DAIKIN

Engineering Data

ED-UAA/UAY-ST3-V03

Pathfinder

Air-Cooled Single-Screw Chiller/Heat Pump

Super-high-efficiency series

Model: UAY105-UAY348
Cooling capacity: 393 kW–1334 kW
Heating capacity: 400 kW–1312 kW

High-efficiency series

Model: UAY105-UAY450
Cooling capacity: 352 kW–1588 kW
Heating capacity: 352 kW–1586 kW
Model: UAA105-UAA450
Cooling capacity: 370kW-1604kW

ECOLOGICAL HFC 134a REFRIGERANT

DAIKIN INDUSTRIES, LTD.

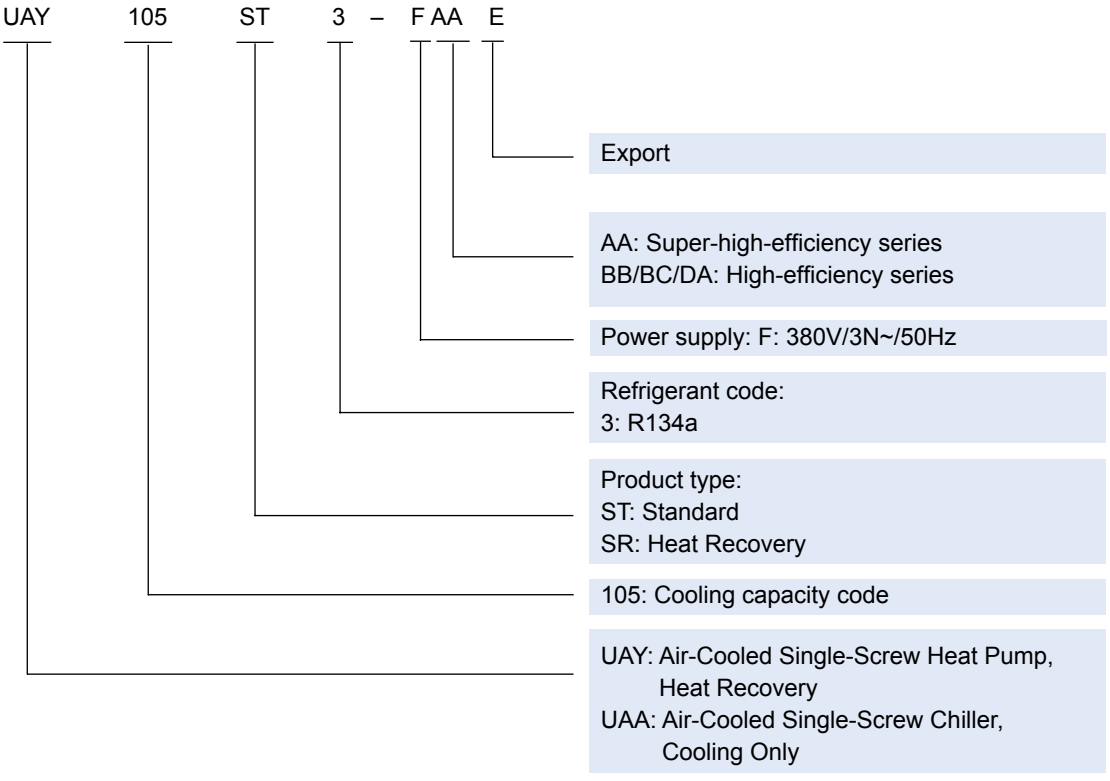
Literature No.: ED-UAA/UAY-ST3-V03
Supersedes: ED-UAA/UAY-ST3-V02

Contents

1. Model Series

Heat Pump - Super High Efficiency	Cooling Only - High Efficiency	Heat Pump - High Efficiency	Heat Recovery - High Efficiency
UAY 105 ST3-FAAE	UAA 105 ST3-FBBE	UAY 105 ST3-FBBE	UAY 105 SR3-FBAE
UAY 125 ST3-FAAE	UAA 125 ST3-FBBE	UAY 125 ST3-FBBE	UAY 125 SR3-FBAE
UAY 150 ST3-FAAE	UAA 140 ST3-FBBE	UAY 140 ST3-FBBE	UAY 150 SR3-FBAE
UAY 175 ST3-FAAE	UAA 150 ST3-FBBE	UAY 150 ST3-FBBE	UAY 175 SR3-FBAE
UAY 204 ST3-FAAE	UAA 175 ST3-FBBE	UAY 175 ST3-FBBE	UAY 204 SR3-FBAE
UAY 245 ST3-FAAE	UAA 204 ST3-FBBE	UAY 204 ST3-FBBE	UAY 220 SR3-FBAE
UAY 291 ST3-FAAE	UAA 220 ST3-FBBE	UAY 220 ST3-FBBE	
UAY 348 ST3-FAAE	UAA 245 ST3-FBBE	UAY 245 ST3-FBBE	
	UAA 266 ST3-FBBE	UAY 266 ST3-FBBE	
	UAA 291 ST3-FBBE	UAY 291 ST3-FBBE	
	UAA 300 ST3-FBBE	UAY 300 ST3-FBBE	
	UAA 348 ST3-FBBE	UAY 348 ST3-FBBE	
	UAA 355 ST3-FBBE	UAY 355 ST3-FBBE	
	UAA 380 ST3-FBBE	UAY 380 ST3-FBBE	
	UAA 380 ST3-FBCE	UAY 390 ST3-FBBE	
	UAA 390 ST3-FBBE	UAY 400 ST3-FBBE	
	UAA 400 ST3-FBBE	UAY 415 ST3-FBBE	
	UAA 400 ST3-FBCE	UAY 424 ST3-FBBE	
	UAA 415 ST3-FBBE	UAY 450 ST3-FBBE	
	UAA 424 ST3-FBBE		
	UAA 450 ST3-FBBE		
	UAA 450 ST3-FBCE		
	UAA 150 ST3-FDAE		
	UAA 175 ST3-FDAE		
	UAA 204 ST3-FDAE		
	UAA 220 ST3-FDAE		

2. Nomenclature



3. Features

● Overview

Air-cooled water chiller/heat pump units are the central air conditioning units with air as the cold (hot) source, and water as the heat transfer medium. The units need no additional equipment room, cooling tower, cooling pump, or cooling pipe and can be mounted on the building roof and outdoors. The heat pump units can provide heat as a hot water boiler. This series of units are applicable to various environments, such as hospitals, hotels, factories, and office buildings.

As the designer and manufacturer of large air-cooled heat pump units, DAIKIN has been committed to technical improvement and innovation and leads the development of the air-cooled heat pump technology. For the consideration of environment protection and energy saving, DAIKIN applies the advanced technology to the latest ultra-efficient air-cooled heat pump units. By using the R134a refrigerant, this series of units have a full-load COP of over 3.2. This value is higher than the energy saving product certification standard, which makes them one of the most efficient, energy-saving, and quiet air conditioning units. Moreover, DAIKIN has built a large 1600 kW full performance lab to ensure the quality and performance of the units.

9601019

ISO9001:2008

Quality Management System Certification

EMS 80362

ISO14001:2004

Environment Management System Certification

7644

BS-OHSAS18001: 2007

Occupational Health and Safety Assessment Series Certification

Test
CNAS L0778

Certification of China National Accreditation Service for Conformity Assessment (CNAS)

XK06-015-00378

Obtained China National Industrial Product Manufacture License

• Products Features

Advanced design and excellent performance

- DAIKIN adopts R134a efficient single-screw compressor to greatly improve the efficiency.
- New design of four-way (see figure 1) valve lowers the pressure drop. Over-compress technology significantly improves the four-way valve reliability. This design avoids short circuit. In this way, units' efficiency and stability is much better.
- The new economizer (see figure 2) design increases the unit sub-cooling, greatly promotes the unit's cooling capacity and COP. Unit full load COP is up to 3.2, and higher COP under part load.
- New high efficiency counter-flow shell & tube dry-expansion single pass evaporator (one or two internal independent refrigerant circuits)
  Super-high evaporate temperature, higher heat exchanging efficiency.

Figure 1

Figure 2

Stepless adjustment, high efficiency, and energy saving

- The advanced efficient single-screw compressor is adopted. The compressor can perform stepless adjustment within the range of 10% to 100% workload at maximum. Compared with the traditional compressors, this compressor has wider adjustment range and higher efficiency.
- The temperature of outlet water is stable. The output ability meets the workload demand of the construction system. The units can regulate the output based on the actual workload and maintains high efficiency when running at partial workload. In addition, the accurate adjustment of the energy and water temperature brings more comfortable experience to customers. (See figure 3)

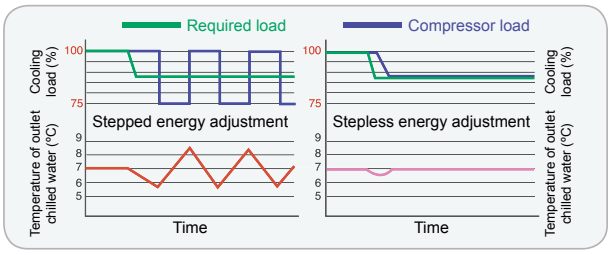


Figure 3

R-134a Refrigerant

- No Chlorine
  ODP=0
  Good Efficiency
  (See figure 4)

Figure 4

Low operation sound and vibration

- New high efficiency (full and part load) DAIKIN Single Screw compressor. (technology by DAIKIN)
  Through meshing between metal and nonmetal, it eliminates the high frequency noise. And with fewer moving parts and rotor load balance, it decreases vibrations. With a shock absorber, noise and vibrations are lowered further.
- Integrated design and compact structure are adopted for the units. The base can balance the entire unit weight. The spring-damper on the units helps to eliminate the operation sound and vibration.
- New high efficiency condenser fans (technology by DAIKIN) Condenser using high efficiency, low noise resin spiral fan motor, direct drive, 3dB(A) noise lower compared with spiral blades. (See figure 5)

Figure 5

Easy installation and simple maintenance

- Flexible installation without additional equipment room, cooling tower, or cooling pump.
- The electric system of the units is integrated with the main unit, so an additional electric control cabinet is not required.
- An intelligent control system monitors and controls the operating status of the units and indicates the fault cause for the convenience of maintenance.

Accurate control and reliable operation

- An advanced electrical expansion valve enables the units to control the refrigerant flow accurately, adapt to various working conditions, and perform multiple control functions.

- The temperature of outlet chilled water is controlled to ± 0.5°C. In addition, various sensors in the system can transmit various kinds of signal data to the controller to implement timely protection for the unit components and ensure more reliable operation.
- The mechanism of three-level password protection ensures safe operation of the units and prevents misoperations of non-professional personnel.
- Compressors start up one by one with a low startup current, to reduce the impact on the power grid.
- Multiple protection functions ensure safe operation of the units.

• Intelligent Network Controller

The units adopt the new-generation DAIKIN controller Micro Tech III. (See figure 6) This controller integrates the heat pump applications and technologies of DAIKIN of more than 40 years and is equipped with programmable software. This enables compressors and fans to reach the highest COP.

Main components

Built-in controller

- Control type: PLC programmable
- Operation language: Chinese/English
- Screen display: LCD display
- Operating environment: Temperature: -20°C~60°C
  Relative humidity: < 90%.

Figure 6

Figure 7

External remote monitoring (Option)

Main Functions

- Automatic load/unload based on changes of the actual air conditioning load
- Operating status display of the units
- Common fault alarm display
- Water temperature control to an accuracy to 0.5°C
- Output load PID control
- Balancing the operating duration of each compressor
- Compressor load control
- Three-level password protection
- Stepless load adjustment
- Failure history query

Network control

Multiple communication ports such as the Modbus, LonWorks, and BACnet can be added to the controller for integrated control or automatic building control to implement joint control of multiple units (optional).

Operating status query

- Dual control
- Unit status
- Temperature of inlet/outlet water
- Compressor status
- Suction and discharge pressure
- Temperature and superheat of suction and discharge
- Openning of electrical expansion valve
- Oil pressure
- Ambient temperature

Protection functions

- High pressure protection
- Low pressure protection
- Fan overload protection
- High discharge temperature protection
- Compressor overload protection
- Low compression ratio protection
- High oil pressure difference protection
- Sensor failure protection
- Compressor startup failure protection
- Phase protection
- Evaporator anti-freezing protection
- Water flow protection

• DAIKIN high-efficiency single-screw compressor (intended for R134a refrigerant)

Figure 8

Features

DAIKIN leads the single-screw compressor (See figure 8) technology. The Semi-hermetic compressor features high efficiency, energy saving, quiet operation, few moving components, and long service life.

■ Few moving components

DAIKIN single-screw compressor consists of only five moving components: a screw rotor, two star wheels, and two energy adjustment slide valves. The screw rotor is a six-tooth aluminum coated steel component. The star wheel is an eleven-tooth component made of high-strength composite material.

■ Long duration and high reliability

The star wheels made of high-strength composite material can ensure the accuracy and the minimum gap and guarantee operation without wear and tear. The oil injection and liquid injection design of the compressor minimizes air superheat and eliminates the possibility of oil and refrigerant decomposition due to superheat.

■ Simple maintenance

The removable side cover of the star wheel box simplifies the routine inspection without the need of removing and installing pipelines. Such a design facilitates the check of the internal components of the compressor.

■ Low operation sound and vibration

DAIKIN single-screw compressor can balance the load completely during its operation. Therefore, the vibration can be ignored because the noise value is lower than the industrial standard. The compressor does not contact with any metal during compression so that no high frequency noise is generated. The special-shaped air discharge cavity helps eliminate noises effectively.

■ Unique star wheel and rotor design

The star wheel of DAIKIN single-screw compressor is made of special materials that can avoid metal engagement between the star wheel and rotor. The small engagement gap and low engagement resistance implement “zero gap" engagement. The unique oil supply system that uses the oil pressure difference function enables more efficient sealing, lubrication, and cooling of the compressor. In this way, the engagement resistance is further reduced and the efficiency of entire units is improved.

■ High-efficiency oil separator

The application of high-efficiency oil separator increases the oil separation rate to 99.7%. The “oil leakage" problem during the compression is resolved, and the reliability and efficiency of the compressor is improved.

4. Accessories

• Standard accessories (supplied on basic unit)

Star Delta Compressors starter – For low inrush current and reduced starting torque.
Compressor thermal overload relays – Safety devices against compressor motor overloading in addition to the normal protection related to the electrical windings.
Fan thermal overload relays – Safety devices against fan motor overloading in addition to the normal protection related to the electrical windings.
Phase protector – The phase monitor with under/over voltage protection controls the phases sequence is correct and controls phase loss and ensure power supply voltage is corrrect.
Evaporator electric heater – Electric heater controlled by a thermostat to protect the evaporator from freezing.
Victaulic evaporator water connection – Hydraulic joint with gasket for an easy and quick water connection.
General fault protection – Contactor for alarm warning.
Flow switch – Supplied separately to be wired and installed on the evaporator water piping (by the customer).
Spring type vibration mounts – Supplied separately, these have to be positioned under the base of the unit during installation. Ideal for dampening vibrations on roofs installation and metallic structures.

• Optional accessories (on request)

Glycol version – Set-point can go down to -8°C.
Speed control – Continuous fan speed modulation on the first fan of each circuit. It allows the unit working with air temperature down to -15 °C.
Condenser coil guards – Metal protection guards fixed on all the external surface of the condenser coils.
Cu-Cu condenser coils – To give better protection against corrosion by aggressive environments.
Blue fin / Gold Fin – Fins are protected by a special acrylic paint with a high resistance to corrosion.
High pressure guages
Low pressure guages
Compressor box
Asme certification evaporator
Restart after power off
Soft starter – Electronic starting device to reduce inrush current and to start compressors gradually, with very low mechanical stress.
BMS (Building Management System) protocol – Modbus, LonWorks, BACnet
50/100Pa high static pressure fan
Low water resistance

Note: These options should be factory mounted. Field modifications are not available.

• Safety devices and measures

High pressure (pressure switch)
Low pressure (pressure sensor)
Compressor thermal
Condensation fan thermal
High compressor discharge temperature sensor
Phase monitor
Star/Delta transition failed
Low-pressure ratio
High oil pressure drop
Low oil pressure
Freeze protection
Load stepless adjust
Trouble record

5. Specitications

● Heat Pump - Super high efficiency series

DAIKIN Single-Screw Chiller Heat Pump

Super-high-efficiency series

Model Unit UAY-FAAE		ST3	105	125	150	175	204	245	291	348
Nominal Cooling Capacity		kW	393	459	573	667	786	918	1146	1334
		USRT	111	130	162	189	223	261	325	379
		x10^{4}kcal/h	34	39	49	57	68	79	99	115
Compressor Power Input (Cooling)		kW	95.9	119.0	145.0	172.3	191.8	238.0	290.0	344.6
Nominal Heating Capacity		kW	400	459	571	656	800	918	1142	1312
		x10^{4}kcal/h	34	39	49	56	69	79	98	113
Compressor Power Input (Heating)		kW	100.4	114.6	141.6	171.2	200.8	229.2	283.2	342.4
Power Supply			380-400V/3N~/50Hz							
Capacity Steps*			10%-100%				5%-100%			
Refrigerant	Type		R134a							
	Curcuit No.		1				2			
	Flow Control		EXV							
Compressor	Type		Semi-hermetic Single-screw							
	Quantity		1				2			
	Startup		Star Delta							
	Cooling		Liquid Injection Cooling							
Refrigerant Oil	Type		MLG03							
	Charge	L	22	22	28	28	22+22	22+22	28+28	28+28
Air-side Heat Exchanger	Type		Crossed Fin and Tube							
	FPI		14							
	Face Area	m^2	23.2	23.2	27.9	32.6	46.4	46.4	55.8	65.2
Fan	Type		Efficient Spiral Axial Fan							
	Quantity	n	10	10	12	14	20	20	24	28
	Air Flow	x10^{4}m^3/h	18.0	18.0	21.6	25.2	36.0	36.0	43.2	50.4
	Motor Rotate Speed	rpm	940							
	Motor Power Input	kW	20.0	20.0	24.0	28.0	40.0	40.0	48.0	56.0
Water-side Heat Exchanger	Type		Shell and Tube Heat Exchanger							
	Water Flow Rate (Cooling)	m^3/h	68	79	99	115	135	158	197	229
	Water Flow Rate (Heating)	m^3/h	69	79	98	113	138	158	196	226
	Water Resistance	kPa	67	67	79	67	62	64	48	61
	Water volume	L	179.5	294.9	295.0	312.6	329.0	533.2	533.2	872.0
	Connection Pipe (OD)	inch	6					8		10
	Maximun Pressure-bearing	MPa	1.0							
Unit Dimensions	Length	mm	5530	5530	6480	7380	10860	10860	12690	14490
	Width	mm	2260							
	Height*	mm	2560							
Weight	Transport	kg	5250	5450	6080	6810	10210	10610	11870	13230
	Operation	kg	5080	5400	6000	6730	9840	10540	11740	13370
Standard Accessories			Unit installation manual, spring shock absorber, water flow switch							

Notes:
- Nominal cooling conditions: EWT/LWT 12/7°C; ambient DB temperature is 35°C
- Nominal heating conditions: EWT/LWT 40/45°C; ambient DB temperature is 7°C, ambient WB temperature is 6°C
- The transport weight including steel packaging weight;
- The operation weight including the weight of the water inside water-side heat exchanger, excluding steel packaging weight;
- Height* 2560mm with 100mm base while shipping;
- The models with * means Dual control system;
- Capacity steps* 10% & 5% part load is only available for loading.

• Heat Pump - High efficiency series

DAIKIN Single-Screw Chiller Heat Pump

High-efficiency series

Model Unit UAY-FBBE		ST3	105	125	140	150	175	204	220	245	266*	291
Nominal Cooling Capacity		kW	352	448	502	583	659	703	794	891	935	1029
		USRT	100	127	140	165	187	199	225	253	265	292
		×10^{4}kcal/h	30	39	43	50	57	60	68	77	80	88
Compressor Power Input (Cooling)		kW	98.0	123.1	136.1	162.1	179.3	194.3	218.1	243.8	260.1	284.5
Nominal Heating Capacity		kW	352	452	495	577	660	696	793	905	929	1029
		×10^{4}kcal/h	30	39	138	50	57	60	68	78	80	88
Compressor Power Input (Heating)		kW	104.1	122.5	148.6	155.8	170.1	183.1	210.4	246.7	259.9	279.1
Power Supply			380-400V/3N~/50Hz									
Capacity Steps*			10%~100%							5%~100%		
Refrigerant	Type		R134a									
	Quantity		1							2		
	Curcuit No.		1							2		
	Flow Control		EXV									
Compressor	Type		Semi-hermetic Single-screw									
	Startup		Star Delta									
	Cooling		Liquid Injection Cooling									
Refrigeran Oil	Type		MLG03									
	Charge	L	22	22	22	28	28	28	28	22+22	22+28	22+28
Air-side Heat Exchanger	Type		Crossed Fin and Tube									
	FPI		14									
	Face Area	m^2	13.9	18.6	18.6	23.2	27.9	27.9	32.6	37.2	37.1	41.8
Fan	Type		Efficient Spiral Axial Fan									
	Quantity	n	6	8	8	10	12	12	14	16	16	18
	Air Flow	x10^{4}m^3/h	10.8	14.4	14.4	18.0	21.6	21.6	25.2	28.8	28.8	32.4
	Motor Rotate Speed	rpm	940									
	Motor Power Input	kW	12.0	16.0	16.0	20.0	24.0	24.0	28.0	32.0	32.0	36.0
Water-side Heat Exchanger	Type		Shell and Tube Heat Exchanger									
	Water Flow Rate (Cooling)	m^3/h	61	77	86	100	113	121	137	153	61/100	177
	Water Flow Rate (Heating)	m^3/h	61	78	86	99	114	120	136	156	61/99	177
	Water Resistance	kPa	58	75	58	68	70	76	62	72	58/68	74
	Water volume	L	68.3	105.4	149.1	149.1	179.5	251.8	251.8	251.8	68.3/149.1	303.3
	Connection Pipe (OD)	inch	4		5			6			4/5	6
	Maximun Pressure-bearing	MPa	1.0									
Unit Dimensions	Length	mm	3730	4630	4630	5580	6480	6480	7380	9060	9710	9960
	Width	mm	2260									
	Height	mm	2425									
Weight	Transport	kg	3310	4010	4100	5020	5380	5500	6140	8010	8010	8850
	Operation	kg	3350	4130	4260	5140	5560	5760	6400	8270	8530	9160
Standard Accessories			Unit installation manual, certificate, spring shock absorber, water flow switch									

Notes:
- Nominal cooling conditions: EWT/LWT 12/7°C; ambient DB temperature is 35°C
- Nominal heating conditions: EWT/LWT 40/45°C; ambient DB temperature is 7°C, ambient WB temperature is 6°C
- The transport weight including steel packaging weight;
- The operation weight including the weight of the water inside water-side heat exchanger, excluding steel packaging weight.
- The models with * means Dual control system.
- Capacity steps* 10% & 5% part load is only available for loading.

DAIKIN Single-Screw Chiller Heat Pump

High-efficiency series

Model Unit UAY-FBBE		ST3	300*	348	355*	380	390*	400*	415*	424*	450*
Nominal Cooling Capacity		kW	1107	1166	1242	1325	1362	1406	1453	1497	1588
		USRT	314	331	353	376	387	399	413	425	451
		×10^{4}kcal/h	95	100	107	114	117	121	125	129	137
Compressor Power Input (Cooling)		kW	302.4	324.3	341.4	360.9	373.6	388.6	397.4	412.4	436.2
Nominal Heating Capacity		kW	1112	1154	1237	1319	1356	1392	1453	1489	1586
		×10^{4}kcal/h	96	99	106	113	117	120	125	128	136
Compressor Power Input (Heating)		kW	292.6	311.5	325.9	337.9	353.2	366.3	380.5	393.6	420.9
Power Supply			380-400V/3N~/50Hz								
Capacity Steps*			5%~100%								
Refrigerant	Type		R134a								
	Curcuit No.		2								
	Flow Control		EXV								
Compressor	Type		Semi-hermetic Single-screw								
	Quantity		2								
	Startup		Star Delta								
	Cooling		Liquid Injection Cooling								
Refrigeran Oill	Type		MLG03								
	Charge	L	22+28	28+28							
Air-side Heat Exchanger	Type		Crossed Fin and Tube								
	FPI		14								
	Face Area	m^2	46.5	46.4	51.2	55.8	55.8	55.8	60.5	60.5	65.2
Fan	Type		Efficient Spiral Axial Fan								
	Quantity	n	20	20	22	24	24	24	26	26	28
	Air Flow	x10^{4}m^3/h	36.0	36.0	39.6	43.2	43.2	43.2	46.8	46.8	50.4
	Motor Rotate Speed	rpm	940	940	940	940	940	940	940	940	940
	Motor Power Input	kW	40.0	40.0	44.0	48.0	48.0	48.0	52.0	52.0	56.0
Water-side Heat Exchanger	Type		Shell and Tube Heat Exchanger								
	Water Flow Rate (Cooling)	m^3/h	77/113	201	100/113	228	113/121	121/121	113/137	121/137	137/137
	Water Flow Rate (Heating)	m^3/h	78/114	198	99/114	227	114/120	120/120	114/136	120/136	136/136
	Water Resistance	kPa	75/70	78	68/70	83	70/76	76/76	70/62	76/62	62/62
	Water volume	L	105.4/179.5	303.3	149.1/179.5	381.7	179.5/251.8	251.8/251.8	179.5/251.8	251.8/251.8	251.8/251.8
	Connection Pipe (OD)	inch	4/5	6	5/5	8	5/6	6/6	5/6	6/6	6/6
	Maximun Pressure-bearing	MPa	1.0								
Unit Dimensions	Length	mm	11510	10890	12460	12690	13360	13360	14260	14260	15160
	Width	mm	2260								
	Height	mm	2425								
Weight	Transport	kg	9460	9720	10450	10440	10950	11060	11680	11790	12520
	Operation	kg	9750	10030	10780	10840	11380	11560	12110	12290	13020
Standard Accessories			Unit installation manual, certificate, spring shock absorber, water flow switch								

Notes:

- Nominal cooling conditions: EWT/LWT 12/7°C; ambient DB temperature is 35°C
- Nominal heating conditions: EWT/LWT 40/45°C; ambient DB temperature is 7°C, ambient WB temperature is 6°C
- The transport weight including steel packaging weight;
- The operation weight including the weight of the water inside water-side heat exchanger, excluding steel packaging weight.
- The models with * means Dual control system.
- Capacity steps* 5% part load is only available for loading.

