MT - 230kW

HT - 230kW

HT - 40kW

LT - 25kW

HT FLOW TO SHEET 2
HT RETURN FROM SHEET 2
MT FLOW TO SHEET 2
MT RETURN FROM SHEET 2
WRM FLOW TO SHEET 2
WRM RETURN FROM SHEET 2

HT FLOW
HT RETURN
MT FLOW
MT RETURN
WRM FLOW
WRM RETURN

CREAM HOLDING (5FF2.1)	
MAKE	C&C
MODEL	CF-SP-6R7mm
DUTY	12kW
GLYCOL FLOW	2.77m3/h @ 93kPa
WRM. G. FLOW	1.8m3/h
FLOW TEMP	-7°C
RETURN TEMP	-3°C
NOISE LEVEL	67db(A)

CREAM HOLDING (5FF2.2)	
MAKE	C&C
MODEL	CF-SP-6R7mm
DUTY	12kW
GLYCOL FLOW	2.77m3/h @ 93kPa
WRM. G. FLOW	1.8m3/h
FLOW TEMP	-7°C
RETURN TEMP	-3°C
NOISE LEVEL	67db(A)

LOW CARE PACKING 1 (5FF1.2)	
MAKE	AIR HANDLING EQUIPMENT
MODEL	TBC
DUTY	37.5kW
GLYCOL FLOW	7.2m3/h @ 27kPa
FLOW TEMP	-1°C
RETURN TEMP	+4°C

LOW CARE PACKING 2 (5FF1.2)	
MAKE	AIR HANDLING EQUIPMENT
MODEL	TBC
DUTY	37.5kW
GLYCOL FLOW	7.2m3/h @ 27kPa
FLOW TEMP	-1°C
RETURN TEMP	+4°C

LOW CARE CHILL STORAGE (5GF1.1)	
MAKE	C&C
MODEL	CF-SP-6R7mm
DUTY	12kW
GLYCOL FLOW	2.7m3/h @ 83kPa
WRM. G. FLOW	1.8m3/h
FLOW TEMP	-7°C
RETURN TEMP	-3°C
NOISE LEVEL	67db(A)

LOW CARE CHILL STORAGE (5GF1.2)	
MAKE	C&C
MODEL	CF-SP-6R7mm
DUTY	12kW
GLYCOL FLOW	2.7m3/h @ 83kPa
WRM. G. FLOW	1.8m3/h
FLOW TEMP	-7°C
RETURN TEMP	-3°C
NOISE LEVEL	67db(A)

HIGH CARE PRODUCTION 3 (5FF5.3)	
MAKE	AIR HANDLING EQUIPMENT
MODEL	TBC
DUTY	123kW
GLYCOL FLOW	22m3/h @ 54.3kPa
FLOW TEMP	-1°C
RETURN TEMP	+4°C

FRESH AIR AHU
DRAIN POINTS BY OTHERS
NOTE 7

NOTE 6

REV.	DATE	DESCRIPTION OF REVISION	DRAWN	CHECKED	ENG APPR'D
0	05/01/18	FIRST ISSUE	MK	MK	
1	06/01/18	LAYOUT CHANGE	MK	MK	
2	08/01/18	PIPEWORKS SIZE CHANGE HT-L5, DF-L4, DF-L8	MK	MK	
3	23/01/18	ADDITIONAL COOLING LOAD ADDED PIPES SIZE CHANGE	MK	MK	
4	31/01/18	ADDITIONAL COOLING LOAD ADDED PIPES SIZE CHANGE	MK	MK	
5	35/01/18	COOLING LOAD AND PIPES SIZE CHANGE	MK	MK	
6	07/02/18	PIPE LAYOUT CHANGE	MK	MK	
7	13/02/18	TAGGING CHANGE	MK	MK	
8	15/02/18	PIPE WORK OPTIMISATION	MK	MK	
9	16/02/18	GLYCOL CHARGE CHANGE	MK	MK	
10	26/02/18	NOTES DESCRIPTION CHANGE	MK	MK	TP
11	16/03/18	AHU 5FF5.3 CHANGED ITS LOCATION	MK	MK	TP
12	16/03/18	CHANGE TO COOLERS BY DEFROST TERMINATION	MK	MK	TP
13	11/05/18	CHANGE IN CREAM ROOM COOLERS MODEL	MK	MK	TP
14	14/05/18	PHX's CONNECTION ARRAIGNMENT CHANGE	MK	MK	TP
15	17/05/18	PHX's CONNECTION ARRAIGNMENT CHANGE	MK	MK	TP
16	30/06/18	FUTURE CONNECTION SIZE CHANGE	MK	MK	TP
17	03/07/18	FUTURE AHU ADDED	MK	MK	TP
18	17/07/18	FUTURE CONNECTION CHANGE	MK	MK	TP
19	14/08/18	GLYCOL CHARGE CHANGE	MK	MK	TP

