34.0	30.0	25.0	7.5	7.5	7.0	17.5	19.0	19.0	
34.0	31.5	24.5	7.0	7.0	7.0	18.5	19.0	19.5	
21.5	26.0	24.0	7.5	8.0	7.5	17.0	17.0	16.5	
-9.0	9.0	24.5	8.0	8.0	8.0	19.5	17.5	17.5	
30.0	22.0	32.0	9.0	9.5	10.0	16.0	17.0	17.0	
79.0	46.5	47.0	7.5	7.5	7.5	20.0	21.5	22.0	
79.0	49.5	45.0	7.5	7.5	7.5	20.0	22.0	22.0	

System Information | Operation History Information | Outdoor Error History

	Total Operating Time	
Outdoor unit Power ON Time	1524	Hour
Operating	832	Hour
Header Unit Comp ON Time	692	Hour
Follower Unit 1 Comp ON Time	200	Hour
Follower Unit 2 Comp ON Time	0	Hour
Follower Unit 3 Comp ON Time	0	Hour
STOP	692	Hour
ALL Cooling	372	Hour
ALL Heating	4	Hour
Mainly Cooling	180	Hour
Mainly Heating	104	Hour
Header Unit Comp 1 ON Time	580	Hour
Header Unit Comp 2 ON Time	552	Hour
Header Unit Comp 3 ON Time	0	Hour

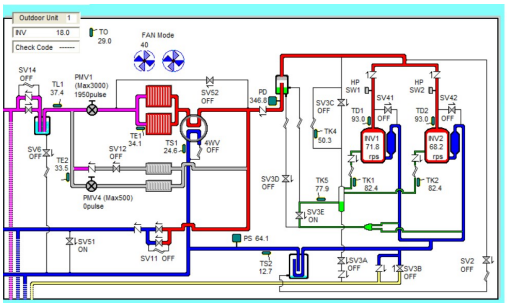
TOSHIBA

Polar Solutions

SITE REPORT

Indoor

Adr Cycle	No. NET	Kind	Type	HP	Ope. Mode	Requirement Capacity	Fan Mode	PMV	TC1	TC2 (TWO)	TCJ	Room TA(TWI)	Room TO
1	6	Normal	High wall	4.0	Cool	0%	High	30	11.0	8.0	2.0	23.5	
2	3	Normal	4-way	4.0	Cool	0%	High	30	10.5	3.5	1.0	24.5	
3	6	Normal	High wall	4.0	Cool	0%	High	30	11.0	6.0	2.0	23.0	
4	5	Normal	High wall	4.0	Cool	0%	High	30	11.5	8.5	3.0	24.5	
5	4	Normal	High wall	4.0	Cool	0%	High	30	11.0	9.5	2.5	25.5	
6	5	Normal	High wall	4.0	Cool	0%	High	30	10.0	9.0	2.5	24.5	
7	3	Normal	4-way	4.0	Cool	0%	High	30	9.5	5.5	0.5	23.0	
8	4	Normal	High wall	4.0	Cool	0%	High	30	10.0	8.5	3.5	25.5	
9	2	Normal	4-way	4.0	Cool	0%	Low	30	8.0	0.5	0.0	19.5	



Photos from Site.

TOSHIBA

Polar Solutions

SITE REPORT



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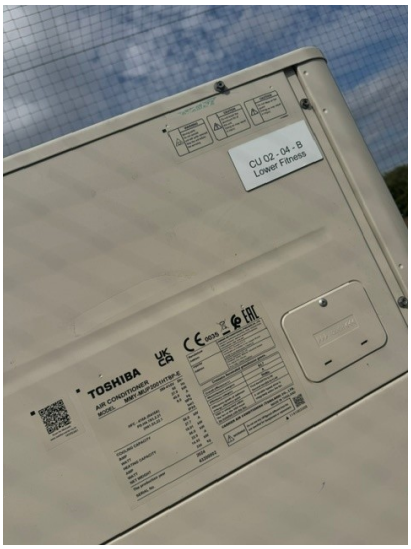
SITE REPORT



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SITE REPORT



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7.23

P B.05 commissioning certificate

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

Reference	HEN0203-PB05-CC
Asset	P B.05
Provided by	TPS Ltd
Source file	TPS commissioning sheet, P B.05 DHWS return pump.pdf
Pages	1

Commissioning / Maintenance Report

Customer:	TPS
Site address:	Elmwood Leisure Centre, BR2
Engineer:	Tom Sparling
Date of visit:	27/10/25

Pump Data	
Site ref:	DHWR Pump
Description of Unit:	Single head Lowara set
Model No:	Ecocirc XL Plus N32-100
Serial No.:	20250115

Inverter Data	
Site ref:	
Description of Unit:	
Model No:	
Serial No.:	

Condition Inspection	
Visual inspection of condition	Pass
Inspection of control efficiency & smooth operation of pumps	Pass
Inspection of condition of adjacent area	Pass

Visual checks	
Check mechanical seal for leaks	Pass
Check the direction of rotation	Pass
Check Mechanical connections	Pass
Check electrical connections	Pass
Check Motor / pump coupling	Pass
Check Pulleys and belts	N/A
Grease Motor bearings	N/A

Controls/Parameters		
Control Mode	Constant	Pressure
Set Point	0.85	Bar

Comments
All ok.

7.24

Domestic water pressure test mark-up, basement and ground floor

The marked-up drawings are online at full size. Scan a code below to open one.

Reference	
Asset	General
Provided by	Not recorded
Source file	`Domestic water pressure test mark-up, basement and ground floor.pdf`
Pages	2

MARKED-UP DRAWINGS: SCAN TO OPEN FULL SIZE



Marked-up drawing, sheet 1 of 2

Domestic water pressure test mark-up, basement and ground floor

`ontrackoandm.co.uk/d/BOSY0yklqFhteIRmlrS8HQ`



Marked-up drawing, sheet 2 of 2

Domestic water pressure test mark-up, basement and ground floor

`ontrackoandm.co.uk/d/8IbbsKuMiR4Z7T6STJx_fw`

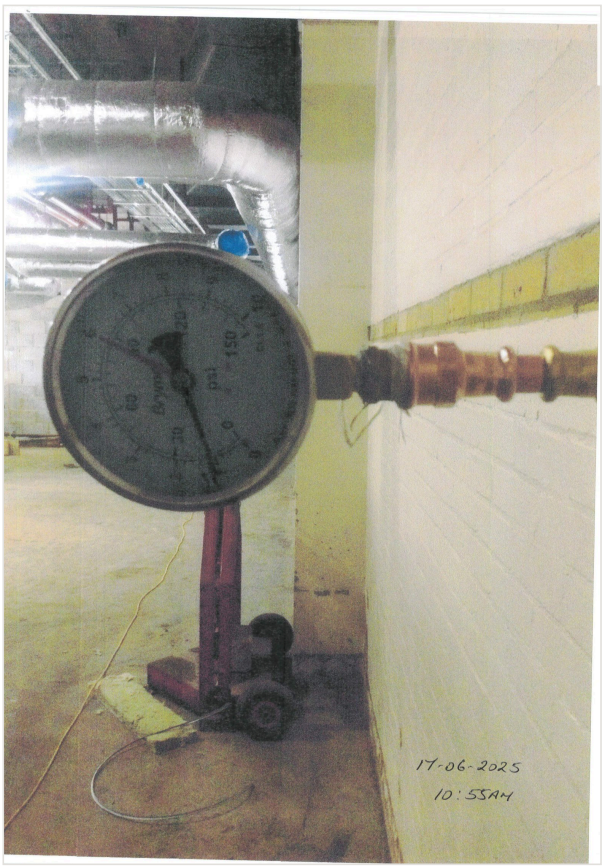
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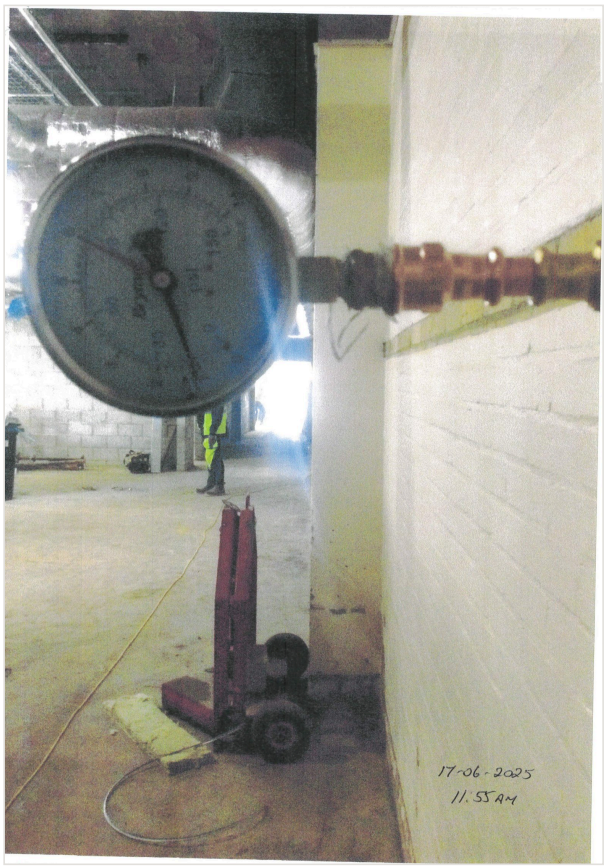
Domestic water pressure test, plant room to ground floor

The following page is the certificate as received. Its gauge photos are below, smaller.

Reference	
Asset	General
Provided by	Not recorded
Source file	Domestic water pressure test, plant room to ground floor.pdf
Pages	3

PHOTOS, SHOWN SMALLER





PRESSURE TEST CERTIFICATE

Roall Hall
Roall Lane
Eggborough
North Yorkshire
DN14 0NY

HENSALL

t 01977 661318
f 01977 662127
e admin@hensall.com
w www.hensall.com

Project: Elmwood Leisure Centre	Project Ref: HEN 0203
Scheme: 1st Fix Domestic Services	Sheet No. 01

Identification of Equipment/System: Pipework from the Plantroom serving the Ground Floor.

Test Method	Medium	Pressure	Duration
Pressure Test	Compressed Air	1Bar	1Hr

Observations / Comments: Compressed air test at 1 Bar for 1 Hr, No pressure drop detected with the time limit.

Test Carried Out By:
Hensall Mechanical Services Operative

Vincent Sweeney

V Sweeney

Witnessed By:
Clients Authorised Signatory

Terry Lewis

Date: 17/6/25

11.3.8

7.26

HWH B.01 commissioning certificate (unvented, G3)

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

Reference	HEN0203-HWHB01-CC
Asset	HWH B.01
Provided by	Arbe Integrated Engineering Ltd
Source file	Unvented hot water commissioning checklist, cylinder AC33369-1A.pdf
Pages	1

MAINS PRESSURE HOT WATER STORAGE SYSTEM COMMISSIONING CHECKLIST

This Commissioning Checklist is to be completed in full by the competent person who commissioned the storage system as a means of demonstrating compliance with the appropriate Building Regulations and then handed to the customer to keep for future reference.