• Cooling Only - High efficiency series

DAIKIN Single-Screw Cooling Only

High-efficiency series

Model Unit UAA-FBBE		ST3	105	125	140	150	175	204	220	245	266*	291	300*
Nominal Cooling Capacity		kW	370	449	505	586	663	717	802	898	956	1035	1112
		USRT	105	127	143	166	188	203	228	255	271	294	316
		×10^{4}kcal/h	32	39	43	50	57	62	69	77	82	89	96
Compressor Power Input (Cooling)		kW	103.5	122.5	135.6	158.7	177.3	192.1	214.6	245.0	262.2	281.2	299.8
Power Supply			380-400V/3N~/50Hz										
Capacity Steps*			10%~100%							5%~100%			
Refrigerant	Type		R134a										
	Curcuit No.		1							2			
	Flow Control		EXV										
Compressor	Type		Semi-hermetic Single-screw										
	Quantity		1							2			
	Startup		Star Delta										
	Cooling		Liquid Injection Cooling										
Refrigeran Oil	Type		MLG03										
	Charge	L	22	22	28	28	28	28	28	28	22+28	22+28	22+28
Air-side Heat Exchanger	Type		Crossed Fin and Tube										
	FPI		14										
	Face Area	m^2	13.9	18.6	18.6	23.2	27.9	27.9	32.6	37.2	37.2	41.8	46.5
Fan	Type		Efficient Spiral Axial Fan										
	Quantity	n	6	8	8	10	12	12	14	16	16	18	20
	Air Flow	x10^{4}m^3/h	10.8	14.4	14.4	18.0	21.6	21.6	25.2	28.8	29	32.4	36.0
	Motor Rotate Speed	rpm	940										
	Motor Power Input	kW	12.0	16.0	16.0	20.0	24.0	24.0	28.0	32.0	32	36.0	40.0
Water-side Heat Exchanger	Type		Shell and Tube Heat Exchanger										
	Water Flow Rate (Cooling)	m^3/h	64	77	87	101	114	123	138	154	64/101	178	77/114
	Water Resistance	kPa	58	75	58	68	70	76	62	72	58/68	74	75/70
	Water volume	L	68.3	105.4	149.1	149.1	179.5	251.8	251.8	251.8	68.3/149.1	303.3	105.4/179.5
	Connection Pipe (OD)	inch	4		5			6			4/5	6	4/5
	Maximun Pressure-bearing	MPa	1.0										
Unit Dimensions	Length	mm	3530	4430	4430	5380	6280	6280	7180	8660	9310	9560	11110
	Width	mm	2260										
	Height	mm	2425										
Weight	Transport	kg	2880	3630	3720	4560	4930	5050	5690	7220	7440	8030	8560
	Operation	kg	2950	3740	3870	4700	5100	5300	5940	7480	7650	8340	8840
Standard Accessories			Unit installation manual, certificate, spring shock absorber, water flow switch										

Notes: ■ Nominal cooling conditions: EWT/LWT 12/7°C; ambient DB temperature is 35°C;

■ The transport weight including steel packaging weight;

■ The operation weight including the weight of the water inside water-side heat exchanger, excluding steel packaging weight;

■ The models with * means Dual control system

■ Capacity steps* 5% & 10% part load is only available for loading.

DAIKIN Single-Screw Cooling Only

High-efficiency series

Model Unit UAA-FBBE (FBCE)			ST3	348	355*	380	380*	390*	400	400*	415*	424*	450	450*
Nominal Cooling Capacity		kW	1172	1249	1326	1326	1380	1434	1434	1465	1519	1604	1604
		USRT	333	355	377	377	392	407	407	416	432	456	456
		×10⁴kcal/h	101	108	114	114	119	123	123	126	131	138	138
Compressor Power Input (Cooling)		kW	317.4	336	354.6	402.6	369.4	384.2	432.2	391.9	406.7	429.2	485.2
Power Supply			380-400V/3N~/50Hz										
Capacity Steps*			5%~100%										
Refrigerant	Type		R134a										
	Curcuit No.		2										
	Flow Control		EXV										
Compressor	Type		Semi-hermetic Single-screw										
	Quantity		2										
	Startup		Star Delta										
	Cooling		Liquid Injection Cooling										
Refrigeran Oil	Type		MLG03										
	Charge	L	28+28										
Air-side Heat Exchanger	Type		Crossed Fin and Tube										
	FPI		14										
	Face Area	m²	46.4	51.1	55.8	55.8	55.8	55.8	55.8	60.5	60.5	65.2	65.2
Fan	Type		Efficient Spiral Axial Fan										
	Quantity	n	20	22	24	24	24	24	24	26	26	28	28
	Air Flow	x10⁴m³/h	36.0	40	43.2	43.2	43	43.2	43.2	47	47	50.4	50.4
	Motor Rotate Speed	rpm	940										
	Motor Power Input	kW	40.0	44.0	48.0	48	48.0	48.0	48	52	52	56.0	56
Water-side Heat Exchanger	Type		Shell and Tube Heat Exchanger										
	Water Flow Rate (Cooling)	m³/h	202	101/114	228	114/114	144/123	247	123/123	114/138	123/138	276	138/138
	Water Resistance	kPa	78	68/70	83	70/70	70/76	61	76/76	70/62	76/62	79	62/62
	Water volume	L	303.3	149.1/179.5	381.7	359	179.5/251.8	513.9	503.6	179.5/251.8	251.8/251.8	502.6	503.6
	Connection Pipe (OD)	inch	6	5/5	8	5/5	5/6	8	6/6	5/6	6/6	8	6/6
	Maximun Pressure-bearing	MPa	1.0										
Unit Dimensions	Length	mm	10490	12060	12290	12960	12960	12290	12960	13860	13860	14090	14760
	Width	mm	2260										
	Height	mm	2425										
Weight	Transport	kg	8820	9090	9570	9860	9980	9800	10100	10620	10740	11180	11380
	Operation	kg	9120	9800	9950	10200	10400	10320	10600	11040	11240	11690	11880
Standard Accessories			Unit installation manual, certificate, spring shock absorber, water flow switch										

Notes:

- Nominal cooling conditions: EWT/LWT 12/7°C; ambient DB temperature is 35°C;
- The transport weight including steel packaging weight;
- The operation weight including the weight of the water inside water-side heat exchanger, excluding steel packaging weight;
- The models with * means Dual control system
- Capacity steps* 5% part load is only available for loading.

DAIKIN Dual System Screw Chiller

High-efficiency series

Model Unit UAA-FDAE		ST3	150	175	204	220
Nominal Cooling Capacity		kW	560	650	730	826
		USRT	159	185	208	235
		×10^{4}kcal/h	48	56	63	71
Compressor Power Input (Cooling)		kW	151.6	174.7	203.4	226.3
Power Supply		kW	380-400/3N~/50Hz			
Capacity Steps*			5%~100%			
Refrigerant	Type		R134a			
	Curcuit No.		2			
	Flow Control		EXV			
Compressor	Type		Semi-hermetic Single-screw			
	Quantity		2			
	Startup		Star Delta			
	Cooling		Liquid Injection Cooling			
Refrigeran Oil	Type		MLG03			
	Charge	L	34	34	39	44
Air-side Heat Exchanger	Type		Crossed Fin and Tube			
	FPI		14			
	Face Area		18	21.6	21.6	25.2
Fan	Type		Efficient Spiral Axial			
	Quantity	n	10	12	12	14
	Air Flow	x10^{4}m^3/h	18.0	21.6	21.6	25.2
	Motor Rotate Speed	rpm	940			
	Motor Power Input	kW	20	24	24	44
Water-side Heat Exchanger	Type		Shell and Tube Heat Exchanger			
	Water Flow Rate (Cooling)	m^3/h	96	112	126	142
	Water Resistance	kPa	39	37	33	32
	Water volume	L	187.4	259.1	244.7	230.3
	Connection Pipe (OD)	inch	5	6		
	Maximun Pressure-bearing	MPa	1.0			
Unit Dimensions	Length	mm	5480	6380	6380	7280
	Width	mm	2260			
	Height*	mm	2460			
Weight	Transport	kg	5330	5570	5795	6210
	Operation	kg	5530	5830	6040	6440
Standard accessories			Unit installation manual, certificate, spring shock absorber, water flow switch			

Notes:
- Nominal cooling conditions: EWT/LWT 12/7°C; ambient DB temperature is 35°C;
- The transport weight including steel packaging weight;
- The operation weight including the weight of the water inside water-side heat exchanger, excluding steel packaging weight;
- Capacity steps* 5% part load is only available for loading.

● Heat Recovery

DAIKIN Single Screw Chiller Heat-Recovery

High-efficiency series

Model Unit UAY-SR		SR3	105	125	150	175	204	220
Nominal Cooling Capacity		kW	352	448	583	659	703	794
		USAT	100	127	165	187	199	225
		×10⁴kcal/h	30	39	50	57	60	68
Compressor Power Input (Cooling)		kW	98.0	123.1	162.1	179.3	194.3	218.1
Nominal Heating Capacity		kW	352	452	577	660	696	793
		×10⁴kcal/h	30	39	50	57	60	68
Compressor Power Input (Heating)		kW	104.1	122.5	155.8	170.1	183.1	210.4
Total Heat Recovery Capacity		kW	445	565	738	830	887	1001
		×10⁴kcal/h	38	49	64	72	76	86
Total Heat Recovery Power Input		kW	98.0	123.1	162.1	179.3	194.3	218.1
Power Supply			380-400V/3N~/50Hz					
Capacity Steps*			10%~100%					
Refrigerant			R134a					
Curcuit No.			1					
Flow control			EXV					
Compressor	Type		Semi-hermetic Single-screw					
	Startup		Star Delta					
	Cooling		Liquid Injection Cooling					
Refrigeran Oil	Type		MLG03					
	Charge	L	22+28					
Air-side Heat Exchanger	Type		Crossed Fin and Tube					
	FPI		14					
	Face Area	m²	13.9	18.6	23.2	27.9	27.9	32.6
Fan	Type		Efficient Spiral Axial Fan					
	Quantity	n	6	8	10	12	12	14
	Air Flow	x10⁴m³/h	10.8	14.4	18.0	21.6	21.6	25.2
	Motor Rotate Speed	rpm	940					
	Motor Power Input	kW	12.0	16.0	20.0	24.0	24.0	28.0
Water-side Heat Exchanger	Type		Shell and Tube Heat Exchanger					
	Water Flow Rate (Cooling)	m³/h	61	77	100	113	121	137
	Water Flow Rate (Heating)	m³/h	61	78	99	114	120	136
	Water Resistance	kPa	58	75	68	70	76	62
	Water volume	L	68.3	105.4	149.1	179.5	251.8	251.8
	Connection Pipe (OD)	inch	4		5		6	
	Maximun Pressure-bearing	MPa	1.0					
Heat Recovery side Heat Exchanger	Type		Plate heat exchanger					
	Quantity	n.	1					
	Water Flow	m³/h	77	97	127	143	153	172
	Water Resistance	kPa	36	46	76	97	97	95
	Connection Pipe (OD)	inch	3			4		
	Maximun Pressure-bearing	MPa	1.0					
Unit Dimensions	Length	mm	3730	4630	5580	6480	6480	7380
	Width	mm	2260					
	Height	mm	2385		2425			
Weight	Transport	kg	3580	4405	5400	5770	5880	6620
	Operation	kg	3650	4510	5550	5950	6130	6870
Standard accessories			Unit installation manual, certificate, spring shock absorber, water flow switch					

Notes: ■ Nominal cooling conditions: EWT/LWT 12/7°C; ambient DB temperature is 35°C;

■ Nominal heating conditions: EWT/LWT 40/45°C; ambient DB temperature is 7°C, ambient WB temperature is 6°C;

■ Total heat recovery conditions: warm water inlet/outlet temperature 40/ 45°C, chilled water inlet/outlet temperature 12/ 7°C;

■ Capacity steps* 10% part load is only available for loading.

6. Capacity Tables

● Cooling Capacity Tables

Heat Pump - Super high efficiency series

Cooling Capacity Table (heat pump)

High-efficiency series

Model Unit UAY ST3-FAAE	Leaving Chilled Water Temperature	Ambient temperature (°C)									
		25		30		35		40		43	
		Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)
105	5	407.2	95.2	382.8	102.7	369.2	111.3	353.7	124.4	346.6	132.5
	6	418.1	96.5	393.3	104.0	380.9	114.4	363.5	126.1	356.8	133.6
	7	432.3	97.7	407.7	105.3	393.0	115.9	376.7	127.5	368.8	135.5
	8	444.3	99.0	419.1	107.0	402.6	117.2	387.2	128.9	378.9	137.0
	9	456.9	100.3	427.5	107.8	415.6	118.7	401.1	130.0	389.8	138.6
125	5	475.6	114.2	447.1	123.2	431.3	133.5	413.1	149.2	404.9	158.9
	6	488.3	115.7	459.3	124.7	444.9	137.2	424.6	151.3	416.7	160.2
	7	504.9	117.1	476.2	126.3	459.0	139.0	439.9	152.9	430.7	162.5
	8	518.9	118.7	489.4	128.3	470.2	140.5	452.3	154.6	442.6	164.3
	9	533.6	120.3	499.2	129.2	485.4	142.3	468.4	155.9	455.3	166.2
150	5	593.7	138.8	558.1	149.8	538.4	162.3	515.7	181.4	505.4	193.2
	6	609.6	140.7	573.4	151.7	555.4	166.8	530.0	183.9	520.2	194.7
	7	630.3	142.4	594.5	153.5	573.0	169.0	549.2	185.9	537.7	197.6
	8	647.8	144.3	611.0	156.0	587.0	170.8	564.6	188.0	552.5	199.7
	9	666.1	146.2	623.2	157.1	605.9	173.0	584.8	189.5	568.4	202.1
175	5	691.1	164.6	649.6	177.5	626.7	192.4	600.3	215.0	588.3	229.0
	6	709.6	166.7	667.5	179.8	646.5	197.7	617.0	218.0	605.5	230.8
	7	733.8	168.8	692.0	182.0	667.0	200.3	639.3	220.3	625.9	234.2
	8	754.1	171.0	711.2	184.9	683.3	202.5	657.2	222.8	643.1	236.7
	9	775.4	173.3	725.5	186.2	705.3	205.1	680.7	224.7	661.6	239.6
204	5	814.4	190.4	765.6	205.4	738.5	222.6	707.4	248.8	693.3	265.0
	6	836.3	193.0	786.6	208.0	761.9	228.7	727.1	252.2	713.6	267.1
	7	864.7	195.3	815.5	210.6	786.0	231.8	753.3	255.0	737.6	271.0
	8	888.6	197.9	838.1	213.9	805.2	234.3	774.5	257.9	757.8	273.9
	9	913.7	200.6	854.9	215.5	831.2	237.3	802.1	260.0	779.7	277.2
245	5	951.2	228.4	894.1	246.3	862.5	267.0	826.1	298.4	809.7	317.8
	6	976.7	231.4	918.7	249.5	889.8	274.3	849.2	302.5	833.4	320.4
	7	1009.9	234.3	952.4	252.6	918.0	278.0	879.9	305.8	861.4	325.0
	8	1037.9	237.4	978.9	256.6	940.5	281.0	904.5	309.3	885.1	328.5
	9	1067.2	240.5	998.5	258.5	970.8	284.6	936.8	311.8	910.6	332.5
291	5	1187.5	277.7	1116.2	299.5	1076.7	324.6	1031.3	362.8	1010.8	386.4
	6	1219.3	281.4	1146.8	303.3	1110.8	333.5	1060.1	367.8	1040.4	389.5
	7	1260.7	284.8	1189.0	307.1	1146.0	338.0	1098.4	371.8	1075.4	395.2
	8	1295.6	288.6	1222.0	311.9	1174.1	341.6	1129.2	376.0	1104.9	399.4
	9	1332.2	292.4	1246.5	314.3	1211.9	346.0	1169.5	379.1	1136.8	404.2
348	5	1382.3	329.1	1299.3	355.0	1253.4	384.7	1200.5	430.0	1176.6	458.0
	6	1419.3	333.5	1335.0	359.5	1293.1	395.3	1234.0	435.9	1211.0	461.6
	7	1467.5	337.6	1384.0	363.9	1334.0	400.6	1278.6	440.6	1251.8	468.4
	8	1508.2	342.0	1422.5	369.7	1366.7	404.9	1314.4	445.6	1286.2	473.4
	9	1550.7	346.6	1451.0	372.5	1410.7	410.1	1361.4	449.3	1323.2	479.1

Heat Pump - High efficiency series

Cooling Capacity Table (heat pump)

High-efficiency series

Model Unit UAY ST3-FBBE	Leaving Chilled Water Temperature	Ambient temperature (°C)									
		25		30		35		40		43	
		Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)
105	5	364.7	90.4	342.8	97.5	330.7	105.6	316.8	118.1	310.5	125.8
	6	374.5	91.6	352.3	98.7	341.2	108.5	325.6	119.7	319.6	126.8
	7	387.2	92.7	365.2	99.9	352.0	110.0	337.4	121.0	330.3	128.6
	8	398.0	93.9	375.3	101.5	360.6	111.2	346.8	122.4	339.4	130.0
	9	409.2	95.2	382.9	102.3	372.2	112.6	359.2	123.4	349.2	131.6
125	5	464.2	114.3	436.3	123.3	420.9	133.6	403.2	149.3	395.2	159.0
	6	476.6	115.8	448.3	124.8	434.3	137.3	414.4	151.4	406.7	160.3
	7	492.8	117.2	464.8	126.4	448.0	139.1	429.4	153.0	420.4	162.6
	8	506.5	118.8	477.7	128.4	459.0	140.6	441.4	154.7	431.9	164.4
	9	520.8	120.3	487.3	129.3	473.8	142.4	457.2	156.0	444.4	166.4
140	5	520.2	125.0	488.9	134.8	471.7	146.1	451.8	163.2	442.8	173.9
	6	534.1	126.6	502.4	136.5	486.6	150.1	464.4	165.5	455.7	175.3
	7	552.3	128.2	520.8	138.2	502.0	152.1	481.2	167.3	471.1	177.8
	8	567.6	129.9	535.3	140.4	514.3	153.7	494.6	169.2	484.0	179.8
	9	583.6	131.6	546.0	141.4	530.9	155.7	512.3	170.6	497.9	181.9
150	5	604.1	149.6	567.8	161.4	547.8	174.9	524.7	195.4	514.2	208.2
	6	620.3	151.6	583.4	163.4	565.1	179.7	539.3	198.2	529.3	209.8
	7	641.3	153.5	604.9	165.4	583.0	182.1	558.8	200.3	547.1	212.9
	8	659.1	155.5	621.7	168.1	597.3	184.1	574.5	202.6	562.1	215.2
	9	677.7	157.6	634.1	169.3	616.5	186.4	595.0	204.2	578.3	217.8
175	5	682.8	167.0	641.9	180.1	619.2	195.2	593.1	218.2	581.3	232.4
	6	701.1	169.2	659.5	182.5	638.8	200.6	609.6	221.2	598.3	234.3
	7	725.0	171.3	683.7	184.7	659.0	203.3	631.6	223.6	618.4	237.7
	8	745.1	173.6	702.7	187.6	675.1	205.5	649.3	226.2	635.4	240.3
	9	766.1	175.9	716.8	189.0	696.9	208.1	672.5	228.0	653.7	243.1
204	5	728.4	179.3	684.7	193.4	660.5	209.6	632.7	234.3	620.1	249.6
	6	747.9	181.7	703.5	195.9	681.4	215.4	650.3	237.6	638.2	251.6
	7	773.4	184.0	729.4	198.3	703.0	218.3	673.8	240.1	659.7	255.2
	8	794.8	186.4	749.6	201.5	720.2	220.7	692.7	242.8	677.8	258.0
	9	817.2	188.9	764.6	203.0	743.4	223.5	717.4	244.8	697.3	261.1
220	5	822.7	202.2	773.3	218.1	746.0	236.3	714.6	264.1	700.3	281.4
	6	844.8	204.9	794.6	220.9	769.6	242.9	734.5	267.8	720.8	283.6
	7	873.5	207.4	823.8	223.6	794.0	246.1	761.0	270.7	745.1	287.7
	8	897.7	210.1	846.7	227.1	813.4	248.8	782.4	273.8	765.6	290.8
	9	923.0	212.9	863.6	228.8	839.6	252.0	810.3	276.0	787.6	294.3
245	5	923.2	226.6	867.8	244.4	837.2	264.9	801.8	296.0	785.9	315.3
	6	948.0	229.6	891.6	247.5	863.7	272.2	824.2	300.1	808.9	317.8
	7	980.2	232.4	924.4	250.6	891.0	275.8	854.0	303.4	836.1	322.5
	8	1007.3	235.5	950.1	254.5	912.8	278.8	877.9	306.8	859.1	325.9
	9	1035.8	238.6	969.1	256.4	942.2	282.4	909.3	309.3	883.8	329.9

Cooling Capacity Table (heat pump)

