



HRS(HYDROGEN REFUELLING STATION)
CHILLER SYSTEM

수소충전소 냉각수 냉각기 기술자료

HRS(HYDROGEN REFUELLING STATION) CHILLER UNIT TECHNICAL DATA

H₂ STATION

HRSM-085SA

COOLING WATER CHILLER 78 kW

2026.06.25



HI AIR KOREA Co.,Ltd.

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1. COOLING WATER CHILLER

1. COOLING WATER CHILLER

1.1 CALCULATION

1.1.1 HEAT LOAD AND COOLING CAPACITY

1.1.2 LEGAL REFRIGERANT TON

1.2 SPECIFICATION

1.2.1 GENERAL SPECIFICATION

1.2.2 COMPONENT SPECIFICATION

1.3 P&ID (PIPING & INSTRUMENTS DIAGRAM)

1.4 GENERAL ARRANGEMENT DRAWING

1.5 SELECTION DATA

1.6 ELEC. CONTROL DIAGRAM AND PANEL DRAWING

1.1 CALCULATION

1.1.1 HEAT LOAD AND COOLING CAPACITY

A. HEAT LOAD FOR COOLING WATER(ETHYLENE GLYCOL 50%)

a. Specific data

NO.	DESCRIPTION		H2 COMPRESSOR	H2 CHILLER CONDENSER	UNIT	REMARK
01	Flow Rate		11,850.0	N/A	kg/h	
			11.1	N/A	m ³ /h	
02	Density	Mean	1,071.8	N/A	kg/m ³	
		Inlet	1,070.2	N/A		
		Outlet	1,073.4	N/A		
03	Specific Heat	Mean	3.29	N/A	kJ/kg°C	
		Inlet	3.31	N/A		
		Outlet	3.28	N/A		
04	Temperature	Difference	7.0	N/A	°C	
		Inlet	27.0	N/A		
		Outlet	20.0	N/A		
05	Capacity		273,262.2	N/A	kJ/h	
			75.9	N/A	kW	

b. Heat load calculation

$$\text{Cooling Capacity} = \text{Flow Rate} \times \text{Density} \times \text{Specific Heat} \times \Delta T = 75.9 \text{ kW}$$

$$\text{Main Chiller Condenser Cooling Capacity} = \text{N/A}$$

$$\text{Total Cooling Capacity} = 75.9 \text{ kW}$$

$$\text{Safety Factor } 2.7 \% = 75.9 \text{ kW} \times 1.03 = 78.0 \text{ kW}$$

B. CHILLER CAPACITY

$$\begin{aligned} \text{Chiller Capacity} &= \text{Compressor capacity} \times \text{Q'ty} \\ &= 78.0 \text{ kW} \times 1 = 78.0 \text{ kW} \quad [1 \text{ Set(s) 적용}] \end{aligned}$$

* 위 Chiller Capacity는 외기온도 40℃, 브라인 출구온도 20℃ 기준으로 선정되었으며, 현장조건에 따라 열량이 변동될 수 있습니다.

1.1.2 LEGAL REFRIGERANT TON

A. EQUIPMENT NAME : COOLING WATER CHILLER

Compressor Type	밀폐형 Scroll 압축기
Compressor Model	ZR250KCE-TW7
Refrigerant	R-407C
Q'ty	1 Set(s)

B. Legal Cooling Capacity

$$R = V / C$$

$$V : \text{토출량(m}^3/\text{h)} = 68.27 \text{ m}^3/\text{h}$$

$$C : \text{냉매상수} = 9.8$$

$$V = 1\text{회전당 토출량} \times \text{단위환산} \times \text{회전수} \times \text{단위환산}$$

$$\begin{aligned} V &= 325.103 \text{ cc/rev} \times (0.01\text{m}/1\text{cm})^3 \times 3500 \text{ rpm} \times 60 \text{ min/h} \\ &= 68.27 \text{ m}^3/\text{h} \end{aligned}$$

$$R = 68.27 / 9.8 = 6.966$$

$$\therefore R = 6.966 \times 1 \text{ Set(s)} = 6.96 \text{ RT}$$

* CHILLER의 토출량은 고압가스 안전관리법 시행규칙[별표3] (냉동능력 산정기준) 제1조에 의거하여 산출되었으며, 압축기는 스크롤 타입을 사용하므로 제1조 ① ~ ④의 산식이 아닌 압축기의 표준회전속도에 있어서의 1시간의 피스톤 압출량으로 같음

1. COOLING WATER CHILLER

1.1 CALCULATION

1.1.1 HEAT LOAD AND COOLING CAPACITY

1.1.2 LEGAL REFRIGERANT TON

1.2 SPECIFICATION

1.2.1 GENERAL SPECIFICATION

1.2.2 COMPONENT SPECIFICATION

1.3 P&ID (PIPING & INSTRUMENTS DIAGRAM)

1.4 GENERAL ARRANGEMENT DRAWING

1.5 SELECTION DATA

1.6 ELEC. CONTROL DIAGRAM AND PANEL DRAWING

1.2 SPECIFICATION

1.2.1 GENERAL SPECIFICATION

DESCRIPTION		TECHNICAL SPECIFICATION
COOLING CAPACITY		78.0 kW
		22.2 USRT
		6.96 LEGAL RT
C.O.P		2.54
REFRIGERANT		R-407C
POWER SOURCE		380V 60Hz 3Ph
DEMENSION		1,050 mm x 1,900 mm x 2,479 mm (W x D x H)
COLOR		WHITE (7443 N9.0)
WEIGHT		ABT. 1,200 kg(DRY)
DESIGN PRESSURE		2.70 MPa
COMPRESSOR		ZR250KCE-TW7
BRINE	NAME	ETHYLENE GLYCOL 50%
	INLET TEMP.	27.0°C
	OUTLET TEMP.	20.0°C
EVAPORATOR		BRAZED PLATE TYPE HEAT EXCHANGER
CONDENSER		AIR COOLED FIN AND TUBE HEAT EXCHANGER
FAN		AXIAL FAN
CIRCULATION PUMP		iLP40-150

1.2.2 COMPONENT SPECIFICATION

DESCRIPTION		TECHNICAL SPECIFICATION
COMPRESSOR	MAKER / MODEL	COPELAND / ZR250KCE-TW7
	TYPE	HERMETIC SCROLL
	QUANTITY	1 EA
	POWER SUPPLY	380V 60Hz 3Ph
	POWER CONSUMPTION	25.4 kW (25.4 kW x 1)
	STARTING METHOD	D.O.L
	CAPACITY CONTROL	ON / OFF
CONDENSER	MAKER	HI AIR KOREA
	TYPE	AIR COOLED FIN AND TUBE HEAT EXCHANGER
	SPECIFICATION	3/8"x5Rx38Sx1,580x12FPI
	CONDENSING TEMPERATURE	60.6 °C (dew)
	QUANTITY	2 EA
	CAPACITY	103.4 kW (51.7 kW x 2)
CONDENSER FAN	MAKER / MODEL	TESOER / Ø630
	TYPE	AXIAL FAN
	POWER	1.6 kW (0.78 kW x 2)
	QUANTITY	2 EA
CONDENSER FAN MOTOR	MAKER	TESOER
	SPECIFICATION	0.95 kW, 380V 3Ph 60Hz, 6Pole
	QUANTITY	2 EA
EVAPORATOR	MAKER	SWEP
	TYPE	BRAZED PLATE TYPE HEAT EXCHANGER
	SPECIFICATION	V250ASHx68
	CAPACITY	78.0 kW
	EVAPORATING TEMPERATURE	15.1°C
	BRINE IN / OUTLET TEMPERATURE	27.0°C / 20.0°C
	FLOW RATE	11.4 m³/h
	QUANTITY	1 EA
ELECTRONIC EXPANSION VALVE	MAKER	SANHUA
	MODEL	DPF-A05
	QUANTITY	1 EA

DESCRIPTION		TECHNICAL SPECIFICATION	
CIRCULATION PUMP	MAKER	HYOSUNG	
	TYPE	IN-LINE CENTRIFUGAL	
	MODEL	iLP40-150	
	FLOW / WATER HEAD	11.4 m ³ /h	/ 30 m
	POWER CONSUMPTION	3.7 kW	
	QUANTITY	1 EA	
WATER TANK	VOLUME	226 L	
	MATERIAL	SUS304	
SYSTEM CONTROL	TYPE	PLC WITH TOUCH PANEL	
	CONTROL POWER	220V 60Hz 1Ph	
	PROTOCOL	RS-485 (Modbus RTU)	
PROCESS CONNECTION	BRINE INLET / OUTLET FOR H2 COMPRESSOR	JIS 10K RF 50 A	/ JIS 10K RF 50 A
	BRINE INLET / OUTLET FOR MAIN CHILLER	N/A	/ N/A
	BRINE TANK VENT	1/4" TUBE UNION	
	DRAIN	PT 3/4" WITH CAP	
CHILLER SKID NOISE LEVEL		< 85 dB(A) AT 1m DISTANCE	
TOTAL POWER CONSUMPTION		30.7 kW	
MAX POWER CONSUMPTION		31.0 kW	
MAIN CIRCUIT BREAKER CURRENT		75 A	

※ 본 제품의 사양은 제품의 품질, 성능향상을 위하여 고객사와 협의 후 변경될 수 있습니다.