Failure to install and commission this equipment to the manufacturer's instructions may invalidate the warranty but does not affect statutory rights.

Customer name:	HENSALL MECHANICAL	Telephone number:	
Address:	WALNUTS LEISURE CENTRE, LYCHGATE Rd, BR6 0TJ		
Cylinder Make and Model	ANDE ALX 9/000-6B		
Cylinder Serial Number	AC333694-1B		
Commissioned by (PRINT NAME):	ANDREW EVERETCH	Registered Operative ID Number	5986107
Company name:	VW-E MECHANICAL	Telephone number:	07825413404
Company address:	OAK HOUSE, ASH TERRACE, BINGLEY, BD16 1HB		
		Commissioning date:	14/5/26
To be completed by the customer on receipt of a Building Regulations Compliance Certificate*:			
Building Regulations Notification Number (if applicable)			

ALL SYSTEMS PRIMARY SETTINGS (indirect heating only)				
Is the primary circuit a sealed or open vented system?	Sealed	✓	Open	
What is the maximum primary flow temperature?	40 °C			

ALL SYSTEMS				
What is the incoming static cold water pressure at the inlet to the system?	4.4 bar			
Has a strainer been cleaned of installation debris (if fitted)?	Yes	✓	No	
Is the installation in a hard water area (above 200ppm)?	Yes	✓	No	
If yes, has a water scale reducer been fitted?	Yes	✓	No	
What type of scale reducer has been fitted?	WATER KING WK4			
What is the hot water thermostat set temperature?	60 °C			
What is the maximum hot water flow rate at set thermostat temperature (measured at high flow outlet)?	6 l/min			
Time and temperature controls have been fitted in compliance with Part L of the Building Regulations?			Yes	✓
Type of control system (if applicable)	Y Plan	S Plan	Other	✓
Is the cylinder solar (or other renewable) compatible?	Yes	✓	No	
What is the hot water temperature at the nearest outlet?	60 °C			
All appropriate pipes have been insulated up to 1 metre or the point where they become concealed			Yes	✓

UNVENTED SYSTEMS ONLY				
Where is the pressure reducing valve situated (if fitted)?	BEHIND CYLINDER			
What is the pressure reducing valve setting?	3 bar			
Has a combined temperature and pressure relief valve and expansion valve been fitted and discharge tested?	Yes	✓	No	
The tundish and discharge pipework have been connected and terminated to Part G of the Building Regulations			Yes	
Are all energy sources fitted with a cut out device?	Yes	✓	No	
Has the expansion vessel or internal air space been checked?	Yes	✓	No	

THERMAL STORES ONLY		
What store temperature is achievable?	/	°C
What is the maximum hot water temperature?	/	°C

ALL INSTALLATIONS		
The hot water system complies with the appropriate Building Regulations	Yes	✓
The system has been installed and commissioned in accordance with the manufacturer's instructions	Yes	✓
The system controls have been demonstrated to and understood by the customer	Yes	✓
The manufacturer's literature, including Benchmark Checklist and Service Record, has been explained and left with the customer	Yes	✓

Commissioning Engineer's Signature	ANDREW EVERETCH
Customer's Signature	
(To confirm satisfactory demonstration and receipt of manufacturer's literature)	

*All installations in England and Wales must be notified to Local Authority Building Control (LABC) either directly or through a Competent Persons Scheme. A Building Regulations Compliance Certificate will then be issued to the customer.

benchmark
COLLECTIVE MARK
THE MARK OF QUALITY FOR THE INSTALLATION, COMMISSIONING AND SERVICING OF DOMESTIC HEATING AND HOT WATER SYSTEMS

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www.centralheating.co.uk

While this Checklist can be used for any installation covered by its description, only appliances manufactured by Scheme Members will be covered by the rules and requirements of the Benchmark Scheme.

7.27

HWH B.02 commissioning certificate (unvented, G3)

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

Reference	HEN0203-HWHB02-CC
Asset	HWH B.02
Provided by	Arbe Integrated Engineering Ltd
Source file	Unvented hot water commissioning checklist, cylinder AC33369-1B.pdf
Pages	1

MAINS PRESSURE HOT WATER STORAGE SYSTEM COMMISSIONING CHECKLIST

This Commissioning Checklist is to be completed in full by the competent person who commissioned the storage system as a means of demonstrating compliance with the appropriate Building Regulations and then handed to the customer to keep for future reference.

Failure to install and commission this equipment to the manufacturer's instructions may invalidate the warranty but does not affect statutory rights.

Customer name:	HENSALL MECHANICAL	Telephone number:	
Address:	WALNUTS LEISURE CENTER, LYCHGATE Rd, BR6 0TJ		
Cylinder Make and Model	ARBE ALX91000-6B		
Cylinder Serial Number	AC33369-1A		
Commissioned by (PRINT NAME):	ANDREW EVERETCH	Registered Operative ID Number	59861OT
Company name:	VWG MECHANICAL	Telephone number:	07825413404
Company address:	OAK HOUSE, ASH TERRACE, BINGLEY, BD16 1HB		
		Commissioning date:	14/5/26
To be completed by the customer on receipt of a Building Regulations Compliance Certificate*:			
Building Regulations Notification Number (if applicable)			

ALL SYSTEMS PRIMARY SETTINGS (indirect heating only)				
Is the primary circuit a sealed or open vented system?	Sealed	✓	Open	
What is the maximum primary flow temperature?	40 °C			

ALL SYSTEMS				
What is the incoming static cold water pressure at the inlet to the system?	4.4 bar			
Has a strainer been cleaned of installation debris (if fitted)?	Yes	✓	No	
Is the installation in a hard water area (above 200ppm)?	Yes	✓	No	
If yes, has a water scale reducer been fitted?	Yes	✓	No	
What type of scale reducer has been fitted?	WATER KING WK4			
What is the hot water thermostat set temperature?	60 °C			
What is the maximum hot water flow rate at set thermostat temperature (measured at high flow outlet)?	6 l/min			
Time and temperature controls have been fitted in compliance with Part L of the Building Regulations?			Yes	✓
Type of control system (if applicable)	Y Plan	S Plan	Other	✓
Is the cylinder solar (or other renewable) compatible?	Yes	✓	No	
What is the hot water temperature at the nearest outlet?	59 °C			
All appropriate pipes have been insulated up to 1 metre or the point where they become concealed			Yes	✓

UNVENTED SYSTEMS ONLY				
Where is the pressure reducing valve situated (if fitted)?	BEHIND THE CYLINDER			
What is the pressure reducing valve setting?	3 bar			
Has a combined temperature and pressure relief valve and expansion valve been fitted and discharge tested?	Yes	✓	No	
The tundish and discharge pipework have been connected and terminated to Part G of the Building Regulations			Yes	
Are all energy sources fitted with a cut out device?	Yes	✓	No	
Has the expansion vessel or internal air space been checked?	Yes	✓	No	

THERMAL STORES ONLY		
What store temperature is achievable?		°C
What is the maximum hot water temperature?		°C

ALL INSTALLATIONS		
The hot water system complies with the appropriate Building Regulations	Yes	✓
The system has been installed and commissioned in accordance with the manufacturer's instructions	Yes	✓
The system controls have been demonstrated to and understood by the customer	Yes	✓
The manufacturer's literature, including Benchmark Checklist and Service Record, has been explained and left with the customer	Yes	✓

Commissioning Engineer's Signature	ANDREW EVERETCH
Customer's Signature	
(To confirm satisfactory demonstration and receipt of manufacturer's literature)	

*All installations in England and Wales must be notified to Local Authority Building Control (LABC) either directly or through a Competent Persons Scheme. A Building Regulations Compliance Certificate will then be issued to the customer.

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While this Checklist can be used for any installation covered by its description, only appliances manufactured by Scheme Members will be covered by the rules and requirements of the Benchmark Scheme.

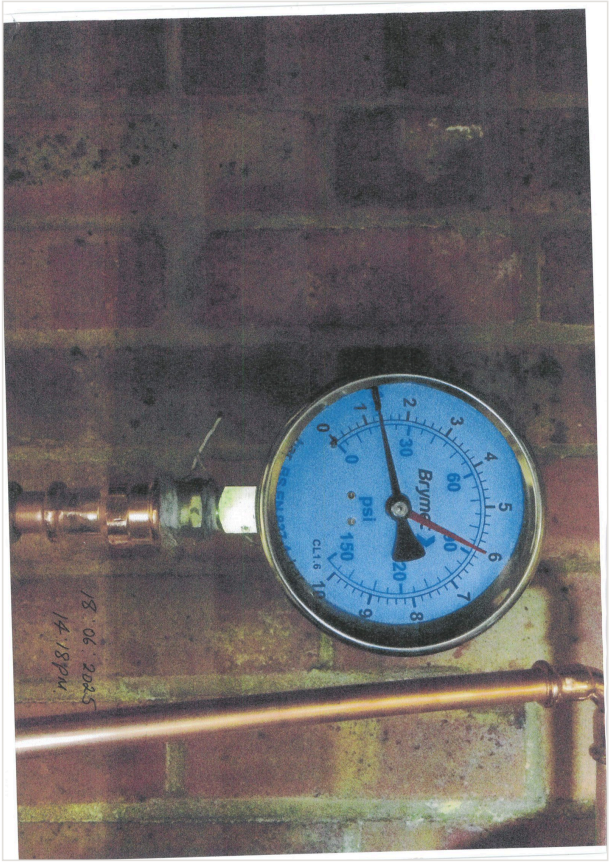
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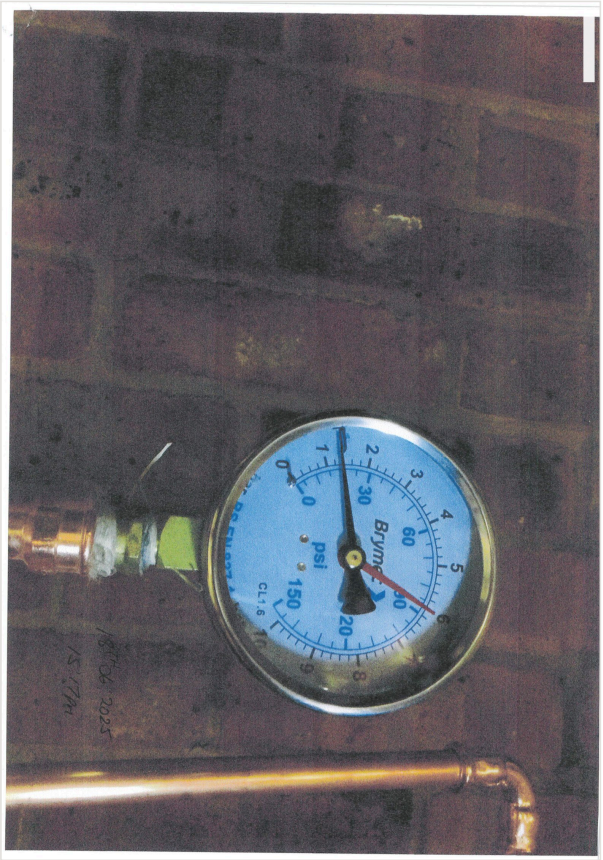
LTHW pressure test, pool plant room to ground floor

The following page is the certificate as received. Its gauge photos are below, smaller.