NOTES

1. PIPE EQUALLY.
2. DISCHARGE TO ATMOSPHERE, SEE BLOW OFF LINE P&ID.
3. ORIFICE PLATES, FLOW SWITCH / METERS (GLYCOL/WATER) TO BE MOUNTED 5x DIAMETER UPSTREAM AND 2x DIAMETER DOWNSTREAM DISTANCE.
4. GLYCOL/WATER PIPING. PURGE VALVES TO BE FITTED AT HIGH POINTS, DRAIN VALVES AT LOW POINTS.
5. GLYCOL/WATER VALVE STATIONS. UNIONS TO BE FITTED TO VALVE WHERE SCREWED CONNECTIONS ARE USED.
6. WARM GLYCOL PIPE LINE INSULATION UP TO ONE METER FROM VALVE STATION ONLY.
7. VALVE SUPPLIED AND CONTROLLED BY OTHERS.
8. PROBES SUPPLIED AND INSTALLED BY OTHERS.
9. PROBES SUPPLIED BY GEA

GLYCOL
PED ASSESSMENT
FLUID GROUP : 2(GLYCOL)
PS : 7BARG
CATEGORY ASSEMBLY : SEP

PRESSURE TESTING
(STRENGTH)
SYSTEM : 7.7BARG
(TIGHTNESS)
SYSTEM : 7BARG

COOLANT DETAILS
PROPYLENE GLYCOL : 32%
FREEZING POINT : -14.4°C
CHARGE : 62500 LTRS

WELD PROCEDURE : ISO15614-1 (INTENT)
WELD QUALIFICATION : EN287 (INTENT)
NDT : NONE

LEGEND INSTRUMENTATION CODES

LOCAL CONTROL — REMOTE CONTROL

F	FLOW	X	UNCLASSIFIED VARIABLES
G	GAUGING POS. / LENGTH	D	DIFFERENCE
L	LEVEL	I	INDICATING
M	MOISTURE / HUMIDITY	C	CONTROLLING
P	PRESSURE	T	TRANSMITTING
Q	QUALITY / DETECTION	S	SWITCHING
S	SPEED / FREQUENCY	Z	EMERGENCY / SAFETY ACTING
T	TEMPERATURE	A	ALARM

LINE CODE: 100-RC11

100: DIAMETER RC11: LINE TYPE

RC REFRIGERANT CO2	11 CrSTEEL A333 GRB SCH80
RF REFRIGERANT FREON	12 CARBON STEEL ASTM
RN REFRIGERANT NH3	13 CARBON STEEL
RM REFRIGERANT MISC.	15 CrSTEEL A106 GRB SCH40
CA COOLANT A	16 CrSTEEL A333 GRB SCH40
CB COOLANT B	17 CrSTEEL A106 GRB SCH80
CC COOLANT C	18 CrSTEEL A333 GRB SCH80
CD COOLANT D	21 STAINLESS STEEL 304L
CM COOLANT MISC.	24 STAINLESS STEEL THIN WALL
	31 COPPER
	41 PLASTIC PVC

WARNING = FOR SERVICING ONLY. REFER TO O&M BEFORE USE.

- GLOBE VALVE - ANGLED
- GLOBE VALVE - STRAIGHT
- GLOBE VALVE - CLOSED
- STOP / CHECK VALVE VALVE
- REGULATING VALVE - ANGLED
- REGULATING VALVE - STRAIGHT
- 3 WAY VALVE
- SAFETY RELIEF VALVE - ANGLED
- SAFETY RELIEF VALVE - STRAIGHT
- DEADMANS DRAIN VALVE (CLOSED)
- BASKET STRAINER / FILTER
- PILOT OPERATED VALVE
- FLOW CONTROL VALVE
- SOLENOID VALVE
- PNEUMATIC VALVE
- MOTOR VALVE
- GAS OPERATED (P32)
- 3 WAY ACTUATED
- CHECK VALVE STRAIGHT
- CHECK VALVE ANGLE
- MOTOR BUTTERFLY VALVE
- BUTTERFLY VALVE
- MOTOR BALL VALVE
- REDUCER - ECCENTRIC
- REDUCER - CONCENTRIC
- END CAP
- VALVE BLIND NUT
- ELECTRIC HEATING
- FILTER DRIER
- SIGHT GLASS
- SIGHT GLASS - OIL FILLED

FLOOR	CLIENT'S LOCATION	GEA REFERENCE	EQUIPMENT
GROUND FLOOR	BAY 5 / CHILL STORAGE	5GF1.1	CF-SP-6R7mm
GROUND FLOOR	BAY 5 / CHILL STORAGE	5GF1.2	CF-SP-6R7mm
GROUND FLOOR	BAY 5 / CHILLER	5GF2.1	CF-SP-6R7mm
GROUND FLOOR	BAY 2 / DESPATCH AREA	2GF1.1	DFS-20-A2-8-7
GROUND FLOOR	BAY 2 / DESPATCH AREA	2GF1.2	DFS-20-A2-8-7
GROUND FLOOR	BAY 2 / DESPATCH AREA	2GF1.3	DFS-20-A2-8-7
FIRST FLOOR	BAY 5 / AHU PLATFORM	5FF1.1	SUPPLY AHU 01 - OUTER PACKING
FIRST FLOOR	BAY 5 / AHU PLATFORM	5FF1.2	SUPPLY AHU 02 - OUTER PACKING
FIRST FLOOR	BAY 5 / CHILLER	5FF2.1	CF-SP-6R7mm
FIRST FLOOR	BAY 5 / CHILLER	5FF2.2	CF-SP-6R7mm
FIRST FLOOR	BAY 5 / CIP	5FF3.1	TBC
FIRST FLOOR	BAY 5 / CIP	5FF3.2	TBC
FIRST FLOOR	BAY 5 / CIP	5FF3.3	TBC
FIRST FLOOR	BAY 5 / CIP	5FF3.4	TBC
FIRST FLOOR	BAY 5 / CUSTARD BUFFER TANKS	5FF4.1	CF-SP-6R7mm
FIRST FLOOR	BAY 5 / AIR HANDLING UNIT PLATFORM	5FF5.1	SUPPLY AHU 01 - HIGH CARE PRODUCTION
FIRST FLOOR	BAY 5 / AIR HANDLING UNIT PLATFORM	5FF5.2	SUPPLY AHU 02 - HIGH CARE PRODUCTION
FIRST FLOOR	BAY 5 / AIR HANDLING UNIT PLATFORM	5FF5.3	SUPPLY AHU 03 - HIGH CARE PRODUCTION