1. COOLING WATER CHILLER

1.1 CALCULATION

1.1.1 HEAT LOAD AND COOLING CAPACITY

1.1.2 LEGAL REFRIGERANT TON

1.2 SPECIFICATION

1.2.1 GENERAL SPECIFICATION

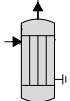
1.2.2 COMPONENT SPECIFICATION

1.3 P&ID (PIPING & INSTRUMENTS DIAGRAM)

1.4 GENERAL ARRANGEMENT DRAWING

1.5 SELECTION DATA

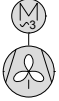
1.6 ELEC. CONTROL DIAGRAM AND PANEL DRAWING

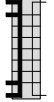
REFRIGERANT PIPING ACCESSORIES	
DEFINITION	SYMBOL
RECEIVER TANK	
LIQUID SEPARATOR	
CARTRIDGE FILTER	
SIGHT GLASS	
SOLENOID VALVE	
SHUT-OFF VALVE	
CHECK VALVE / NON-RETURN VALVE	
THREE-WAY VALVE	
SAFETY VALVE	
FILTER STRAINER	
PIPING COMPENSATION / VIBRATION ISOLATOR	
CHARGING NIPPLE	
ELECTRIC EXPANSION VAVLE	
AUTO. AIR VENT VALVE	
INSULATION	
FLANGE	

REFRIGERANT PIPING ACCESSORIES	
DEFINITION	SYMBOL
REDUCER	

REFRIGERATING COMPRESSORS	
DEFINITION	SYMBOL
SCROLL COMPRESSOR	

COOLING WATER PUMP	
DEFINITION	SYMBOL
PUMP	

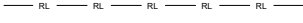
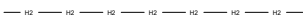
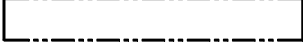
AIR COOLED CONDENSING UNIT	
DEFINITION	SYMBOL
FAN WITH MOTOR	
CONDENSING COIL	

HEAT EXCHANGER	
DEFINITION	SYMBOL
PLATE TYPE HEAT EXCHANGER	
	

BUFFER TANK	
DEFINITION	SYMBOL
TANK	

INSTRUMENTS ACCESSORIES	
DEFINITION	SYMBOL
LOCAL MOUNTED INSTRUMENT	
ELECTRICAL CONTROL PANEL	

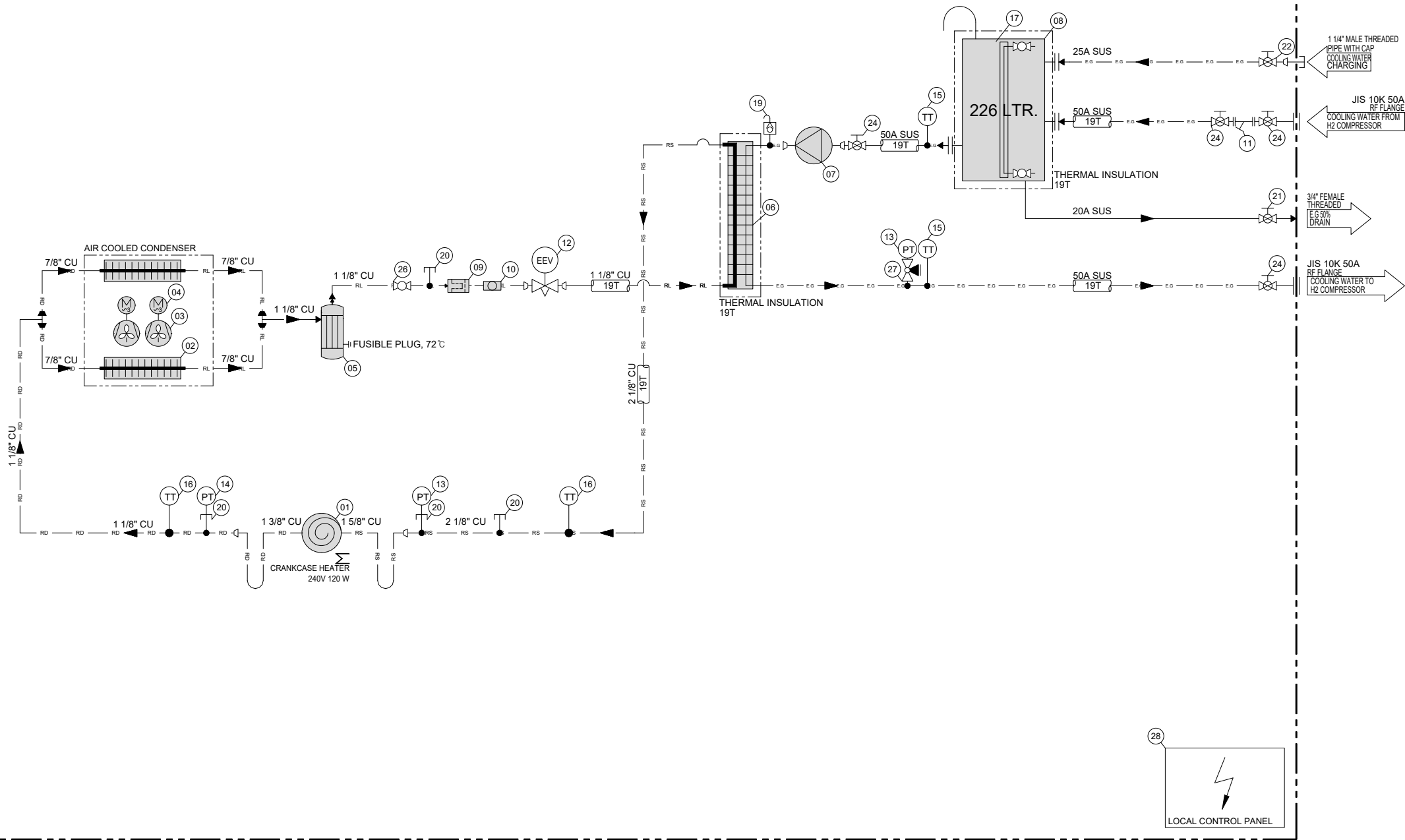
LOCAL CONNECTED UTILITY	
DEFINITION	SYMBOL
UTILITY TYPE AND CONNECTION SIZE	

CONNECTION DEFINITIONS	
DEFINITION	SYMBOL
REFRIGERANT DISCHARGE LINE	
REFRIGERANT SUCTION LINE	
REFRIGERANT LIQUID LINE	
LUBRICATION LINE	
RELIEF LINE	
BRINE (EG 50%) LINE	
WATER LINE	
HYDROGEN LINE	
ELECTRICAL SIGNAL LINE	
ELECTRICAL POWER LINE	
SCOPE OF PACKAGED EQUIPMENT SUPPLY BY VENDOR	

ABBREVIATIONS	
ABBREVIATION	DEFINITION
ACC	AIR COOLED CONDENSER
PDT	DIFFERENTIAL PRESSURE TRANSMITTER
PI	PRESSURE INDICATOR
PT	PRESSURE TRANSMITTER
PS	PRESSURE SENSOR
TT	TEMPERATURE TRANSMITTER
TE	TEMPERATURE ELEMENT
ES	EMERGENCY STOP BUTTON
LORS	LOCAL / OFF / REMOTE
PB	MANUAL START / STOP
IS	ISOLATE SWITCH
LSC	LIMIT SWITCH CLOSED INDICATOR
LSO	LIMIT SWITCH OPEN INDICATOR
LT	LIGHTING
LSW	LIGHTING SWITCH
VSD	VARIABLE SPEED DRIVE
HMI	HUMAN MACHINE INTERFACE
LCP	LOCAL CONTROL PANEL

A	2022.02.08	ISSUED FOR PROPOSAL	HPJ	IHK	TWK
REV	DATE	REVISION	ISSUED	CHECKED	APPROVED
		TITLE			
		SYMBOL DRAWING FOR PIPING & INSTRUMENTATION DIAGRAM FOR HYDROGEN REFUELING SYSTEM C/W CHILLER UNIT			
PROJECT No.			H2 STATION		DRAWING TYPE
DRAWING No.			HRSM-SBL-001		PID
SCALE			REV.		A
N.T.S			PAGE		1 of 1

C/W CHILLER UNIT



EQUIPMENT LIST

No.	ITEM	SPECIFICATION	MAKER	Qty	REMARK
01	COMPRESSOR	ZR250KCE-TW7	COPELAND	1	
02	AIR COOLED CONDENSER	3/8"x5Rx38Sx1580Lx12FPixAL	HI AIR KOREA	2	
03	CONDENSER FAN	Ø630	TESOER	2	
04	CONDENSER FAN MOTOR	TX.A4D-630S-5FMAT95	TESOER	2	
05	RECIEVER	RCV-010	KYUNGAN	1	
06	EVAPORATOR	V250ASHx68	SWEP	1	
07	PUMP	iLP40-150/3.7	HYOSUNG	1	
08	TANK	226L	HI AIR KOREA	1	
09	FILTER DRYER	DTG-B41 090-901, 1 1/8", SOLDER	SANHUA	1	
10	SIGHT GLASS	SYJ-28H 1 1/8"	SANHUA	1	
11	STRAINER	50A	-	1	
12	ELEC. EXPANSION VALVE	DPF-A05080-102	SANHUA	1	
13	LOW PRESSURE TRANSMITTER	YCQC01L01. -1~9 Bar	SANHUA	2	
14	HIGH PRESSURE TRANSMITTER	YCQC03L01. -1~29 Bar	SANHUA	1	
15	TEMP. TRANSMITTER	S-55241, PT1000, PF 1/4"	SEJIN	2	
16	TEMP. TRANSMITTER	NTC10Kohm	DAESONG E&C	2	
17	LEVEL GAUGE	PU TUBE	-	1	
18	BLANK	-	-	-	
19	AIR VENT VALVE	-	-	1	
20	CHARGING NIPPLE	Ø6.35	SEHWA	4	
21	SHUT-OFF VALVE	20A	-	1	
22	SHUT-OFF VALVE	25A	-	1	
23	BLANK	-	-	-	
24	SHUT-OFF VALVE	50A	-	4	
25	BLANK	-	-	-	
26	SHUT-OFF VALVE	SBV, 1 1/8"	SANHUA	1	
27	SHUT-OFF VALVE	10A	-	1	
28	ELEC. CONTROL PANEL	PLC	HI AIR KOREA	1	

REFRIGERANT : R-407C, abt. 27 kg(INITIAL CHARGE)
COOLING WATER : ETHYLENE GLYCOL 50%(ON SITE FILLING)

NOTE
1. THE HEAT EXCHANGER AND WATER TANK SHOULD BE INSULATED WITH THK.19mm THERMAL NBR INSULATION.