Reference	
Asset	General
Provided by	Not recorded
Source file	`LTHW pressure test, pool plant room to ground floor.pdf`
Pages	3

PHOTOS, SHOWN SMALLER





PRESSURE TEST CERTIFICATE

Roall Hall
Roall Lane
Eggborough
North Yorkshire
DN14 0NY

HENSALL

t 01977 661318
f 01977 662127
e admin@hensall.com
w www.hensall.com

Project: Elmwood Leisure Centre	Project Ref: HEN 0203
Scheme: 1st Fix Heating Pipework	Sheet No. 01

Identification of Equipment/System: Heating pipework from Pool plantroom to Ground Floor

Test Method	Medium	Pressure	Duration
Pressure Test	Compressed Air	1.4Bar	1Hr

Observations / Comments: Pipework tested to 1.4bar for a period of 1hr, There was no pressure drop detected within the test.

Test Carried Out By:
Hensall Mechanical Services Operative

Vincent Sweeney

V Sweeney

Witnessed By:
Clients Authorised Signatory

Terry Lewis

Date: 18:06:2025

11.3.8

7.29

LTHW pressure test mark-up, basement and ground floor

The marked-up drawings are online at full size. Scan a code below to open one.

Reference	
Asset	General
Provided by	Not recorded
Source file	`LTHW pressure test mark-up, basement and ground floor.pdf`
Pages	2

MARKED-UP DRAWINGS: SCAN TO OPEN FULL SIZE



Marked-up drawing, sheet 1 of 2

LTHW pressure test mark-up, basement and ground floor

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Marked-up drawing, sheet 2 of 2

LTHW pressure test mark-up, basement and ground floor

`ontrackoandm.co.uk/d/ime55xh60t7E5mRoljWp6w`

7.30

P B.03 commissioning certificate

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

Reference	HEN0203-PB03-CC
Asset	P B.03
Provided by	TPS Ltd
Source file	TPS commissioning sheet, P B.03 LTHW to pool plant pumps.pdf
Pages	1

Commissioning / Maintenance Report

Customer:	TPS
Site address:	Elmwood Leisure Centre, BR2
Engineer:	Tom Sparling
Date of visit:	27/10/25

Pump Data	
Site ref:	LTHW Pool Pump
Description of Unit:	Twin head Lowara set
Model No:	LNTEE 50-125
Serial No.:	20240606

Inverter Data	
Site ref:	
Description of Unit:	
Model No:	
Serial No.:	

Condition Inspection	
Visual inspection of condition	Pass
Inspection of control efficiency & smooth operation of pumps	Pass
Inspection of condition of adjacent area	Pass

Visual checks	
Check mechanical seal for leaks	Pass
Check the direction of rotation	Pass
Check Mechanical connections	Pass
Check electrical connections	Pass
Check Motor / pump coupling	Pass
Check Pulleys and belts	N/A
Grease Motor bearings	N/A

Controls/Parameters		
Control Mode	Constant	Pressure
Set Point	1.6	Bar

Comments
All ok.

7.31

P B.04 commissioning certificate

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

Reference	HEN0203-PB04-CC
Asset	P B.04
Provided by	TPS Ltd
Source file	TPS commissioning sheet, P B.04 LTHW to DHWS primary pumps.pdf
Pages	1

Commissioning / Maintenance Report

Customer:	TPS
Site address:	Elmwood Leisure Centre, BR2
Engineer:	Tom Sparling
Date of visit:	27/10/25

Pump Data	
Site ref:	LTHW to DHWS Primary Pump
Description of Unit:	Twin head Lowara set
Model No:	Ecocirc XL Plus 40-150
Serial No.:	20240701

Inverter Data	
Site ref:	
Description of Unit:	
Model No:	
Serial No.:	

Condition Inspection	
Visual inspection of condition	Pass
Inspection of control efficiency & smooth operation of pumps	Pass
Inspection of condition of adjacent area	Pass

Visual checks	
Check mechanical seal for leaks	Pass
Check the direction of rotation	Pass
Check Mechanical connections	Pass
Check electrical connections	Pass
Check Motor / pump coupling	Pass
Check Pulleys and belts	N/A
Grease Motor bearings	N/A

Controls/Parameters		
Control Mode	Constant	Pressure
Set Point	0.85	Bar

Comments
On arrival I found the pump installed incorrectly. Site to re-orientate the pump as per manufacturer instructions. Apart from this, all ok.

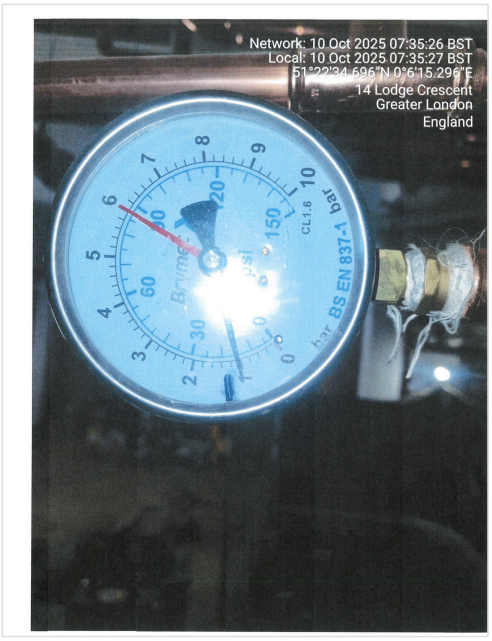
7.32

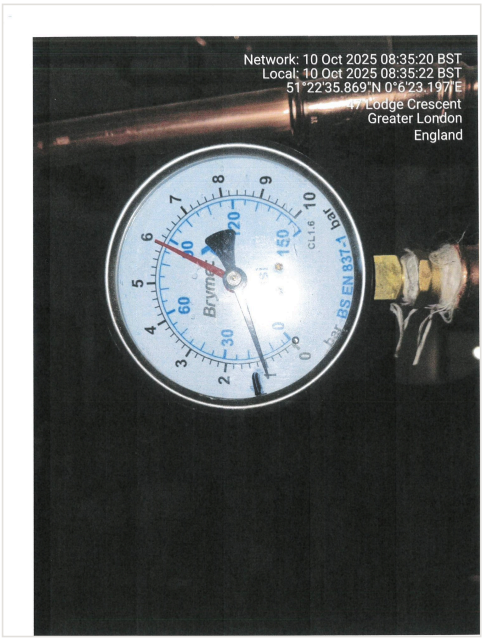
Mains and tank cold water pressure test

The certificate follows. Its photos are below, and its mark-up is online: scan the code.

Reference	
Asset	General
Provided by	Not recorded
Source file	`Mains and tank cold water pressure test.pdf`
Pages	4

PHOTOS, SHOWN SMALLER





MARKED-UP DRAWINGS: SCAN TO OPEN FULL SIZE



Marked-up drawing, sheet 1 of 1

Mains and tank cold water pressure test

`ontrackoandm.co.uk/d/QSErPAQS8IjCYvLboVJsLA`

PRESSURE TEST CERTIFICATE

Roall Hall
Roall Lane
Eggborough
North Yorkshire
DN14 0NY

HENSALL

t 01977 661518
f 01977 662127
e admin@hensall.com
w www.hensall.com

Project: WA Elmwood Leisure Centre	Project Ref: HEN 0203
Scheme: NCWS/TCWS	Sheet No. 1
Identification of Equipment/System:	

Test Method	Medium	Pressure	Duration
PRESSURE TEST	AIR	1 BAR	1 HR

Observations / Comments:

PRESSURE TESTED FOR 1 HR AT 1 BAR, NO PRESSURE DROP DURING THIS TIME

Test Carried Out By:
Hensall Mechanical Services Operative
Seb Healey Seb Healey

Witnessed By:
Clients Authorised Signatory
T Lewis

Date: 30/10/25

11.3.8

7.33

BS B.01 commissioning sheet

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

Reference	HEN0203-BSB01-CC
Asset	BS B.01
Provided by	TPS Ltd
Source file	TPS commissioning sheet, BS B.01 boosted cold water set.pdf
Pages	2

Maintenance / Commissioning Report

Customer:	TPS
Site address:	Elmwood Leisure Centre, BR2
Engineer:	Tom Sparling
Date of visit:	27.04.26

Product Data	
Site ref:	Boosted Cold Water Set
Description of Unit:	Three pump Lowara VSD unit
Model No:	SMB30/10HME04
Vessels:	3x 24 litre

	Pump 1	Pump 2	Pump 3	Pump 4
Pump Model	10HME04	10HME04	10HME04	
Condition	Good	Good	Good	
Operating mode	Auto	Auto	Auto	
Pump count	N/A	N/A	N/A	

Condition Inspection	
Visual inspection of condition	Pass
Inspection of control efficiency & smooth operation of pumps	Pass
Inspection of condition of adjacent area	Pass

Visual checks	
Check the function of isolation valves	Pass
Check the function of non return valves	Pass
Check pre-charge of vessel, pressure as found	1.0 bar
Replenished air charge to	3.5 bar
Check mechanical seal for leaks	Pass
Check the direction of rotation	Pass
Check dry running protection	Pass
Check settings of circuit breaker / motor overload	Pass
Check electrical connections	Pass
Check the function of panel lamps & switches / displays	Pass
Check duty pump rotation	Pass
Check the pumps cut off at no flow	Pass
Check start and stop of assist / standby pumps	Pass

Parameters / Settings		
Set point:	4.5	Bar

Attention

All pressure vessels over 24 litres have to be examined in accordance with the Pressure Systems Safety Regulations. This is not a scope of this work.

Maintenance / Commissioning Report

Comments
Commissioned CAT 5 booster set and tested. Found all in good working order, left set to auto as requested.