THE INFORMATION HEREON IS CONFIDENTIAL AND MAY NOT BE REPRODUCED OR DIVULGED WITHOUT THE WRITTEN PERMISSION OF GEA REFRIGERATION LTD

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GEA Refrigeration UK Ltd
Unit 9, Conqueror Court
Velum Drive, Sittingbourne
Kent, ME10 5BH
Telephone: +44 (0) 1795 514630
www.gearefrigeration.co.uk

SIZE: A0
SCALE:
STATUS: 3

PROJECT: BAKKAVOR NEWARK
CLIENT: BAKKAVOR
TITLE: PIPING & INSTRUMENT DIAGRAM

DRAWING No. 50178-001-1-01-FS002
SHEET NO. 01 of 04
REV No. 19

FUTURE CONNECTIONS

TONELLIE 150KW

HT - 18kW

HT FLOW FORM SHEET 1
HT RETURN TO SHEET 1
MT FLOW FROM SHEET 1
MT RETURN TO SHEET 1
WRM FLOW FROM SHEET 1
WRM RETURN TO SHEET 1

FRESH AIR AHU
DRAIN POINTS BY OTHERS
NOTE 7

AHU 6	
MAKE	AIR HANDLING EQUIPMENT
MODEL	TBC
DUTY	150kW
GLYCOL FLOW	26m3/h @ kPa
FLOW TEMP	-1ºC
RETURN TEMP	+4ºC

HIGH CARE PRODUCTION 1 (5FF5.1)	
MAKE	AIR HANDLING EQUIPMENT
MODEL	TBC
DUTY	123kW
GLYCOL FLOW	22m3/h @ 53.3kPa
FLOW TEMP	-1ºC
RETURN TEMP	+4ºC

HIGH CARE PRODUCTION 2 (5FF5.2)	
MAKE	AIR HANDLING EQUIPMENT
MODEL	TBC
DUTY	123kW
GLYCOL FLOW	22m3/h @ 54.3kPa
FLOW TEMP	-1ºC
RETURN TEMP	+4ºC

HIGH CARE CHILLER (5GF2.1)	
MAKE	C&C
MODEL	CF-SP-6R7mm
DUTY	12kW
GLYCOL FLOW	2.77m3/h @ 83kPa
WRM. G. FLOW	1.8m3/h
FLOW TEMP	-1ºC
RETURN TEMP	+4ºC
NOISE LEVEL	67db(A)

JELLY COOLING (5FF3.2)	
MAKE	BY OTHERS
MODEL	BY OTHERS
DUTY	386kW
GLYCOL FLOW	70m3/h @ kPa
FLOW TEMP	-1ºC
RETURN TEMP	+4ºC

CUSTARD COOLING (5FF3.1)	
MAKE	BY OTHERS
MODEL	BY OTHERS
DUTY	226kW
GLYCOL FLOW	51m3/h @ kPa
FLOW TEMP	-3ºC
RETURN TEMP	-3ºC

INSTALLATION DETAILS TO BE CONFIRMED

BOWL CHOP (5FF3.3)	
MAKE	
MODEL	
DUTY	45kW
GLYCOL FLOW	8.29m3/h @ kPa
FLOW TEMP	-1ºC
RETURN TEMP	+4ºC

CONDENSER COOLING (5FF3.4)	
MAKE	
MODEL	
DUTY	30kW
GLYCOL FLOW	6m3/h @ kPa
FLOW TEMP	-1ºC
RETURN TEMP	+4ºC

REV.	DATE	DESCRIPTION OF REVISION	DRAWN	CHECKED	ENG. APPR'D
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2	08/01/18	PIPEWORKS SIZE CHANGE HT-L5, DF-L4, DF-L8	MK	MK	
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5	35/01/18	COOLING LOAD AND PIPES SIZE CHANGE	MK	MK	
6	07/02/18	PIPE LAYOUT CHANGE	MK	MK	
7	13/02/18	TAGGING CHANGE	MK	MK	
8	15/02/18	PIPE WORK OPTIMISATION	MK	MK	
9	16/02/18	GLYCOL CHARGE CHANGE	MK	MK	
10	26/02/18	NOTES DESCRIPTION CHANGE	MK	MK	TP
11	16/03/18	AHU 5FF5.3 CHANGED ITS LOCATION	MK	MK	TP
12	16/03/18	CHANGE TO COOLERS BY DEFROST TERMINATION	MK	MK	TP
13	11/05/18	CHANGE IN CREAM ROOM COOLERS MODEL	MK	MK	TP
14	14/05/18	PHX's CONNECTION ARRAIGNMENT CHANGE	MK	MK	TP
15	17/05/18	PHX's CONNECTION ARRAIGNMENT CHANGE	MK	MK	TP
16	30/06/18	FUTURE CONNECTION SIZE CHANGE	MK	MK	TP
17	03/07/18	FUTURE AHU ADDED	MK	MK	TP
18	17/07/18	FUTURE CONNECTION CHANGE	MK	MK	TP
19	14/08/18	GLYCOL CHARGE CHANGE	MK	MK	TP