A	2022.01.19	ISSUED FOR PROPOSAL	HPJ	IHK	TWK
REV	DATE	REVISION	ISSUED	CHECKED	APPROVED
		TITLE			
		PIPING & INSTRUMENTATION DIAGRAM FOR HYDROGEN REFUELING SYSTEM C/W CHILLER UNIT [85 kW]			
PROJECT No. H2 STATION			DRAWING TYPE PID		
DRAWING No. HRSM-085SA-001			REV. A		
SCALE N.T.S	FORMAT A3		PAGE	1 of 1	

1. COOLING WATER CHILLER

1.1 CALCULATION

1.1.1 HEAT LOAD AND COOLING CAPACITY

1.1.2 LEGAL REFRIGERANT TON

1.2 SPECIFICATION

1.2.1 GENERAL SPECIFICATION

1.2.2 COMPONENT SPECIFICATION

1.3 P&ID (PIPING & INSTRUMENTS DIAGRAM)

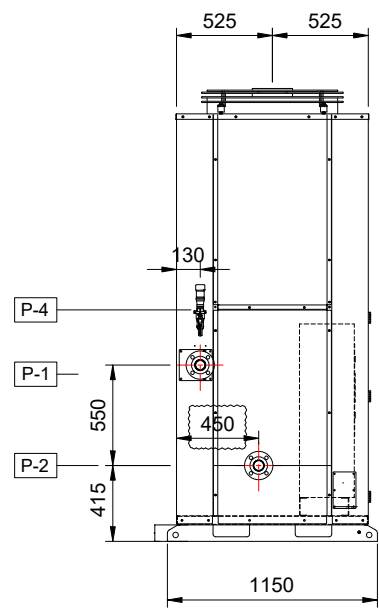
1.4 GENERAL ARRANGEMENT DRAWING

1.5 SELECTION DATA

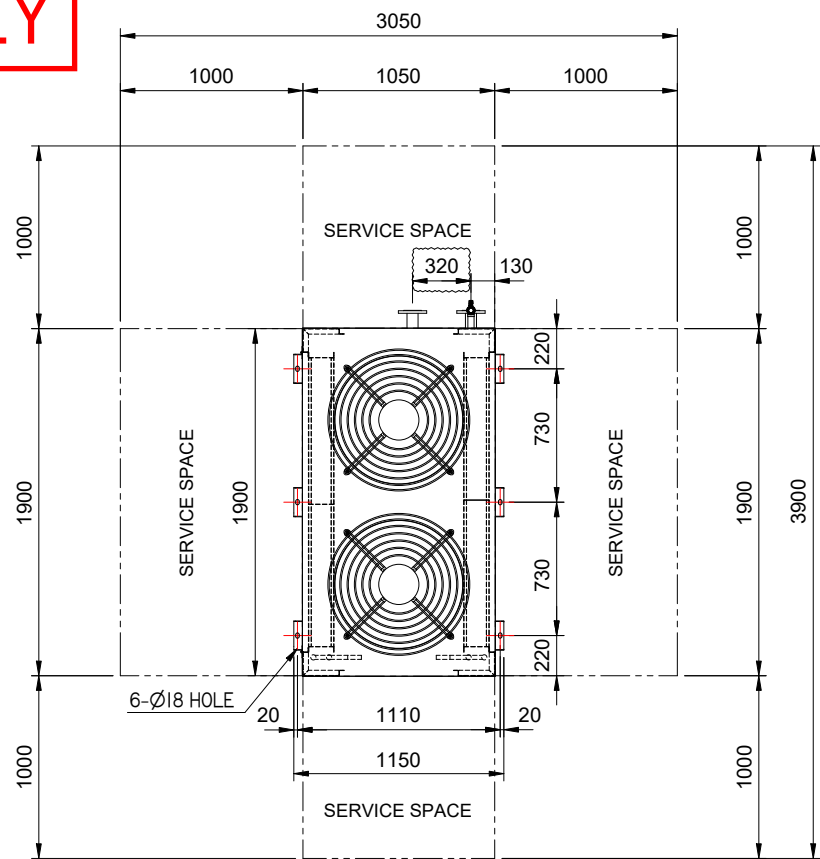
1.6 ELEC. CONTROL DIAGRAM AND PANEL DRAWING

REFERENCE ONLY

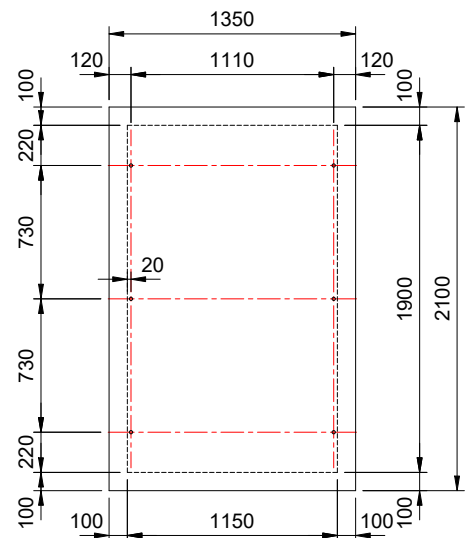
*레이아웃 참조용 입니다.



REAR VIEW

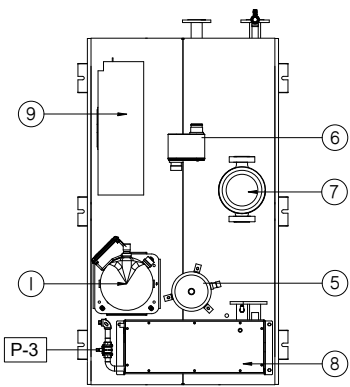


TOP VIEW



FRONT

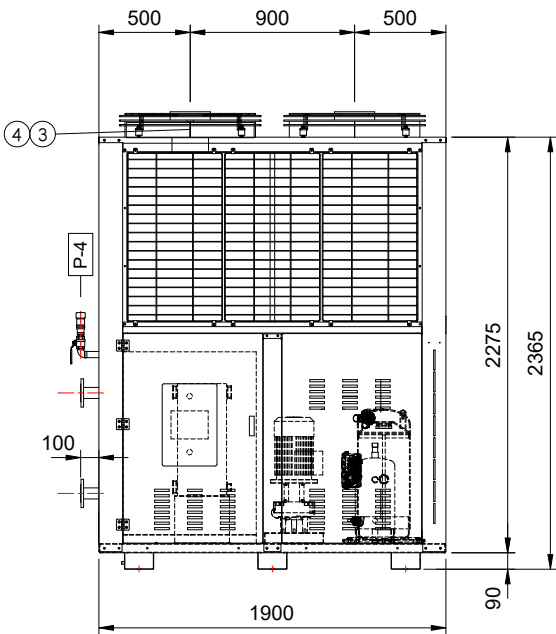
FOUNDATION



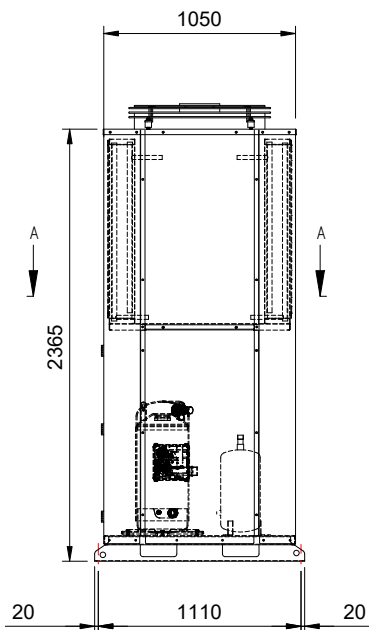
SECTION A-A

PIPE CONNECTION LIST

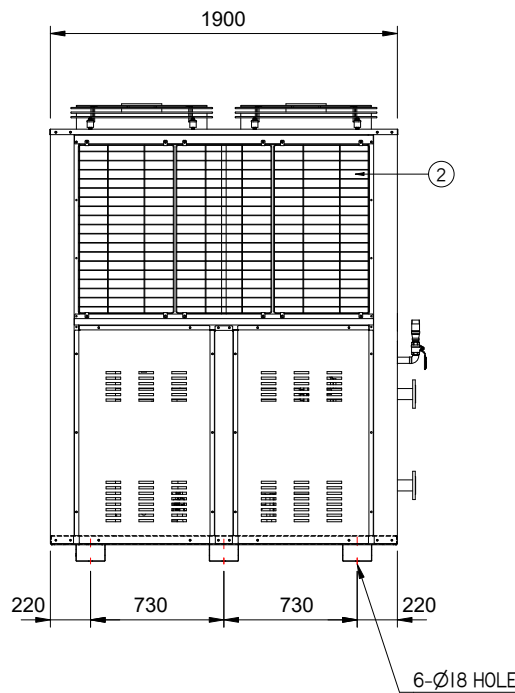
NO.	CONNECTION	SIZE/MATERIAL	Q'TY	REMARK
P-1	COOLING WATER INLET	JIS 10K RF 50A / SUS	1	
P-2	COOLING WATER OUTLET	JIS 10K RF 50A / SUS	1	
P-3	COOLING WATER DRAIN	20A	1	
P-4	COOLING WATER CHARGING	32A	1	



LEFT VIEW



FRONT VIEW



RIGHT VIEW

NOTE

09	LCP	PLC	1	-
08	TANK	226L	1	
07	PUMP	iLP40/150	1	-
06	EVAPORATOR	V250ASHx68	1	-
05	RECIEVER	RCV-010	1	-
04	MOTOR	TX.A4D-630S-5FMAT95	2	-
03	FAN	Ø630	2	-
02	CONDENSER	5Rx38Sx1580Lx12FPI	2	-
01	COMPRESSOR	ZR250KCE-TW7	1	-

No.	DESCRIPTION	MODEL(size)	Q'TY	REMARK
PJT.: H2 STATION		Scale: 1/50	A 3	
TITLE: SUB CHILLER		Drawn by: HCK	Date: 2022. 05. 30	
TYPE: HRSM-085SA		Checked by: -	Approved by: KYM	
		DWG No.: -	Rev.	