Engineer: Tom Sparling

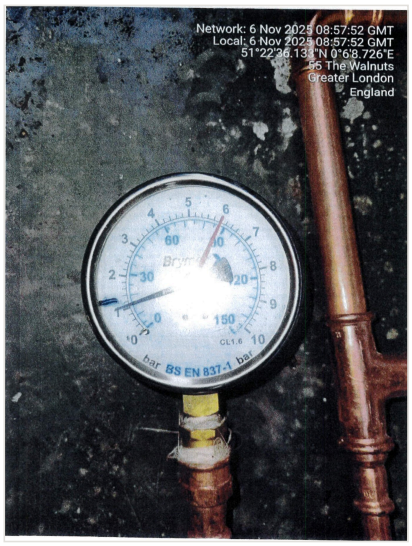
7.34

LTHW pressure test, AHU R.03 and R.06 pipework

The certificate follows. Its photos are below, and its mark-up is online: scan the code.

Reference	
Asset	General
Provided by	Not recorded
Source file	`LTHW pressure test, AHU R.03 and R.06 pipework.pdf`
Pages	4

PHOTOS, SHOWN SMALLER





MARKED-UP DRAWINGS: SCAN TO OPEN FULL SIZE



Marked-up drawing, sheet 1 of 1

LTHW pressure test, AHU R.03 and R.06 pipework

`ontrackoandm.co.uk/d/bCka71Gf5Xv2WgPZ3lfLLw`

PRESSURE TEST CERTIFICATE

Roall Hall
HENSALL
t 01977 661018
f 01977 662527
e admin@hensall.com
w www.hensall.com

Project: Elmwood Leisure Centre	Project Ref: HEN 0203
Scheme:	Sheet No. 1

Identification of Equipment/System: HEATING PIPEWORK 1ST FIX AHU 3 AND 6

Test Method	Medium	Pressure	Duration
PRESSURE TEST	AIR	1 BAR	1HR

Observations / Comments:
PRESSURE TESTED AT 1BAR FOR 1HR. NO PRESSURE DROP DETECTED DURING TEST PERIOD

Test Carried Out By: DAVID SEBINE
Hensall Mechanical Services Operative

Witnessed By: Terry Lewis
Clients Authorised Signatory

Date: 06:11:25

11.3.8

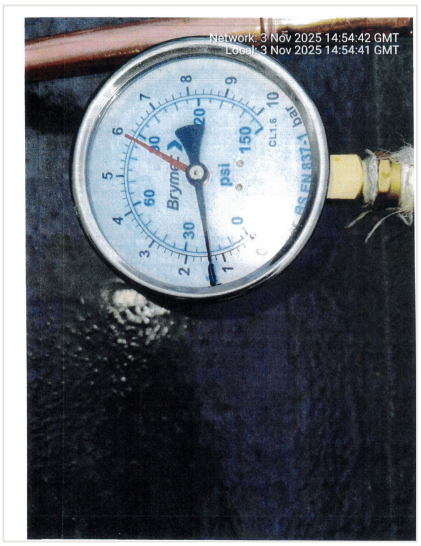
7.35

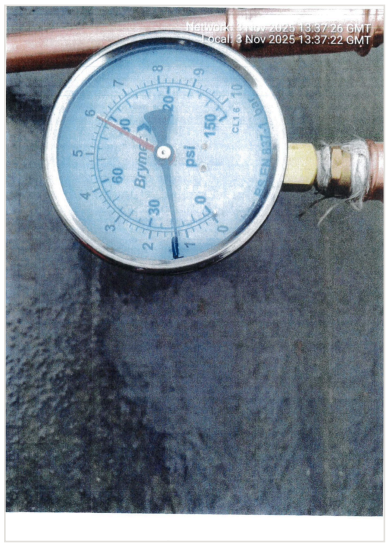
LTHW pressure test, AHU R.04, R.05 and R.09 pipework

The certificate follows. Its photos are below, and its mark-up is online: scan the code.

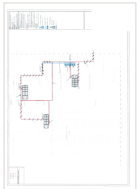
Reference	
Asset	General
Provided by	Not recorded
Source file	`LTHW pressure test, AHU R.04, R.05 and R.09 pipework.pdf`
Pages	4

PHOTOS, SHOWN SMALLER





MARKED-UP DRAWINGS: SCAN TO OPEN FULL SIZE



Marked-up drawing, sheet 1 of 1

LTHW pressure test, AHU R.04, R.05 and R.09 pipework

`ontrackoandm.co.uk/d/vsPSV2Dy7ZXY-1T-0SgWwg`

PRESSURE TEST CERTIFICATE

Roall Hall

HENSALL

t
f
e
w

Project: Elmwood Leisure Centre	Project Ref: HEN 0203
Scheme:	Sheet No. 1

Identification of Equipment/System: HEATING PIPEWORK ROOF No1 AHU 4, 5, 9

Test Method	Medium	Pressure	Duration
PRESSURE TEST	AIR	1BAR	1HR

Observations / Comments:

PRESSURE TESTED AT 1BAR FOR 1HR, NO PRESSURE DROP DETECTED DURING TEST PERIOD.

Test Carried Out By: DAVID SEBBING
Hensall Mechanical Services Operative DSeb

Witnessed By: Terry Lewis
Clients Authorised Signatory

Date: 03/11/25

11.3.8

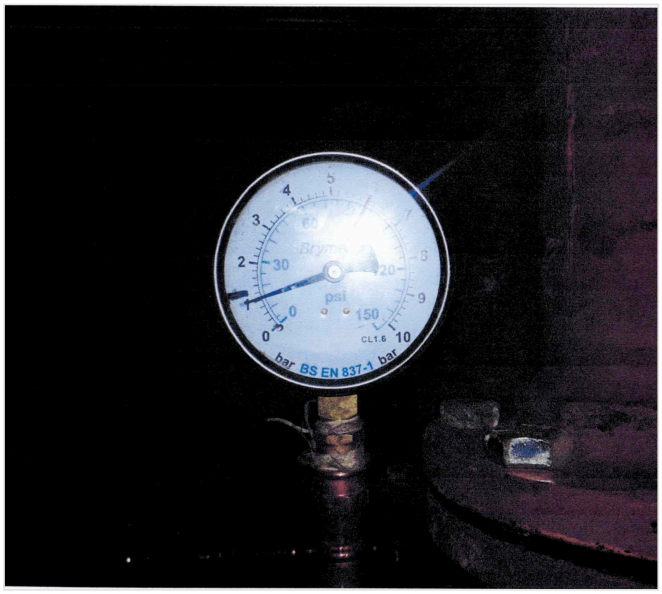
7.36

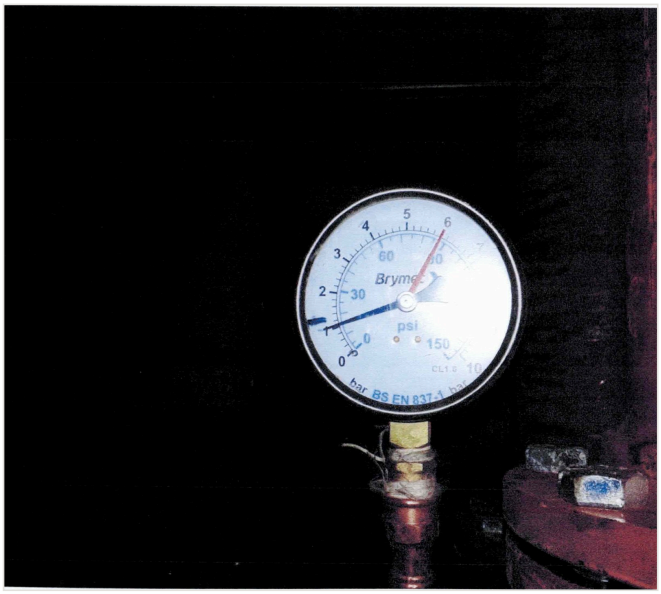
LTHW heating system pressure test certificate

The certificate follows, then its marked-up drawings. Its gauge photos are below, smaller.

Reference	
Asset	General
Provided by	Not recorded
Source file	`LTHW heating system pressure test certificate.pdf`
Pages	8

PHOTOS, SHOWN SMALLER





Project: Elmwood Leisure Centre	Project Ref: HEN 0203
Scheme:	Sheet No.

Identification of Equipment/System: LTHW SYSTEM

Test Method	Medium	Pressure	Duration
PRESSURE TEST	AIR	1 BAR	2 HRS

Observations / Comments:

PRESSURE TESTED AT 1 BAR FOR 2 HRS, NO PRESSURE DROP DETECTED DURING TEST PERIOD.

Test Carried Out By: VINCENT SWEENEY
Hensall Mechanical Services Operative

Witnessed By: Terry Lewis
Clients Authorised Signatory

7.36

LTHW heating system pressure test certificate: marked-up drawings

The drawings marked up for this test are online at full size. Scan a code to open one on a phone or tablet.

MARKED-UP DRAWINGS: SCAN TO OPEN FULL SIZE



Marked-up drawing, sheet 1 of 5
LTHW heating system pressure test certificate

ontrackoandm.co.uk/d/jAP30pD1ffElTggyS3zjCw



Marked-up drawing, sheet 2 of 5
LTHW heating system pressure test certificate

ontrackoandm.co.uk/d/RvhPcPQoPmKb8x0FrhyRWg



Marked-up drawing, sheet 3 of 5
LTHW heating system pressure test certificate

ontrackoandm.co.uk/d/YZ21dxz4KeqY_Guwl07kvg



Marked-up drawing, sheet 4 of 5
LTHW heating system pressure test certificate

ontrackoandm.co.uk/d/zVfBObp20yCvqv5idpdjbA



Marked-up drawing, sheet 5 of 5
LTHW heating system pressure test certificate

ontrackoandm.co.uk/d/VdiT3ScH6yZX7JPE8LPJAw

7.37

BKW domestic water pressure test certificates, dry and wet change

The following page is the certificate as received. Its gauge photos are below, smaller.

Reference	
Asset	General
Provided by	Not recorded
Source file	`BKW domestic water pressure test certificates, dry and wet change.pdf`
Pages	3

PHOTOS, SHOWN SMALLER





PRESSURE TEST CERTIFICATE

Roall Hall
Roall Lane
Eggborough
North Yorkshire
DN14 0NY

HENSALL

t 01977 661318
f 01977 662127
e admin@hensall.com
w www.hensall.com

Project: Elmwood Leisure Centre	Project Ref: HEN 0203
Scheme: 1st Fix Domestic Pipework	Sheet No. 01

Identification of Equipment/System: Dry/Wet Change Domestics

Test Method	Medium	Pressure	Duration
Pressure Test	Compressed Air	1.2Bar	1 HR

Observations / Comments: Compressed Air test at 1.2 Bar for 1 HR, No pressure drop detected within the hour.