NOTES

1. PIPE EQUALLY.
2. DISCHARGE TO ATMOSPHERE, SEE BLOW OFF LINE P&ID.
3. ORIFICE PLATES, FLOW SWITCH / METERS (GLYCOL/WATER) TO BE MOUNTED 5x DIAMETER UPSTREAM AND 2x DIAMETER DOWNSTREAM DISTANCE.
4. GLYCOL/WATER PIPING. PURGE VALVES TO BE FITTED AT HIGH POINTS, DRAIN VALVES AT LOW POINTS.
5. GLYCOL/WATER VALVE STATIONS. UNIONS TO BE FITTED TO VALVE WHERE SCREWED CONNECTIONS ARE USED.
6. WARM GLYCOL PIPE LINE INSULATION UP TO ONE METER FROM VALVE STATION ONLY
7. VALVE SUPPLIED AND CONTROLLED BY OTHERS
8. PROBES SUPPLIED AND INSTALLED BY OTHERS
9. PROBES SUPPLIED BY GEA

GLYCOL
PED ASSESSMENT
FLUID GROUP : 2(GLYCOL)
PS : 7BARG
CATEGORY ASSEMBLY : SEP

PRESSURE TESTING
(STRENGTH)
SYSTEM : 7.7BARG
(TIGHTNESS)
SYSTEM : 7BARG

COOLANT DETAILS
PROPYLENE GLYCOL : 32%
FREEZING POINT : -14.4ºC
CHARGE : 62500 LTRS

WELD PROCEDURE : ISO15614-1 (INTENT)
WELD QUALIFICATION : EN287 (INTENT)
NDT - NONE

LEGEND INSTRUMENTATION CODES

LOCAL CONTROL — REMOTE CONTROL

F	FLOW	X	UNCLASSIFIED VARIABLES
G	GAUGING POS. / LENGTH	D	DIFFERENCE
L	LEVEL	I	INDICATING
M	MOISTURE / HUMIDITY	C	CONTROLLING
P	PRESSURE	T	TRANSMITTING
Q	QUALITY / DETECTION	S	SWITCHING
S	SPEED / FREQUENCY	Z	EMERGENCY / SAFETY ACTING
T	TEMPERATURE	A	ALARM

LINE CODE: 100-RC11

100: DIAMETER RC11: LINE TYPE

RC REFRIGERANT CO2	11 C/STEEL A333 GRB SCH80
RF REFRIGERANT FREON	12 CARBON STEEL ASTM
RN REFRIGERANT NH3	13 CARBON STEEL
RM REFRIGERANT MISC.	15 C/STEEL A106 GRB SCH40
CA COOLANT A	16 C/STEEL A333 GRB SCH40
CB COOLANT B	17 C/STEEL A106 GRB SCH80
CC COOLANT C	18 C/STEEL A333 GRB SCH80
CD COOLANT D	21 STAINLESS STEEL 304L
CM COOLANT MISC.	24 STAINLESS STEEL THIN WALL
	31 COPPER
	41 PLASTIC PVC

⚠ WARNING = FOR SERVICING ONLY. REFER TO O&M BEFORE USE

- GLOBE VALVE - ANGLED
- GLOBE VALVE - STRAIGHT
- GLOBE VALVE - CLOSED
- STOP / CHECK VALVE VALVE
- REGULATING VALVE - ANGLED
- REGULATING VALVE - STRAIGHT
- 3 WAY VALVE
- SAFETY RELIEF VALVE - ANGLED
- SAFETY RELIEF VALVE - STRAIGHT
- DEADMANS DRAIN VALVE (CLOSED)
- BASKET STRAINER / FILTER
- PILOT OPERATED VALVE
- FLOW CONTROL VALVE
- SOLENOID VALVE
- PNEUMATIC VALVE
- MOTOR VALVE
- GAS OPERATED (P32)
- 3 WAY ACTUATED
- CHECK VALVE STRAIGHT
- CHECK VALVE ANGLE
- MOTOR BUTTERFLY VALVE
- BUTTERFLY VALVE
- MOTOR BALL VALVE
- REDUCER - ECCENTRIC
- REDUCER - CONCENTRIC
- END CAP
- VALVE BLIND NUT
- ELECTRIC HEATING
- FILTER DRIER
- SIGHT GLASS
- SIGHT GLASS - OIL FILLED