High-efficiency series

Model Unit UAY ST3-FBBE	Leaving Chilled Water Temperature	Ambient temperature (°C)									
		25		30		35		40		43	
		Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)
266	5	968.8	240.0	910.7	258.8	878.5	280.5	841.4	313.5	824.7	333.9
	6	994.8	243.1	935.7	262.1	906.3	288.2	864.9	317.9	848.8	336.6
	7	1028.6	246.2	970.1	265.4	935.0	292.1	896.2	321.3	877.4	341.5
	8	1057.1	249.4	997.0	269.6	957.9	295.3	921.3	324.9	901.5	345.2
	9	1086.9	252.7	1017.0	271.6	988.7	299.1	954.2	327.6	927.5	349.3
291	5	1066.2	263.3	1002.2	284.0	966.8	307.8	926.1	344.0	907.6	366.4
	6	1094.8	266.8	1029.7	287.6	997.4	316.3	951.8	348.8	934.1	369.3
	7	1132.0	270.1	1067.6	291.2	1029.0	320.5	986.3	352.6	965.6	374.7
	8	1163.4	273.6	1097.2	295.8	1054.2	324.0	1013.9	356.5	992.1	378.8
	9	1196.2	277.3	1119.2	298.0	1088.2	328.1	1050.1	359.5	1020.7	383.3
300	5	1147.1	281.3	1078.2	303.4	1040.1	328.8	996.2	367.5	976.4	391.4
	6	1177.8	285.0	1107.8	307.3	1073.0	337.9	1024.0	372.6	1005.0	394.6
	7	1217.8	288.5	1148.5	311.1	1107.0	342.4	1061.0	376.6	1038.8	400.3
	8	1251.5	292.3	1180.4	316.0	1134.1	346.1	1090.8	380.9	1067.3	404.6
	9	1286.9	296.2	1204.1	318.4	1170.6	350.6	1129.7	384.0	1098.1	409.5
348	5	1208.2	299.3	1135.7	322.8	1095.6	349.8	1049.4	391.0	1028.4	416.5
	6	1240.5	303.2	1166.8	327.0	1130.2	359.5	1078.6	396.4	1058.5	419.8
	7	1282.7	307.0	1209.7	331.0	1166.0	364.3	1117.6	400.7	1094.2	425.9
	8	1318.3	311.0	1243.3	336.2	1194.6	368.2	1148.9	405.2	1124.3	430.5
	9	1355.5	315.2	1268.3	338.7	1233.0	373.0	1189.9	408.6	1156.6	435.7
355	5	1286.9	316.6	1209.7	341.5	1166.9	370.1	1117.7	413.7	1095.5	440.6
	6	1321.4	320.8	1242.9	345.9	1203.9	380.3	1148.9	419.4	1127.5	444.1
	7	1366.3	324.8	1288.6	350.1	1242.0	385.4	1190.4	423.9	1165.5	450.6
	8	1404.2	329.1	1324.4	355.7	1272.4	389.6	1223.8	428.7	1197.5	455.4
	9	1443.8	333.4	1350.9	358.3	1313.4	394.6	1267.5	432.3	1232.0	460.9
380	5	1372.9	336.0	1290.5	362.3	1245.0	392.7	1192.5	438.9	1168.7	467.5
	6	1409.7	340.4	1325.9	367.0	1284.3	403.5	1225.6	445.0	1202.8	471.2
	7	1457.6	344.6	1374.7	371.5	1325.0	408.9	1270.0	449.8	1243.4	478.1
	8	1498.0	349.1	1412.8	377.4	1357.5	413.3	1305.5	454.9	1277.4	483.2
	9	1540.3	353.8	1441.2	380.2	1401.2	418.6	1352.2	458.6	1314.3	489.0
390	5	1411.3	346.4	1326.6	373.6	1279.7	404.9	1225.7	452.5	1201.3	482.0
	6	1449.1	350.9	1363.0	378.4	1320.2	416.0	1259.9	458.8	1236.5	485.8
	7	1498.3	355.3	1413.1	383.0	1362.0	421.6	1305.4	463.7	1278.1	492.9
	8	1539.8	360.0	1452.3	389.1	1395.3	426.1	1342.0	469.0	1313.2	498.2
	9	1583.3	364.8	1481.4	392.0	1440.3	431.6	1389.9	472.9	1351.0	504.2
400	5	1456.9	358.7	1369.4	386.9	1321.0	419.3	1265.3	468.6	1240.2	499.1
	6	1495.9	363.4	1407.0	391.8	1362.9	430.8	1300.6	475.1	1276.4	503.1
	7	1546.7	367.9	1458.7	396.6	1406.0	436.6	1347.6	480.2	1319.4	510.5
	8	1589.6	372.8	1499.2	402.9	1440.4	441.3	1385.4	485.7	1355.6	516.0
	9	1634.4	377.7	1529.3	405.9	1486.8	447.0	1434.8	489.7	1394.7	522.2

Cooling Capacity Table (heat pump)

High-efficiency series

Model Unit UAY ST3-FBBE	Leaving Chilled Water Temperature	Ambient temperature (°C)									
		25		30		35		40		43	
		Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)
415	5	1505.6	369.2	1415.2	398.2	1365.2	431.6	1307.6	482.3	1281.6	513.8
	6	1545.9	374.1	1454.0	403.3	1408.4	443.5	1344.1	489.0	1319.1	517.9
	7	1598.4	378.7	1507.5	408.3	1453.0	449.4	1392.6	494.3	1363.5	525.4
	8	1642.7	383.7	1549.4	414.7	1488.6	454.2	1431.7	499.9	1400.9	531.1
	9	1689.1	388.8	1580.4	417.8	1536.5	460.1	1482.8	504.0	1441.3	537.5
424	5	1551.2	381.5	1458.1	411.5	1406.5	446.0	1347.2	498.4	1320.4	530.9
	6	1592.7	386.6	1498.1	416.8	1451.1	458.3	1384.8	505.4	1359.0	535.1
	7	1646.8	391.4	1553.1	421.9	1497.0	464.4	1434.8	510.8	1404.8	543.0
	8	1692.5	396.5	1596.3	428.6	1533.6	469.4	1475.0	516.6	1443.4	548.8
	9	1740.2	401.8	1628.2	431.8	1583.0	475.5	1527.7	520.9	1484.9	555.4
450	5	1645.5	404.4	1546.7	436.1	1492.0	472.7	1429.1	528.3	1400.7	562.7
	6	1689.5	409.7	1589.1	441.7	1539.3	485.7	1468.9	535.6	1441.6	567.2
	7	1746.9	414.8	1647.5	447.2	1588.0	492.2	1522.0	541.4	1490.2	575.5
	8	1795.4	420.2	1693.3	454.2	1626.9	497.5	1564.7	547.5	1531.1	581.7
	9	1846.0	425.9	1727.2	457.6	1679.3	503.9	1620.6	552.0	1575.2	588.7

Cooling only - High efficiency series

Cooling Capacity Table (Cooling only)

High-efficiency series

Model Unit UAA ST3-FBBE/ FBCE	Leaving Chilled Water Temperature	Ambient temperature (°C)									
		25		30		35		40		43	
		Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)
105	5	383.4	94.9	360.4	102.3	347.6	110.9	333.0	124.0	326.4	132.0
	6	393.7	96.1	370.3	103.7	358.6	114.0	342.3	125.7	335.9	133.1
	7	407.0	97.3	383.9	104.9	370.0	115.5	354.6	127.0	347.2	135.0
	8	418.3	98.6	394.5	106.6	379.1	116.7	364.6	128.5	356.7	136.5
	9	430.1	99.9	402.4	107.4	391.3	118.3	377.6	129.5	367.0	138.1
125	5	465.2	113.8	437.3	122.7	421.9	133.0	404.1	148.7	396.0	158.3
	6	477.7	115.3	449.3	124.3	435.2	136.7	415.3	150.7	407.6	159.6
	7	493.9	116.7	465.8	125.8	449.0	138.5	430.3	152.3	421.3	161.9
	8	507.6	118.3	478.8	127.8	460.0	140.0	442.4	154.1	432.9	163.7
	9	522.0	119.8	488.4	128.8	474.8	141.8	458.2	155.3	445.4	165.6
140	5	523.3	124.5	491.9	134.3	474.5	145.6	454.5	162.7	445.4	173.3
	6	537.3	126.2	505.4	136.1	489.5	149.6	467.1	165.0	458.5	174.7
	7	555.5	127.8	523.9	137.7	505.0	151.6	484.0	166.8	473.9	177.3
	8	570.9	129.4	538.5	139.9	517.4	153.2	497.6	168.6	486.9	179.2
	9	587.1	131.2	549.3	141.0	534.0	155.2	515.4	170.0	500.9	181.3
150	5	607.2	146.8	570.8	158.4	550.6	171.6	527.4	191.8	516.9	204.3
	6	623.5	148.8	586.4	160.4	568.0	176.3	542.1	194.5	532.0	205.9
	7	644.6	150.6	608.0	162.3	586.0	178.7	561.7	196.6	549.9	208.9
	8	662.5	152.6	624.9	164.9	600.3	180.6	577.4	198.8	565.0	211.2
	9	681.2	154.6	637.4	166.1	619.7	183.0	598.0	200.4	581.3	213.7
175	5	687.0	165.4	645.8	178.4	622.9	193.3	596.7	216.1	584.8	230.1
	6	705.4	167.6	663.5	180.7	642.7	198.6	613.3	219.1	601.9	232.0
	7	729.4	169.6	687.9	182.9	663.0	201.3	635.5	221.4	622.1	235.4
	8	749.6	171.9	707.0	185.8	679.2	203.5	653.3	223.9	639.2	237.9
	9	770.7	174.2	721.1	187.2	701.1	206.1	676.6	225.8	657.7	240.8
204	5	742.9	177.5	698.3	191.5	673.7	207.5	645.3	231.9	632.4	247.1
	6	762.8	179.9	717.5	193.9	695.0	213.2	663.2	235.2	650.9	249.0
	7	788.8	182.1	743.9	196.3	717.0	216.1	687.2	237.7	672.8	252.7
	8	810.6	184.5	764.6	199.4	734.6	218.4	706.5	240.4	691.3	255.4
	9	833.5	187.0	779.9	200.9	758.2	221.2	731.7	242.4	711.2	258.5
220	5	831.0	199.3	781.1	215.0	753.5	233.0	721.8	260.4	707.4	277.3
	6	853.3	201.9	802.6	217.7	777.4	239.4	741.9	264.0	728.1	279.6
	7	882.3	204.4	832.1	220.4	802.0	242.6	768.7	266.8	752.6	283.7
	8	906.7	207.1	855.2	223.9	821.6	245.2	790.2	269.9	773.3	286.7
	9	932.3	209.9	872.3	225.6	848.1	248.4	818.4	272.1	795.5	290.1
245	5	930.5	227.6	874.6	245.5	843.7	266.0	808.1	297.3	792.1	316.7
	6	955.4	230.6	898.6	248.6	870.4	273.3	830.7	301.4	815.2	319.2
	7	987.9	233.4	931.7	251.7	898.0	277.0	860.7	304.7	842.7	323.9
	8	1015.3	236.5	957.6	255.6	920.0	280.0	884.8	308.1	865.8	327.3
	9	1043.9	239.7	976.7	257.5	949.6	283.6	916.4	310.7	890.8	331.3
266	5	990.6	241.7	931.1	260.7	898.2	282.5	860.3	315.8	843.2	336.3
	6	1017.1	244.9	956.7	264.0	926.7	290.3	884.3	320.1	867.9	339.0
	7	1051.7	247.9	991.8	267.3	956.0	294.2	916.3	323.6	897.1	344.0
	8	1080.8	251.2	1019.4	271.5	979.4	297.4	942.0	327.3	921.7	347.7
	9	1111.3	254.5	1039.8	273.5	1011.0	301.2	975.6	330.0	948.3	351.9
291	5	1072.5	260.6	1008.1	281.1	972.5	304.6	931.4	340.5	912.9	362.6
	6	1101.2	264.0	1035.7	284.7	1003.2	313.0	957.4	345.2	939.6	365.5
	7	1138.6	267.3	1073.8	288.2	1035.0	317.2	992.0	348.9	971.2	370.9
	8	1170.1	270.8	1103.6	292.7	1060.3	320.6	1019.8	352.9	997.9	374.9
	9	1203.2	274.4	1125.7	294.9	1094.5	324.8	1056.2	355.8	1026.7	379.4
300	5	1152.2	279.2	1083.1	301.1	1044.8	326.3	1000.7	364.7	980.8	388.5
	6	1183.1	282.9	1112.8	305.0	1077.9	335.3	1028.6	369.8	1099.5	391.6
	7	1223.3	286.4	1153.7	308.7	1112.0	339.8	1065.8	373.8	1043.5	397.3
	8	1257.2	290.1	1185.7	313.6	1139.2	343.5	1095.7	378.0	1072.2	401.6
	9	1292.7	294.0	1209.5	315.9	1175.9	347.9	1134.8	381.1	1103.0	406.4
348	5	1214.4	293.6	1141.5	316.7	1101.2	343.2	1054.7	383.6	1033.8	408.6
	6	1246.9	297.5	1172.8	320.8	1136.0	352.7	1084.1	388.9	1064.0	411.8
	7	1289.3	301.2	1215.9	324.7	1172.0	357.4	1123.3	393.1	1099.8	417.9
	8	1325.0	305.2	1249.7	329.8	1200.7	361.3	1154.8	397.6	1130.0	422.4
	9	1362.4	309.2	1274.8	332.3	1239.4	365.9	1196.0	400.9	1162.6	427.4

355	5	1294.2	312.2	1216.5	336.7	1173.5	364.9	1124.0	407.9	1101.7	434.4
	6	1328.9	316.3	1249.9	341.0	1210.7	375.0	1155.4	413.5	1133.9	437.9
	7	1374.0	320.2	1295.8	345.2	1249.0	380.0	1197.1	418.0	1172.0	444.3
	8	1412.1	324.4	1331.8	350.7	1279.6	384.1	1230.7	422.7	1204.2	449.1
	9	1451.9	328.8	1358.5	353.3	1320.8	389.0	1274.6	426.2	1238.9	454.5
380	5	1374.0	330.8	1291.5	356.8	1245.9	386.6	1193.3	432.1	1169.6	460.3
	6	1410.8	335.1	1327.0	361.3	1285.3	397.3	1226.6	438.1	1203.8	463.9
	7	1458.7	339.3	1375.7	365.8	1326.0	402.6	1270.9	442.8	1244.3	470.7
	8	1499.1	343.7	1413.9	371.6	1358.5	406.9	1306.6	447.9	1278.5	475.8
	9	1541.4	348.3	1442.3	374.3	1402.2	412.2	1353.2	451.6	1315.3	481.5
390	5	1429.9	342.9	1344.1	369.9	1296.6	400.8	1241.9	448.0	1217.2	477.2
	6	1468.2	347.4	1381.0	374.6	1337.7	411.9	1276.5	454.2	1252.8	481.0
	7	1518.1	351.8	1431.7	379.2	1380.0	417.4	1322.7	459.1	1295.0	488.0
	8	1560.2	356.4	1471.5	385.2	1413.8	421.9	1359.8	464.3	1330.6	493.3
	9	1604.2	361.1	1501.0	388.1	1459.3	427.3	1408.3	468.2	1368.9	499.2
400	5	1485.9	355.1	1396.7	383.0	1347.3	415.1	1290.5	463.9	1264.9	494.1
	6	1525.7	359.8	1435.0	387.9	1390.0	426.5	1326.5	470.3	1301.8	498.0
	7	1577.5	364.2	1487.8	392.6	1434.0	432.2	1374.4	475.4	1345.6	505.3
	8	1621.2	369.0	1529.1	398.9	1469.1	436.9	1413.0	480.8	1382.6	510.8
	9	1667.0	373.9	1559.7	401.8	1516.4	442.5	1463.4	484.8	1422.4	516.9
415	5	1518.0	364.7	1426.9	393.3	1376.5	426.3	1318.4	476.4	1292.2	507.5
	6	1558.7	369.5	1466.1	398.4	1420.1	438.0	1355.2	483.1	1330.0	511.5
	7	1611.6	374.1	1519.9	403.3	1465.0	443.9	1404.1	488.3	1374.7	519.0
	8	1656.3	379.0	1562.2	409.7	1500.9	448.7	1443.5	493.8	1412.5	524.6
	9	1703.0	384.1	1593.4	412.7	1549.2	454.5	1495.0	497.9	1453.2	530.9
424	5	1574.0	376.8	1479.5	406.5	1427.2	440.5	1367.0	492.3	1339.8	524.4
	6	1616.1	381.8	1520.1	411.7	1472.4	452.6	1405.1	499.2	1379.0	528.6
	7	1671.0	386.6	1576.0	416.7	1519.0	458.7	1455.9	504.5	1425.4	536.3
	8	1717.3	391.6	1619.7	423.3	1556.2	463.6	1496.7	510.3	1464.6	542.1
	9	1765.8	396.9	1652.2	426.5	1606.3	469.6	1550.2	514.5	1506.8	548.6
450	5	1662.1	398.6	1562.3	429.9	1507.1	466.0	1443.5	520.8	1414.8	554.7
	6	1706.6	403.9	1605.2	435.4	1554.8	478.8	1483.7	528.0	1456.2	559.1
	7	1764.5	408.9	1664.1	440.8	1604.0	485.2	1537.4	533.7	1505.2	567.3
	8	1813.4	414.3	1710.4	447.8	1643.3	490.4	1580.5	539.8	1546.5	573.4
	9	1864.6	419.8	1744.6	451.1	1696.2	496.8	1636.9	544.2	1591.1	580.3

Model Unit UAA ST3-FDAE	Leaving Chilled Water Temperature	Ambient temperature (°C)									
		25		30		35		40		43	
		Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)
150	5	580.3	141.0	545.4	152.1	526.2	164.8	503.0	182.8	491.5	189.9
	6	595.8	142.8	560.4	154.0	542.8	169.3	520.6	185.1	502.4	192.4
	7	616.0	144.6	581.0	155.9	560.0	171.6	531.4	186.7	519.3	194.2
	8	633.1	146.5	597.1	158.4	573.7	173.5	550.5	189.4	530.6	197.2
	9	651.0	148.5	609.1	159.5	592.2	175.7	564.0	190.9	544.1	198.9
175	5	673.5	163.2	633.1	176.1	610.7	190.8	583.8	211.7	570.5	219.9
	6	691.6	165.4	650.5	178.3	630.1	196.1	604.2	214.3	583.1	222.8
	7	715.1	167.4	674.4	180.5	650.0	198.7	616.8	216.2	602.7	224.8
	8	734.9	169.7	693.1	183.4	665.9	200.8	639.0	219.3	615.9	228.3
	9	755.6	171.9	707.0	184.7	687.4	203.4	654.7	221.1	631.5	230.3
204	5	756.4	186.8	711.0	201.5	685.9	218.4	655.6	242.2	640.7	251.7
	6	776.7	189.3	730.5	204.1	707.6	224.4	678.6	245.3	654.9	255.0
	7	803.1	191.6	757.4	206.6	730.0	227.4	692.7	247.4	676.9	257.3
	8	825.3	194.2	778.4	209.9	747.9	229.9	717.6	251.0	691.7	261.3
	9	848.6	196.7	794.0	211.4	772.0	232.8	735.3	253.0	709.2	263.6
220	5	855.9	208.9	804.5	225.3	776.1	244.2	743.3	272.9	728.6	290.7
	6	878.8	211.7	826.6	228.2	800.7	250.9	764.1	276.7	749.9	293.0
	7	908.7	214.3	857.0	231.0	826.0	254.3	791.7	279.7	775.1	297.3
	8	933.9	217.1	880.8	234.7	846.2	257.0	813.9	282.9	796.4	300.5
	9	960.2	220.0	898.4	236.4	873.5	260.4	842.9	285.2	819.3	304.1

• Heating Capacity Tables

Heat Pump - Super high efficiency series

Heating Capacity Table (heat pump)

Super-high-efficiency series

Model Unit UAY ST3-FAAE	Leaving Chilled Water Temperature	Ambient temperature (°C)									
		-10		-5		0		7		10	
		Heating Capacity (kW)	Power Input (kW)	Heating Capacity (kW)	Power Input (kW)	Heating Capacity (kW)	Power Input (kW)	Heating Capacity (kW)	Power Input (kW)	Heating Capacity (kW)	Power Input (kW)
105	35	258.0	83.5	296.0	90.5	336.0	94.4	410.0	100.9	452.0	103.5
	40	252.0	91.6	292.0	98.8	332.0	103.6	404.0	110.4	444.0	114.3
	45	248.0	100.2	288.0	107.3	328.0	113.1	400.0	120.4	436.8	125.0
	50					324.0	122.5	388.0	132.8	432.0	138.1
	55							376.0	144.8	416.0	149.6
125	35	296.1	93.3	339.7	101.2	385.6	105.5	470.5	112.8	518.7	115.7
	40	289.2	102.4	335.1	110.4	381.0	115.8	463.6	123.4	509.5	127.8
	45	284.6	112.0	330.5	119.9	376.4	126.4	459.0	134.6	501.2	139.7
	50					371.8	136.9	445.2	148.5	495.7	154.4
	55							431.5	161.9	477.4	167.3
150	35	368.3	114.8	422.5	124.4	479.6	129.8	585.3	138.8	645.2	142.3
	40	359.7	126.0	416.8	135.8	473.9	142.5	576.7	151.9	633.8	157.2
	45	354.0	137.8	411.1	147.6	468.2	155.5	571.0	165.6	623.5	171.9
	50					462.5	168.4	553.9	182.7	616.7	190.0
	55							536.7	199.2	593.8	205.8
175	35	423.1	138.1	485.4	149.7	551.0	156.2	672.4	167.0	741.3	171.2
	40	413.3	151.5	478.9	163.4	544.5	171.4	662.6	182.7	728.2	189.1
	45	406.7	165.7	472.3	177.5	537.9	187.1	656.0	199.2	716.3	206.8
	50					531.4	202.6	636.3	219.7	708.5	228.6
	55							616.6	239.6	682.2	247.5
204	35	516.0	166.9	592.0	181.0	672.0	188.8	820.0	201.8	904.0	207.0
	40	504.0	183.2	584.0	197.5	664.0	207.2	808.0	220.8	888.0	228.6
	45	496.0	200.3	576.0	214.6	656.0	226.2	800.0	240.8	873.5	250.0
	50					648.0	244.9	776.0	265.6	864.0	276.3
	55							752.0	289.6	832.0	299.2
245	35	592.1	186.6	679.3	202.3	771.1	211.0	941.0	225.6	1037.3	231.4
	40	578.3	204.8	670.1	220.8	761.9	231.6	927.2	246.9	1019.0	255.6
	45	569.2	224.0	661.0	239.9	752.8	252.9	918.0	269.2	1002.4	279.4
	50					743.6	273.8	890.5	297.0	991.4	308.9
	55							862.9	323.7	954.7	334.5
291	35	736.6	229.6	845.1	248.9	959.3	259.6	1170.6	277.6	1290.5	284.7
	40	719.5	251.9	833.7	271.7	947.9	285.0	1153.4	303.7	1267.6	314.4
	45	708.0	275.6	822.2	295.1	936.4	311.1	1142.0	331.2	1246.9	343.8
	50					925.0	336.9	1107.7	365.3	1233.4	380.0
	55							1073.5	398.3	1187.7	411.6
348	35	846.2	276.2	970.9	299.4	1102.1	312.3	1344.8	333.9	1482.6	342.5
	40	826.6	303.1	957.8	326.8	1089.0	342.8	1325.1	365.4	1456.3	378.2
	45	813.4	331.5	944.6	355.0	1075.8	374.2	1312.0	398.4	1432.6	413.5
	50					1062.7	405.3	1272.6	439.5	1417.0	457.1
	55							1233.3	479.1	1364.5	495.1

Heat Pump - High efficiency series

Heating Capacity Table (heat pump)

High-efficiency series

Model Unit UAY ST3-FBBE	Leaving Chilled Water Temperature	Ambient temperature (°C)									
		-10		-5		0		7		10	
		Heating Capacity (kW)	Power Input (kW)	Heating Capacity (kW)	Power Input (kW)	Heating Capacity (kW)	Power Input (kW)	Heating Capacity (kW)	Power Input (kW)	Heating Capacity (kW)	Power Input (kW)
105	35	227.0	80.5	260.5	87.2	295.7	91.0	360.8	97.3	397.8	99.8
	40	221.8	88.3	257.0	95.2	292.2	99.9	355.5	106.5	390.7	110.2
	45	218.2	96.6	253.4	103.5	288.6	109.1	352.0	116.1	384.3	120.5
	50					285.1	118.1	341.4	128.1	380.2	133.2
	55							330.9	139.6	366.1	144.3
125	35	291.5	96.0	334.5	104.1	379.7	108.6	463.3	116.1	510.8	119.1
	40	284.8	105.4	330.0	113.6	375.2	119.2	456.5	127.0	501.7	131.5
	45	280.2	115.2	325.4	123.4	370.6	130.1	452.0	138.5	493.5	143.8
	50					366.1	140.9	438.4	152.8	488.2	158.9
	55							424.9	166.6	470.1	172.1
140	35	3193.0	130.0	366.3	111.7	415.8	116.5	507.4	124.6	559.4	127.7
	40	311.9	113.0	361.4	121.9	410.9	127.9	500.0	136.3	549.5	141.1
	45	306.9	123.6	356.4	132.4	405.9	139.6	495.0	148.6	54.1	154.2
	50					401.0	151.2	480.2	163.9	534.6	170.5
	55							465.3	178.7	514.8	184.7
150	35	372.2	121.9	427.0	132.1	484.7	137.8	591.4	147.4	652.0	151.1
	40	363.5	133.7	421.2	144.2	478.9	151.3	582.8	161.2	640.5	166.9
	45	357.7	146.3	415.4	156.7	473.1	165.1	577.0	175.8	630.0	182.5
	50					467.4	178.8	559.7	193.9	623.2	201.7
	55							542.4	211.4	600.1	218.5
175	35	425.7	134.6	488.4	145.9	554.4	152.2	676.5	162.7	745.8	166.8
	40	415.8	147.7	481.8	159.2	547.8	167.0	666.6	178.0	732.6	184.3
	45	409.2	161.5	475.2	173.0	541.2	182.3	660.0	194.1	720.7	201.5
	50					534.6	197.4	640.2	214.1	712.8	222.7
	55							620.4	233.4	686.4	241.2
204	35	448.9	143.6	515.0	155.6	584.6	162.3	713.4	173.6	786.5	178.0
	40	438.5	157.5	508.1	169.9	577.7	178.2	703.0	189.9	772.6	196.6
	45	431.5	172.3	501.1	184.5	570.7	194.5	696.0	207.1	760.0	215.0
	50					563.8	210.7	675.1	228.5	751.7	237.6
	55							654.2	249.1	723.8	257.4
220	35	511.5	165.3	586.8	179.2	666.1	186.9	812.8	199.8	896.1	204.9
	40	499.6	181.4	578.9	195.5	658.2	205.1	800.9	218.6	880.2	226.3
	45	491.7	198.3	571.0	212.4	650.3	223.9	793.0	238.4	865.9	247.5
	50					642.3	242.5	769.2	263.0	856.4	273.5
	55							745.4	286.7	824.7	296.3
245	35	583.7	193.2	669.7	209.4	760.2	218.5	927.6	233.6	1022.7	239.6
	40	570.2	212.0	660.7	228.6	751.2	239.8	914.1	255.6	1004.6	264.6
	45	561.1	231.9	651.6	248.3	742.1	261.8	905.0	278.7	988.2	289.3
	50					733.1	283.5	877.9	307.4	977.4	319.8
	55							850.7	335.2	941.2	346.3