Test Carried Out By:
Hensall Mechanical Services Operative

VINCENT SWEENEY
V Sweeney

Witnessed By:
Clients Authorised Signatory

Terry Lewis

Date: 15-05-25

11.3.8

7.38

PU 0.01 commissioning sheet

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

Reference	HEN0203-PU001-CC
Asset	PU 0.01
Provided by	TPS Ltd
Source file	TPS commissioning sheet, PU 0.01 pressurisation unit.pdf
Pages	2

Maintenance / Commissioning Report

Customer:	TPS
Site address:	Elmwood Leisure Centre, BR2
Engineer:	Tom Sparling
Date of visit:	27/04/26

Product Data	
Site ref:	LTHW Pressurisation Unit
Description of Unit:	Mikrofill 3
Model No:	MK3-0057988
Vessels:	1x 300

	Pump 1	Pump 2	Pump 3	Pump 4
Pump Model				
Condition				
Operating mode				
Pump count				

Condition Inspection	
Visual inspection of condition	Pass
Inspection of control efficiency & smooth operation of pumps	N/A
Inspection of condition of adjacent area	Pass

Visual checks	
Check the function of isolation valves	Pass
Check the function of non return valves	Pass
Check pre-charge of vessel, pressure as found	1.5 bar
Replenished air charge to	1.5 bar
Check mechanical seal for leaks	N/A
Check the direction of rotation	N/A
Check dry running protection	N/A
Check settings of circuit breaker / motor overload	Pass
Check electrical connections	Pass
Check the function of panel lamps & switches / displays	Pass
Check duty pump rotation	N/A
Check the pumps cut off at no flow	N/A
Check start and stop of assist / standby pumps	N/A

Parameters / Settings		
Cold Fill	1.5 bar	
Low Pressure	0.8 bar	
High Pressure	3.0 bar	

Attention

All pressure vessels over 24 litres have to be examined in accordance with the Pressure Systems Safety Regulations. This is not a scope of this work.

Maintenance / Commissioning Report

Comments
All okay.

7.39

TPS commissioning visit report C0578, 27th of April 2026

The following 6 pages are the document exactly as received and checked. It is bookmarked in the PDF.

Reference	
Asset	General
Provided by	Not recorded
Source file	`TPS commissioning visit report C0578, 27th of April 2026.pdf`
Pages	6

Site Visit Report

Site Address

Elmwood Leisure Centre
Market Gate Road
Elmwood
BR2 4QT

Site Contact details

Vince Swinney +447966679777

Job Details

Date of visit:	Reason for Visit:	Job Number:	Customer Order Number:
27/04/2026	Commissioning	C0000578	DL 42696

Site Visit Notes

Attended site to carry out the following works:

* Commission boosted cold water set.
On arrival I found the set installed correctly and ready to be commissioned. Proceeded to commission the set to 4.5 bar as per site specifications and tested. Found all okay, left running in auto as requested.
* Commission CAT 5 boosted cold water set.
On arrival I found the set installed correctly and ready to be commissioned. Proceeded to commission the set to 3.0 bar as per site specifications and tested. Found all okay, left running in auto as requested.
* Commission LTHW Pressurisation Unit.
On arrival I found the set installed correctly and ready to be commissioned. Proceeded to commission the set the cold fill to 3.0 bar, high pressure to 3.0 bar and low pressure to 0.8 bar as per site specifications and tested. Found all okay, left running in auto as requested.
* Commission ASHP Primary.
On arrival I found the pump installed correctly and ready to be commissioned. Proceeded to commission the pump to Constant Pressure mode, 0.65 bar as per site specifications and tested. Found all okay, left running in auto as requested.
* Commission AHU CT Pump.
On arrival I found the pump installed correctly and ready to be commissioned. Proceeded to commission the pump to Constant Pressure mode, 2.0 bar as per site specifications and tested. Found all okay, left running in auto as requested.
* Commission LTHW Pool Pump.
On arrival I found the pump installed correctly and ready to be commissioned. Proceeded to commission the pump to Constant Pressure mode, 1.6 bar as per site specifications and tested. Found all okay, left running in auto as requested.
* Commission LTHW to DHWS Pump.
On arrival I found the pump installed incorrectly in the wrong orientation. Recommend site reinstall the pump as per manufacturer literature. Proceeded to commission the pump to Constant Pressure mode, 0.85 bar as per site specifications and tested. Found all okay, left isolated as requested.
* Commission DHWR Pump.

On arrival I found the pump installed correctly and ready to be commissioned. Proceeded to commission the pump to Constant Pressure mode, 0.85 bar as per site specifications and tested. Found all okay, left isolated as requested.

Left all units available to use with the only recommendation to re-orientate the LTHW to DHWS pump as per manufacturer instructions.

Assets

Location	Description	Model	Serial No.	Notes
Plant Room	CAT 5 Boosted Cold Water Set.	SP2V-10HM04S-VARIFLO-24-TS1000-AB	S-487645	Set Point: 3.0 Bar. Vessel: 1x 24 litre @ 2.5 bar.
Plant Room	Boosted Cold Water Set.	SMB30/10HME04S 22/4/UK	1003100593	Set Point: 4.5 Bar. Vessels: 3x 24 litre @ 4.0 Bar.
Plant Room	LTHW Pressurisation Unit.	Mikrofill 3	MK3-0057988	Cold Fill: 1.5 Bar. High Pressure: 3.0 Bar. Low Pressure: 0.8 Bar. Vessel: 1x 300 litre @ 1.5 Bar.
Plant Room	ASHP Primary.	LNTSH 125-160	703935120	Set Point: Constant Pressure 0.65 Bar.
Plant Room	AHU CT Pump.	LNTEX 100-280	20250512	Set Point: Constant Pressure 2.0 Bar.
Plant Room	LTHW to DHWS Pump.	Ecocirc XL Plus D40-150	20240701	Set Point: Constant Pressure 0.85 Bar.
Plant Room	DHWR Pump.	Ecocirc XL Plus N32-100	20250115	Set Point: Constant Pressure 0.85 Bar.

Signatures

	Customer	Engineer
Signature:		
Print Name:		Tom Sparling
Date:	27/04/2026	27/04/2026

Attachments

Boosted Cold Water Set.	
CAT 5 Boosted Cold Water Set.	

LTHW Pressurisation Unit.



ASHP Primary.



AHU CT Pump.



LTHW to DHWS Pump.



DHWR Pump.



7.40

CU 2.01 commissioning records

The following 11 pages are the document exactly as received and checked. It is bookmarked in the PDF.

Reference	HEN0203-CU201-CC
Asset	CU 2.01
Provided by	Frost Air Conditioning
Source file	Frost air conditioning commissioning sheets, all systems.pdf
Pages	11

VRV COMMISSIONING SHEET

CLIENT: HENSALL MECHANICAL SERVICES	SITE ADDRESS: ELMWOOD LEISURE CENTRE

	Y	N
1. ALL CRATING CLEAR OF UNITS	Y	
2. EQUIPMENT LOCATED TO PROVIDE ADEQUATE SERVICE ACCESS	Y	
3. PROPER ELECTRICAL SUPPLY VOLTAGE AVAILABLE	Y	
4. PROPER SIZE FUSES INSTALLED	Y	
5. ADEQUATE FUSED ISOLATING SWITCH INSTALLED	Y	
6. PROPER SIZE WIRING TO UNIT	Y	
7. ALL WIRING INSIDE THE UNIT CONNECTED TIGHTLY TO TERMINALS	Y	
8. THERMOSTAT PROVIDED AND WIRED IN PROPERLY	Y	
9. ALL WIRING CHECKED FOR PROPER CONNECTION	Y	
10. SYSTEM PRESSURE TESTED TO 12 BAR	Y	
11. SYSTEM EVACUATED TO 0.5 Hg	Y	
12. HOLDING REFRIGERANT GAS CHARGE		15KG
13. ADDITIONAL REFRIGERANT GAS CHARGE		20.7KG
14. TOTAL SYSTEM REFRIGERANT GAS CHAGE		**35.7KG**

CONDENSING UNIT MODEL NO: MMY-MUP1401HT8P-E / MMY-MUP2401HT8P-E
SERIAL NO: 52400003 / 52600002

AREAS SERVED: PARTY ZONE

		Y	N			
1. STOP AND START CHECK COMPLETED		Y				
2. CONDENSER FAN ROTATION CHECK COMPLETED.		Y				
				RED	**YELLOW**	**BLUE**
3. COMPRESSOR RUN AMPS.	CIRCUIT1			7 / 7.1	7 / 7.1	7 / 7.1
	CIRCUIT2			7.9 / 8	8 / 8.1	8 / 8.1
4. CONDENSER FAN MOTOR RUN AMPS.	FAN 1			1 / 1	1 / 1	1 / 1
	FAN 2			1.1 / 1	1.1 / 1	1 / 1
5. VOLTAGE AT THE UNIT.	VOLTS			415 / 415	415 / 415	415 / 415
6. DISCHARGE PRESSURES.	CIRCUIT	230 / 235				
7. SUCTION PRESSURES.	CIRCUIT	58 / 60				
8. AMBIENT AIR TEMP AT CONDENSER.	°C	21				
9. MAXIMUM PIPE LENGTH.	M	100				

INDOOR UNITS

No	MODEL No	SERIAL No	EVAP/AIR ON	EVAP/AIR OFF
PARTY ZONE 1	MMK-UP0361HP-E	42600001	22.2	9
PARTY ZONE 2	MMK-UP0361HP-E	42600007	22	9.2
PARTY ZONE 3	MMK-UP0361HP-E	42600058	21.5	9.3
PARTY ZONE 4	MMK-UP0361HP-E	42600060	21.6	9.1
PARTY ZONE 5	MMK-UP0361HP-E	42500002	21.6	9
PARTY ZONE 6	MMK-UP0361HP-E	42600011	20.9	9.1
PARTY ZONE 7	MMK-UP0361HP-E	42600004	20.8	9.2
PARTY ZONE 8	MMK-UP0361HP-E	42600006	21	9
PARTY ZONE 9	MMK-UP0361HP-E	42600007	21.2	9
PARTY ZONE 10	MMK-UP0361HP-E	42600008	21	9.2

SIGNATURE:.....D.TAYLOR..... DATE:.....30/04/26.....