FLOOR	CLIENT'S LOCATION	GEA REFERENCE	EQUIPMENT
GROUND FLOOR	BAY 5 / CHILL STORAGE	5GF1.1	CF-SP-6R7mm
GROUND FLOOR	BAY 5 / CHILL STORAGE	5GF1.2	CF-SP-6R7mm
GROUND FLOOR	BAY 5 / CHILLER	5GF2.1	CF-SP-6R7mm
GROUND FLOOR	BAY 4 / CREAM CUSTARD CHILLER	4GF1.1	DFQ-12-A2-7-7
GROUND FLOOR	BAY 4 / CREAM CUSTARD CHILLER	4GF1.2	DFQ-12-A2-7-7
GROUND FLOOR	BAY 2 / DESPATCH AREA	2GF1.1	DFS-20-A2-8-7
GROUND FLOOR	BAY 2 / DESPATCH AREA	2GF1.2	DFS-20-A2-8-7
GROUND FLOOR	BAY 2 / DESPATCH AREA	2GF1.3	DFS-20-A2-8-7
FIRST FLOOR	BAY 5 / AHU PLATFORM	5FF1.1	SUPPLY AHU 01 - OUTER PACKING
FIRST FLOOR	BAY 5 / AHU PLATFORM	5FF1.2	SUPPLY AHU 02 - OUTER PACKING
FIRST FLOOR	BAY 5 / CHILLER	5FF2.1	CF-SP-6R7mm
FIRST FLOOR	BAY 5 / CHILLER	5FF2.2	CF-SP-6R7mm
FIRST FLOOR	BAY 5 / CIP	5FF3.1	TBC
FIRST FLOOR	BAY 5 / CIP	5FF3.2	TBC
FIRST FLOOR	BAY 5 / CIP	5FF3.3	TBC
FIRST FLOOR	BAY 5 / CIP	5FF3.4	TBC
FIRST FLOOR	BAY 5 / CUSTARD BUFFER TANKS	5FF4.1	CF-SP-6R7mm
FIRST FLOOR	BAY 5 / AIR HANDLING UNIT PLATFORM	5FF5.1	SUPPLY AHU 01 - HIGH CARE PRODUCTION
FIRST FLOOR	BAY 5 / AIR HANDLING UNIT PLATFORM	5FF5.2	SUPPLY AHU 02 - HIGH CARE PRODUCTION
FIRST FLOOR	BAY 5 / AIR HANDLING UNIT PLATFORM	5FF5.3	SUPPLY AHU 03 - HIGH CARE PRODUCTION

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GEA Grenco
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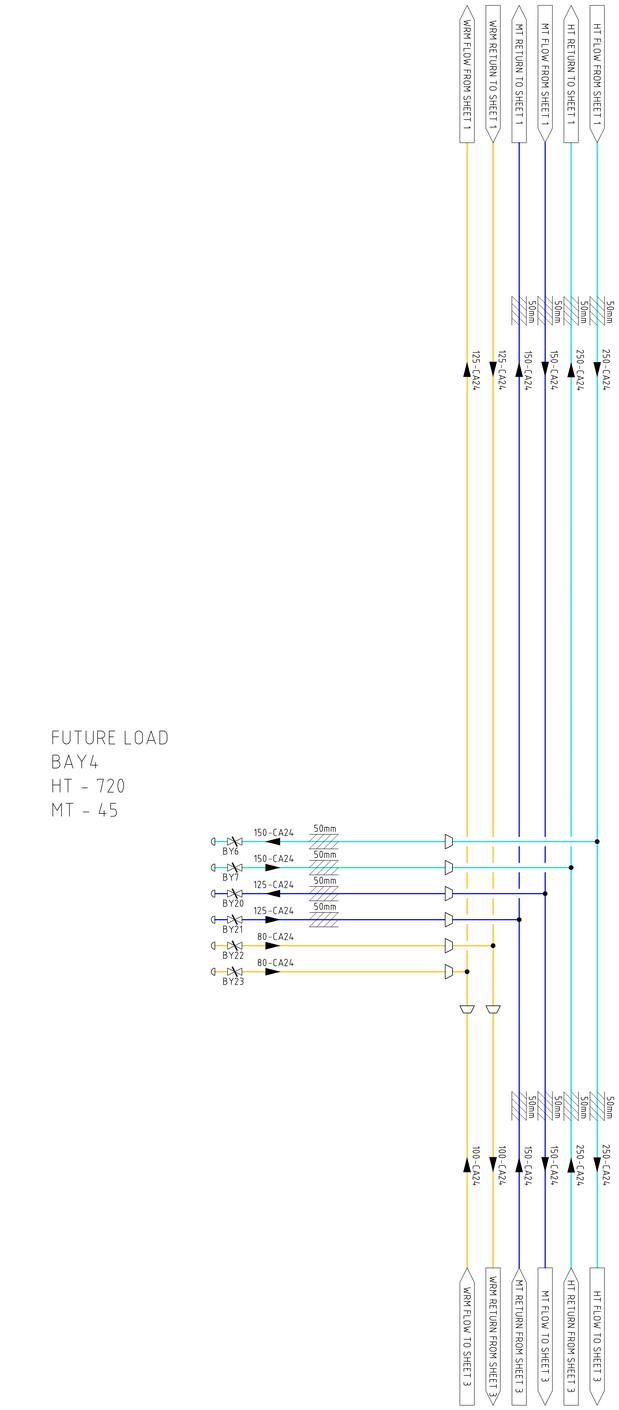
Telephone: +44 (0) 1795 514630
www.gearefrigeration.co.uk