* 외형 및 치수는 일부 변경 될 수 있음

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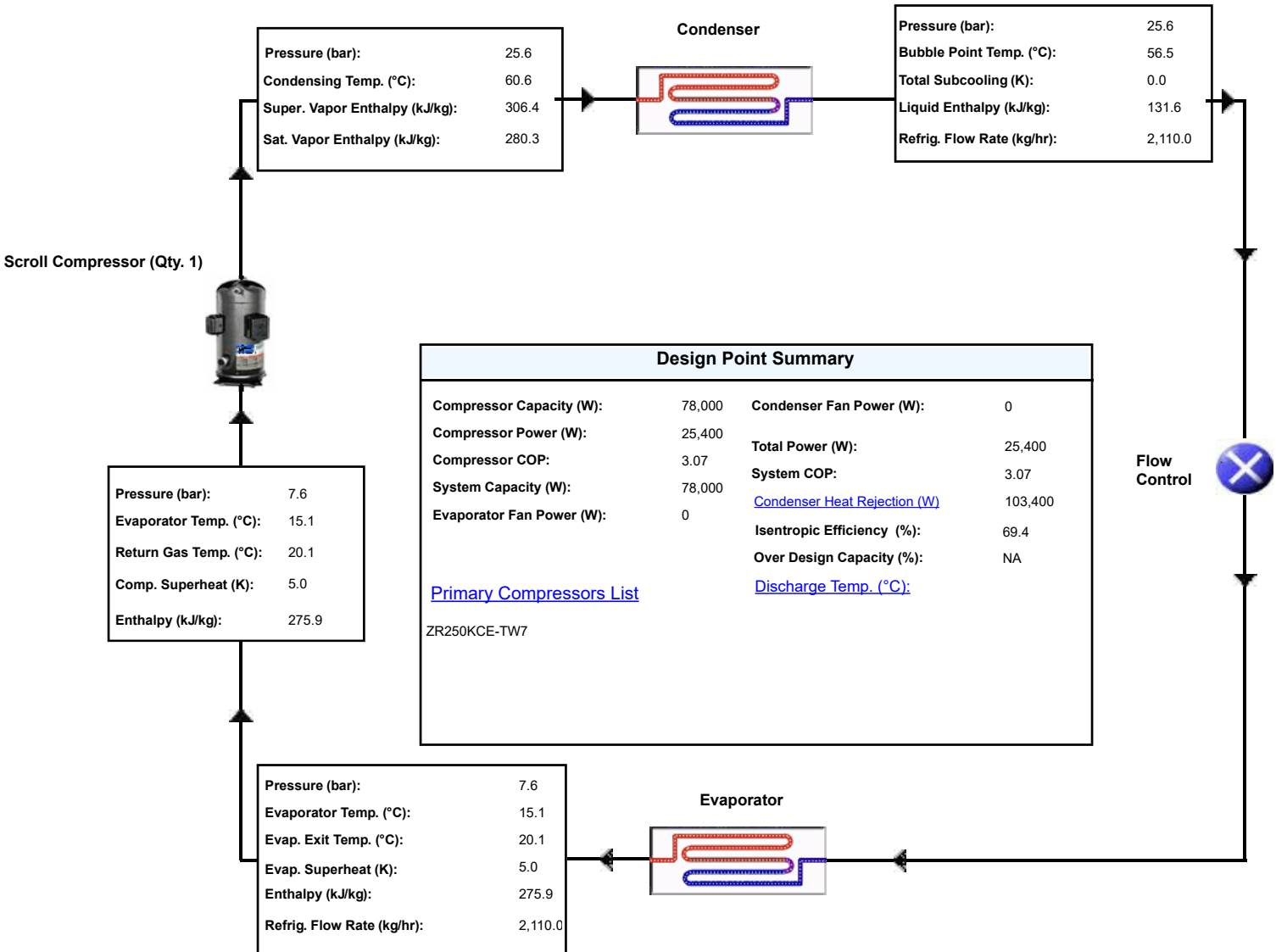
1.4 GENERAL ARRANGEMENT DRAWING

1.5 SELECTION DATA

1.6 ELEC. CONTROL DIAGRAM AND PANEL DRAWING

Emerson Climate Technologies
Compressor Capacity Selection Method
System Report
R-407C, 380V, 3 Ph, 60Hz

April 20, 2026



Notes:

- System Capacity is Evaporator Capacity less Evaporator Fan Motor Heat.
- System EER is System Capacity divided by Total Power including all Fans.

ZR250KCE-TW7-250

380 Volts, 60 Hz, 3 Phase
R-407C, Dew-Point, Air Conditioning

Emerson Climate Technologies

Summary



Electrical

Median Voltage	High Voltage	Phase	Frequency	RPM		
	380	3	60	3,500		
Maximum Continuous Current - MCC (Amps)	Maximum Operating Current (Amps)	Rated Load Amps - RLA		Locked Rotor Amps - LRA		
		MCC / 1.4: Use For Contactor Selection	MCC / 1.56: Use For Breaker & Wire Size Selection	Low	High	Half Winding
59	50	42.1	37.8		290.0	

Mechanical

Overall Dimensions			Mounting Dimensions			Suction Connection		Discharge Connection	
Length (mm)	Width (mm)	Height (mm)	Length (mm)	Width (mm)	Height (mm)	Size (in)	Type	Size (mm)	Type
426.72	375.92	726.44	266.70	266.70	736.60	1-5/8	Sweat	34.925	Sweat

Displacement

No. of Cylinders	Bore (mm)	Stroke (mm)	Displacement (cm ³ /Revolution)	Displacement (m ³ /hr)	Horse Power (HP)	Drawing	Weight (kg)
			325.10	68.27	20	497-1672-00	139.25
Oil Type	Initial Charge (liter)	Recharge (liter)	Agency Information				
			UL File No.	UL File Date	CSA File No.		
3MA	4.67	4.38	SA-2337	2000-11-28 오전 12:00:	LR 3104C		

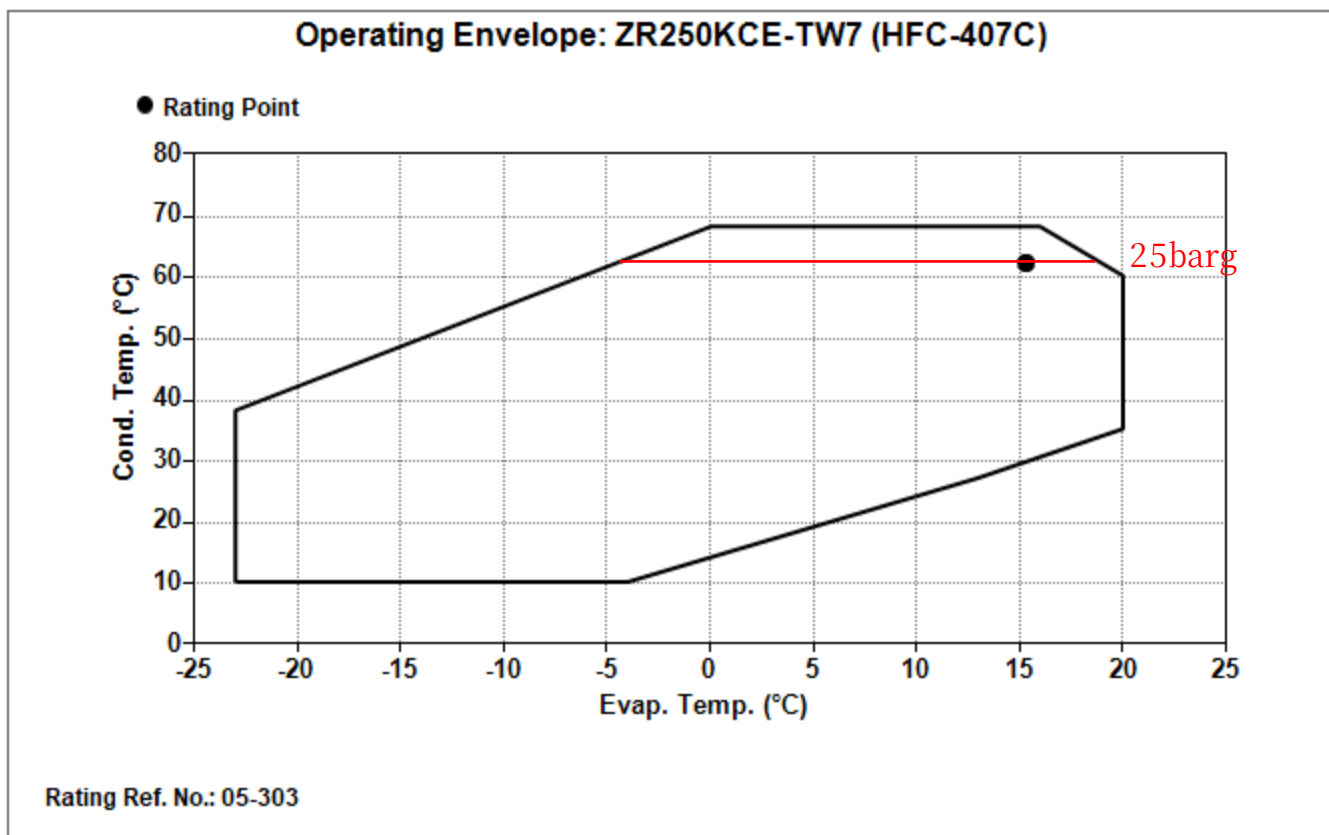
Sound and Vibration

Average Sound Power Level (dBA)	Maximum Sound Power Level (dBA)	Average Vibration Peak-Peak (mm)	Maximum Vibration Peak-Peak (mm)	Average Discharge Pulse Peak-Peak (bar)	Maximum Discharge Pulse Peak-Peak (bar)
88	93	0.089	0.127	1	1

Emerson Climate Technologies

Operating Envelope

April 14, 2026



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1.1 CALCULATION

1.1.1 HEAT LOAD AND COOLING CAPACITY

1.1.2 LEGAL REFRIGERANT TON

1.2 SPECIFICATION

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1.2.2 COMPONENT SPECIFICATION