Heating Capacity Table (heat pump)

High-efficiency series

Model Unit UAY ST3-FBBE	Leaving Chilled Water Temperature	Ambient temperature (°C)									
		-10		-5		0		7		10	
		Heating Capacity (kW)	Power Input (kW)	Heating Capacity (kW)	Power Input (kW)	Heating Capacity (kW)	Power Input (kW)	Heating Capacity (kW)	Power Input (kW)	Heating Capacity (kW)	Power Input (kW)
266	35	599.2	202.4	687.5	219.4	780.4	228.8	952.2	244.7	1049.8	250.9
	40	585.3	222.0	678.2	239.4	771.1	251.2	938.3	267.7	1031.2	277.1
	45	576.0	242.9	668.9	260.1	761.8	274.2	929.0	291.9	1014.4	303.0
	50					752.5	296.9	901.1	322.0	1003.3	334.9
	55							873.3	351.0	966.2	362.7
291	35	663.7	218.5	761.5	236.8	864.4	247.0	1054.7	264.1	1162.8	270.9
	40	648.3	239.7	751.2	258.4	854.1	271.1	1039.3	289.0	1142.2	299.2
	45	638.0	262.2	740.9	280.8	843.8	296.0	1029.0	315.1	1123.6	327.1
	50					833.5	320.5	998.1	347.6	1111.3	361.5
	55							967.3	378.9	1070.2	391.6
300	35	717.2	230.6	822.9	249.9	934.1	260.7	1139.8	278.8	1256.6	285.9
	40	700.6	253.0	811.8	272.8	923.0	286.2	1123.1	305.0	1234.3	315.8
	45	689.4	276.7	800.6	296.4	911.8	312.4	1112.0	332.6	1214.2	345.2
	50					900.7	338.3	1078.6	366.9	1201.0	381.6
	55							1045.3	400.0	1156.5	413.3
348	35	744.3	243.7	854.0	264.2	969.4	275.5	1182.9	294.6	1304.0	302.1
	40	727.0	267.4	842.4	288.3	957.8	302.4	1165.5	322.4	1280.9	333.7
	45	715.5	292.4	830.9	313.2	946.3	330.2	1154.0	351.5	1260.1	364.9
	50					934.7	357.5	1119.4	387.7	1246.3	403.3
	55							1084.8	422.7	1200.2	436.8
355	35	797.9	256.5	915.4	278.0	1039.1	290.0	1267.9	310.1	1397.8	318.0
	40	779.3	281.4	903.0	303.4	1026.7	318.3	1249.4	339.2	1373.1	351.2
	45	766.9	307.8	890.6	329.6	1014.3	347.4	1237.0	369.9	1350.7	384.0
	50					1002.0	376.3	1199.9	408.0	1336.0	424.4
	55							1162.8	444.8	1286.5	459.7
380	35	850.8	267.5	976.1	290.0	1108.0	302.5	1352.0	323.5	1490.5	331.7
	40	831.0	293.6	962.9	316.5	1094.8	332.0	1332.2	353.9	1464.1	366.4
	45	817.8	321.1	949.7	343.9	1081.6	362.5	1319.0	385.9	1440.2	400.6
	50					1068.4	392.5	1279.4	425.7	1424.5	442.8
	55							1239.9	464.1	1371.8	479.6
390	35	874.6	278.2	1003.4	301.5	1139.0	314.5	1389.9	336.3	1532.3	344.9
	40	854.3	305.2	989.9	329.1	1125.5	345.2	1369.6	367.9	1505.2	380.9
	45	840.7	333.8	976.3	357.5	1111.9	376.8	1356.0	401.2	1480.6	416.4
	50					1098.4	408.1	1315.3	442.6	1464.5	460.3
	55							1274.6	482.5	1410.2	498.6
400	35	897.8	287.2	1030.1	311.3	1169.3	324.8	1426.8	347.3	1573.0	356.1
	40	877.0	315.2	1016.2	339.8	1155.4	356.5	1405.9	380.0	1545.1	393.3
	45	863.0	344.7	1002.2	369.2	1141.4	389.2	1392.0	414.3	1519.9	430.0
	50					1127.5	421.4	1350.2	457.0	1503.4	475.4
	55							1308.5	498.2	1447.7	514.9

Heating Capacity Table (heat pump)

High-efficiency series

Model Unit UAY ST3-FBBE	Leaving Chilled Water Temperature	Ambient temperature (°C)									
		-10		-5		0		7		10	
		Heating Capacity (kW)	Power Input (kW)	Heating Capacity (kW)	Power Input (kW)	Heating Capacity (kW)	Power Input (kW)	Heating Capacity (kW)	Power Input (kW)	Heating Capacity (kW)	Power Input (kW)
415	35	937.2	299.9	1075.2	325.0	1220.5	339.0	1489.3	362.5	1641.9	371.8
	40	915.4	329.0	1060.7	354.7	1206.0	372.1	1467.5	396.6	1612.8	410.6
	45	900.9	359.8	1046.2	385.4	1191.5	406.2	1453.0	432.5	1586.5	448.9
	50					1176.9	439.9	1409.4	477.1	1569.2	496.3
	55							1365.8	520.1	1511.1	537.5
424	35	960.4	308.9	1101.9	334.9	1250.8	349.3	1526.2	373.5	1682.6	383.0
	40	938.1	339.0	1087.0	365.5	1235.9	383.4	1503.9	408.7	1652.8	423.1
	45	923.2	370.7	1072.1	397.1	1221.0	418.6	1489.0	445.6	1625.8	462.5
	50					1206.1	453.3	1444.3	491.5	1608.1	511.3
	55							1399.7	535.9	1548.6	553.7
450	35	1023.0	330.6	1173.6	358.4	1332.2	373.8	1625.7	399.7	1792.2	409.9
	40	999.2	362.8	1157.8	391.2	1316.4	410.3	1601.9	437.4	1760.5	452.8
	45	983.3	396.8	1141.9	425.0	1300.5	448.0	1586.0	476.9	1731.8	495.0
	50					1284.7	485.1	1538.4	526.1	1712.9	547.2
	55							1490.8	573.5	1649.4	592.6

● Capacity Variation Table for Total Heat Recovery

Cooling and Heating

Capacity Table for Heat Recovery

High-efficiency series

Model Unit UAY SR3-FBAE	Item	Outlet Water Temp of Hot Water on Heat Recovery Side												
		40	42	44	45	46	48	50	52	54	55	56	58	60
105	Cooling Capacity (kW)	364.7	359.6	354.5	352.0	348.2	340.6	333.0	326.7	320.3	317.2	313.6	306.4	299.2
	Power Input (kW)	89.7	93.0	96.3	98.0	100.1	104.2	108.3	112.4	116.5	118.6	121.1	126.1	131.0
	Total Heat Recovery Capacity (kW)	448.1	446.9	445.6	445.0	443.5	440.5	437.4	436.0	434.6	433.9	433.2	430.8	428.5
125	Cooling Capacity (kW)	464.1	457.7	451.2	448.0	443.2	433.5	423.8	415.7	407.7	403.6	399.1	389.9	380.8
	Power Input (kW)	112.6	116.8	121.0	123.1	125.7	130.9	136.0	141.2	146.4	149.0	152.1	158.3	164.6
	Total Heat Recovery Capacity (kW)	569.0	567.4	565.8	565.0	563.1	559.2	555.4	553.6	551.8	550.9	550.0	546.9	544.1
150	Cooling capacity (kW)	604.0	595.6	587.2	583.0	576.7	564.1	551.5	541.0	530.5	525.3	519.3	507.4	495.6
	Power Input (kW)	148.3	153.8	159.3	162.1	165.5	172.3	179.1	185.9	192.7	196.1	200.3	208.5	216.7
	Total Heat Recovery Capacity (kW)	743.2	741.1	739.0	738.0	735.5	730.5	725.5	723.1	720.7	719.6	718.4	714.4	710.7
175	Cooling Capacity (kW)	682.7	673.2	663.7	659.0	651.9	637.6	623.4	611.6	599.7	593.8	587.0	573.6	560.2
	Power Input (kW)	164.1	170.2	176.3	179.3	183.1	190.6	198.1	205.7	213.2	217.0	221.5	230.6	239.7
	Total Heat Recovery Capacity (kW)	835.8	833.5	831.2	830.0	827.2	821.5	815.9	813.2	810.6	809.3	807.9	803.4	799.3
204	Cooling Capacity (kW)	728.3	718.2	708.1	703.0	695.4	680.2	665.0	652.4	639.7	633.4	626.2	611.9	597.6
	Power Input (kW)	177.8	184.4	191.0	194.3	198.4	206.5	214.7	222.9	231.0	235.1	240.0	249.9	259.8
	Total Heat Recovery Capacity (kW)	893.2	890.7	888.2	887.0	884.0	878.0	871.9	869.1	866.2	864.8	863.4	858.6	854.2
220	Cooling Capacity (kW)	822.6	811.2	799.7	794.0	785.4	768.3	751.1	736.8	722.5	715.4	707.3	691.1	674.9
	Power Input (kW)	199.6	207.0	214.4	218.1	222.7	231.8	241.0	250.2	259.3	263.9	269.4	280.5	291.6
	Total Heat Recovery Capacity (kW)	1008.0	1005.2	1002.4	1001.0	997.6	990.8	984.0	980.8	977.6	976.0	974.4	969.0	964.0

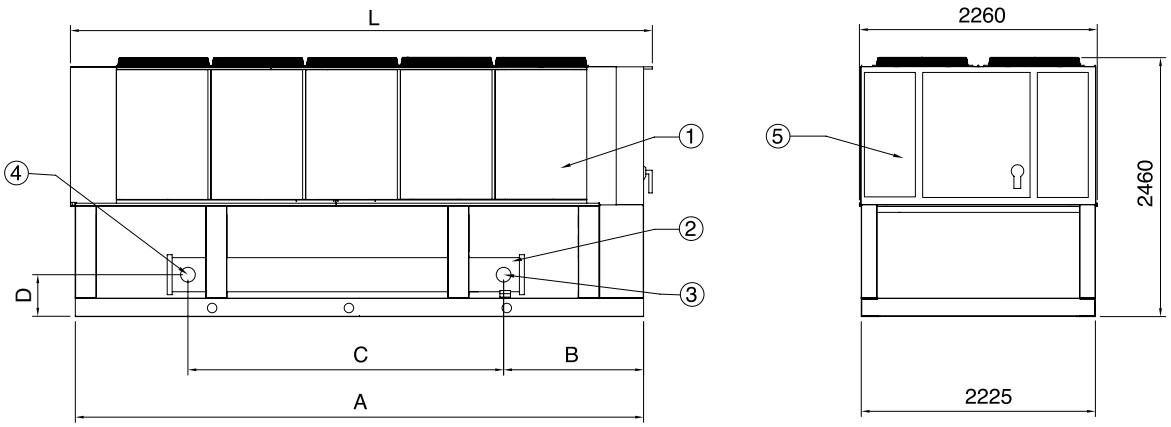
Note: The inlet/outlet water temperature on the air conditioning side corresponding to the capacity variation parameters on the heat recovery side is 12°C/7°C.

7. Dimensions and Foundation

Dimensions

• Heat Pump - Super High efficiency Series

① UAY105ST3~175ST3-FAAE

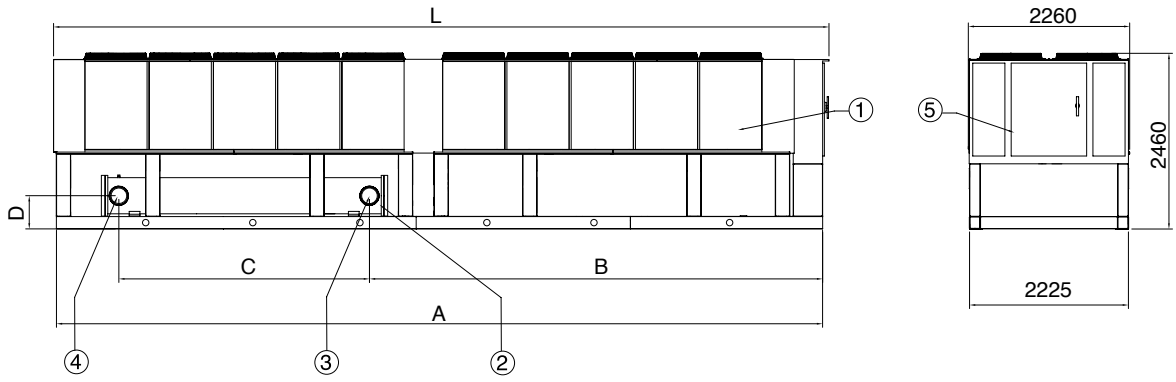


Unit	A	B	C	D	L	Size of water inlet/outlet
UAY105ST3-FAAE	5400	1330	3000	395	5530	6" (OD168.3 mm)
UAY125ST3-FAAE	5400	1346	2962	427	5530	6" (OD168.3 mm)
UAY150ST3-FAAE	6300	1339	2962	427	6480	6" (OD168.3 mm)
UAY175ST3-FAAE	7200	2142	3262	427	7380	6" (OD168.3 mm)

1	Condenser
2	Evaporator
3	Inlet water pipe of the evaporator
4	Outlet water pipe of the evaporator
5	Control cabinet

Unit: mm

② UAY204ST3~348ST3-FAAE



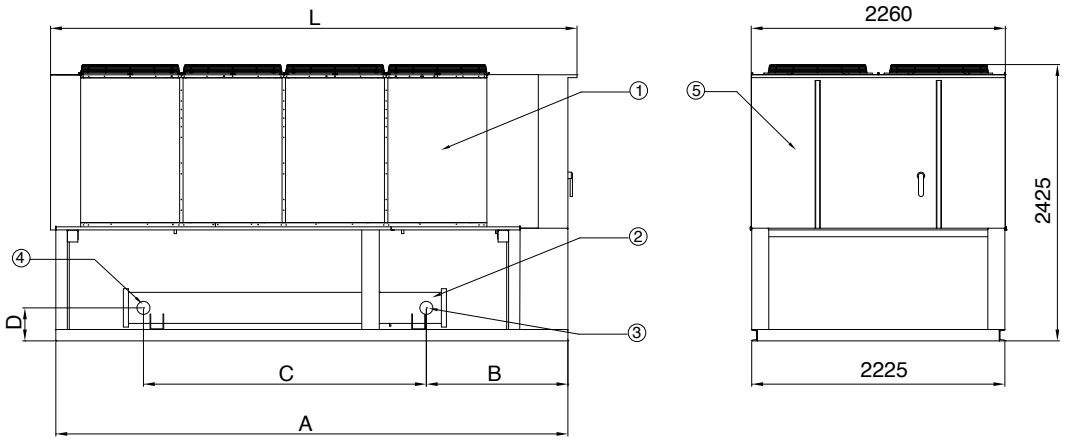
Unit	A	B	C	D	L	Size of water inlet/outlet
UAY204ST3-FAAE	10730	6221	3562	427	10860	6" (OD168.3 mm)
UAY245ST3-FAAE	10730	6347	3510	465	10860	8" (OD219.1 mm)
UAY291ST3-FAAE	12530	7248	3510	465	12690	8" (OD219.1 mm)
UAY348ST3-FAAE	14330	8791	3130	540	14490	10" (OD273.0 mm)

1	Condenser
2	Evaporator
3	Inlet water pipe of the evaporator
4	Outlet water pipe of the evaporator
5	Control cabinet

Unit: mm

● Heat Pump - High efficiency Series

③ UAY105ST3~220ST3-FBBE

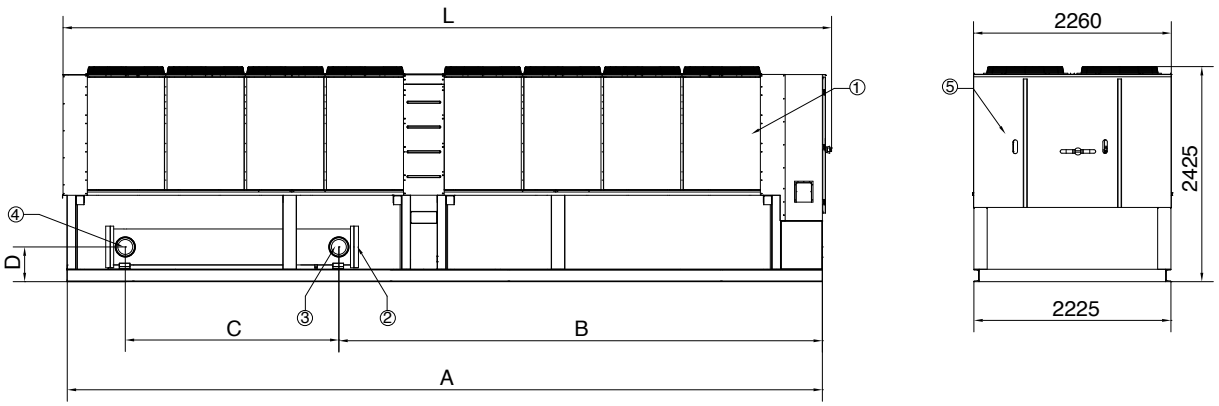


Unit	A	B	C	D	L	Size of water inlet/outlet
UAY105ST3-FBBE	3600	1244	1536	290	3730	4" (OD114.3 mm)
UAY125ST3-FBBE	4500	1244	2486	290	4630	4" (OD114.3 mm)
UAY140ST3-FBBE	4500	1264	2450	320	4630	5" (OD139.7 mm)
UAY150ST3-FBBE	5400	1327	2450	360	5580	5" (OD139.7 mm)
UAY175ST3-FBBE	6300	1320	3000	360	6480	5" (OD139.7 mm)
UAY204ST3-FBBE	6300	1340	2412	392	6480	6" (OD168.3 mm)
UAY220ST3-FBBE	7200	2163	2412	392	7380	6" (OD168.3 mm)

1	Condenser
2	Evaporator
3	Inlet water pipe of the evaporator
4	Outlet water pipe of the evaporator
5	Control cabinet

Unit: mm

④ UAY245ST3~380ST3-FBBE

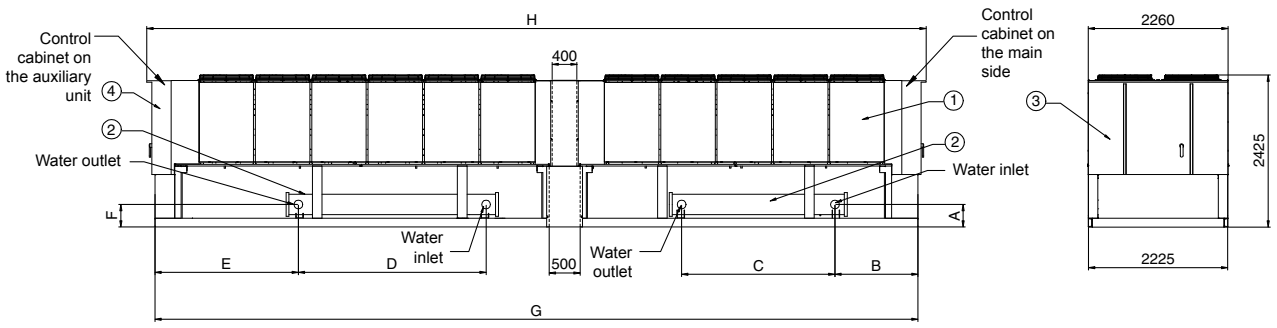


Unit	A	B	C	D	L	Size of water inlet/outlet
UAY245ST3-FBBE	8930	5667	2412	392	9060	6" (OD168.3 mm)
UAY291ST3-FBBE	9830	5571	3262	392	9960	6" (OD168.3 mm)
UAY348ST3-FBBE	10730	6471	3262	392	10890	6" (OD168.3 mm)
UAY380ST3-FBBE	12530	7502	2360	430	12690	8" (OD219.1 mm)

1	Condenser
2	Evaporator
3	Inlet water pipe of the evaporator
4	Outlet water pipe of the evaporator
5	Control cabinet

Unit: mm

⑤ UAY266ST3~450ST3-FBBE (Dual control system)



Unit	A	B	C	D	E	F	G	H	Size of water inlet/outlet	
									Main evaporator	Auxiliary evaporator
UAY266ST3-FBBE	290	1244	1536	2450	1938	360	9500	9710	4" (OD114.3 mm)	5" (OD139.7 mm)
UAY300ST3-FBBE	290	1244	2486	3000	2295	360	11300	11510	4" (OD114.3 mm)	5" (OD139.7 mm)
UAY355ST3-FBBE	360	1327	2450	3000	2295	360	12200	12460	5" (OD139.7 mm)	5" (OD139.7 mm)
UAY390ST3-FBBE	360	1320	3000	2412	2863	392	13100	13360	5" (OD139.7 mm)	6" (OD168.3 mm)
UAY400ST3-FBBE	392	1340	2412	2412	2863	392	13100	13360	6" (OD168.3 mm)	6" (OD168.3 mm)
UAY415ST3-FBBE	360	1320	3000	2412	2940	392	14000	14260	5" (OD139.7 mm)	6" (OD168.3 mm)
UAY424ST3-FBBE	392	1340	2412	2412	2940	392	14000	14260	6" (OD168.3 mm)	6" (OD168.3 mm)
UAY450ST3-FBBE	392	2163	2412	2412	2940	392	14900	15160	6" (OD168.3 mm)	6" (OD168.3 mm)

1	Condenser
2	Evaporator
3	Main control cabinet
4	Auxiliary control cabinet

Unit: mm

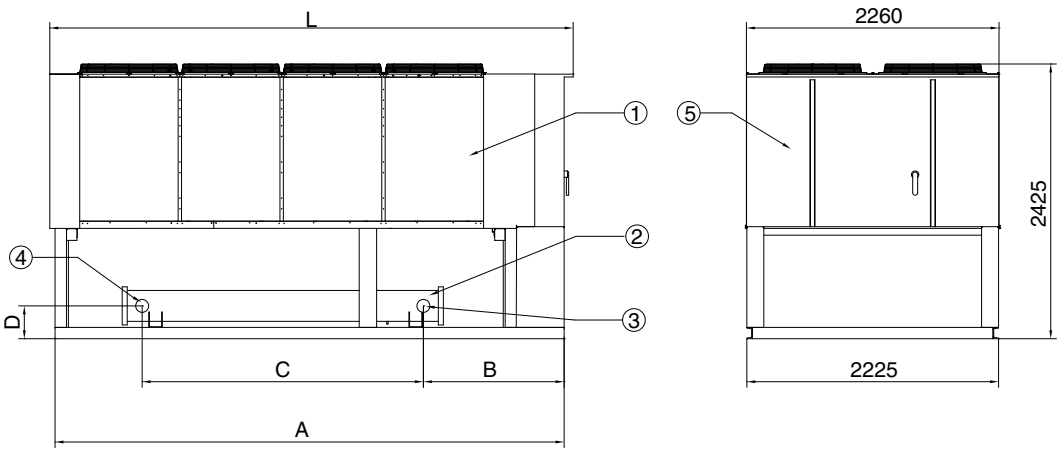
Note:

- The preceding models are delivered from the factory in forms of main unit and auxiliary units separately. On-site connections of communication cables and water pipelines between the main unit and auxiliary units are required.
- For the preceding models, dual-dot power supply wiring is adopted.
- Factory default setting small model as main unit and service engineer can change the setting at job site, default conbination as below form.