SIZE: A0
SCALE:
STATUS: 3

PROJECT: BAKKAVOR NEWARK
CLIENT: BAKKAVOR
TITLE: PIPING & INSTRUMENT DIAGRAM

DRAWING No. 50178-001-1-01-FS002
SHEET NO. 02 OF 04
REV No. 19



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19	14/08/18	GLYCOL CHARGE CHANGE	MK	MK	TP

NOTES

1. PIPE EQUALLY.
2. DISCHARGE TO ATMOSPHERE, SEE BLOW OFF LINE P&ID.
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6. WARM GLYCOL PIPE LINE INSULATION UP TO ONE METER FROM VALVE STATION ONLY
7. VALVE SUPPLIED AND CONTROLLED BY OTHERS.
8. PROBES SUPPLIED AND INSTALLED BY OTHERS
9. PROBES SUPPLIED BY GEA

GLYCOL

PED ASSESSMENT
FLUID GROUP : 2(GLYCOL)
PS : 7BARG
CATEGORY ASSEMBLY : SEP

PRESSURE TESTING
(STRENGTH)
SYSTEM : 7.7BARG
(TIGHTNESS)
SYSTEM : 7BARG

COOLANT DETAILS
PROPYLENE GLYCOL : 32%
FREEZING POINT : -14.4°C
CHARGE : 62500 LTRS

WELD PROCEDURE : ISO15614-1 (INTENT)
WELD QUALIFICATION : EN287 (INTENT)
NDT : NONE

LEGEND INSTRUMENTATION CODES

LOCAL CONTROL — REMOTE CONTROL

F	FLOW	X	UNCLASSIFIED VARIABLES
G	GAUGING POS. / LENGTH	D	DIFFERENCE
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S	SPEED / FREQUENCY	Z	EMERGENCY / SAFETY ACTING
T	TEMPERATURE	A	ALARM

LINE CODE: 100-RC11

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- 3 WAY VALVE
- SAFETY RELIEF VALVE - ANGLED
- SAFETY RELIEF VALVE - STRAIGHT
- DEADMANS DRAIN VALVE [CLOSED]
- BASKET STRAINER / FILTER
- PILOT OPERATED VALVE
- FLOW CONTROL VALVE
- SOLENOID VALVE
- PNEUMATIC VALVE
- MOTOR VALVE
- GAS OPERATED [P32]
- 3 WAY ACTUATED
- CHECK VALVE STRAIGHT
- CHECK VALVE ANGLE
- MOTOR BUTTERFLY VALVE
- BUTTERFLY VALVE
- MOTOR BALL VALVE
- REDUCER - ECCENTRIC
- REDUCER - CONCENTRIC
- END CAP
- VALVE BLIND NUT
- ELECTRIC HEATING
- FILTER DRIER
- SIGHT GLASS
- SIGHT GLASS - OIL FILLED

FLOOR	CLIENT'S LOCATION	GEA REFERENCE	EQUIPMENT
GROUND FLOOR	BAY 5 / CHILL STORAGE	5GF1.1	CF-SP-6R7mm
GROUND FLOOR	BAY 5 / CHILL STORAGE	5GF1.2	CF-SP-6R7mm
GROUND FLOOR	BAY 5 / CHILLER	5GF2.1	CF-SP-6R7mm
GROUND FLOOR	BAY 4 / CREAM CUSTARD CHILLER	4GF1.1	DFQ-12-A2-7-7
GROUND FLOOR	BAY 4 / CREAM CUSTARD CHILLER	4GF1.2	DFQ-12-A2-7-7
GROUND FLOOR	BAY 2 / DESPATCH AREA	2GF1.1	DFS-20-A2-8-7
GROUND FLOOR	BAY 2 / DESPATCH AREA	2GF1.2	DFS-20-A2-8-7
GROUND FLOOR	BAY 2 / DESPATCH AREA	2GF1.3	DFS-20-A2-8-7
FIRST FLOOR	BAY 5 / AHU PLATFORM	5FF1.1	SUPPLY AHU 01 - OUTER PACKING
FIRST FLOOR	BAY 5 / AHU PLATFORM	5FF1.2	SUPPLY AHU 02 - OUTER PACKING
FIRST FLOOR	BAY 5 / CHILLER	5FF2.1	CF-SP-6R7mm
FIRST FLOOR	BAY 5 / CHILLER	5FF2.2	CF-SP-6R7mm
FIRST FLOOR	BAY 5 / CIP	5FF3.1	TBC
FIRST FLOOR	BAY 5 / CIP	5FF3.2	TBC
FIRST FLOOR	BAY 5 / CIP	5FF3.3	TBC
FIRST FLOOR	BAY 5 / CIP	5FF3.4	TBC
FIRST FLOOR	BAY 5 / CUSTARD BUFFER TANKS	5FF4.1	CF-SP-6R7mm
FIRST FLOOR	BAY 5 / AIR HANDLING UNIT PLATFORM	5FF5.1	SUPPLY AHU 01 - HIGH CARE PRODUCTION
FIRST FLOOR	BAY 5 / AIR HANDLING UNIT PLATFORM	5FF5.2	SUPPLY AHU 02 - HIGH CARE PRODUCTION
FIRST FLOOR	BAY 5 / AIR HANDLING UNIT PLATFORM	5FF5.3	SUPPLY AHU 03 - HIGH CARE PRODUCTION