1.3 P&ID (PIPING & INSTRUMENTS DIAGRAM)

1.4 GENERAL ARRANGEMENT DRAWING

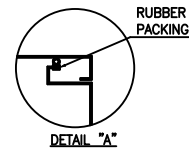
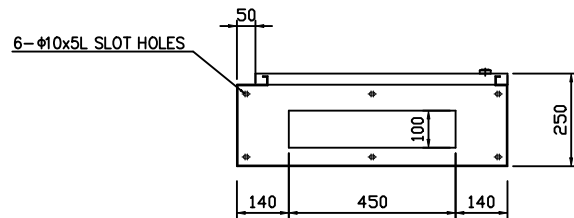
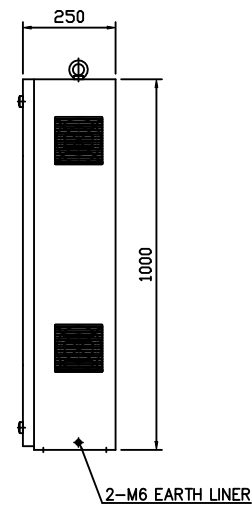
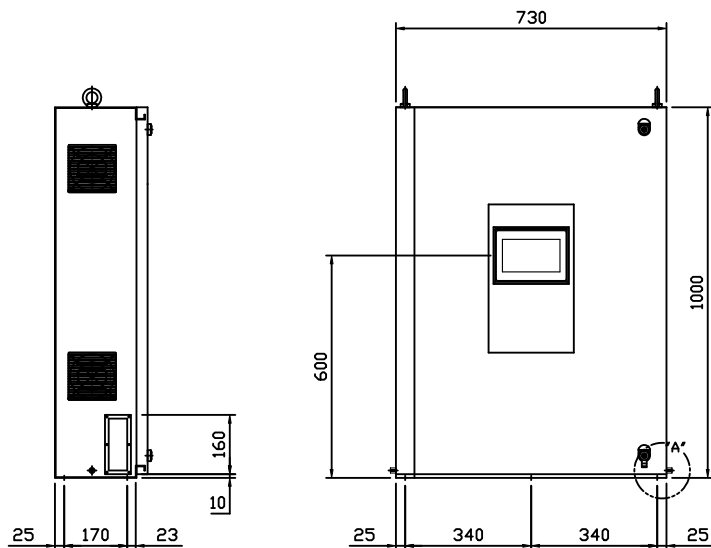
1.5 SELECTION DATA

1.6 ELEC. CONTROL DIAGRAM AND PANEL DRAWING

H₂ STATION

DRAWING NO.	PAGE	CONTENTS
H2 STATION-E	1	LIST OF DRAWINGS
H2 STATION-E	2	LAYOUT & PARTS LIST
H2 STATION-E	3	INNER VIEW & PARTS LIST
H2 STATION-E	4	OPERATION DIAGRAM
H2 STATION-E	5	LAYOUT FOR PLC
H2 STATION-P	1--2	POWER DIAGRAM
H2 STATION-T	1--2	TERMINAL DIAGRAM
H2 STATION-W	1--6	WIRING DIAGRAM

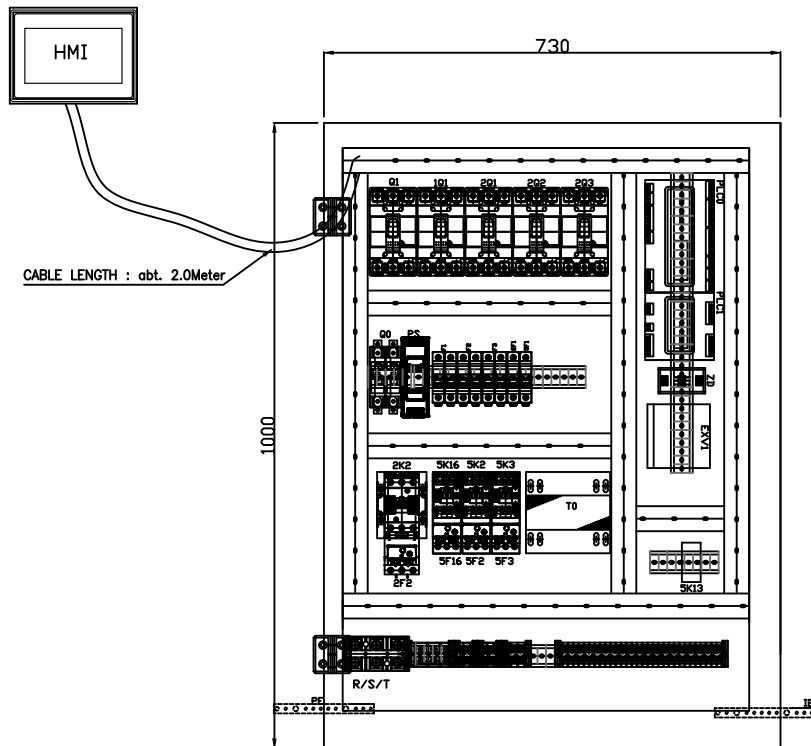
 HI AIR KOREA Co., Ltd.	PROJECT : H2 STATION	Scale: 1/1	A 4	
	TITLE: SUB CHILLER(85kW) ELEC. CONTROL PANEL	DRAWN BY: YML	DATE : 2025.06.17	
	TYPE: LIST OF DRAWINGS	CHECKED BY : JBH	APPROVED BY : JKK	
		DWG No.: STD-E1	Rev. 	→



NOTE :

1. MATERIAL : Steel
2. PAINTING COLOR : N9.0<WHITE>
3. PROTECTION : DRIP PROOF (IP 23)
4. Q'TY : 1 SET
5. WEIGHT : ABT. 100 kg

 HI AIR KOREA Co., Ltd.	PROJECT : H2 STATION	Scale: 1/1	A 4	
	TITLE: SUB CHILLER(85kW) ELEC. CONTROL PANEL	DRAWN BY: YML	DATE : 2025.06.17	
	TYPE: LAYOUT & PARTS LIST	CHECKED BY : JBH	APPROVED BY : JKK	
		DWG No.: STD-E2	Rev.	

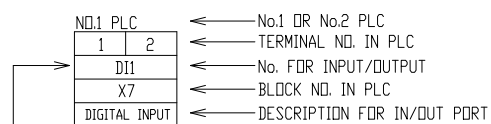


PART LIST

NO.	TAG NO.	NAME	DESCRIPTION	Q'TY	MAKER	REMARK
1	Q1	MOLDED CASE CIRCUIT BREAKER	ABN 103c/75A	1	LS	
2	Q0	MOLDED CASE CIRCUIT BREAKER	BF52C 2P 10A	1	LS	
3	1Q1	EARTH LEAKAGE CIRCUIT BREAKER	EBN 63C/60A	1	LS	
4	2K2	MAGNETIC CONTACTOR	MC-50a/220VAC	1	LS	
5	5K2,3	MAGNETIC CONTACTOR	MC-9b/220VAC	2	LS	
6	5K16	MAGNETIC CONTACTOR	MC-12b/220VAC	1	LS	
7	2F2	OVER CURRENT RELAY	MT-63/2H 42A	1	LS	
8	5F16	OVER CURRENT RELAY	MT-32/2H 7.5A	1	LS	
9	5F2,3	OVER CURRENT RELAY	MT-32/2H 2.1A	2	LS	
10	F1, F3	BREAKER	BK63H 2P C10A	2	SB FUSE	
11	F2	BREAKER	BK63H 2P C4A	1	SB FUSE	
12	2,5F1	BREAKER	BK63H 1P C2A	2	SB FUSE	
13	PLC0	PLC MAIN	PDL 648.10	1	SIEMENS	
14	PLC1	PLC EX. CARD	PDL 955.00	1	SIEMENS	
15	PS	POWER SUPPLY	PRO ECO 120W 24V 5A	1	WEIDMULLER	
16	ZD	DIODE PCB	DIODE (MODULE 1)	1	HAK	
17	TB	TERMINAL BLOCK	100A,3P	1	SUNGHO	
18	TB	TERMINAL BLOCK	60A,1P	3	SUNGHO	
19	TB	TERMINAL BLOCK	25A,1P	9	SUNGHO	
20	TB	TERMINAL BLOCK	15A,1P	30	SUNGHO	
21	T0	TRANSFORMER	500VA, 380/220/24V	1	SINSEUNG	
22	5K13	AUX. RELAY	220VAC	1	-	
23	2Q1	EARTH LEAKAGE CIRCUIT BREAKER	EBN 53C/15A	1	LS	
24	2Q2,2Q3	EARTH LEAKAGE CIRCUIT BREAKER	EBN 53C/15A	2	LS	
25	EXV	EXV CONTROLLER	VSD2012-RK	1	SANHUA	

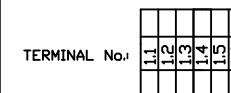
 HI AIR KOREA Co., Ltd.	PROJECT : H2 STATION	Scale: 1/1	A 4	
	TITLE: SUB CHILLER(85kW) ELEC. CONTROL PANEL	DRAWN BY: YML	DATE: 2025.06.17	
	TYPE: INNER VIEW & PARTS LIST	CHECKED BY: JBH	APPROVED BY: JKK	
		DWG No.: STD-E3	Rev. 	