Model	Main unit	Auxiliary unit
UAY266ST3-FBBE	UAY105ST3	UAY150ST3
UAY300ST3-FBBE	UAY125ST3	UAY175ST3
UAY355ST3-FBBE	UAY150ST3	UAY175ST3
UAY390ST3-FBBE	UAY175ST3	UAY204ST3
UAY400ST3-FBBE	UAY204ST3	UAY204ST3
UAY415ST3-FBBE	UAY175ST3	UAY220ST3
UAY424ST3-FBBE	UAY204ST3	UAY220ST3
UAY450ST3-FBBE	UAY220ST3	UAY220ST3

● Cooling Only - High efficiency series

⑥ UAA105ST3~220ST3-FBBE

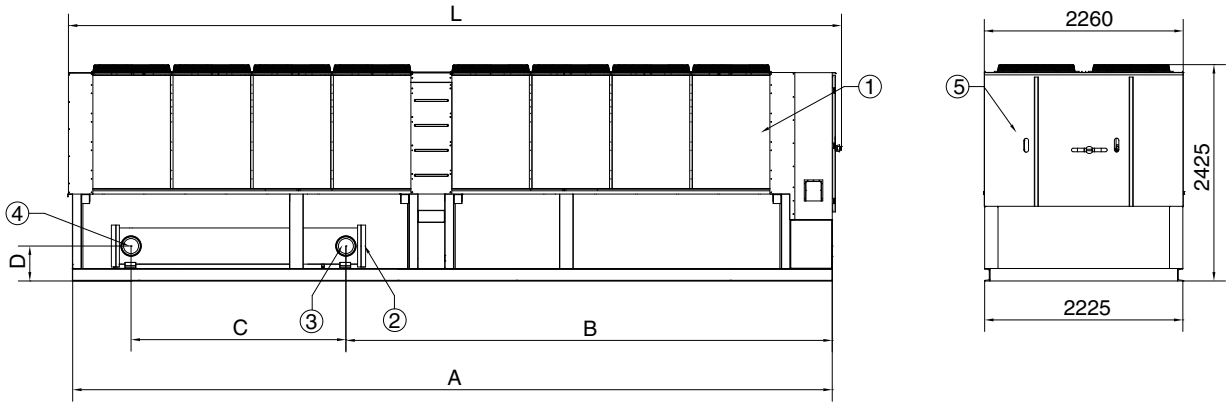


Unit	A	B	C	D	L	Size of water inlet/outlet
UAA105ST3-FBBE	3400	1244	1536	290	3530	4" (OD114.3 mm)
UAA125ST3-FBBE	4300	1244	2485	290	4430	4" (OD114.3 mm)
UAA140ST3-FBBE	4300	1264	2450	320	4430	5" (OD139.7 mm)
UAA150ST3-FBBE	5200	1353	2450	360	5380	5" (OD139.7 mm)
UAA175ST3-FBBE	6100	1320	3000	360	6280	5" (OD139.7 mm)
UAA204ST3-FBBE	6100	1340	2412	392	6280	6" (OD168.3 mm)
UAA220ST3-FBBE	7000	2163	2412	392	7180	6" (OD168.3 mm)

1	Condenser
2	Evaporator
3	Inlet water pipe of the evaporator
4	Outlet water pipe of the evaporator
5	Control cabinet

Unit: mm

⑦ UAA245ST3~450ST3-FBBE

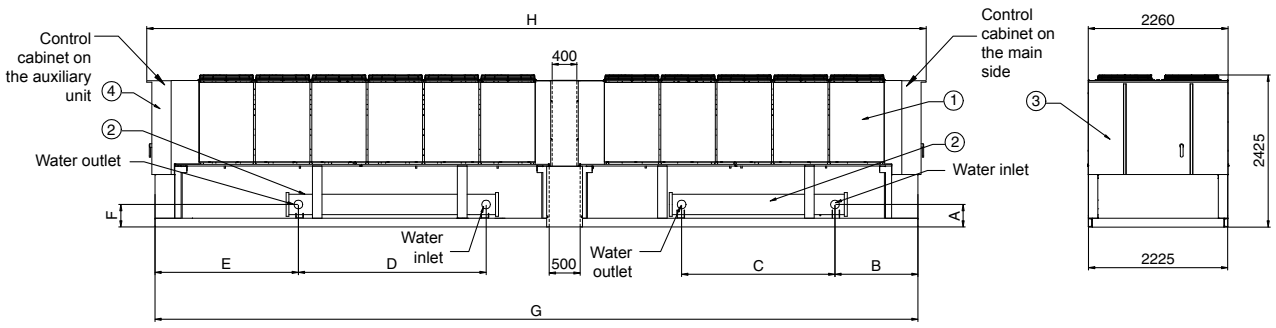


Unit	A	B	C	D	L	Size of water inlet/outlet
UAA245ST3-FBBE	8530	5467	2412	392	8660	6" (OD168.3 mm)
UAA291ST3-FBBE	9430	5371	3262	392	9560	6" (OD168.3 mm)
UAA348ST3-FBBE	10330	6271	3262	392	10490	6" (OD168.3 mm)
UAA380ST3-FBBE	12130	7302	2360	430	12290	8" (OD219.1 mm)
UAA400ST3-FBBE	12130	7297	3210	430	12290	8" (OD219.1 mm)
UAA450ST3-FBBE	13930	8197	3210	430	14090	8" (OD219.1 mm)

1	Condenser
2	Evaporator
3	Inlet water pipe of the evaporator
4	Outlet water pipe of the evaporator
5	Control cabinet

Unit: mm

⑧ UAA266ST3~450ST3-FBBE/FBCE (Dual control system)



Unit	A	B	C	D	E	F	G	H	Size of water inlet/outlet	
									Main evaporator	Auxiliary evaporator
UAA266ST3-FBBE	290	1244	1536	2450	1712	360	9100	9310	4" (OD114.3 mm)	5" (OD139.7 mm)
UAA300ST3-FBBE	290	1244	2486	3000	2095	360	10900	11110	4" (OD114.3 mm)	5" (OD139.7 mm)
UAA355ST3-FBBE	360	1353	2450	3000	2095	360	11800	12060	5" (OD139.7 mm)	5" (OD139.7 mm)
UAA380ST3-FBCE	360	1320	3000	3000	2095	360	12700	12960	5" (OD 139.7mm)	5" (OD 139.7mm)
UAA390ST3-FBBE	360	1320	3000	2412	2663	392	12700	12960	5" (OD139.7 mm)	6" (OD168.3 mm)
UAA400ST3-FBCE	392	1340	2412	2412	2663	392	12700	12960	6"(OD 168.3mm)	6"(OD 168.3mm)
UAA415ST3-FBBE	360	1320	3000	2412	2740	392	13600	13860	5" (OD139.7 mm)	6" (OD168.3 mm)
UAA424ST3-FBBE	392	1340	2412	2412	2740	392	13600	13860	6" (OD168.3 mm)	6" (OD168.3 mm)
UAA450ST3-FBCE	392	2163	2412	2412	2740	392	14500	14760	6" (OD 168.3mm)	6" (OD 168.3mm)

1	Condenser
2	Evaporator
3	Main control cabinet
4	Auxiliary control cabinet

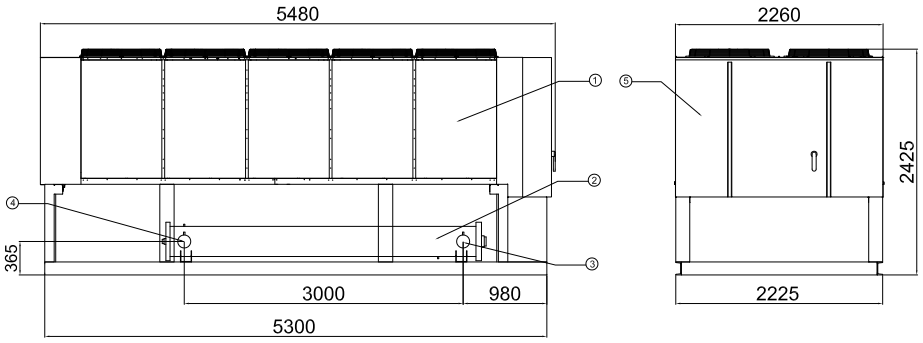
Unit: mm

Note:

- The preceding models are delivered from the factory in forms of main unit and auxiliary units separately. On-site connections of communication cables and water pipelines between the main unit and auxiliary units are required.
- For the preceding models, dual-dot power supply wiring is adopted.
- Factory default setting small model as main unit and service engineer can change the setting at job site, default conbination as below form.

Model	Main unit	Auxiliary unit
UAA266ST3-FBBE	UAA105ST3	UAA150ST3
UAA300ST3-FBBE	UAA125ST3	UAA175ST3
UAA355ST3-FBBE	UAA150ST3	UAA175ST3
UAA380ST3-FBCE	UAA175ST3	UAA175ST3
UAA390ST3-FBBE	UAA175ST3	UAA204ST3
UAA400ST3-FBCE	UAA204ST3	UAA204ST3
UAA415ST3-FBBE	UAA175ST3	UAA220ST3
UAA424ST3-FBBE	UAA204ST3	UAA220ST3
UAA450ST3-FBCE	UAA220ST3	UAA220ST3

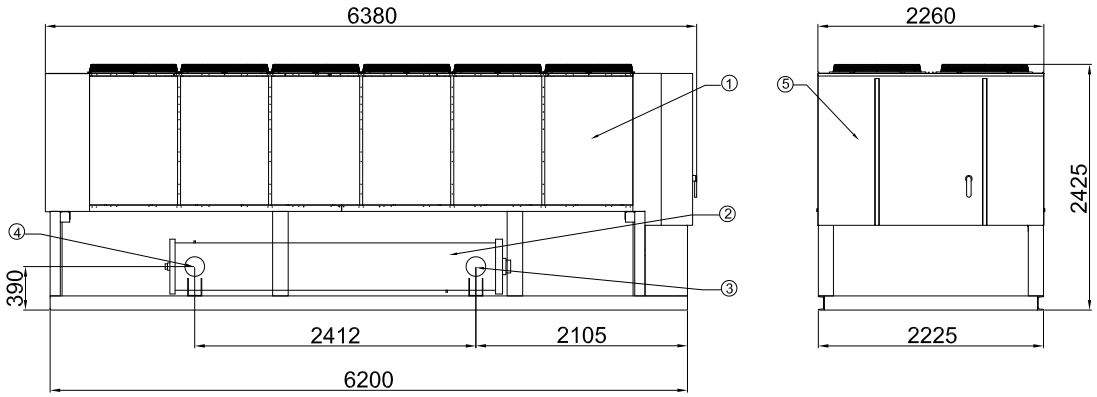
⑨ UAA150ST3-FDAE



1	Condenser	
2	Evaporator	
3	Inlet water pipe of the evaporator	5" (OD139.7 mm)
4	Outlet water pipe of the evaporator	5" (OD139.7 mm)
5	Control cabinet	

Unit: mm

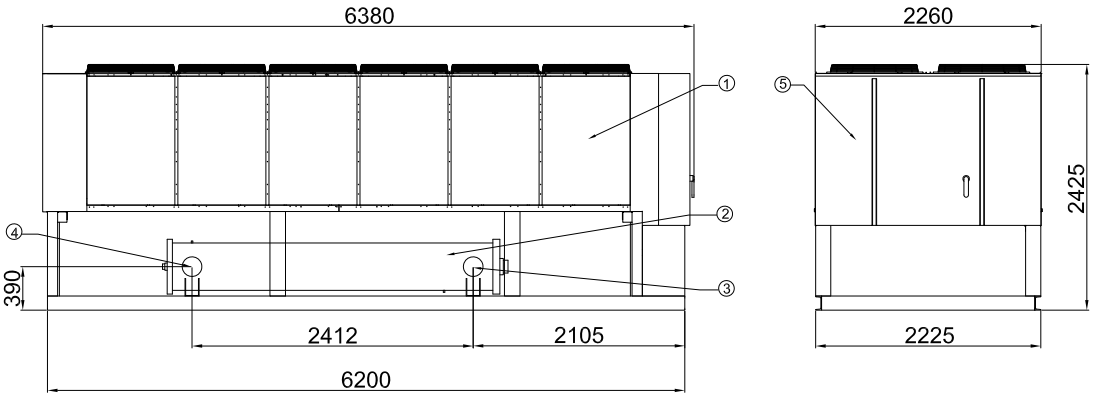
⑩ UAA175ST3-FDAE



1	Condenser	
2	Evaporator	
3	Inlet water pipe of the evaporator	6" (OD168.3 mm)
4	Outlet water pipe of the evaporator	6" (OD168.3 mm)
5	Control cabinet	

Unit: mm

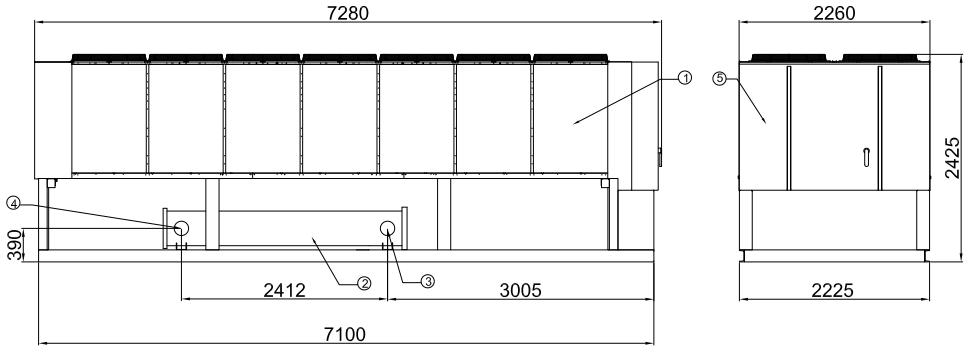
⑪ UAA204ST3-FDAE



1	Condenser	
2	Evaporator	
3	Inlet water pipe of the evaporator	6" (OD168.3 mm)
4	Outlet water pipe of the evaporator	6" (OD168.3 mm)
5	Control cabinet	

Unit: mm

⑫ UAA220ST3-FDAE

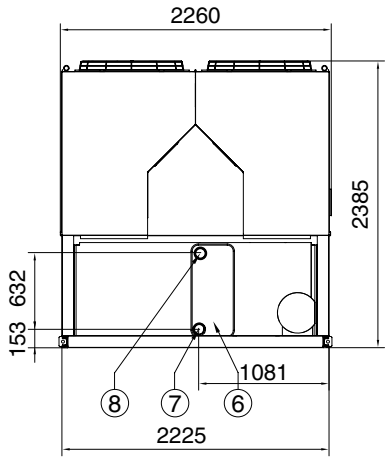


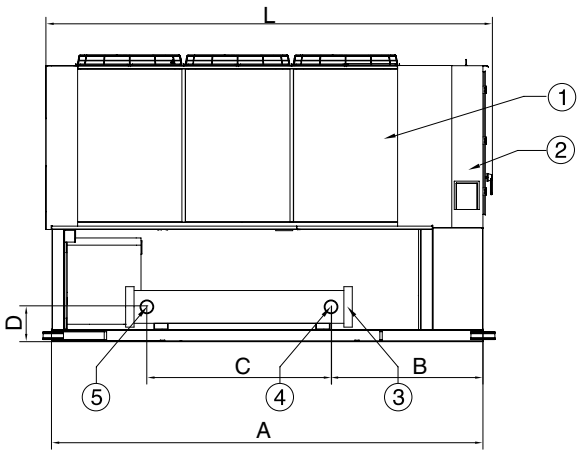
1	Condenser	
2	Evaporator	
3	Inlet water pipe of the evaporator	6" (OD168.3 mm)
4	Outlet water pipe of the evaporator	6" (OD168.3 mm)
5	Control cabinet	

Unit: mm

● Heat Reacovery - High efficiency series

⑬ UAY105SR3~125SR3-FBAE



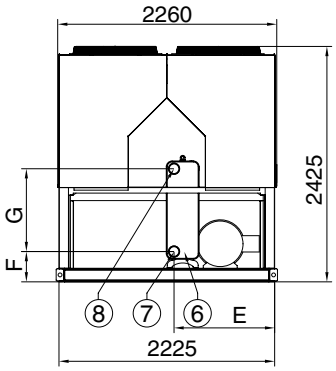


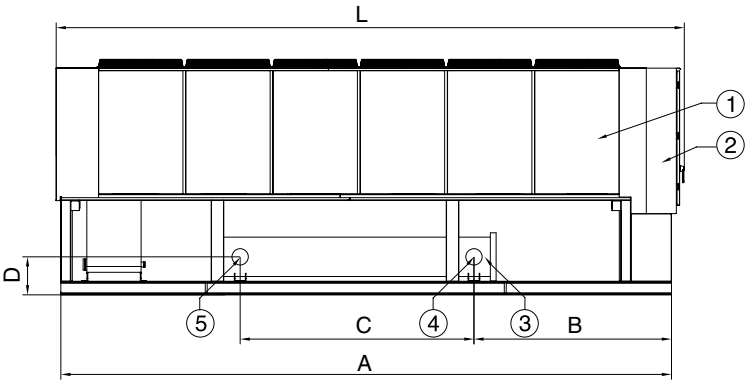
1	Condenser	
2	Control cabinet	
3	Evaporator	
4	Size of inlet water pipe of the evaporator	4" (OD114.3 mm)
5	Size of outlet water pipe of the evaporator	4" (OD114.3 mm)
6	Heat recovery exchanger	
7	Size of inlet water pipe of the heat recovery exchanger	3" (OD88.9 mm)
8	Size of outlet water pipe of the heat recovery exchanger	3" (OD88.9 mm)

Unit	A	B	C	D	L
UAY105SR3-FBAE	3600	1267	1536	290	3730
UAY125SR3-FBAE	4500	1267	2486	290	4630

Unit: mm

⑭ UAY150SR3~220SR3-FBAE





1	Condenser
2	Control cabinet
3	Evaporator
4	Size of inlet water pipe of the evaporator
5	Size of outlet water pipe of the evaporator
6	Heat recovery exchanger
7	Size of inlet water pipe of the heat recovery exchanger
8	Size of outlet water pipe of the heat recovery exchanger

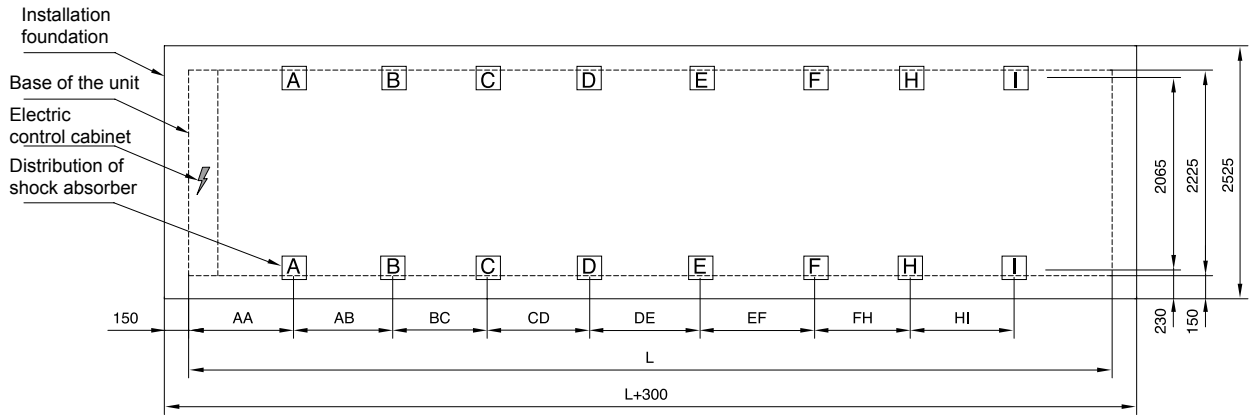
Unit	A	B	C	D	E	F	G	L	Size of water inlet/ outlet on the air conditioning side	Size of water inlet/ outlet on the heat recovery side
UAY150SR3-FBAE	5400	1346	2450	360	1216	201	632	5580	5" (OD139.7 mm)	3" (OD88.9 mm)
UAY175SR3-FBAE	6300	1469	3000	360	1038	313	854	6480	5" (OD139.7 mm)	4" (OD114.3 mm)
UAY204SR3-FBAE	6300	2038	2412	392	1038	313	854	6480	6" (OD168.3 mm)	4" (OD114.3 mm)
UAY220SR3-FBAE	7200	2163	2412	392	1038	313	854	7380	6" (OD168.3 mm)	4" (OD114.3 mm)

Unit: mm

Foundation

● Heat Pump - Super high efficiency series

⑮ UAY105ST3~348ST3-FAAE



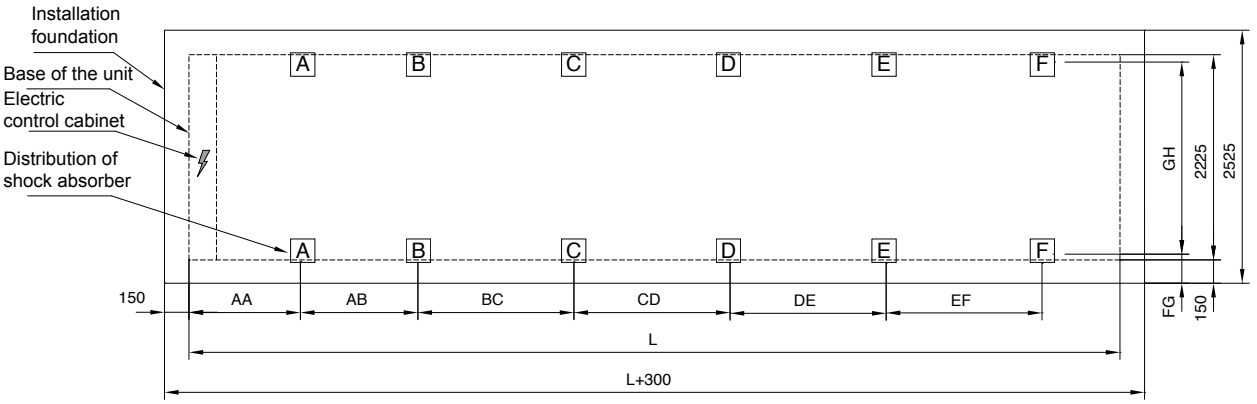
Model	Bearing capacity of spring shock absorber (kg)							
	A	B	C	D	E	F	H	I
UAY105ST3-FAAE	900	790	850	--	--	--	--	--
UAY125ST3-FAAE	960	810	930	--	--	--	--	--
UAY150ST3-FAAE	1035	990	975	--	--	--	--	--
UAY175ST3-FAAE	900	835	790	840	--	--	--	--
UAY204ST3-FAAE	910	800	780	820	760	850	--	--
UAY245ST3-FAAE	910	800	785	1000	855	920	--	--
UAY291ST3-FAAE	925	950	1000	1090	1065	840	--	--
UAY348ST3-FAAE	785	815	820	830	790	860	890	895

Model	Installation dimensions of spring shock absorber (mm)								
	L	AA	AB	BC	CD	DE	EF	FH	HI
UAY105ST3-FAAE	5400	1300	1500	1300	--	--	--	--	--
UAY125ST3-FAAE	5400	1300	1500	1300	--	--	--	--	--
UAY150ST3-FAAE	6300	1050	2100	2100	--	--	--	--	--
UAY175ST3-FAAE	7200	1400	1500	1400	1500	--	--	--	--
UAY204ST3-FAAE	10730	1311	1900	1500	1778	1500	1500	--	--
UAY245ST3-FAAE	10730	1311	1900	1500	1778	1500	1500	--	--
UAY291ST3-FAAE	12530	1500	1581	2100	2101	2101	2097	--	--
UAY348ST3-FAAE	14330	1400	1800	1500	1700	1600	1600	1600	1600

Unit: mm

● Heat Pump - High efficiency series

⑯ UAY105ST3~380ST3-FBBE

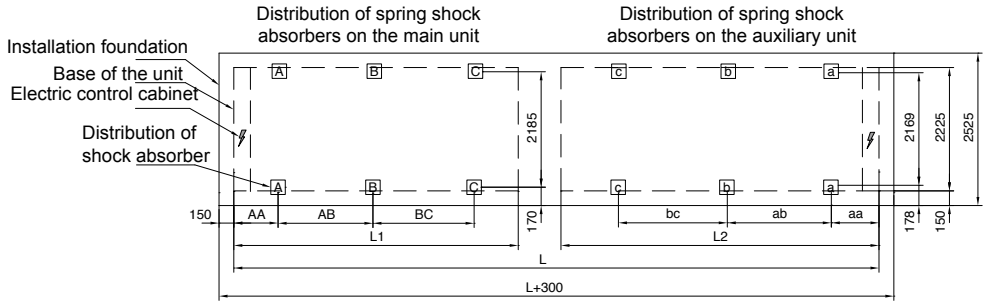


Model	Bearing capacity of spring shock absorber (kg)					
	A	B	C	D	E	F
UAY105ST3-FBBE	805	870	--	--	--	--
UAY125ST3-FBBE	680	700	685	--	--	--
UAY140ST3-FBBE	700	720	710	--	--	--
UAY150ST3-FBBE	875	900	795	--	--	--
UAY175ST3-FBBE	955	980	845	--	--	--
UAY204ST3-FBBE	985	1015	880	--	--	--
UAY220ST3-FBBE	800	830	840	730	--	--
UAY245ST3-FBBE	690	710	660	670	720	685
UAY291ST3-FBBE	750	800	740	750	790	750
UAY348ST3-FBBE	830	860	820	830	855	820
UAY380ST3-FBBE	880	930	900	900	930	880