VRV COMMISSIONING SHEET

CLIENT: HENSALL MECHANICAL SERVICES	SITE ADDRESS: ELMWOOD LEISURE CENTRE

	Y	N
1. ALL CRATING CLEAR OF UNITS	Y	
2. EQUIPMENT LOCATED TO PROVIDE ADEQUATE SERVICE ACCESS	Y	
3. PROPER ELECTRICAL SUPPLY VOLTAGE AVAILABLE	Y	
4. PROPER SIZE FUSES INSTALLED	Y	
5. ADEQUATE FUSED ISOLATING SWITCH INSTALLED	Y	
6. PROPER SIZE WIRING TO UNIT	Y	
7. ALL WIRING INSIDE THE UNIT CONNECTED TIGHTLY TO TERMINALS	Y	
8. THERMOSTAT PROVIDED AND WIRED IN PROPERLY	Y	
9. ALL WIRING CHECKED FOR PROPER CONNECTION	Y	
10. SYSTEM PRESSURE TESTED TO 12 BAR	Y	
11. SYSTEM EVACUATED TO 0.5 Hg	Y	
12. HOLDING REFRIGERANT GAS CHARGE		22KG
13. ADDITIONAL REFRIGERANT GAS CHARGE		38.2KG
14. TOTAL SYSTEM REFRIGERANT GAS CHAGE		**60.2KG**

CONDENSING UNIT MODEL NO: MMY-MAP1406FT8P-UK / MMY-MAP1406FT8P-UK
SERIAL NO: 43100013 / 43100017

AREAS SERVED: GF BACK OF HOUSE

		Y	N
1. STOP AND START CHECK COMPLETED		Y	
2. CONDENSER FAN ROTATION CHECK COMPLETED.		Y	

			RED	YELLOW	BLUE
3. COMPRESSOR RUN AMPS.	CIRCUIT1		7 / 7.1	7 / 7.1	7 / 7.1
	CIRCUIT2		7.9 / 8	8 / 8.1	8 / 8.1
4. CONDENSER FAN MOTOR RUN AMPS.	FAN 1		1 / 1	1 / 1	1 / 1
	FAN 2		1.1 / 1	1.1 / 1	1 / 1
5. VOLTAGE AT THE UNIT.	VOLTS		415 / 415	415 / 415	415 / 415
6. DISCHARGE PRESSURES.	CIRCUIT	230 / 235			
7. SUCTION PRESSURES.	CIRCUIT	58 / 60			
8. AMBIENT AIR TEMP AT CONDENSER.	°C	21			
9. MAXIMUM PIPE LENGTH.	M	100			

INDOOR UNITS

No	MODEL No	SERIAL No	EVAP/AIR ON	EVAP/AIR OFF
WET CHANGE ENT	MMU-UP0561HP-E	42900145	22.2	9
SERVER OFFICE	MMU-UP0091MHP-E	52800302	22	9.2
RECEPTION 2	MMU-UP0121HP-E	52700063	21.5	9.3
RECEPTION 1	MMU-UP0121HP-E	52700068	21.6	9.1
KITCHEN	MMU-UP0361HP-E	42500001	21.6	9
COMMUNITY HUB	MMU-UP0561HP-E	43000029	20.9	9.1
SOFT PLAY OFFICE	MMU-UP0181HP-E	52500457	20	9.1

SIGNATURE:.....D.TAYLOR..... DATE:.....30/04/26.....

VRV COMMISSIONING SHEET

CLIENT: HENSALL MECHANICAL SERVICES	SITE ADDRESS: ELMWOOD LEISURE CENTRE

	Y	N
1. ALL CRATING CLEAR OF UNITS	Y	
2. EQUIPMENT LOCATED TO PROVIDE ADEQUATE SERVICE ACCESS	Y	
3. PROPER ELECTRICAL SUPPLY VOLTAGE AVAILABLE	Y	
4. PROPER SIZE FUSES INSTALLED	Y	
5. ADEQUATE FUSED ISOLATING SWITCH INSTALLED	Y	
6. PROPER SIZE WIRING TO UNIT	Y	
7. ALL WIRING INSIDE THE UNIT CONNECTED TIGHTLY TO TERMINALS	Y	
8. THERMOSTAT PROVIDED AND WIRED IN PROPERLY	Y	
9. ALL WIRING CHECKED FOR PROPER CONNECTION	Y	
10. SYSTEM PRESSURE TESTED TO 12 BAR	Y	
11. SYSTEM EVACUATED TO 0.5 Hg	Y	
12. HOLDING REFRIGERANT GAS CHARGE		9KG
13. ADDITIONAL REFRIGERANT GAS CHARGE		10.2KG
14. TOTAL SYSTEM REFRIGERANT GAS CHAGE		**19.2KG**

CONDENSING UNIT MODEL NO: MMY-MUP2201HT8P-E
SERIAL NO: 33100020

AREAS SERVED: DANCE STUDIO

		Y	N
1. STOP AND START CHECK COMPLETED		Y	
2. CONDENSER FAN ROTATION CHECK COMPLETED.		Y	

			RED	YELLOW	BLUE
3. COMPRESSOR RUN AMPS.	CIRCUIT1		7 / 7.1	7 / 7.1	7 / 7.1
	CIRCUIT2		7.9 / 8	8 / 8.1	8 / 8.1
4. CONDENSER FAN MOTOR RUN AMPS.	FAN 1		1 / 1	1 / 1	1 / 1
	FAN 2		1.1 / 1	1.1 / 1	1 / 1
5. VOLTAGE AT THE UNIT.	VOLTS		415 / 415	415 / 415	415 / 415
6. DISCHARGE PRESSURES.	CIRCUIT	230 / 235			
7. SUCTION PRESSURES.	CIRCUIT	58 / 60			
8. AMBIENT AIR TEMP AT CONDENSER.	°C	21			
9. MAXIMUM PIPE LENGTH.	M	100			

INDOOR UNITS

No	MODEL No	SERIAL No	EVAP/AIR ON	EVAP/AIR OFF
DANCE STUDIO 1	MMK-UP0361HP-E	42500019	21.2	9
DANCE STUDIO 2	MMK-UP0361HP-E	42500009	21	9.2
DANCE STUDIO 3	MMK-UP0361HP-E	42500015	21.5	9.2
DANCE STUDIO 4	MMK-UP0361HP-E	42500020	21.6	9.1
DANCE STUDIO 5	MMK-UP0361HP-E	42600079	21.6	9
DANCE STUDIO 6	MMK-UP0361HP-E	42600077	20.9	9.1

SIGNATURE:.....D.TAYLOR..... DATE:.....30/04/26.....

VRV COMMISSIONING SHEET

CLIENT: HENSALL MECHANICAL SERVICES	SITE ADDRESS: ELMWOOD LEISURE CENTRE

	Y	N
1. ALL CRATING CLEAR OF UNITS	Y	
2. EQUIPMENT LOCATED TO PROVIDE ADEQUATE SERVICE ACCESS	Y	
3. PROPER ELECTRICAL SUPPLY VOLTAGE AVAILABLE	Y	
4. PROPER SIZE FUSES INSTALLED	Y	
5. ADEQUATE FUSED ISOLATING SWITCH INSTALLED	Y	
6. PROPER SIZE WIRING TO UNIT	Y	
7. ALL WIRING INSIDE THE UNIT CONNECTED TIGHTLY TO TERMINALS	Y	
8. THERMOSTAT PROVIDED AND WIRED IN PROPERLY	Y	
9. ALL WIRING CHECKED FOR PROPER CONNECTION	Y	
10. SYSTEM PRESSURE TESTED TO 12 BAR	Y	
11. SYSTEM EVACUATED TO 0.5 Hg	Y	
12. HOLDING REFRIGERANT GAS CHARGE		22KG
13. ADDITIONAL REFRIGERANT GAS CHARGE		18.1KG
14. TOTAL SYSTEM REFRIGERANT GAS CHAGE		**40.1KG**

CONDENSING UNIT MODEL NO: MMY-MAP1806FT8P-UK / MMY-MAP1406FT8P-UK
SERIAL NO: 43000002 / 431000003

AREAS SERVED: SQUASH & GALLERY

		Y	N			
1. STOP AND START CHECK COMPLETED		Y				
2. CONDENSER FAN ROTATION CHECK COMPLETED.		Y				
				RED	**YELLOW**	**BLUE**
3. COMPRESSOR RUN AMPS.	CIRCUIT1			7 / 7.1	7 / 7.1	7 / 7.1
	CIRCUIT2			7.9 / 8	8 / 8.1	8 / 8.1
4. CONDENSER FAN MOTOR RUN AMPS.	FAN 1			1 / 1	1 / 1	1 / 1
	FAN 2			1.1 / 1	1.1 / 1	1 / 1
5. VOLTAGE AT THE UNIT.	VOLTS			415 / 415	415 / 415	415 / 415
6. DISCHARGE PRESSURES.	CIRCUIT	230 / 235				
7. SUCTION PRESSURES.	CIRCUIT	58 / 60				
8. AMBIENT AIR TEMP AT CONDENSER.	°C	21				
9. MAXIMUM PIPE LENGTH.	M	100				

INDOOR UNITS

No	MODEL No	SERIAL No	EVAP/AIR ON	EVAP/AIR OFF
SQUASH MIDDLE	MMK-UP0361HP-E	42600044	22.2	9
SQUASH RIGHT	MMK-UP0361HP-E	42600057	22	9.2
SQUASH LEFT	MMK-UP0361HP-E	42500013	21.5	9.3
GALLERY	MMU-UP0361HP-E	52300201	21.6	9.1
STAFF ROOM	MMU-UP0361HP-E	52300189	21.6	9

SIGNATURE:.....D.TAYLOR..... DATE:.....30/04/26.....

VRV COMMISSIONING SHEET

CLIENT: HENSALL MECHANICAL SERVICES	SITE ADDRESS: ELMWOOD LEISURE CENTRE

	Y	N
1. ALL CRATING CLEAR OF UNITS	Y	
2. EQUIPMENT LOCATED TO PROVIDE ADEQUATE SERVICE ACCESS	Y	
3. PROPER ELECTRICAL SUPPLY VOLTAGE AVAILABLE	Y	
4. PROPER SIZE FUSES INSTALLED	Y	
5. ADEQUATE FUSED ISOLATING SWITCH INSTALLED	Y	
6. PROPER SIZE WIRING TO UNIT	Y	
7. ALL WIRING INSIDE THE UNIT CONNECTED TIGHTLY TO TERMINALS	Y	
8. THERMOSTAT PROVIDED AND WIRED IN PROPERLY	Y	
9. ALL WIRING CHECKED FOR PROPER CONNECTION	Y	
10. SYSTEM PRESSURE TESTED TO 12 BAR	Y	
11. SYSTEM EVACUATED TO 0.5 Hg	Y	
12. HOLDING REFRIGERANT GAS CHARGE		9KG
13. ADDITIONAL REFRIGERANT GAS CHARGE		6KG
14. TOTAL SYSTEM REFRIGERANT GAS CHAGE		**19.2KG**

CONDENSING UNIT MODEL NO: MMY-MUP2001HT8P-E / MMY-MUP1401HT8P-E
SERIAL NO: 43200009 / 52400008

AREAS SERVED: UPPER FITNESS

		Y	N			
1. STOP AND START CHECK COMPLETED		Y				
2. CONDENSER FAN ROTATION CHECK COMPLETED.		Y				
				RED	**YELLOW**	**BLUE**
3. COMPRESSOR RUN AMPS.	CIRCUIT1			7 / 7.1	7 / 7.1	7 / 7.1
	CIRCUIT2			7.9 / 8	8 / 8.1	8 / 8.1
4. CONDENSER FAN MOTOR RUN AMPS.	FAN 1			1 / 1	1 / 1	1 / 1
	FAN 2			1.1 / 1	1.1 / 1	1 / 1
5. VOLTAGE AT THE UNIT.	VOLTS			415 / 415	415 / 415	415 / 415
6. DISCHARGE PRESSURES.	CIRCUIT	230 / 235				
7. SUCTION PRESSURES.	CIRCUIT	58 / 60				
8. AMBIENT AIR TEMP AT CONDENSER.	°C	21				
9. MAXIMUM PIPE LENGTH.	M	100				

INDOOR UNITS

No	MODEL No	SERIAL No	EVAP/AIR ON	EVAP/AIR OFF
UPPER FITNESS 1	MMU-UP0561HP-E	43000027	22.2	9
UPPER FITNESS 2	MMU-UP0561HP-E	42900046	21	9.2
UPPER FITNESS 3	MMU-UP0561HP-E	43000941	21.5	9.1
UPPER FITNESS 4	MMU-UP0561HP-E	42800146	21.6	9.1
UPPER FITNESS 5	MMU-UP0561HP-E	42900143	21.6	9
UPPER FITNESS 6	MMU-UP0561HP-E	42900136	20.9	9

SIGNATURE:.....D.TAYLOR..... DATE:.....29/04/26.....