PLC I/O DESCRIPTION



DI : DIGITAL INPUT
DO : DIGITAL OUT PUT
UI : UNIVESAL INPUT(DIGITAL/ANALOGUE)
AO : ANALOGUE OUTPUT

NUMBERING OF TERMINALS



NUMBERING OF COMPONENTS

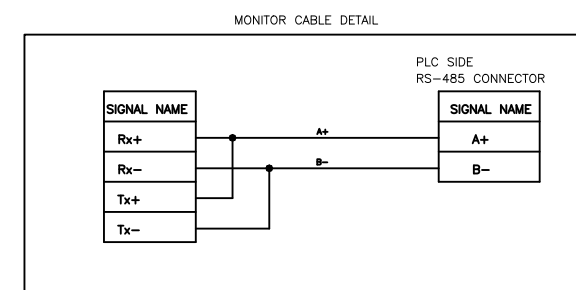
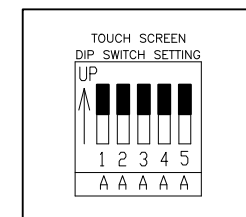
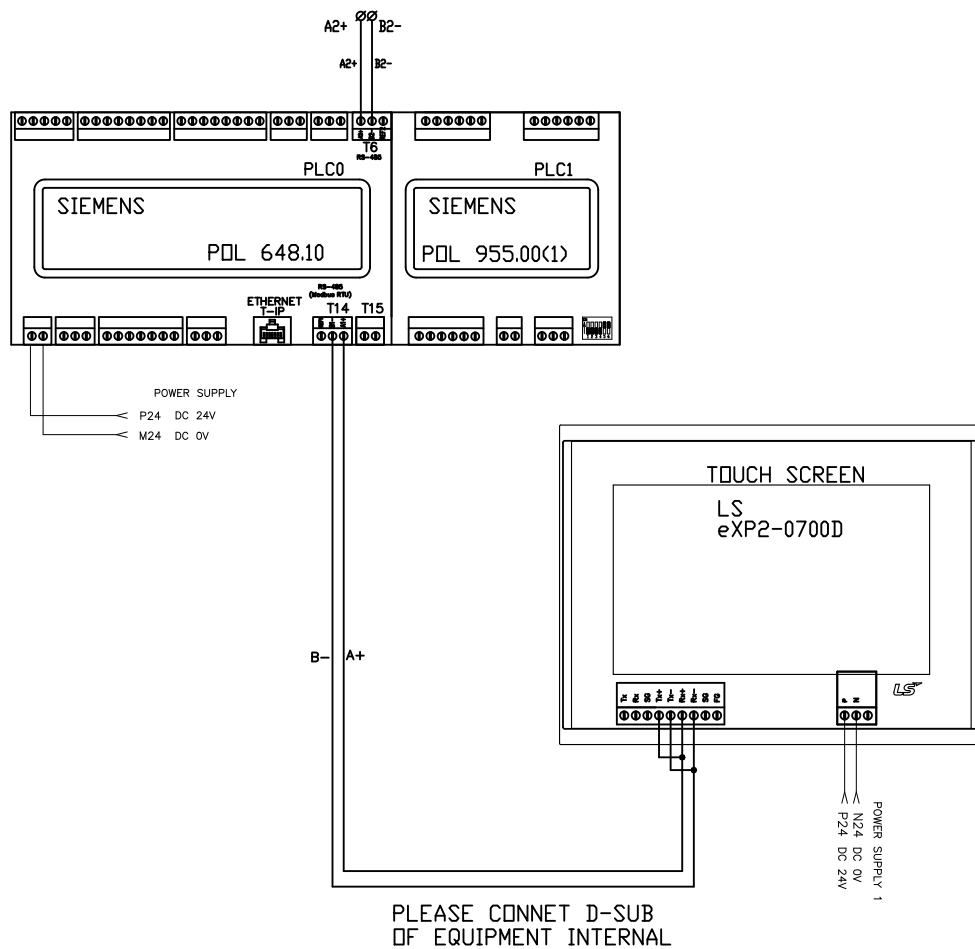
EXAMPLE: 2K1

2 = WIRING DIAGRAM No.

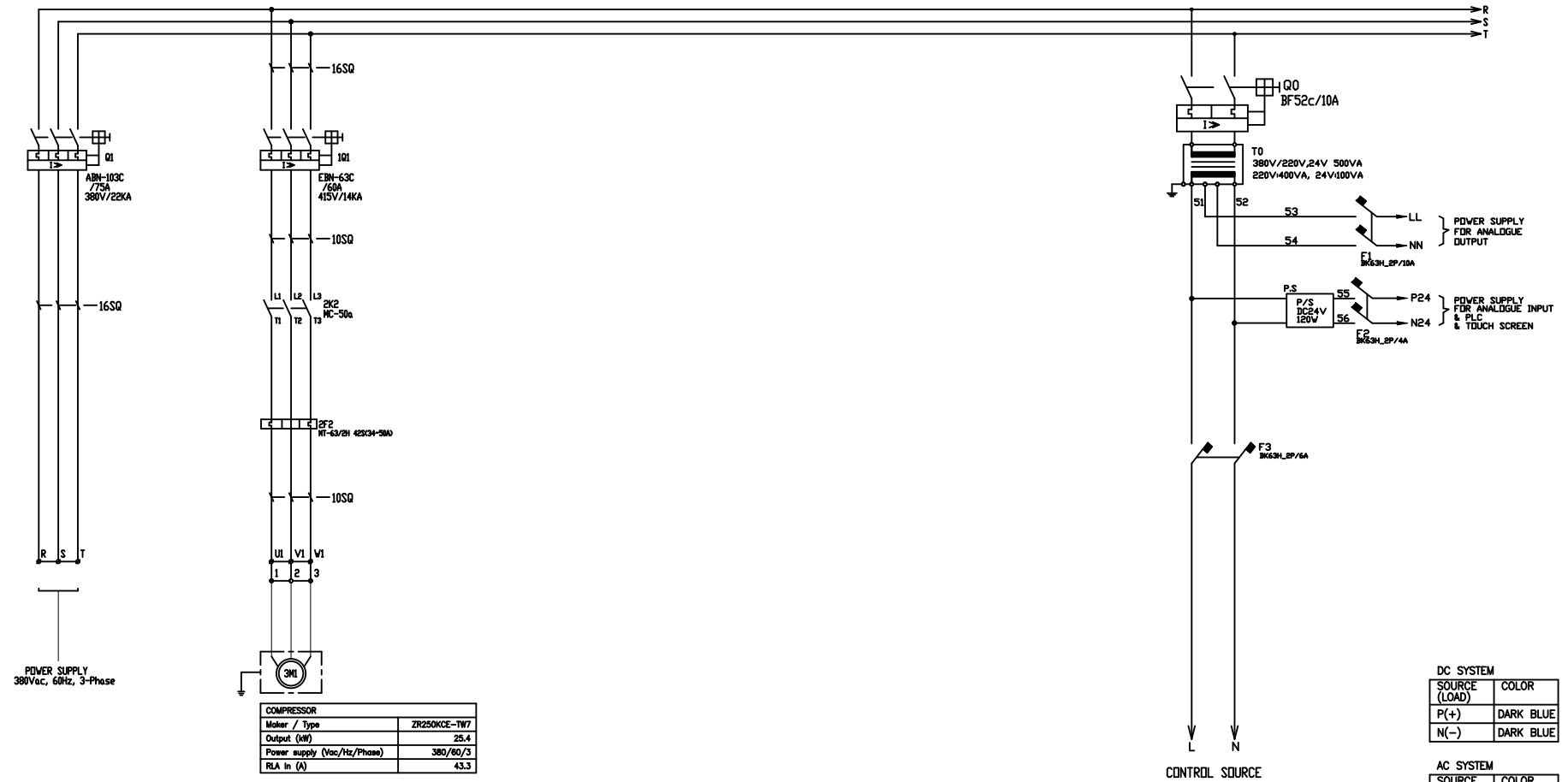
K = COMPONENT TYPE

1 = COLUMN No.

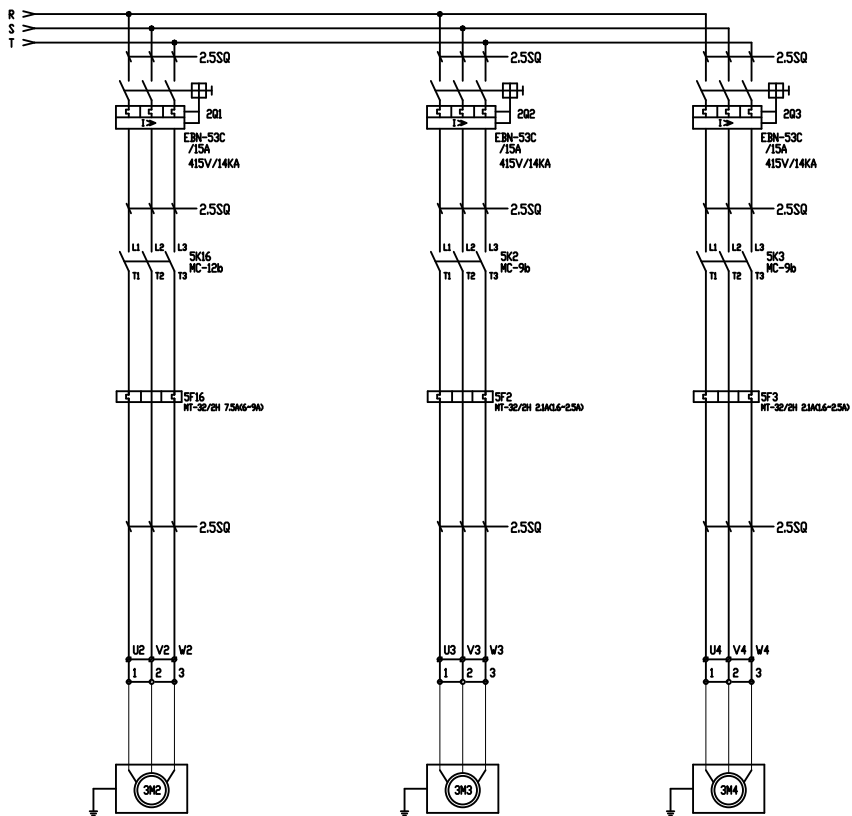
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	TITLE: SUB CHILLER(85kW) ELEC. CONTROL PANEL	DRAWN BY: YML	DATE : 2025.06.17	
	TYPE: OPERATION DIAGRAM	CHECKED BY : JBH	APPROVED BY : JKK	
		DWG No.: STD-E4	Rev.	→



	PROJECT : H2 STATION	Scale: 1/1	A 4	
	TITLE: SUB CHILLER(85kW) ELEC. CONTROL PANEL	DRAWN BY: YML	DATE : 2025.06.17	
	TYPE: LAYOUT FOR PLC	CHECKED BY : JBH	APPROVED BY : JKK	
		DWG No.: STD-E5	Rev.	→



 HI AIR KOREA Co., Ltd.	PROJECT : H2 STATION	Scale: 1/1	A 4	
	TITLE: SUB CHILLER(85kW) ELEC. CONTROL PANEL	DRAWN BY: YML	DATE: 2025.06.17	
	TYPE: POWER DIAGRAM	CHECKED BY: JJBH	APPROVED BY: JKK	
		DWG No.: STD-P1	Rev.	→



COOLING WATER PUMP	
Motor / Type	LP40-150/3.7
Output (kW)	3.7
Power supply (Voc/Hz/Phase)	380/60/3
In (A)	7.5