Model	Installation dimensions of spring shock absorber (mm)								
	L	AA	AB	BC	CD	DE	EF	FG	GH
UAY105ST3-FBBE	3600	1050	1622	--	--	--	--	170	2185
UAY125ST3-FBBE	4500	700	1500	1600	--	--	--	170	2185
UAY140ST3-FBBE	4500	700	1500	1600	--	--	--	170	2185
UAY150ST3-FBBE	5400	1300	1500	1300	--	--	--	178	2169
UAY175ST3-FBBE	6300	1050	2100	2100	--	--	--	178	2169
UAY204ST3-FBBE	6300	1050	2100	2100	--	--	--	178	2169
UAY220ST3-FBBE	7200	1400	1500	1400	1500	--	--	178	2169
UAY245ST3-FBBE	8930	811	1500	1500	1778	1500	1200	178	2169
UAY291ST3-FBBE	9830	811	1500	1500	1778	1500	1500	178	2169
UAY348ST3-FBBE	10730	1311	1900	1500	1778	1500	1500	178	2169
UAY380ST3-FBBE	12530	1500	1581	2100	2101	2101	2097	178	2169

Unit: mm

⑰ UAY266ST3~300ST3-FBBE

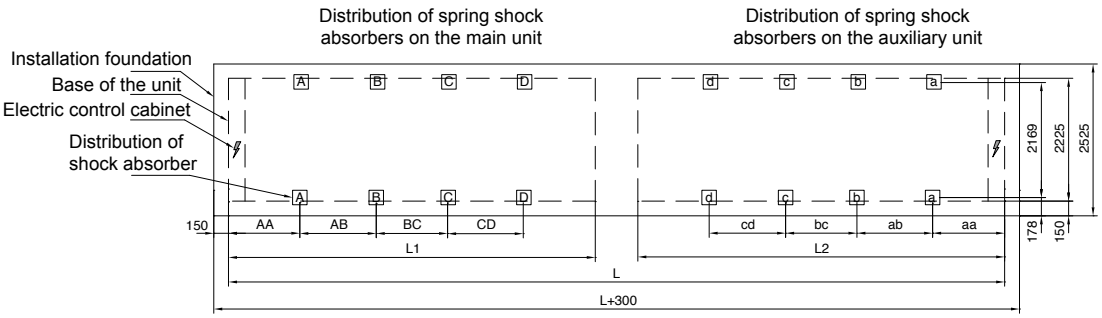


Model	Bearing capacity of spring shock absorber (kg)					
	Main unit			Auxiliary unit		
	A	B	C	a	b	c
UAY266ST3-FBBE	805	870	-	885	910	795
UAY300ST3-FBBE	680	700	695	945	1000	855

Model	Installation dimensions of spring shock absorber (mm)								
		Main unit				Auxiliary units			
	L	L1	AA	AB	BC	L2	aa	ab	bc
UAY266ST3-FBBE	9500	3600	1050	1622	-	5400	1300	1300	1500
UAY300ST3-FBBE	11300	4500	700	1500	1600	6300	1050	2100	2100

Unit: mm

⑱ UAY355ST3~450ST3-FBBE



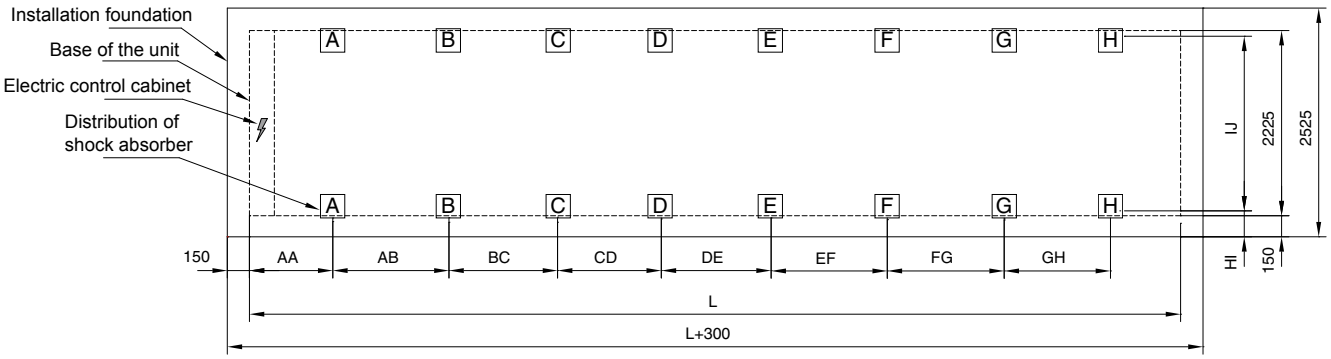
Model	Bearing capacity of spring shock absorber (kg)							
	Main unit				Auxiliary unit			
	A	B	C	D	a	b	c	d
UAY355ST3-FBBE	895	910	785	-	945	1000	855	-
UAY390ST3-FBBE	955	1000	845	-	980	1025	855	-
UAY400ST3-FBBE	985	1025	880	-	980	1025	855	-
UAY415ST3-FBBE	955	1000	845	-	835	865	840	715
UAY424ST3-FBBE	985	1025	880	-	835	865	840	715
UAY450ST3-FBBE	815	840	865	735	835	865	840	715

Model	Installation dimensions of spring shock absorber (mm)										
		Main unit					Auxiliary unit				
	L	L1	AA	AB	BC	CD	L2	aa	ab	bc	cd
UAY355ST3-FBBE	12200	5400	1300	1500	1300	-	6300	1050	2100	2100	-
UAY390ST3-FBBE	13100	6300	1050	2100	2100	-	6300	1050	2100	2100	-
UAY400ST3-FBBE	13100	6300	1050	2100	2100	-	6300	1050	2100	2100	-
UAY415ST3-FBBE	14000	6300	1050	2100	2100	-	7200	1400	1500	1400	1500
UAY424ST3-FBBE	14000	6300	1050	2100	2100	-	7200	1400	1500	1400	1500
UAY450ST3-FBBE	14900	7200	1400	1500	1400	1500	7200	1400	1500	1400	1500

Unit: mm

● Cooling Only - High efficiency series

⑲ UAA105ST3~450ST3-FBBE

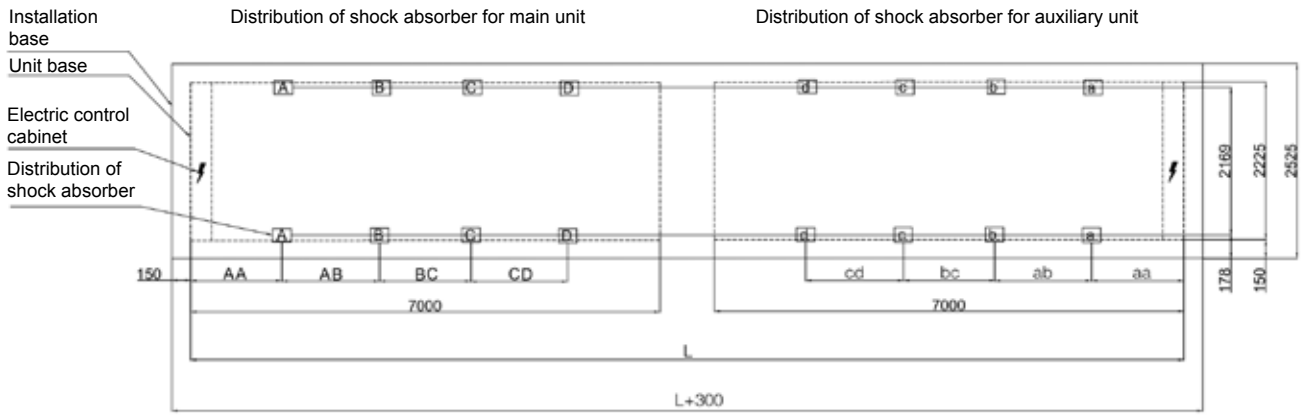


Model	Bearing capacity of spring shock absorber (kg)							
	A	B	C	D	E	F	G	H
UAA105ST3-FBBE	715	760	--	--	--	--	--	--
UAA125ST3-FBBE	625	630	630	--	--	--	--	--
UAA140ST3-FBBE	650	655	630	--	--	--	--	--
UAA150ST3-FBBE	800	810	760	--	--	--	--	--
UAA175ST3-FBBE	800	890	800	--	--	--	--	--
UAA204ST3-FBBE	900	935	825	--	--	--	--	--
UAA220ST3-FBBE	745	760	780	685	--	--	--	--
UAA245ST3-FBBE	610	650	600	610	650	620	--	--
UAA291ST3-FBBE	680	730	670	670	740	680	--	--
UAA348ST3-FBBE	755	755	750	755	755	750	--	--
UAA380ST3-FBBE	815	840	830	830	850	810	--	--
UAA400ST3-FBBE	850	890	850	850	890	830	--	--
UAA450ST3-FBBE	690	710	730	730	690	740	790	765

Model	Installation dimensions of spring shock absorber (mm)										
	L	AA	AB	BC	CD	DE	EF	FG	GH	HI	IJ
UAA105ST3-FBBE	3400	1050	1622	--	--	--	--	--	--	170	2185
UAA125ST3-FBBE	4300	700	1500	1600	--	--	--	--	--	170	2185
UAA140ST3-FBBE	460	700	1500	1600	--	--	--	--	--	170	2185
UAA150ST3-FBBE	5200	1300	1500	1300	--	--	--	--	--	178	2169
UAA175ST3-FBBE	6100	1050	2100	2100	--	--	--	--	--	178	2169
UAA204ST3-FBBE	6100	1050	2100	2100	--	--	--	--	--	178	2169
UAA220ST3-FBBE	7000	1400	1500	1400	1500	--	--	--	--	178	2169
UAA245ST3-FBBE	8530	811	1300	1500	1778	1500	1500	--	--	178	2169
UAA291ST3-FBBE	9430	811	1300	1500	1778	1500	1500	--	--	178	2169
UAA348ST3-FBBE	10330	1100	1911	1500	1778	1500	1500	--	--	178	2169
UAA380ST3-FBBE	12130	1500	1381	2100	2101	2101	2097	--	--	178	2169
UAA400ST3-FBBE	12130	1500	1381	2100	2101	2101	2097	--	--	178	2169
UAA450ST3-FBBE	13930	1200	1800	1500	1700	1600	1600	1600	1600	178	2169

Unit: mm

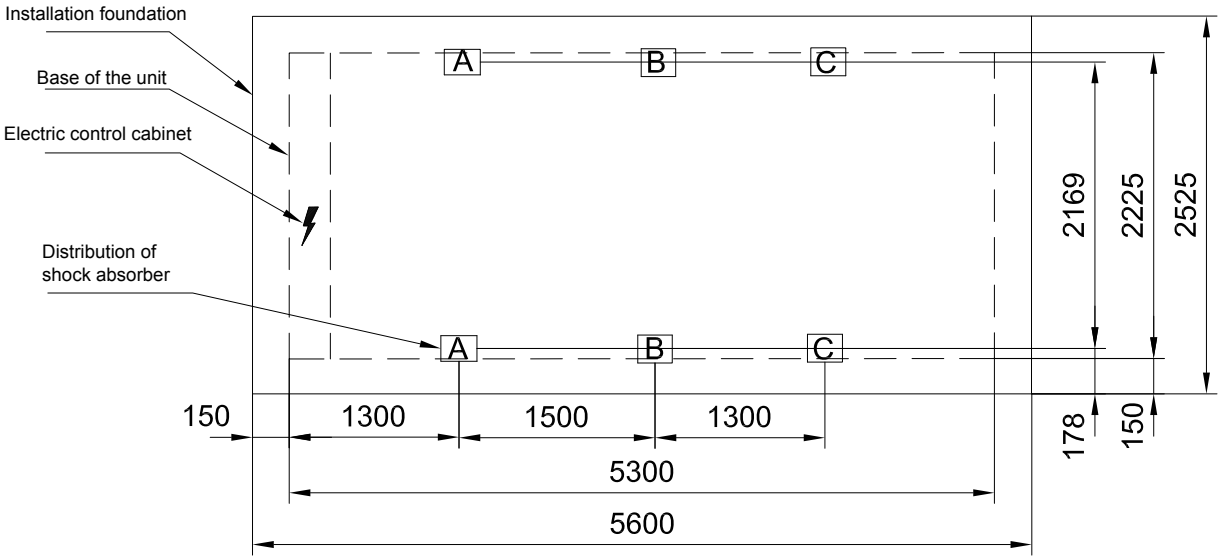
⑳ UAA266ST3~450ST3-FBBE/FBCE (Dual control system)



Model	Bearing capacity of spring shock absorber (kg)							
	Main unit				Auxiliary unit			
	A	B	C	D	a	b	c	d
UAA266ST3-FBBE	705	770			810	830	710	
UAA300ST3-FBBE	620	630	620		865	910	775	
UAA355ST3-FBBE	810	830	710		965	910	775	
UAA380ST3-FBCE	875	910	765		865	910	775	
UAA390ST3-FBBE	875	910	765		900	945	805	
UAA400ST3-FBCE	905	945	800		900	945	805	
UAA415ST3-FBBE	875	910	765		765	790	770	645
UAA424ST3-FBBE	905	945	800		765	790	770	645
UAA450ST3-FBCE	745	770	790	665	765	790	770	645

Model	Installation dimensions of spring shock absorber (mm)								
	L	AA	AB	BC	CD	aa	ab	bc	cd
UAA266ST3-FBBE	9100	1050	1622	--	--	--	1500	1300	1100
UAA300ST3-FBBE	10900	700	1500	1600	--	--	2100	2100	850
UAA355ST3-FBBE	11800	1300	1500	1300	--	--	2100	2100	850
UAA380ST3-FBCE	12700	1050	2100	2100		850	2100	2100	
UAA390ST3-FBBE	12700	1050	2100	2100	--	--	2100	2100	850
UAA400ST3-FBCE	12700	1050	2100	2100		850	2100	2100	
UAA415ST3-FBBE	13600	1050	2100	2100	--	1500	1400	1500	1200
UAA424ST3-FBBE	13600	1050	2100	2100	--	1500	1400	1500	1200
UAA450ST3-FBCE	14500	1400	1500	1400	1500	1200	1500	1400	1500

㉑ UAA150ST3-FDAE

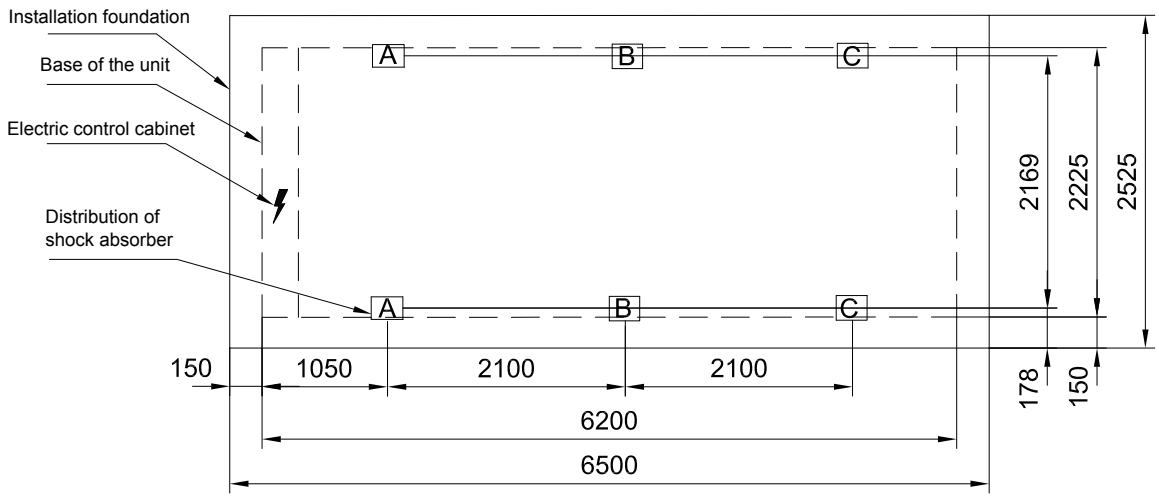


Model	Bearing capacity of spring shock absorber (kg)		
	A	B	C
UAA150ST3-FDAE	925	1030	810

Model	Installation dimensions of spring shock absorber (mm)			
	L	AA	AB	BC
UAA150ST3-FDAE	5300	1300	1500	1300

Unit: mm

㉒ UAA175ST3~204ST3-FDAE

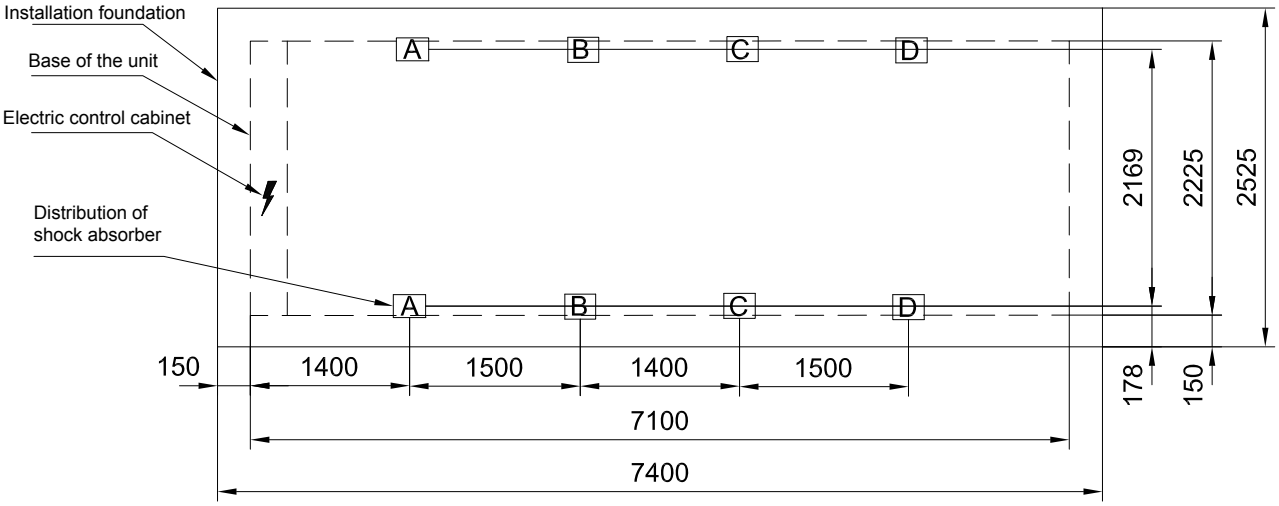


Model	Bearing capacity of spring shock absorber (kg)		
	A	B	C
UAA175ST3-FDAE	970	1085	860
UAA204ST3-FDAE	1000	1120	900

Model	Installation dimensions of spring shock absorber (mm)			
	L	AA	AB	BC
UAA175ST3-FDAE	6200	1050	2100	2100
UAA204ST3-FDAE	6200	1050	2100	2100

Unit: mm

㉓ UAA220ST3-FDAE



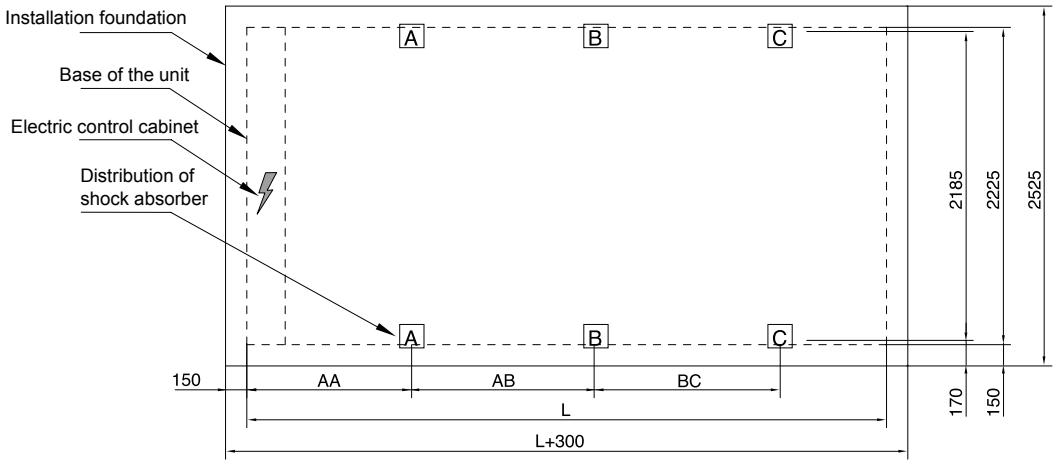
Model	Bearing capacity of spring shock absorber (kg)			
	A	B	C	D
UAA220ST3-FDAE	735	845	920	720

Model	Installation dimensions of spring shock absorber (mm)				
	L	AA	AB	BC	CD
UAA220ST3-FDAE	7100	1400	1500	1400	1500

Unit: mm

• Heat Recovery - High efficiency series

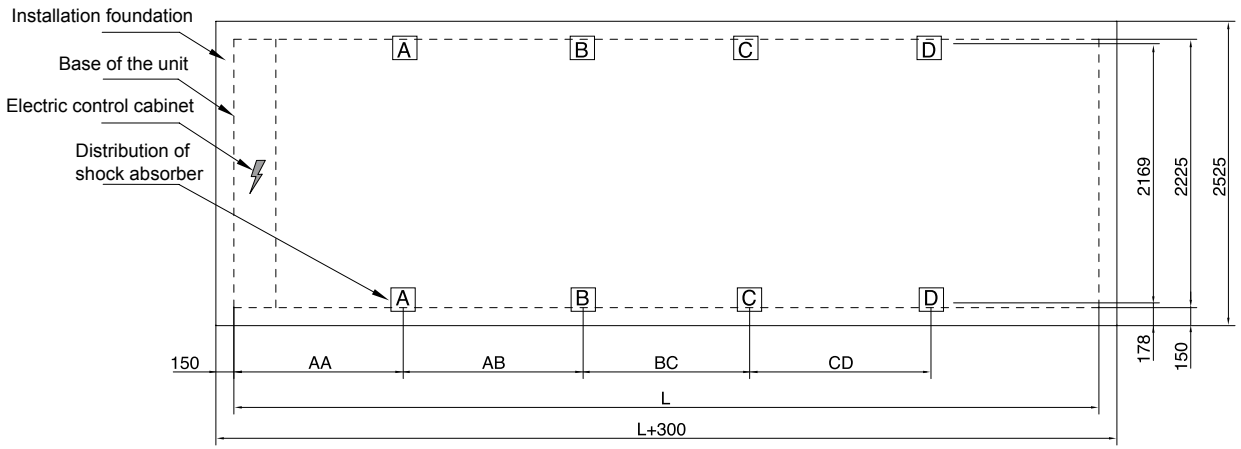
㉔ UAY105SR3~220SR3-FBAE



Model	Bearing capacity of spring shock absorber (kg)		
	A	B	C
UAY105SR3-FBAE	910	915	--
UAY125SR3-FBAE	750	755	750

Model	Installation dimensions of spring shock absorber (mm)			
	L	AA	AB	BC
UAY105SR3-FBAE	3600	1150	1700	--
UAY125SR3-FBAE	4500	1150	1300	1300

Unit: mm



Model	Bearing capacity of spring shock absorber (kg)			
	A	B	C	D
UAY150SR3-FBAE	920	925	930	--
UAY175SR3-FBAE	935	990	1050	--
UAY204SR3-FBAE	945	1020	1100	--
UAY220SR3-FBAE	925	890	825	795