VRV COMMISSIONING SHEET

CLIENT: HENSALL MECHANICAL SERVICES	SITE ADDRESS: ELMWOOD LEISURE CENTRE

	Y	N
1. ALL CRATING CLEAR OF UNITS	Y	
2. EQUIPMENT LOCATED TO PROVIDE ADEQUATE SERVICE ACCESS	Y	
3. PROPER ELECTRICAL SUPPLY VOLTAGE AVAILABLE	Y	
4. PROPER SIZE FUSES INSTALLED	Y	
5. ADEQUATE FUSED ISOLATING SWITCH INSTALLED	Y	
6. PROPER SIZE WIRING TO UNIT	Y	
7. ALL WIRING INSIDE THE UNIT CONNECTED TIGHTLY TO TERMINALS	Y	
8. THERMOSTAT PROVIDED AND WIRED IN PROPERLY	Y	
9. ALL WIRING CHECKED FOR PROPER CONNECTION	Y	
10. SYSTEM PRESSURE TESTED TO 12 BAR	Y	
11. SYSTEM EVACUATED TO 0.5 Hg	Y	
12. HOLDING REFRIGERANT GAS CHARGE		18KG
13. ADDITIONAL REFRIGERANT GAS CHARGE		15.4KG
14. TOTAL SYSTEM REFRIGERANT GAS CHAGE		**33.4KG**

CONDENSING UNIT MODEL NO: MMY-MUP2401HT8P-E / MMY-MUP2001HT8P-E
SERIAL NO: 52200017 / 43200002

AREAS SERVED: LOWER FITNESS LARGE

		Y	N
1. STOP AND START CHECK COMPLETED		Y	
2. CONDENSER FAN ROTATION CHECK COMPLETED.		Y	

			RED	YELLOW	BLUE
3. COMPRESSOR RUN AMPS.	CIRCUIT1		7 / 7.1	7 / 7.1	7 / 7.1
	CIRCUIT2		7.9 / 8	8 / 8.1	8 / 8.1
4. CONDENSER FAN MOTOR RUN AMPS.	FAN 1		1 / 1	1 / 1	1 / 1
	FAN 2		1.1 / 1	1.1 / 1	1 / 1
5. VOLTAGE AT THE UNIT.	VOLTS		415 / 415	415 / 415	415 / 415
6. DISCHARGE PRESSURES.	CIRCUIT	230 / 235			
7. SUCTION PRESSURES.	CIRCUIT	58 / 60			
8. AMBIENT AIR TEMP AT CONDENSER.	°C	21			
9. MAXIMUM PIPE LENGTH.	M	100			

INDOOR UNITS

No	MODEL No	SERIAL No	EVAP/AIR ON	EVAP/AIR OFF
LOWER FITNESS 1	MMU-UP0561HP-E	42900144	22.2	9
LOWER FITNESS 2	MMU-UP0561HP-E	42900123	22	9.2
LOWER FITNESS 3	MMU-UP0561HP-E	42900118	21.5	9.3
LOWER FITNESS 4	MMU-UP0561HP-E	42800125	21.6	9.1
LOWER FITNESS 5	MMU-UP0561HP-E	42900116	21.6	9
LOWER FITNESS 6	MMU-UP0561HP-E	42900147	20.9	9.1
LOWER FITNESS 7	MMU-UP0561HP-E	42900117	20	9.1
LOWER FITNESS 8	MMU-UP0561HP-E	42900119	19	9.1

SIGNATURE:.....D.TAYLOR..... DATE:.....30/04/26.....

VRV COMMISSIONING SHEET

CLIENT: HENSALL MECHANICAL SERVICES	SITE ADDRESS: ELMWOOD LEISURE CENTRE

	Y	N
1. ALL CRATING CLEAR OF UNITS	Y	
2. EQUIPMENT LOCATED TO PROVIDE ADEQUATE SERVICE ACCESS	Y	
3. PROPER ELECTRICAL SUPPLY VOLTAGE AVAILABLE	Y	
4. PROPER SIZE FUSES INSTALLED	Y	
5. ADEQUATE FUSED ISOLATING SWITCH INSTALLED	Y	
6. PROPER SIZE WIRING TO UNIT	Y	
7. ALL WIRING INSIDE THE UNIT CONNECTED TIGHTLY TO TERMINALS	Y	
8. THERMOSTAT PROVIDED AND WIRED IN PROPERLY	Y	
9. ALL WIRING CHECKED FOR PROPER CONNECTION	Y	
10. SYSTEM PRESSURE TESTED TO 12 BAR	Y	
11. SYSTEM EVACUATED TO 0.5 Hg	Y	
12. HOLDING REFRIGERANT GAS CHARGE		9KG
13. ADDITIONAL REFRIGERANT GAS CHARGE		11.8KG
14. TOTAL SYSTEM REFRIGERANT GAS CHAGE		**20.8KG**

CONDENSING UNIT MODEL NO: MMY-MUP2401HT8P-E
SERIAL NO: 52600005

AREAS SERVED: LOWER FITNESS SMALL

		Y	N
1. STOP AND START CHECK COMPLETED		Y	
2. CONDENSER FAN ROTATION CHECK COMPLETED.		Y	

			RED	YELLOW	BLUE
3. COMPRESSOR RUN AMPS.	CIRCUIT1		7 / 7.1	7 / 7.1	7 / 7.1
	CIRCUIT2		7.9 / 8	8 / 8.1	8 / 8.1
4. CONDENSER FAN MOTOR RUN AMPS.	FAN 1		1 / 1	1 / 1	1 / 1
	FAN 2		1.1 / 1	1.1 / 1	1 / 1
5. VOLTAGE AT THE UNIT.	VOLTS		415 / 415	415 / 415	415 / 415
6. DISCHARGE PRESSURES.	CIRCUIT	230 / 235			
7. SUCTION PRESSURES.	CIRCUIT	58 / 60			
8. AMBIENT AIR TEMP AT CONDENSER.	°C	21			
9. MAXIMUM PIPE LENGTH.	M	100			

INDOOR UNITS

No	MODEL No	SERIAL No	EVAP/AIR ON	EVAP/AIR OFF
LOWER FITNESS 1	MMU-UP0561HP-E	42900141	22.2	9
LOWER FITNESS 2	MMU-UP0561HP-E	42900124	22	9.2
LOWER FITNESS 3	MMU-UP0561HP-E	42900148	21.5	9.3
LOWER FITNESS 4	MMU-UP0561HP-E	42900150	21.6	9.1

SIGNATURE:.....D.TAYLOR..... DATE:.....30/04/26.....

VRV COMMISSIONING SHEET

CLIENT: HENSALL MECHANICAL SERVICES	SITE ADDRESS: ELMWOOD LEISURE CENTRE

	Y	N
1. ALL CRATING CLEAR OF UNITS	Y	
2. EQUIPMENT LOCATED TO PROVIDE ADEQUATE SERVICE ACCESS	Y	
3. PROPER ELECTRICAL SUPPLY VOLTAGE AVAILABLE	Y	
4. PROPER SIZE FUSES INSTALLED	Y	
5. ADEQUATE FUSED ISOLATING SWITCH INSTALLED	Y	
6. PROPER SIZE WIRING TO UNIT	Y	
7. ALL WIRING INSIDE THE UNIT CONNECTED TIGHTLY TO TERMINALS	Y	
8. THERMOSTAT PROVIDED AND WIRED IN PROPERLY	Y	
9. ALL WIRING CHECKED FOR PROPER CONNECTION	Y	
10. SYSTEM PRESSURE TESTED TO 12 BAR	Y	
11. SYSTEM EVACUATED TO 0.5 Hg	Y	
12. HOLDING REFRIGERANT GAS CHARGE		9KG
13. ADDITIONAL REFRIGERANT GAS CHARGE		6.24G
14. TOTAL SYSTEM REFRIGERANT GAS CHAGE		**15.24KG**

CONDENSING UNIT MODEL NO: MMY-MUP2001HT8P-E
SERIAL NO: 43200013

AREAS SERVED: SPIN STUDIO

		Y	N			
1. STOP AND START CHECK COMPLETED		Y				
2. CONDENSER FAN ROTATION CHECK COMPLETED.		Y				
				RED	**YELLOW**	**BLUE**
3. COMPRESSOR RUN AMPS.	CIRCUIT1			7 / 7.1	7 / 7.1	7 / 7.1
	CIRCUIT2			7.9 / 8	8 / 8.1	8 / 8.1
4. CONDENSER FAN MOTOR RUN AMPS.	FAN 1			1 / 1	1 / 1	1 / 1
	FAN 2			1.1 / 1	1.1 / 1	1 / 1
5. VOLTAGE AT THE UNIT.	VOLTS			415 / 415	415 / 415	415 / 415
6. DISCHARGE PRESSURES.	CIRCUIT	230 / 235				
7. SUCTION PRESSURES.	CIRCUIT	58 / 60				
8. AMBIENT AIR TEMP AT CONDENSER.	°C	21				
9. MAXIMUM PIPE LENGTH.	M	100				