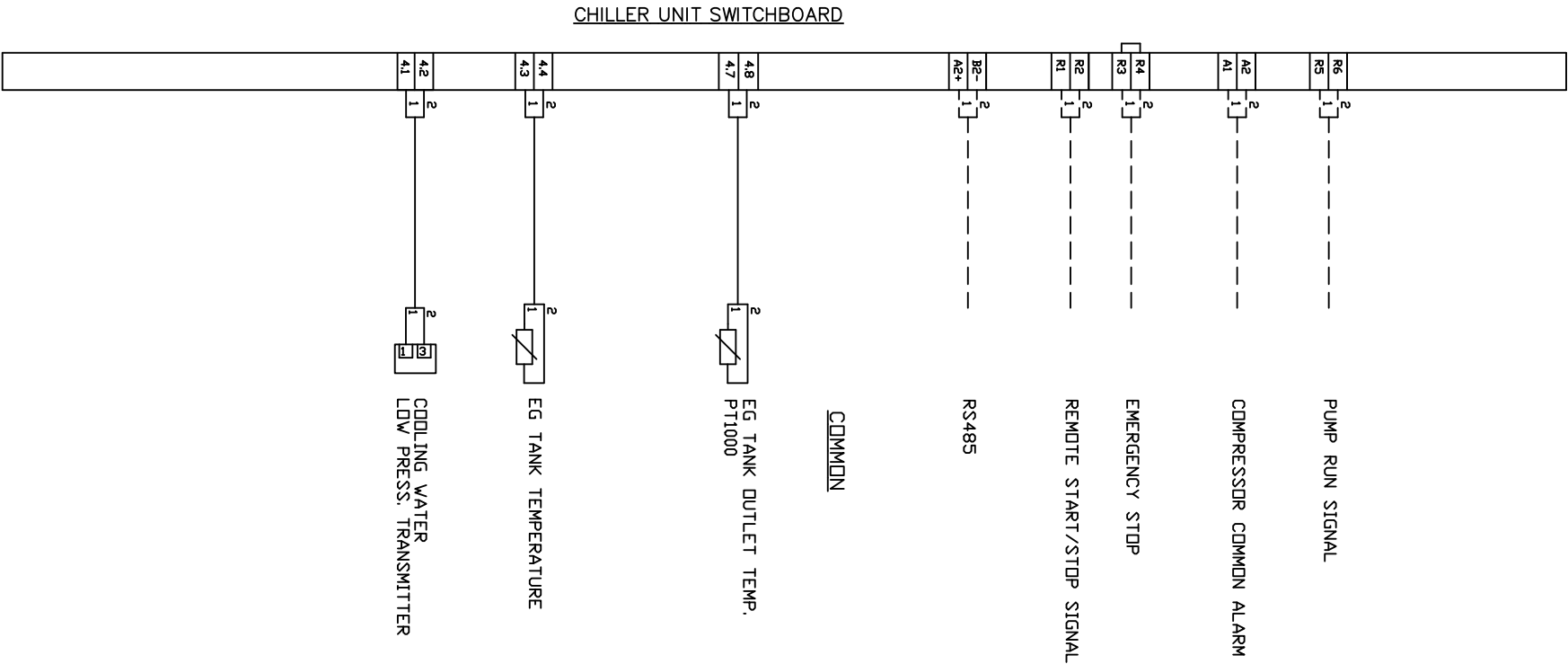
No.1 CONDENSER FAN	
Motor / Type	TXMD-630S-SFMAT9S
Output (kW)	0.850
Power supply (Voc/Hz/Phase)	380/60/3
In (A)	1.80

No.2 CONDENSER FAN	
Motor / Type	TXMD-630S-SFMAT9S
Output (kW)	0.850
Power supply (Voc/Hz/Phase)	380/60/3
In (A)	1.80

DC SYSTEM	
SOURCE (LOAD)	COLOR
P(+)	DARK BLUE
N(-)	DARK BLUE

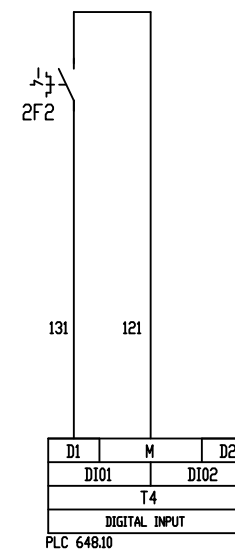
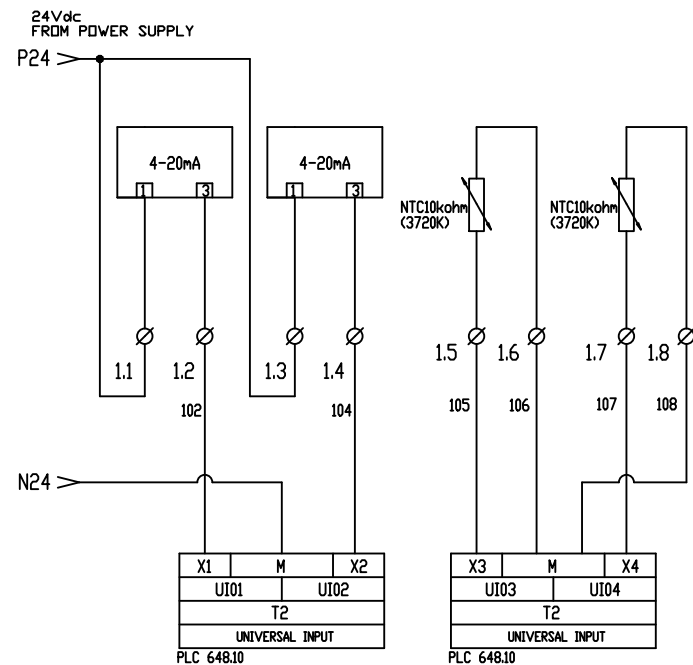
AC SYSTEM	
SOURCE (LOAD)	COLOR
R(U)	BRWON
S(V)	BLACK
T(W)	GRAY

 HI AIR KOREA Co., Ltd.	PROJECT : H2 STATION	Scale: 1/1	A 4	
	TITLE: SUB CHILLER(85kW) ELEC. CONTROL PANEL	DRAWN BY: YML	DATE: 2025.06.17	
	TYPE: POWER DIAGRAM	CHECKED BY: JBH	APPROVED BY: JKK	
		DWG No.: STD-P2	Rev.	



 HI AIR KOREA Co., Ltd.	PROJECT : H2 STATION	Scale: 1/1	A 4	
	TITLE: SUB CHILLER(85kW) ELEC. CONTROL PANEL	DRAWN BY: YML	DATE : 2025.06.17	
	TYPE: TERMINAL DIAGRAM	CHECKED BY : JBH	APPROVED BY : JKK	
		DWG No.: STD-T2	Rev.	

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21



COMPRESSOR
SUC. PRESSURE(LPT)

COMPRESSOR
DISCH. PRESSURE(HPT)

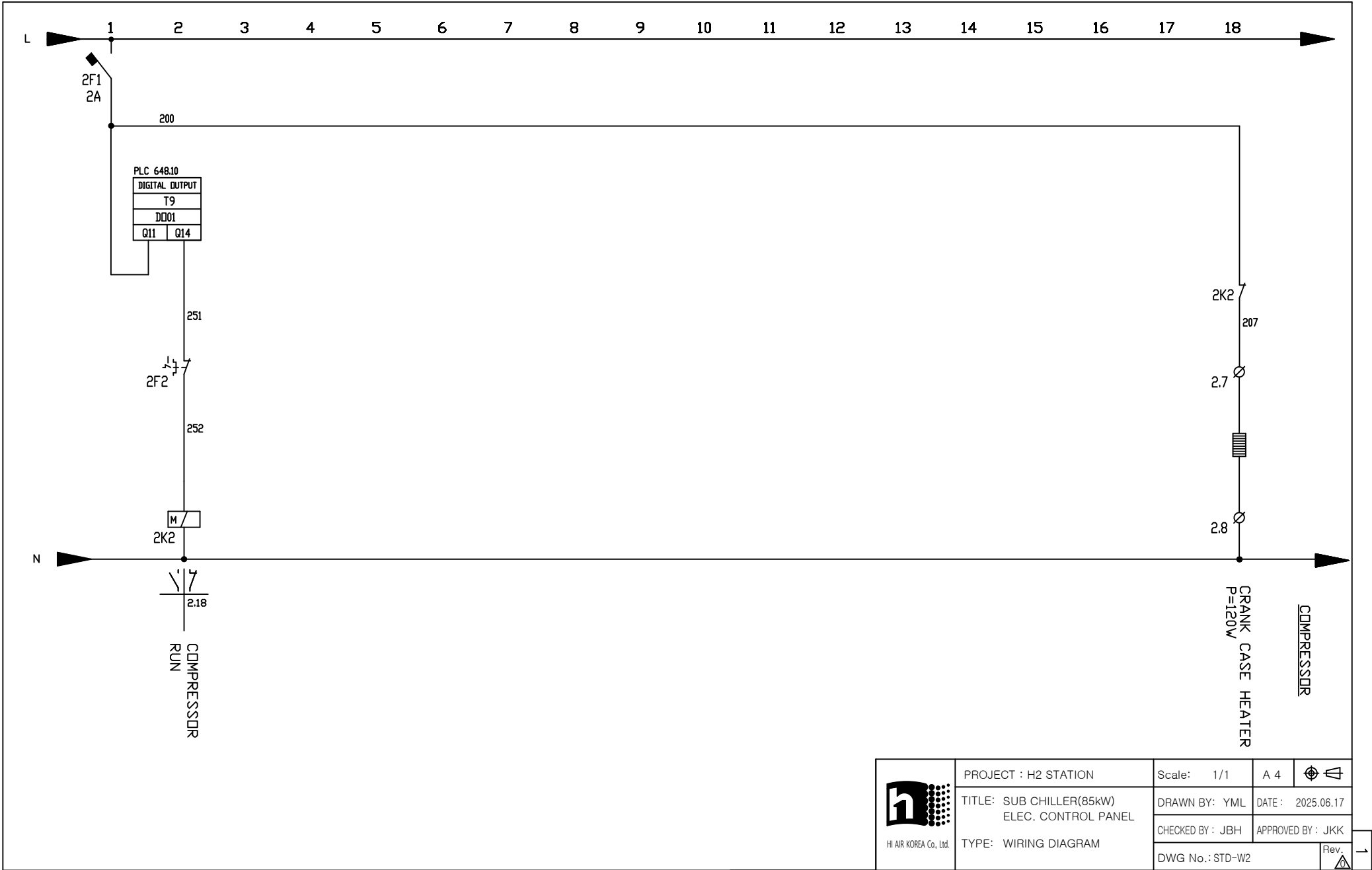
COMPRESSOR
SUCTION TEMP.(LT)