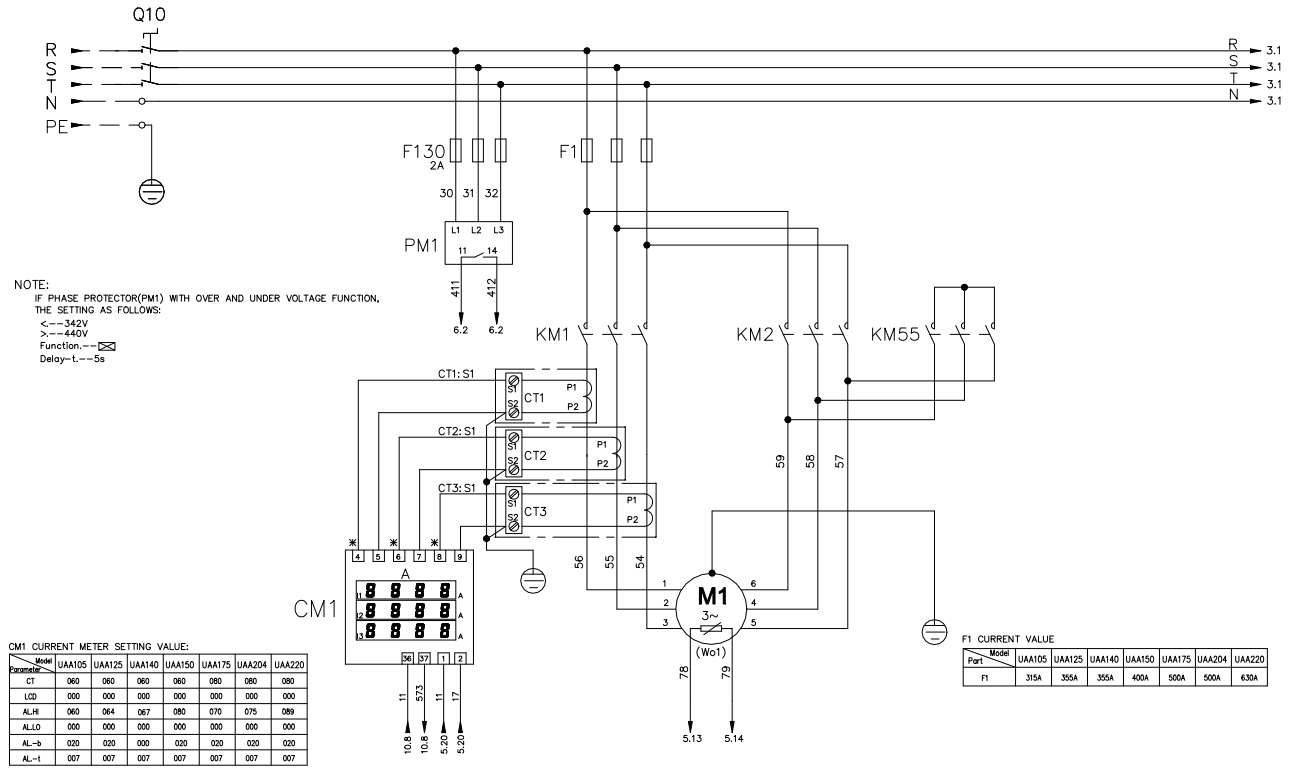
Model	Installation dimensions of spring shock absorber (mm)				
	L	AA	AB	BC	CD
UAY150SR3-FBAE	5400	1400	1350	1350	--
UAY175SR3-FBAE	6300	1050	2100	2100	--
UAY204SR3-FBAE	6300	1050	2100	2100	--
UAY220SR3-FBAE	7200	1400	1500	1400	1500

Unit: mm

8. Wiring Diagram

● UAA105/125/140/150/175/204/220ST3

COMPRESSOR1 POWER SUPPLY



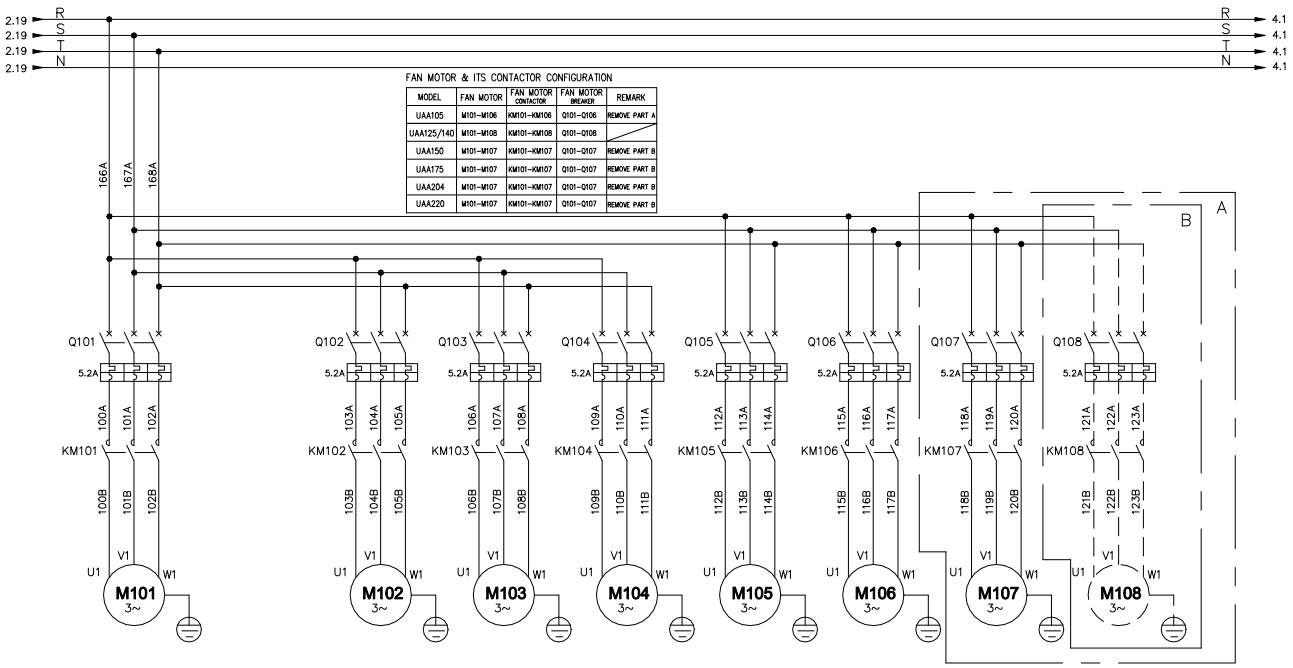
CM1 CURRENT METER SETTING VALUE:

Parameter \ Model	UAA105	UAA125	UAA140	UAA150	UAA175	UAA204	UAA220
CT	060	060	060	060	080	080	080
LCD	000	000	000	000	000	000	000
AL.HI	060	064	067	080	070	075	089
AL.LO	000	000	000	000	000	000	000
AL.-b	020	020	000	020	020	020	020
AL.-t	007	007	007	007	007	007	007

F1 CURRENT VALUE

Part \ Model	UAA105	UAA125	UAA140	UAA150	UAA175	UAA204	UAA220
F1	315A	355A	355A	400A	500A	500A	630A

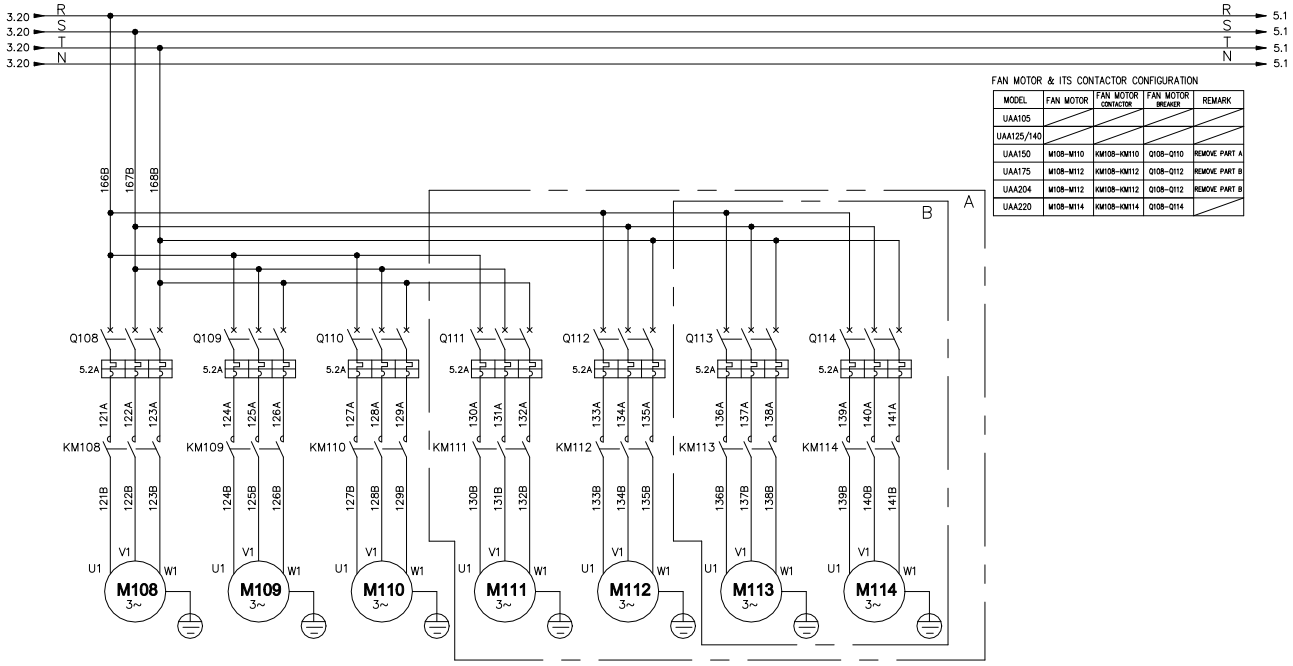
FAN1 POWER SUPPLY



FAN MOTOR & ITS CONTACTOR CONFIGURATION

MODEL	FAN MOTOR	FAN MOTOR CONTACTOR	FAN MOTOR BREAKER	REMARK
UAA105	M101~M106	KM101~KM106	Q101~Q106	REMOVE PART A
UAA125/140	M101~M108	KM101~KM108	Q101~Q108	
UAA150	M101~M107	KM101~KM107	Q101~Q107	REMOVE PART B
UAA175	M101~M107	KM101~KM107	Q101~Q107	REMOVE PART B
UAA204	M101~M107	KM101~KM107	Q101~Q107	REMOVE PART B
UAA220	M101~M107	KM101~KM107	Q101~Q107	REMOVE PART B

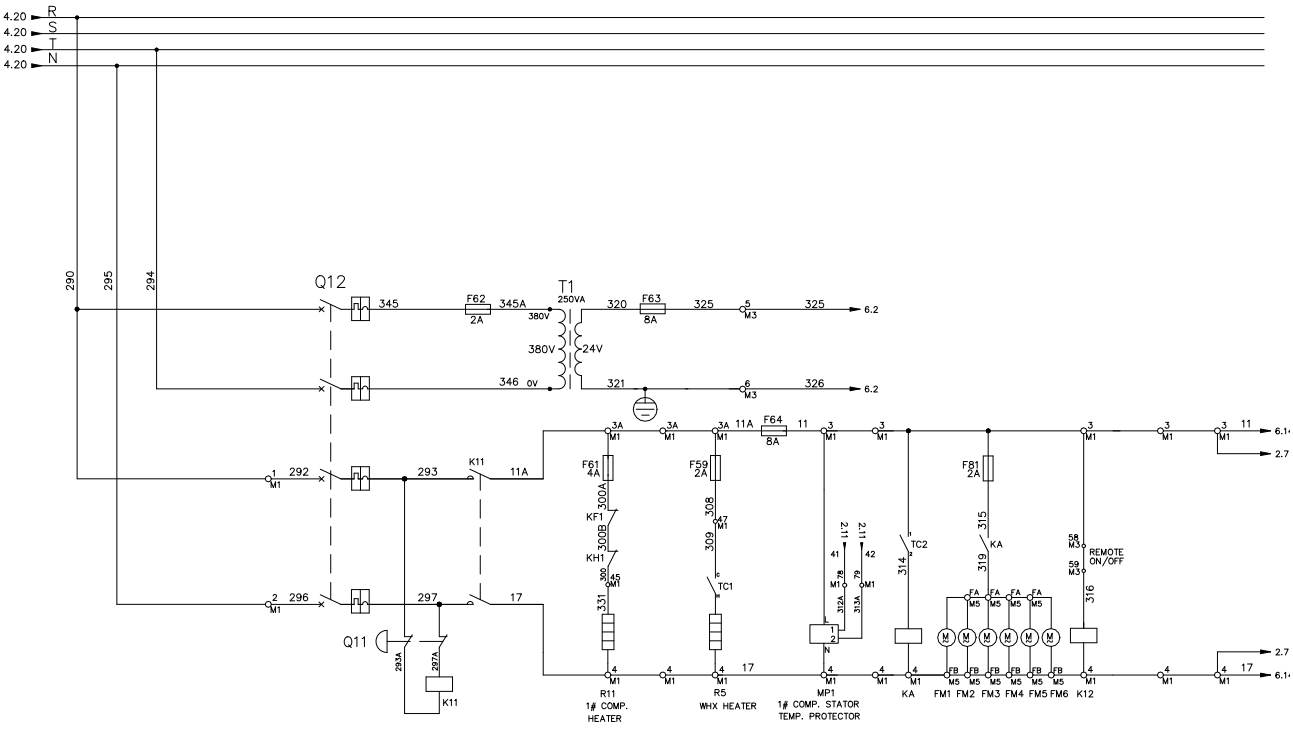
FAN1 POWER SUPPLY



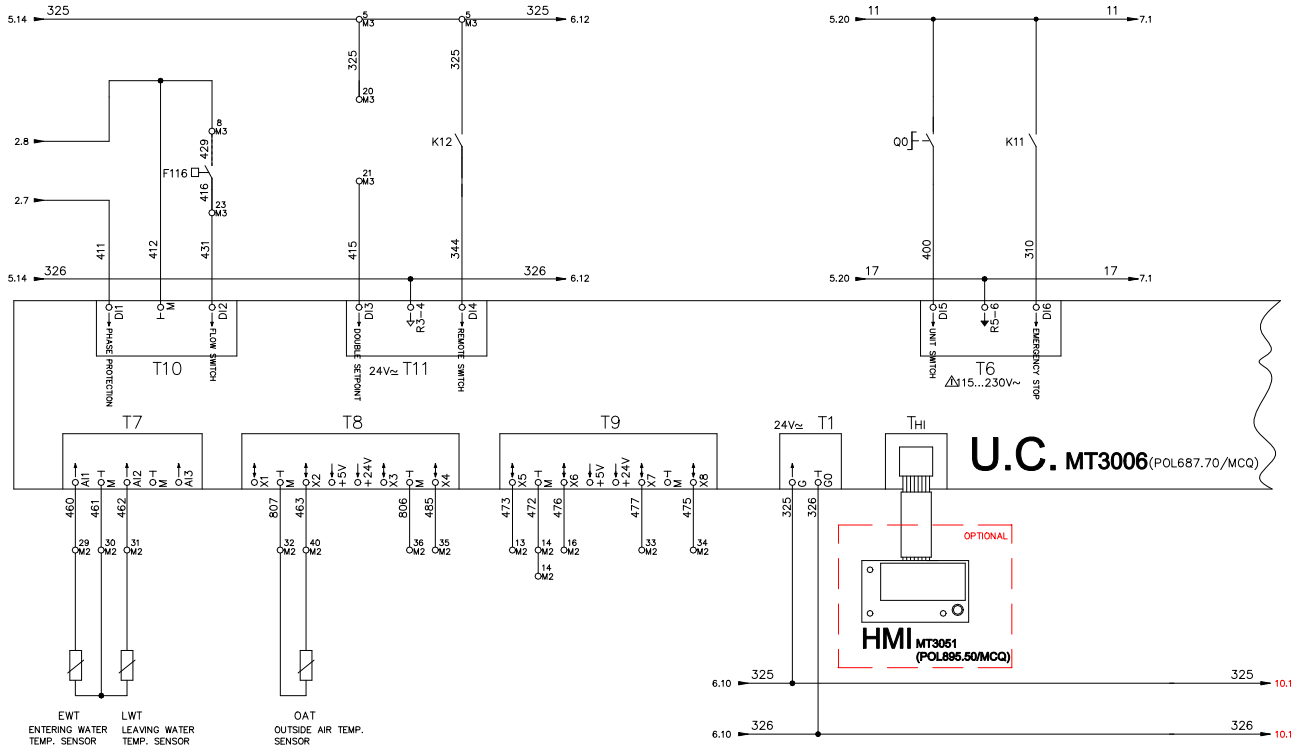
FAN MOTOR & ITS CONTACTOR CONFIGURATION

MODEL	FAN MOTOR	FAN MOTOR CONTACTOR	FAN MOTOR BREAKER	REMARK
UAA105				
UAA125/140				
UAA150	M108~M110	KM108~KM110	Q108~Q110	REMOVE PART A
UAA175	M108~M112	KM108~KM112	Q108~Q112	REMOVE PART B
UAA204	M108~M112	KM108~KM112	Q108~Q112	REMOVE PART B
UAA220	M108~M114	KM108~KM114	Q108~Q114	

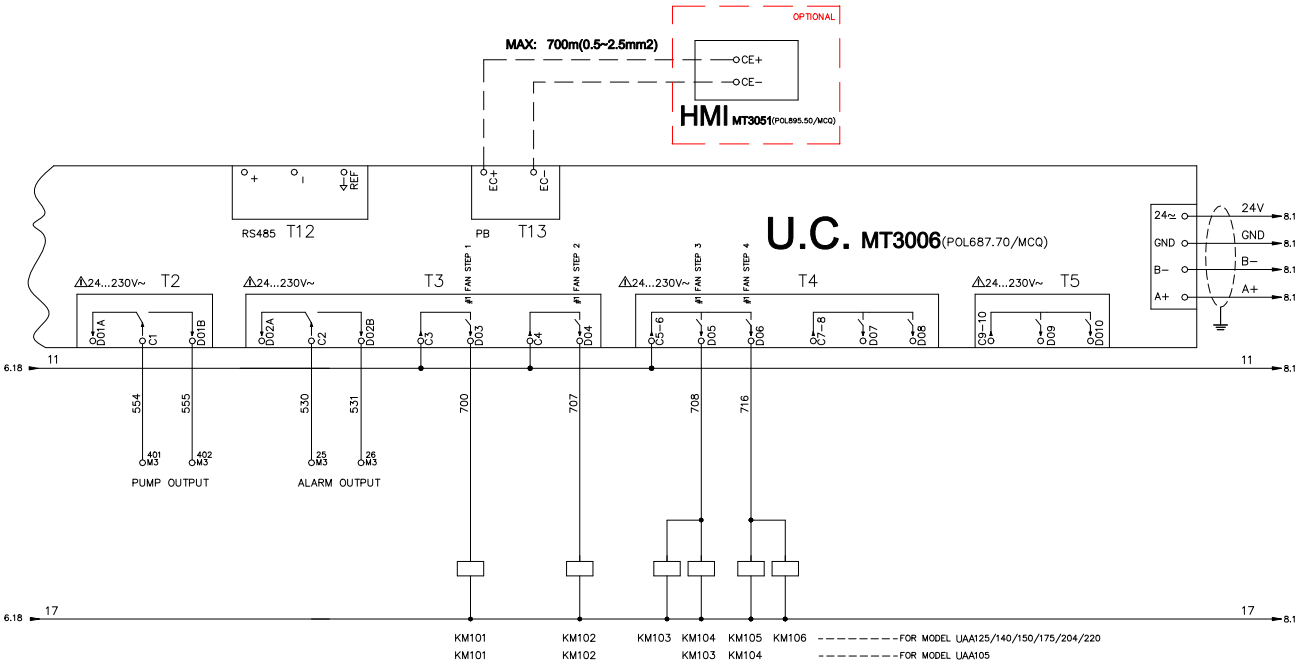
CONTROL POWER SUPPLY



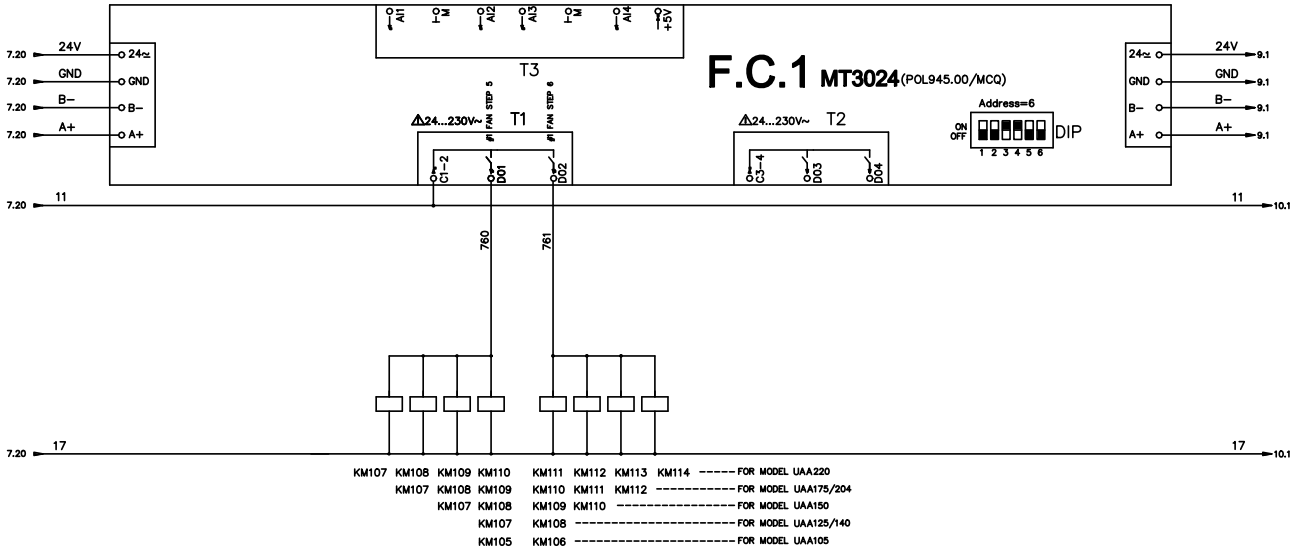
ANALOG INPUTS-OUTPUTS & DIGITAL INPUTS BOARD