INDOOR UNITS

No	MODEL No	SERIAL No	EVAP/AIR ON	EVAP/AIR OFF
SPIN STUDIO 1	MMU-UP0481HP-E	42800033	20.2	9
SPIN STUDIO 2	MMU-UP0481HP-E	42800039	21	9.2
SPIN STUDIO 3	MMU-UP0481HP-E	42800040	21.4	9.2
SPIN STUDIO 4	MMU-UP0481HP-E	42800038	21.6	9.1

SIGNATURE:……D.TAYLOR…… DATE:……30/04/26……

VRV COMMISSIONING SHEET

CLIENT: HENSALL MECHANICAL SERVICES	SITE ADDRESS: ELMWOOD LEISURE CENTRE

	Y	N
1. ALL CRATING CLEAR OF UNITS	Y	
2. EQUIPMENT LOCATED TO PROVIDE ADEQUATE SERVICE ACCESS	Y	
3. PROPER ELECTRICAL SUPPLY VOLTAGE AVAILABLE	Y	
4. PROPER SIZE FUSES INSTALLED	Y	
5. ADEQUATE FUSED ISOLATING SWITCH INSTALLED	Y	
6. PROPER SIZE WIRING TO UNIT	Y	
7. ALL WIRING INSIDE THE UNIT CONNECTED TIGHTLY TO TERMINALS	Y	
8. THERMOSTAT PROVIDED AND WIRED IN PROPERLY	Y	
9. ALL WIRING CHECKED FOR PROPER CONNECTION	Y	
10. SYSTEM PRESSURE TESTED TO 12 BAR	Y	
11. SYSTEM EVACUATED TO 0.5 Hg	Y	
12. HOLDING REFRIGERANT GAS CHARGE		22KG
13. ADDITIONAL REFRIGERANT GAS CHARGE		26.5KG
14. TOTAL SYSTEM REFRIGERANT GAS CHAGE		**48.5KG**

CONDENSING UNIT MODEL NO: MMY-MAP1806FT8P-UK / MMY-MAP1806FT8P-UK
SERIAL NO: 43000001 / 431000002

AREAS SERVED: GF BACK OF HOUSE FRONT

		Y	N			
1. STOP AND START CHECK COMPLETED		Y				
2. CONDENSER FAN ROTATION CHECK COMPLETED.		Y				
				RED	**YELLOW**	**BLUE**
3. COMPRESSOR RUN AMPS.	CIRCUIT1			7 / 7.1	7 / 7.1	7 / 7.1
	CIRCUIT2			7.9 / 8	8 / 8.1	8 / 8.1
4. CONDENSER FAN MOTOR RUN AMPS.	FAN 1			1 / 1	1 / 1	1 / 1
	FAN 2			1.1 / 1	1.1 / 1	1 / 1
5. VOLTAGE AT THE UNIT.	VOLTS			415 / 415	415 / 415	415 / 415
6. DISCHARGE PRESSURES.	CIRCUIT	230 / 235				
7. SUCTION PRESSURES.	CIRCUIT	58 / 60				
8. AMBIENT AIR TEMP AT CONDENSER.	°C	21				
9. MAXIMUM PIPE LENGTH.	M	100				

INDOOR UNITS

No	MODEL No	SERIAL No	EVAP/AIR ON	EVAP/AIR OFF
INNOVA 1	MMU-UP0481HP-E	43200029	23	10
INNOVA 2	MMU-UP0481HP-E	42800082	22	10
RECEPTION 1	MMU-UP0481HP-E	43200030	21.5	9.3
RECEPTION 2	MMU-UP0481HP-E	43200015	21.6	9.1
ENTRANCE 1	MMU-UP0481HP-E	42500002	21.6	9
ENTRANCE 2	MMU-UP0561HP-E	42900134	20.9	9.1
FIRST AID	MMK-UP0151HP-E	52400140	20.8	9.2
GF STAIRWAY	MMU-UP0481HP-E	43200016	21	9
LOWER FITNESS OFFICE	MMU-UP0241HP-E	43000277	21.2	9
STAIRWAY UNIT	MMU-UP0091MHP-E	42600008	21	9.2

SIGNATURE:.....D.TAYLOR..... DATE:.....29/04/26.....

COMMISSIONING SHEET

CLIENT: HENSALL MECHANICAL SERVICES	SITE ADDRESS: ELMWOOD LEISURE CENTRE

	(Y)	(N)
1. ALL CRATING CLEAR OF UNITS.	Y	
2. EQUIPMEWNT LOCATED TO PROVIDE ADEQUATE SERVICE ACCESS.	Y	
3. ALL WIRING CHECKED FOR PROPER CONNECTION.	Y	
4. FANS TURN FREELY BY HAND.	Y	
5. SYSTEM PRESSURE TESTED TO 38BAR FOR 24 HOURS	Y	
6. SYSTEM EVACUATED TO 2 TORR	Y	

	CONSULTATION ROOM 1	CONSULTATION ROOM 2
INDOOR MODEL NO	RAV-HM561UTP-E	RAV-HM561UTP-E
INDOOR SERIAL NO	52300130	52300140
OUTDOOR MODEL NO	RAV-GP561ATW-E	RAV-GP561ATW-E
OUTDOOR SERIAL NO	01274128	01131124
STOP AND START CHECK (Y/N)	Y	Y
VOLTAGE AT UNIT (V)	238	238
EVAPORATOR AIR ON (°C)	19	20
EVAPORATOR AIR OFF (°C)	7	7
AMBIENT AIR TEMPERATURE (°C)	21	21
REFRIGERANT HOLDING CHARGE (KG)	1.35	1.35
ADD. REFRIGERANT CHARGE (KG)	N/A	N/A
MAXIMUM PIPE LENGTH (M)	30	30

COMMISSIONING
ENGINEERS SIGNATURE:……D.TAYLOR…….. DATE:……29/04/26……

COMMISSIONING SHEET

CLIENT: HENSALL MECHANICAL SERVICES	SITE ADDRESS: ELMWOOD LEISURE CENTRE

	(Y)	(N)
1. ALL CRATING CLEAR OF UNITS.	Y	
2. EQUIPMEWNT LOCATED TO PROVIDE ADEQUATE SERVICE ACCESS.	Y	
3. ALL WIRING CHECKED FOR PROPER CONNECTION.	Y	
4. FANS TURN FREELY BY HAND.	Y	
5. SYSTEM PRESSURE TESTED TO 38BAR FOR 24 HOURS	Y	
6. SYSTEM EVACUATED TO 2 TORR	Y	

	LOWER FITNESS OFFICE	
INDOOR MODEL NO	RAV-HM561KRTP-E	
INDOOR SERIAL NO	52700509	
OUTDOOR MODEL NO	RAV-GP561ATW-E	
OUTDOOR SERIAL NO	01272124	
STOP AND START CHECK (Y/N)	Y	
VOLTAGE AT UNIT (V)	238	
EVAPORATOR AIR ON (°C)	20	
EVAPORATOR AIR OFF (°C)	7	
AMBIENT AIR TEMPERATURE (°C)	21	
REFRIGERANT HOLDING CHARGE (KG)	1.35	
ADD. REFRIGERANT CHARGE (KG)	N/A	
MAXIMUM PIPE LENGTH (M)	30	

COMMISSIONING
ENGINEERS SIGNATURE:……D.TAYLOR…….. DATE:……29/04/26……

7.41

CU 2.04B commissioning records

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

Reference	HEN0203-CU204B-CC
Asset	CU 2.04B
Provided by	Frost Air Conditioning
Source file	Frost amended commissioning sheet, Lower Fitness B, August 2026.pdf
Pages	1

VRV COMMISSIONING SHEET

CLIENT: HENSALL MECHANICAL SERVICES	SITE ADDRESS: ELMWOOD LEISURE CENTRE

	Y	N
1. ALL CRATING CLEAR OF UNITS	Y	
2. EQUIPMENT LOCATED TO PROVIDE ADEQUATE SERVICE ACCESS	Y	
3. PROPER ELECTRICAL SUPPLY VOLTAGE AVAILABLE	Y	
4. PROPER SIZE FUSES INSTALLED	Y	
5. ADEQUATE FUSED ISOLATING SWITCH INSTALLED	Y	
6. PROPER SIZE WIRING TO UNIT	Y	
7. ALL WIRING INSIDE THE UNIT CONNECTED TIGHTLY TO TERMINALS	Y	
8. THERMOSTAT PROVIDED AND WIRED IN PROPERLY	Y	
9. ALL WIRING CHECKED FOR PROPER CONNECTION	Y	
10. SYSTEM PRESSURE TESTED TO 12 BAR	Y	
11. SYSTEM EVACUATED TO 0.5 Hg	Y	
12. HOLDING REFRIGERANT GAS CHARGE		18KG
13. ADDITIONAL REFRIGERANT GAS CHARGE		13.2KG
14. TOTAL SYSTEM REFRIGERANT GAS CHAGE		**31.2KG**

CONDENSING UNIT MODEL NO: MMY-MUP2401HT8P-E / MMY-MUP2001HT8P-E
SERIAL NO: 52200017 / 43200002

AREAS SERVED: LOWER FITNESS B

		Y	N
1. STOP AND START CHECK COMPLETED		Y	
2. CONDENSER FAN ROTATION CHECK COMPLETED.		Y	

			RED	YELLOW	BLUE
3. COMPRESSOR RUN AMPS.	CIRCUIT1		7 / 7.1	7 / 7.1	7 / 7.1
	CIRCUIT2		7.9 / 8	8 / 8.1	8 / 8.1
4. CONDENSER FAN MOTOR RUN AMPS.	FAN 1		1 / 1	1 / 1	1 / 1
	FAN 2		1.1 / 1	1.1 / 1	1 / 1
5. VOLTAGE AT THE UNIT.	VOLTS		415 / 415	415 / 415	415 / 415
6. DISCHARGE PRESSURE	CIRCUIT	355			
7. SUCTION PRESSURE	CIRCUIT	125			
8. AMBIENT AIR TEMP AT CONDENSER.	°C	29			
9. MAXIMUM PIPE LENGTH.	M	100			

INDOOR UNITS

No	MODEL No	SERIAL No	EVAP/AIR ON	EVAP/AIR OFF
LOWER FITNESS 1	MMU-UP0561HP-E	42900144	22.2	8.4
LOWER FITNESS 2	MMU-UP0561HP-E	42900123	21	9.2
LOWER FITNESS 3	MMU-UP0561HP-E	42900118	21.5	9.3
LOWER FITNESS 4	MMU-UP0561HP-E	42800125	20.6	9.2
LOWER FITNESS 5	MMU-UP0561HP-E	42900116	21.6	9
LOWER FITNESS 6	MMU-UP0561HP-E	42900147	20.9	9.2
LOWER FITNESS 7	MMU-UP0561HP-E	42900117	20	9.1
LOWER FITNESS 8	MMU-UP0561HP-E	42900119	19	9.2

SIGNATURE:.....Z.MANN..... DATE:.....19/08/26.....