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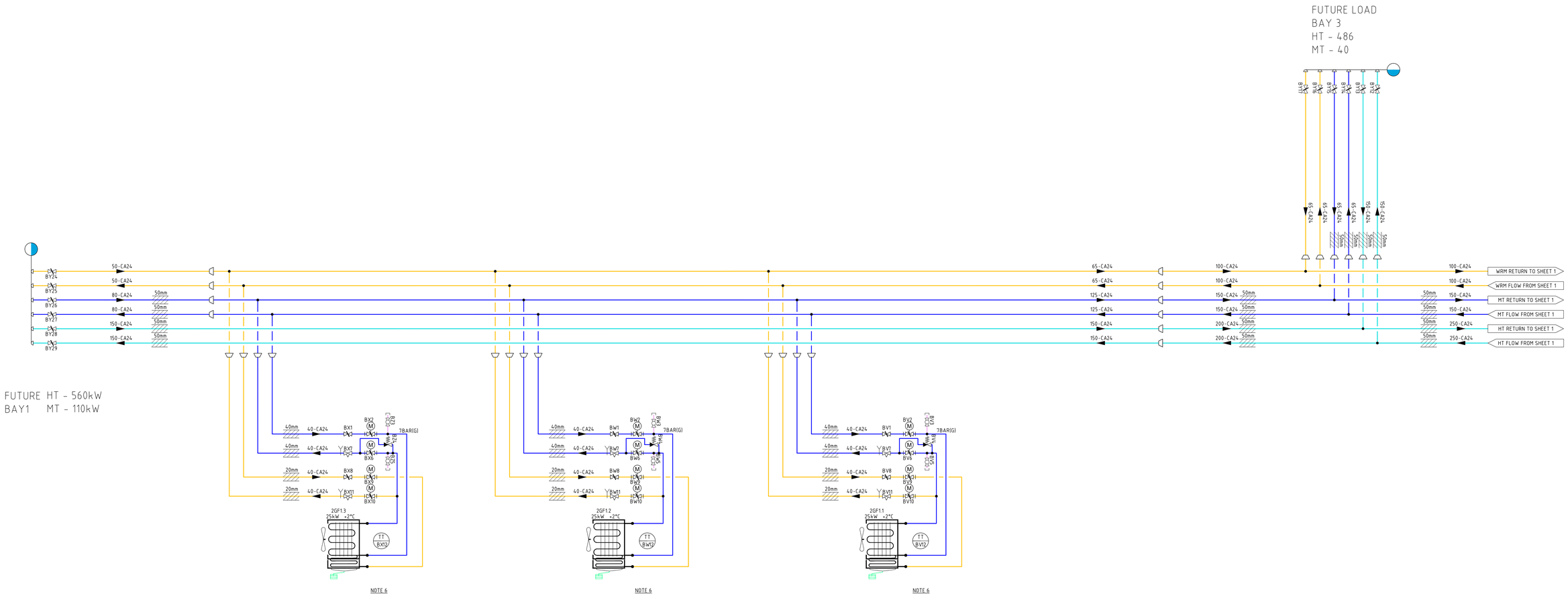
Telephone: +44 (0) 1795 514630
www.gearefrigeration.co.uk

SIZE: A0
SCALE:
STATUS: 3

PROJECT: BAKKAVOR NEWARK
CLIENT: BAKKAVOR
TITLE: PIPING & INSTRUMENT DIAGRAM

DRAWING No. 50178-001-1-01-FS002
SHEET NO. 03 OF 04
REV No. 19



DESPATCH AREA (2GF1.3)	
MAKE	C&C
MODEL	DFS-20-A2-8-7
DUTY	25kW
GLYCOL FLOW	6m3/h @ 92kPa
WRM. G. FLOW	4.5m3/h
FLOW TEMP	-7°C
RETURN TEMP	-3°C
NOISE LEVEL	61db(A)

DESPATCH AREA (2GF1.2)	
MAKE	C&C
MODEL	DFS-20-A2-8-7
DUTY	25kW
GLYCOL FLOW	6m3/h @ 92kPa
WRM. G. FLOW	4.5m3/h
FLOW TEMP	-7°C
RETURN TEMP	-3°C
NOISE LEVEL	61db(A)

DESPATCH AREA (2GF1.1)	
MAKE	C&C
MODEL	DFS-20-A2-8-7
DUTY	25kW
GLYCOL FLOW	6m3/h @ 92kPa
WRM. G. FLOW	4.5m3/h
FLOW TEMP	-7°C
RETURN TEMP	-3°C
NOISE LEVEL	61db(A)