COMPRESSOR
DISCH. TEMP.(HT)

COMPRESSOR
THERMAL
OVERLOAD ALARM

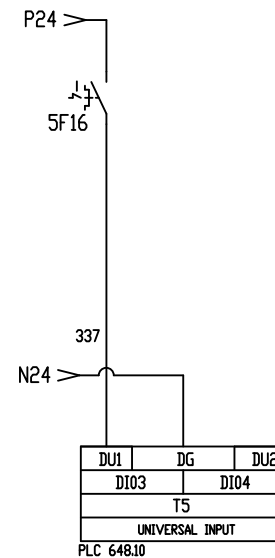
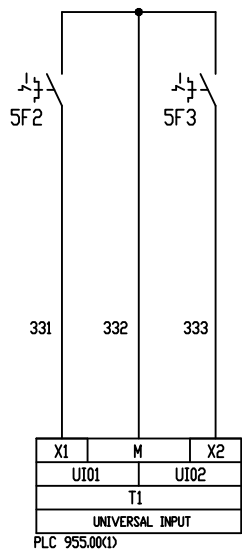
COMPRESSOR

 HI AIR KOREA Co., Ltd.	PROJECT : H2 STATION	Scale: 1/1	A 4	
	TITLE: SUB CHILLER(85kW) ELEC. CONTROL PANEL	DRAWN BY: YML	DATE : 2025.06.17	
	TYPE: WIRING DIAGRAM	CHECKED BY : JKBH	APPROVED BY : JKK	
		DWG No.: STD-W1	Rev.	1



 HI AIR KOREA Co., Ltd.	PROJECT : H2 STATION	Scale: 1/1	A 4	
	TITLE: SUB CHILLER(85kW) ELEC. CONTROL PANEL	DRAWN BY: YML	DATE : 2025.06.17	
	TYPE: WIRING DIAGRAM	CHECKED BY : JBH	APPROVED BY : JKK	
		DWG No.: STD-W2	Rev.	1

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21



ACCU 1 FAN
OVER CURRENT RELAY

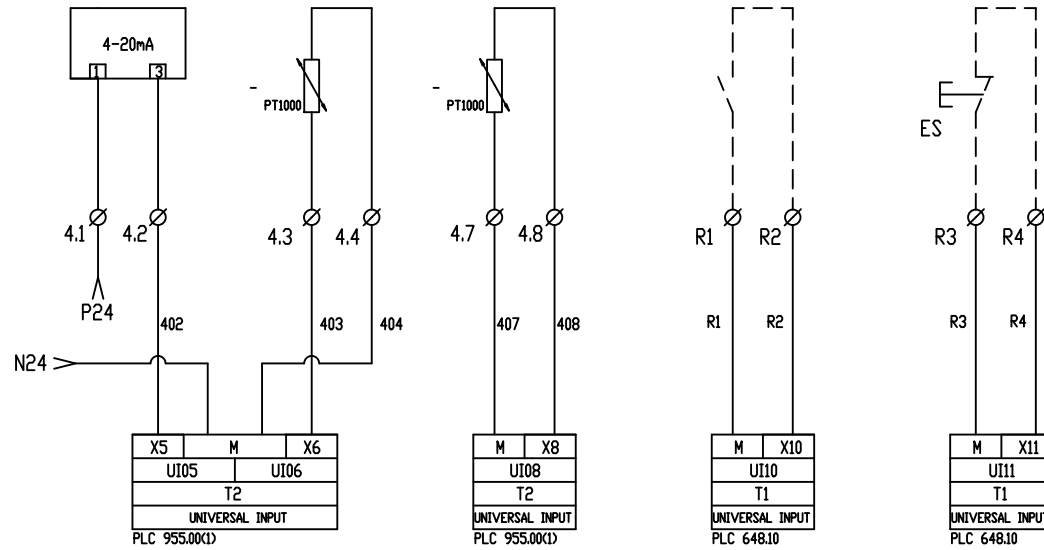
ACCU 2 FAN
OVER CURRENT RELAY

COOLING WATER PUMP
OVER CURRENT RELAY

COMMON

 HI AIR KOREA Co., Ltd.	PROJECT : H2 STATION	Scale: 1/1	A 4	
	TITLE: SUB CHILLER(85kW) ELEC. CONTROL PANEL	DRAWN BY: YML	DATE : 2025.06.17	
	TYPE: WIRING DIAGRAM	CHECKED BY : JJBH	APPROVED BY : JKK	
	DWG No.: STD-W3		Rev. 	

L 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18



N

COOLING WATER
LOW PRESS.
TRANSMITTER(PT)

EG TANK TEMPERATURE

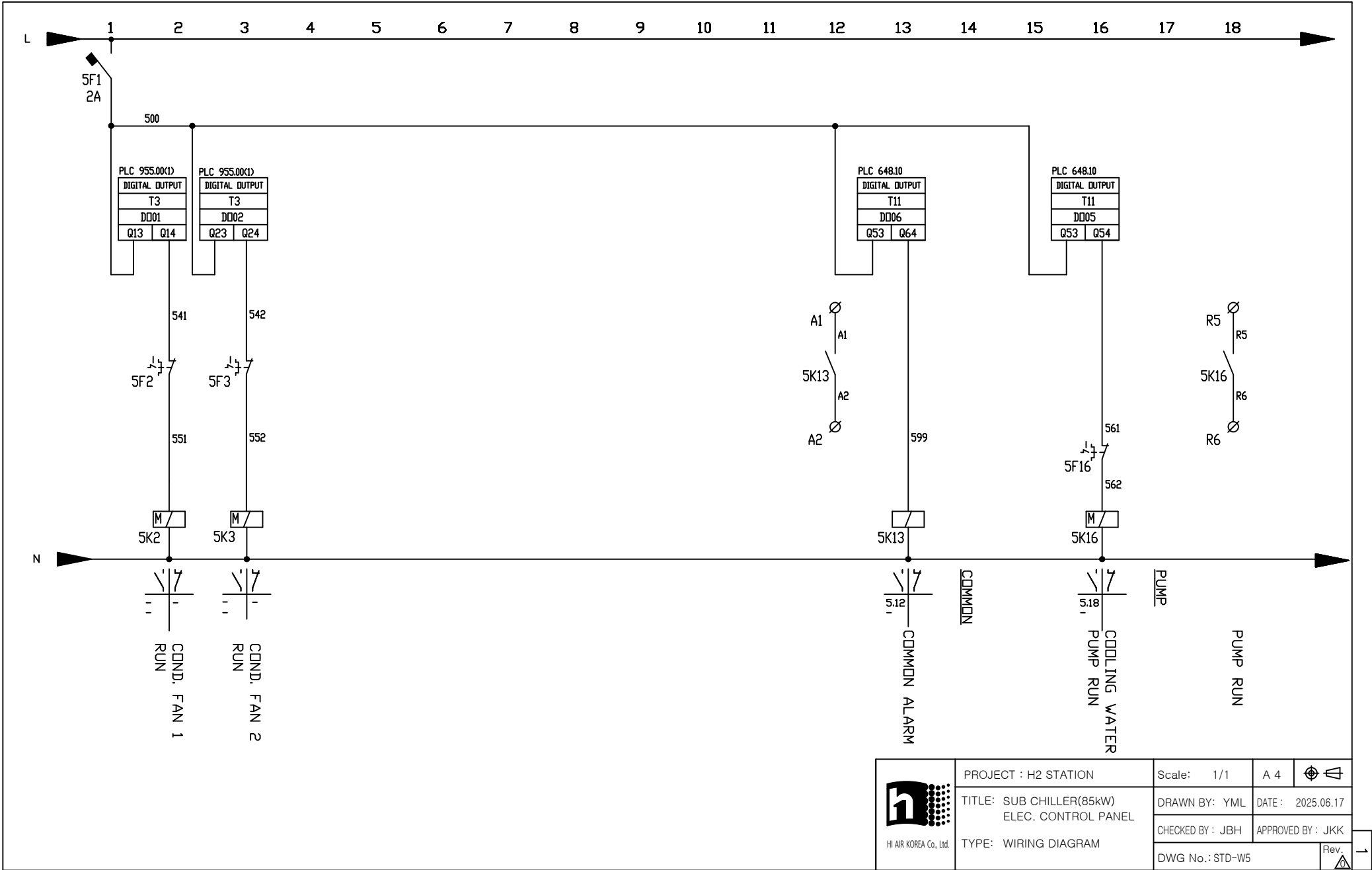
EG TANK WATER
OUTLET TEMP.

REMOTE
START/STOP SIGNAL

EMERGENCY STOP

COMMON

 HI AIR KOREA Co., Ltd.	PROJECT : H2 STATION	Scale: 1/1	A 4	
	TITLE: SUB CHILLER(85kW) ELEC. CONTROL PANEL	DRAWN BY: YML	DATE : 2025.06.17	
	TYPE: WIRING DIAGRAM	CHECKED BY : JBH	APPROVED BY : JKK	
		DWG No.: STD-W4	Rev.	1

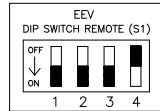
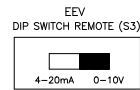


L 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

PLC 955.00(1)

ANALOG OUTPUT		
T5		
AO01	AO02	
Y1	Y2	M

713



VALVE

EXV 1

EXV CONTROLLER

POWER SUPPLY
24V+ 24V-

S+

S-

LL

NN

COMPRESSOR
COOLER
ELEC. EXP. VALVE
VSD2012-RK



HI AIR KOREA Co., Ltd.

PROJECT : H2 STATION

TITLE: SUB CHILLER(85kW)
ELEC. CONTROL PANEL

TYPE: WIRING DIAGRAM

Scale: 1/1

A 4



DRAWN BY: YML

DATE : 2025.06.17

CHECKED BY : JBH

APPROVED BY : JKK

DWG No.: STD-W6

Rev.