REV.	DATE	DESCRIPTION OF REVISION	DRAWN	CHECKED	ENG. APPR'D
0	05/01/18	FIRST ISSUE	MK	MK	
1	06/01/18	LAYOUT CHANGE	MK	MK	
2	08/01/18	PIPEWORKS SIZE CHANGE HT-L5, DF-L4, DF-L8	MK	MK	
3	23/01/18	ADDITIONAL COOLING LOAD ADDED PIPES SIZE CHANGE	MK	MK	
4	31/01/18	ADDITIONAL COOLING LOAD ADDED PIPES SIZE CHANGE	MK	MK	
5	35/01/18	COOLING LOAD AND PIPES SIZE CHANGE	MK	MK	
6	07/02/18	PIPE LAYOUT CHANGE	MK	MK	
7	13/02/18	TAGGING CHANGE	MK	MK	
8	15/02/18	PIPE WORK OPTIMISATION	MK	MK	
9	16/02/18	GLYCOL CHARGE CHANGE	MK	MK	
10	26/02/18	NOTES DESCRIPTION CHANGE	MK	MK	TP
11	16/03/18	AHU SFF5.3 CHANGED ITS LOCATION	MK	MK	TP
12	16/03/18	CHANGE TO COOLERS BY DEFROST TERMINATION	MK	MK	TP
13	11/05/18	CHANGE IN CREAM ROOM COOLERS MODEL	MK	MK	TP
14	14/05/18	PHX's CONNECTION ARRAIGNMENT CHANGE	MK	MK	TP
15	17/05/18	PHX's CONNECTION ARRAIGNMENT CHANGE	MK	MK	TP
16	30/06/18	FUTURE CONNECTION SIZE CHANGE	MK	MK	TP
17	03/07/18	FUTURE AHU ADDED	MK	MK	TP
18	17/07/18	FUTURE CONNECTION CHANGE	MK	MK	TP
19	14/08/18	GLYCOL CHARGE CHANGE	MK	MK	TP

NOTES

1. PIPE EQUALLY.
2. DISCHARGE TO ATMOSPHERE, SEE BLOW OFF LINE P&ID.
3. ORIFICE PLATES, FLOW SWITCH / METERS (GLYCOL/WATER) TO BE MOUNTED 5x DIAMETER UPSTREAM AND 2x DIAMETER DOWNSTREAM DISTANCE.
4. GLYCOL/WATER PIPING. PURGE VALVES TO BE FITTED AT HIGH POINTS, DRAIN VALVES AT LOW POINTS.
5. GLYCOL/WATER VALVE STATIONS. UNIONS TO BE FITTED TO VALVE WHERE SCREWED CONNECTIONS ARE USED.
6. WARM GLYCOL PIPE LINE INSULATION UP TO ONE METER FROM VALVE STATION ONLY.
7. VALVE SUPPLIED AND CONTROLLED BY OTHERS
8. PROBES SUPPLIED AND INSTALLED BY OTHERS
9. PROBES SUPPLIED BY GEA

GLYCOL

PED ASSESSMENT
FLUID GROUP : 2(GLYCOL)
PS : 7BARG
CATEGORY ASSEMBLY : SEP

PRESSURE TESTING
(STRENGTH)
SYSTEM : 7.7BARG
(TIGHTNESS)
SYSTEM : 7BARG

COOLANT DETAILS
PROPYLENE GLYCOL : 32%
FREEZING POINT : -14.4°C
CHARGE : 62500 LTRS

WELD PROCEDURE : ISO15614-1 (INTENT)
WELD QUALIFICATION : EN287 (INTENT)
NDT : NONE

LEGEND INSTRUMENTATION CODES

LOCAL CONTROL — REMOTE CONTROL

F	FLOW	X	UNCLASSIFIED VARIABLES
G	GAUGING POS. / LENGTH	D	DIFFERENCE
L	LEVEL	I	INDICATING
M	MOISTURE / HUMIDITY	C	CONTROLLING
P	PRESSURE	T	TRANSMITTING
Q	QUALITY / DETECTION	S	SWITCHING
S	SPEED / FREQUENCY	Z	EMERGENCY / SAFETY ACTING
T	TEMPERATURE	A	ALARM

LINE CODE: 100-RC11

100: DIAMETER	RC11: LINE TYPE
RC REFRIGERANT CO_2	11 C/STEEL A333 GRB SCH80
RF REFRIGERANT FREON	12 CARBON STEEL ASTM
RN REFRIGERANT NH3	13 CARBON STEEL
RM REFRIGERANT MISC.	15 C/STEEL A106 GRB SCH40
CA COOLANT A	16 C/STEEL A333 GRB SCH40
CB COOLANT B	17 C/STEEL A106 GRB SCH80
CC COOLANT C	18 C/STEEL A333 GRB SCH80
CD COOLANT D	21 STAINLESS STEEL 304L
CM COOLANT MISC.	24 STAINLESS STEEL THIN WALL
	31 COPPER
	41 PLASTIC PVC

⚠ WARNING = FOR SERVICING ONLY. REFER TO O&M BEFORE USE.

- GLOBE VALVE - ANGLED
- GLOBE VALVE - STRAIGHT
- GLOBE VALVE - CLOSED
- STOP / CHECK VALVE VALVE
- REGULATING VALVE - ANGLED
- REGULATING VALVE - STRAIGHT
- 3 WAY VALVE
- SAFETY RELIEF VALVE - ANGLED
- SAFETY RELIEF VALVE - STRAIGHT
- DEADMANS DRAIN VALVE (CLOSED)
- BASKET STRAINER / FILTER
- PILOT OPERATED VALVE
- FLOW CONTROL VALVE
- SOLENOID VALVE
- PNEUMATIC VALVE
- MOTOR VALVE
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DRAWING No.: S0178-001-1-01-FS002
SHEET NO.: 04 OF 04
REV No.: 19