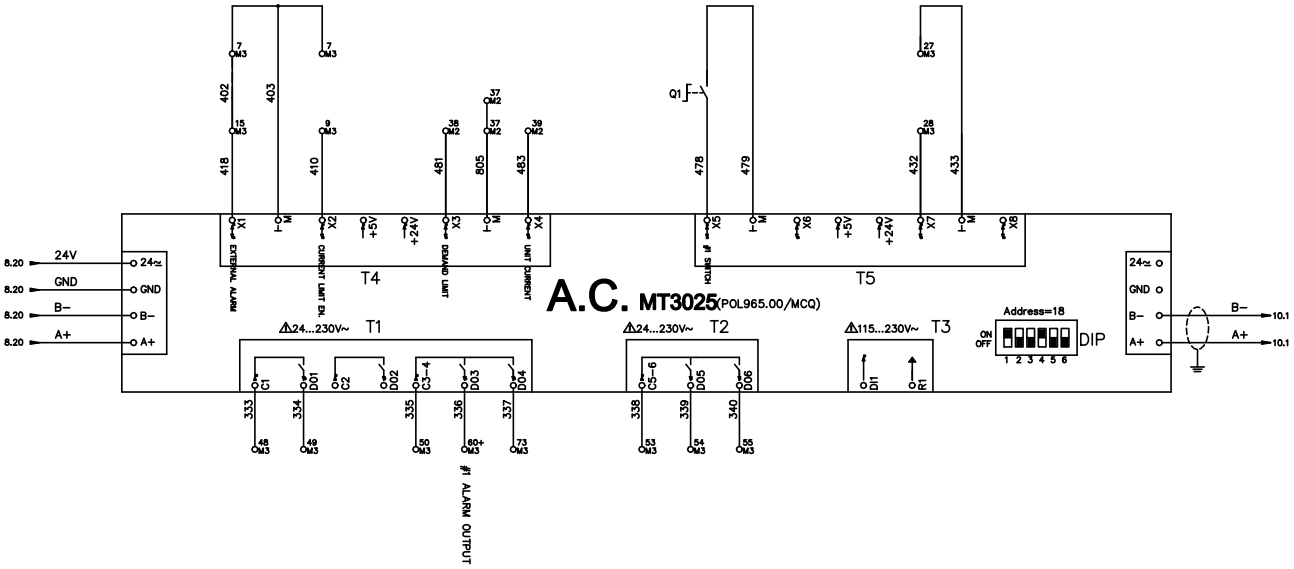
DIGITAL OUTPUTS BOARD



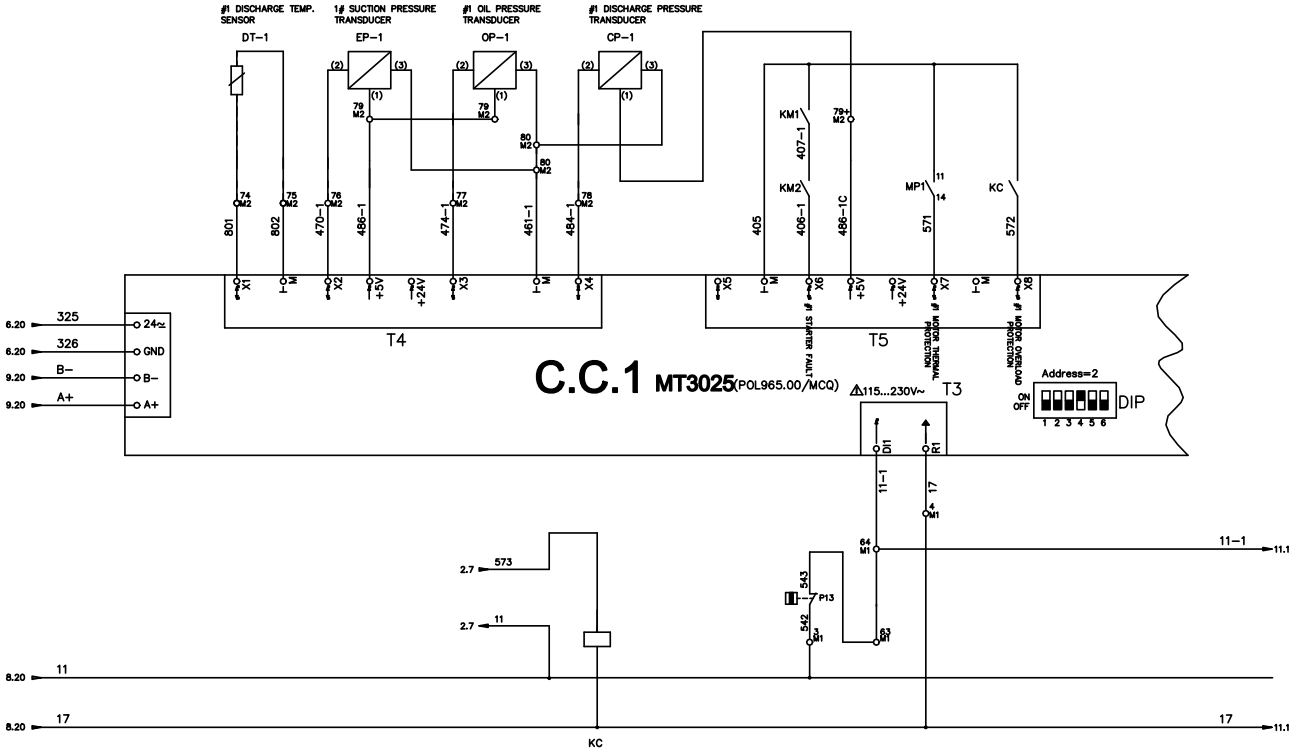
EXPANSION OUTPUTS, FANS CONTROL



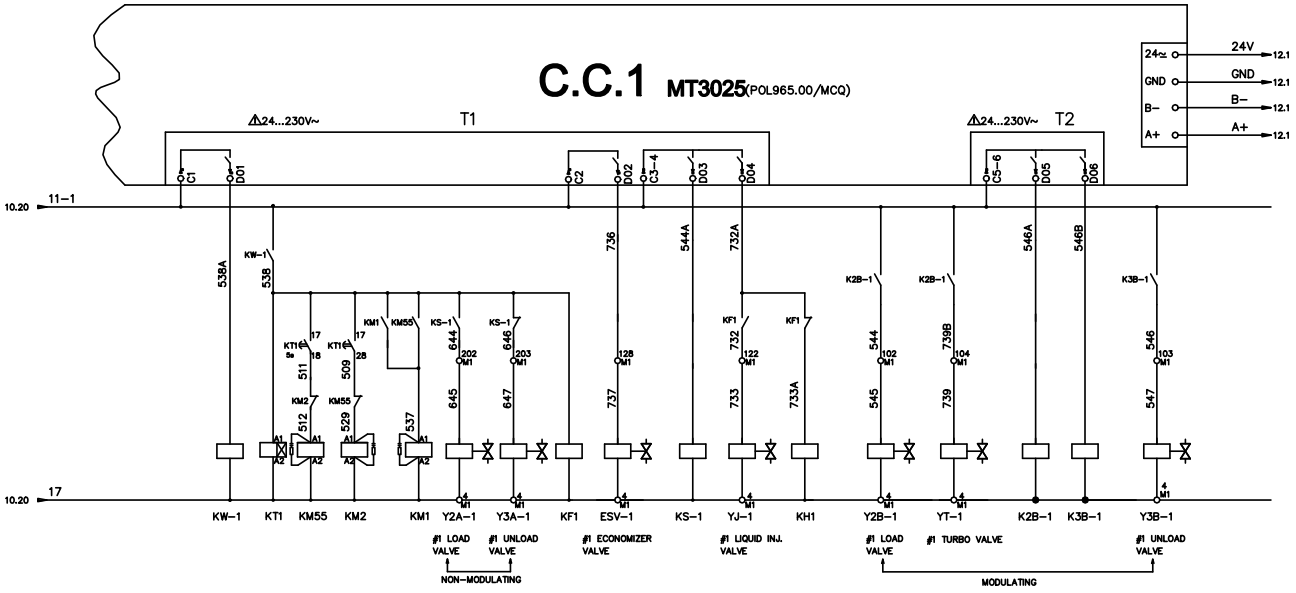
EXPANSION INPUT/OUTPUT,UNIT ALARM & LIMITNG



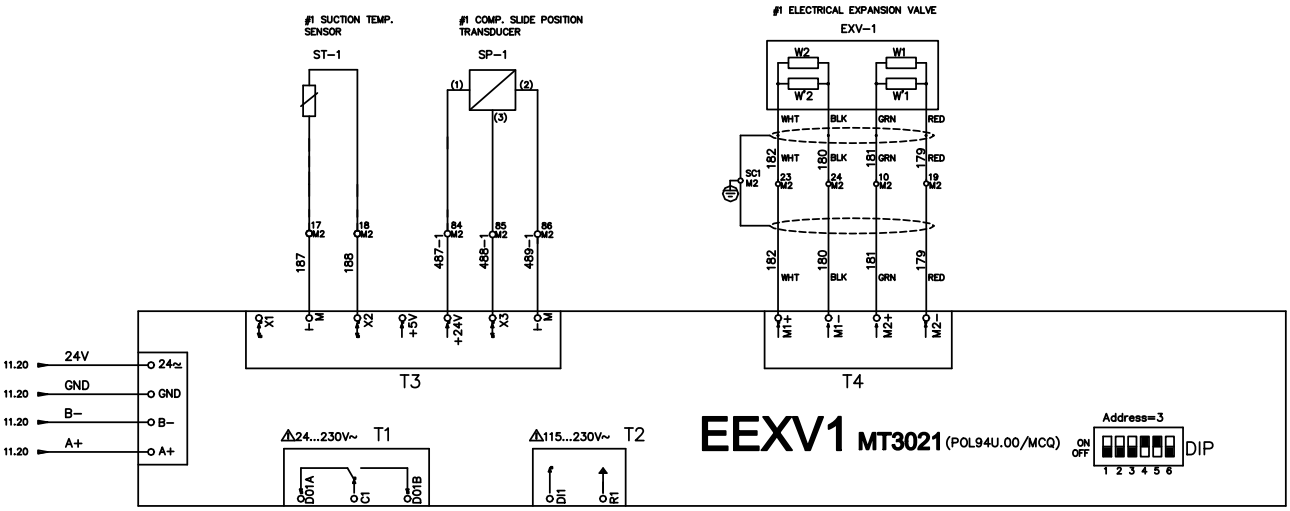
EXPANSION OUTPUTS,COMPRESSOR1 CONTROL



EXPANSION OUTPUTS,COMPRESSOR1 CONTROL



COMPRESSOR1 EEXV CONTROL



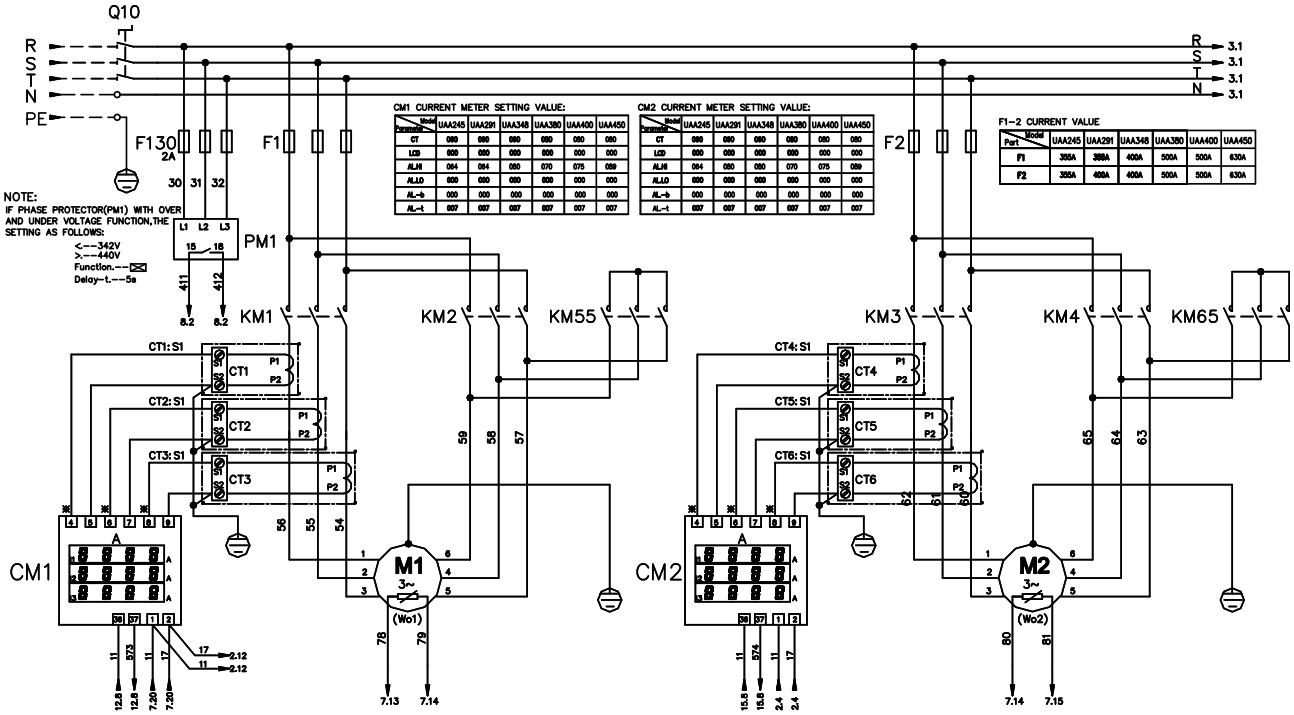
SYMBOL DESCRIPTION

ITEM	SYMBOL	DESCRIPTION	ITEM	SYMBOL	DESCRIPTION
1	Q10	MAIN SWITCH	34	P13	#1 HIGH PRESSURE SWITCH
2	F1	COMPRESSOR & FAN FUSE	35	EWT	ENTERING WATER TEMPERATURE SENSOR
3	PM1	PHASE PROTECTOR	36	LWT	LEAVING WATER TEMPERATURE SENSOR
4	KM1-2,KM55	COMPRESSOR CONTACTOR	37	OAT	OUTSIDE AIR TEMPERATURE SENSOR
5	CM1	PROGRAMMABLE CURRENT METERS	38	DT-1	#1 DISCHARGE TEMPERATURE SENSOR
6	M1	COMPRESSOR	39	EP-1	#1 SUCTION PRESSURE TRANSDUCER
7	Q12,Q101-114	CONTROL CIRCUIT BREAKER & FAN BREAKER	40	OP-1	#1 OIL PRESSURE TRANSDUCER
8	KT1	TIME RELAY	41	CP-1	#1 CONDENSER PRESSURE TRANSDUCER
9	KM101-114	FAN CONTACTOR	42	ST-1	#1 SUCTION TEMPERATURE SENSOR
10	M101-114	FAN MOTOR	43	Wo1	#1 COMPRESSOR STATOR TEMPERATURE PROBE
11	F59,F61-64,F81,F130	FUSE	44	EXV1	#1 ELECTRICAL EXPANSION VALVE
12	T1	CONTROL TRANSFORMER	45	HMI	HUMAN MACHINE INTERFACE
13	Q11	EMERGENCY SWITCH	46	U.C.	UNIT CONTROL BOARD
14	R11	COMPRSSOR CRANKCASE HEATER	47	F.C.1	FAN CONTROL BOARD
15	R5	WATER HEAT EXCHANGE HEATER	48	C.C.1	#1 COMPRESSOR CONTROL BOARD
16	MP1	COMPRESSOR STATOR TEMPERATURE PROTECTOR	49	EEXV1	#1 ELECTRICAL EXPANSION VALVE CONTROL BOARD
17	TC1	EVAPORATOR THERMOSTAT(<3°C,CLOSED;>8°C,OPEN)	50	A.C.	ALARM CONTROL BOARD
18	K11,K12,KS-1,K2B-1,KW-1 K3B-1,KA,KC,KF1,KH1	RELAY	51	TC2	EXHAUST FAN THERMOSTAT(>40°C,CLOSED)
19	F116	FLOW SWITCH	52	FM1-6	EXHAUST FAN MOTOR
20	Q0	ON-OFF UNIT SWITCH	53	CT1-3	#1 CURRENT TRANSFORMER
21	Q1	ON-OFF COMPRESSOR1 SWITCH	54		
22	Y2A-1	#1 LOAD SOLENOID VALVE(NON-MODULATING)	55		
23	Y3A-1	#1 UNLOAD SOLENOID VALVE(NON-MODULATING)	56		
24	ESV-1	#1 ECONOMIZER SOLENOID VALVE	57		
25	YJ-1	#1 LIQUID INJECTION SOLENOID VALVE	58		
26	YT-1	#1 TURBO SOLENOID VALVE	59		
27	Y2B-1	#1 LOAD SOLENOID VALVE(MODULATING)	60		
28	Y3B-1	#1 UNLOAD SOLENOID VALVE(MODULATING)			
29	SP-1	#1 COMPRESSOR SLIDE POSITION TRANSDUCER			
30					
31					
32					
33					

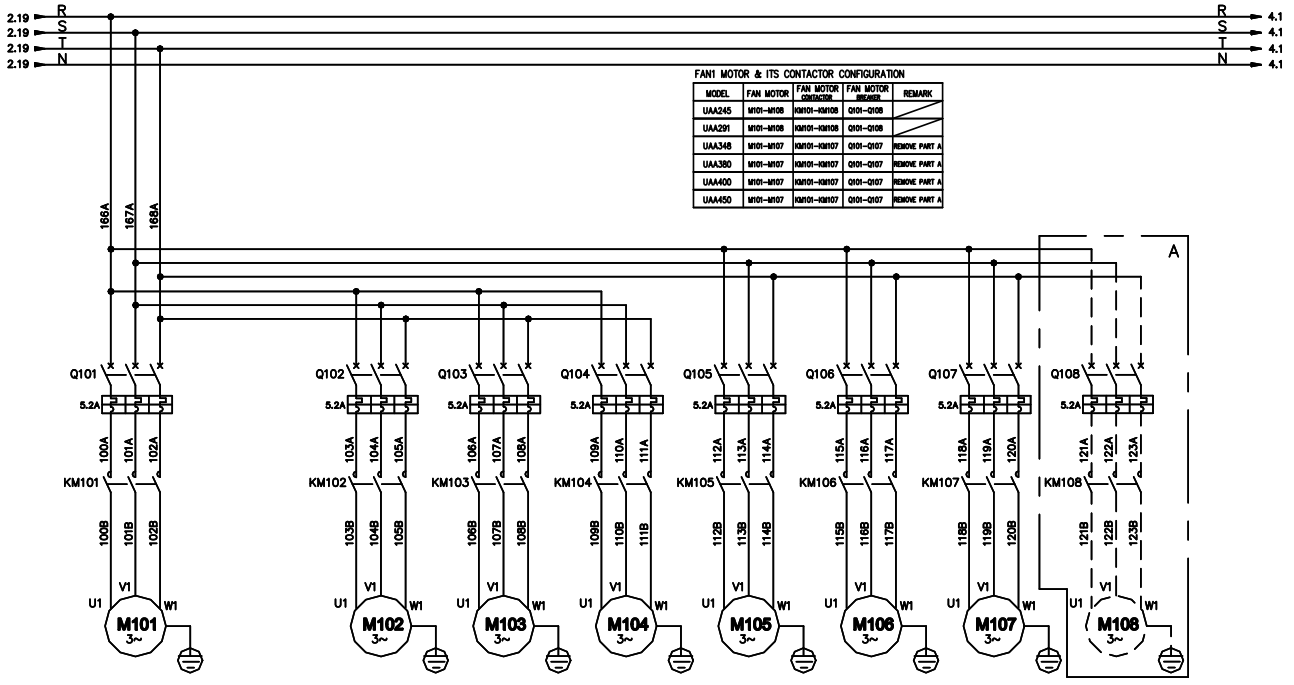
Note: The main and auxiliary unit wiring diagram are same with single unit.

● UAA245/291/348/380/400/450ST3

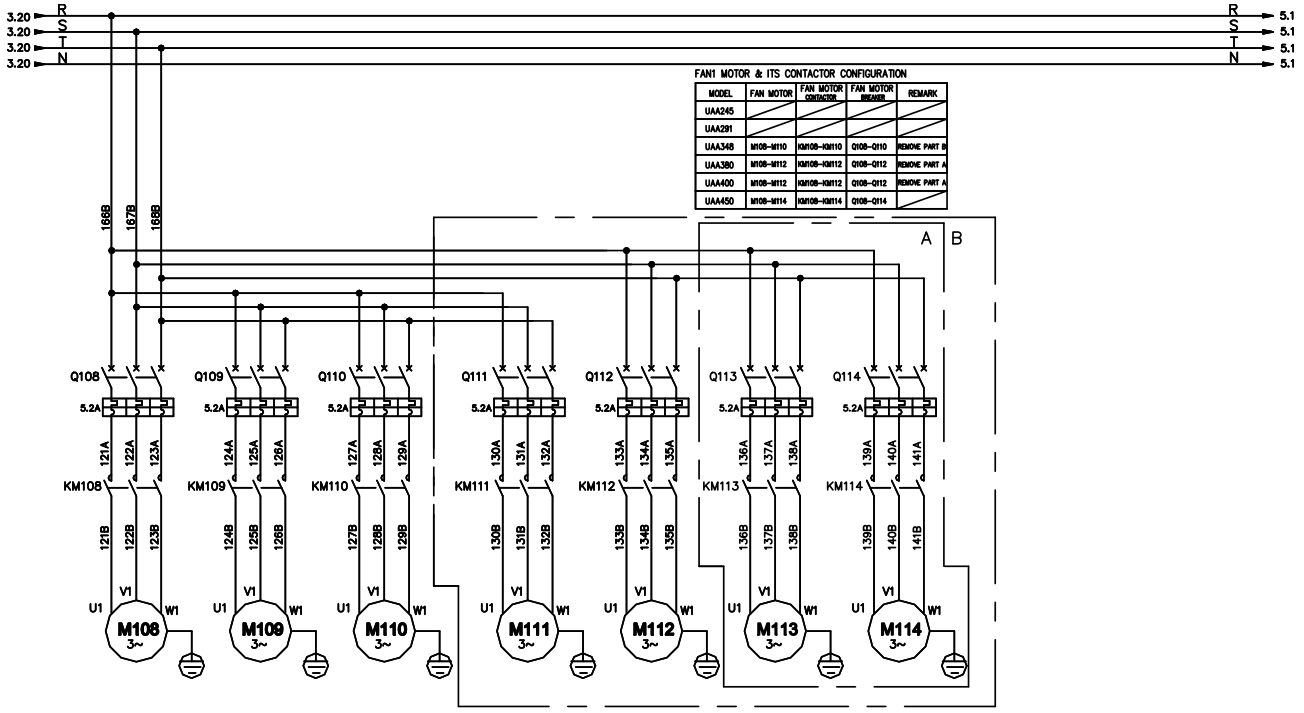
COMPRESSOR1-2 POWER SUPPLY



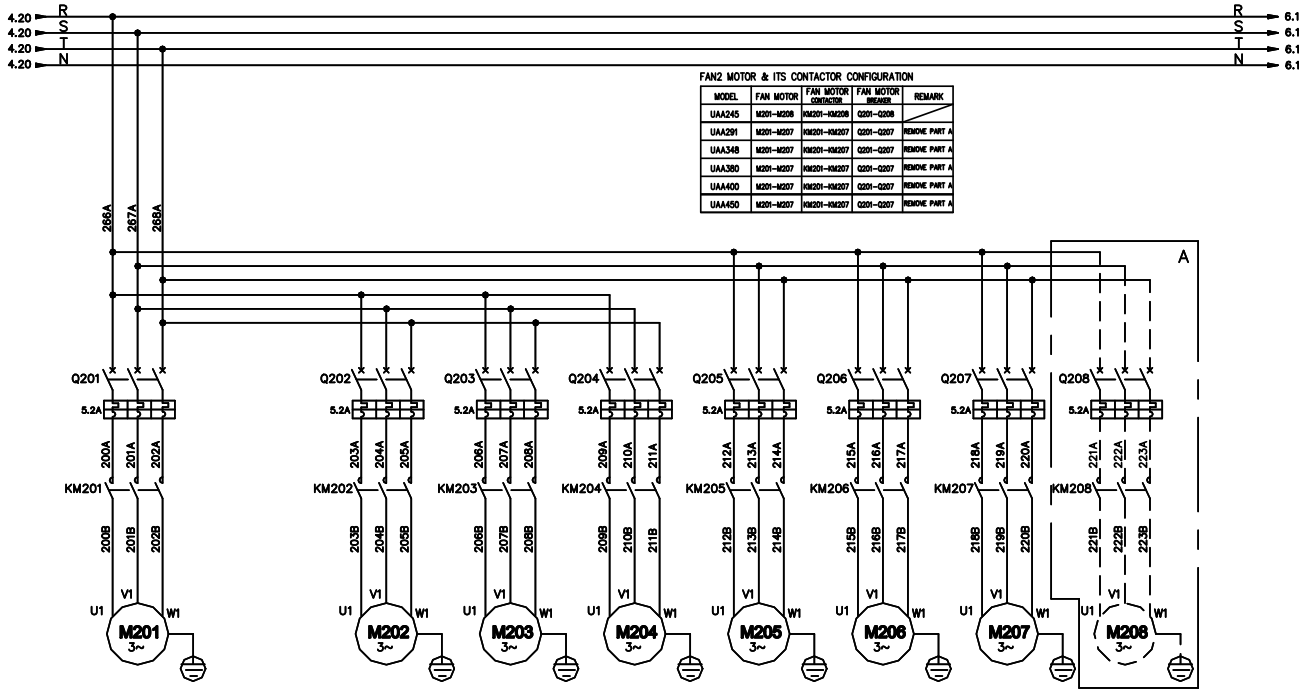
FAN1 POWER SUPPLY



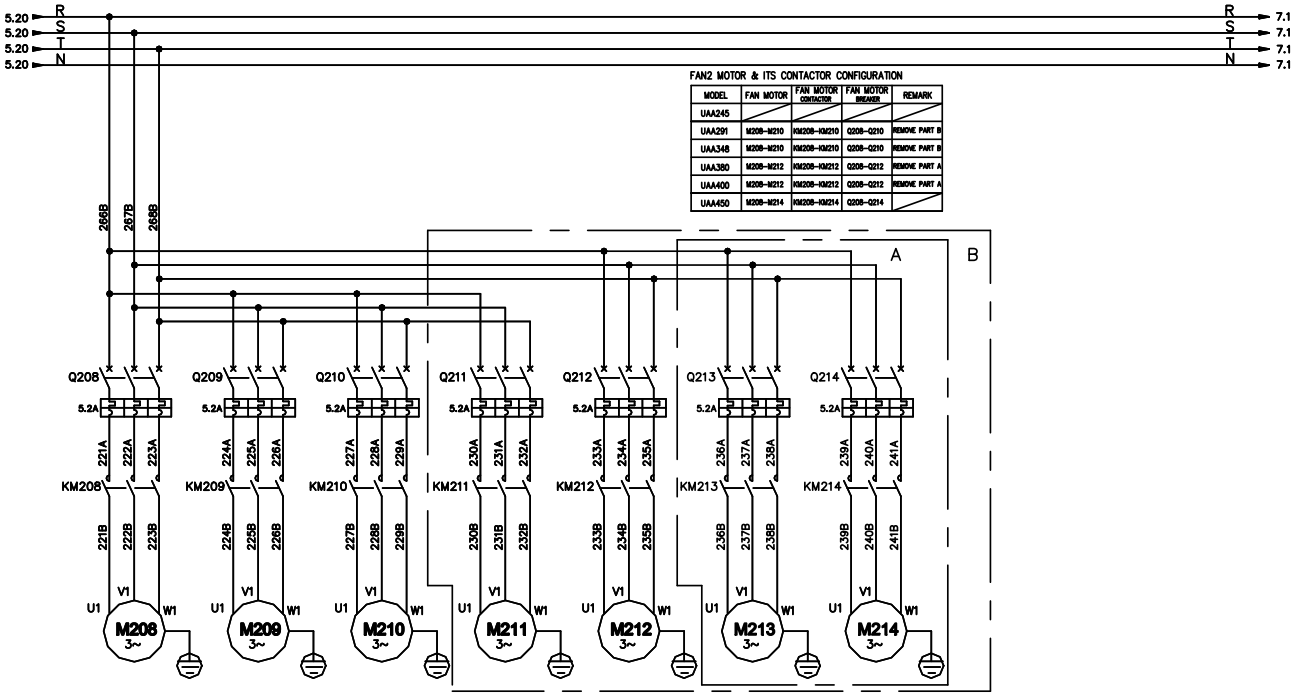
FAN1 POWER SUPPLY



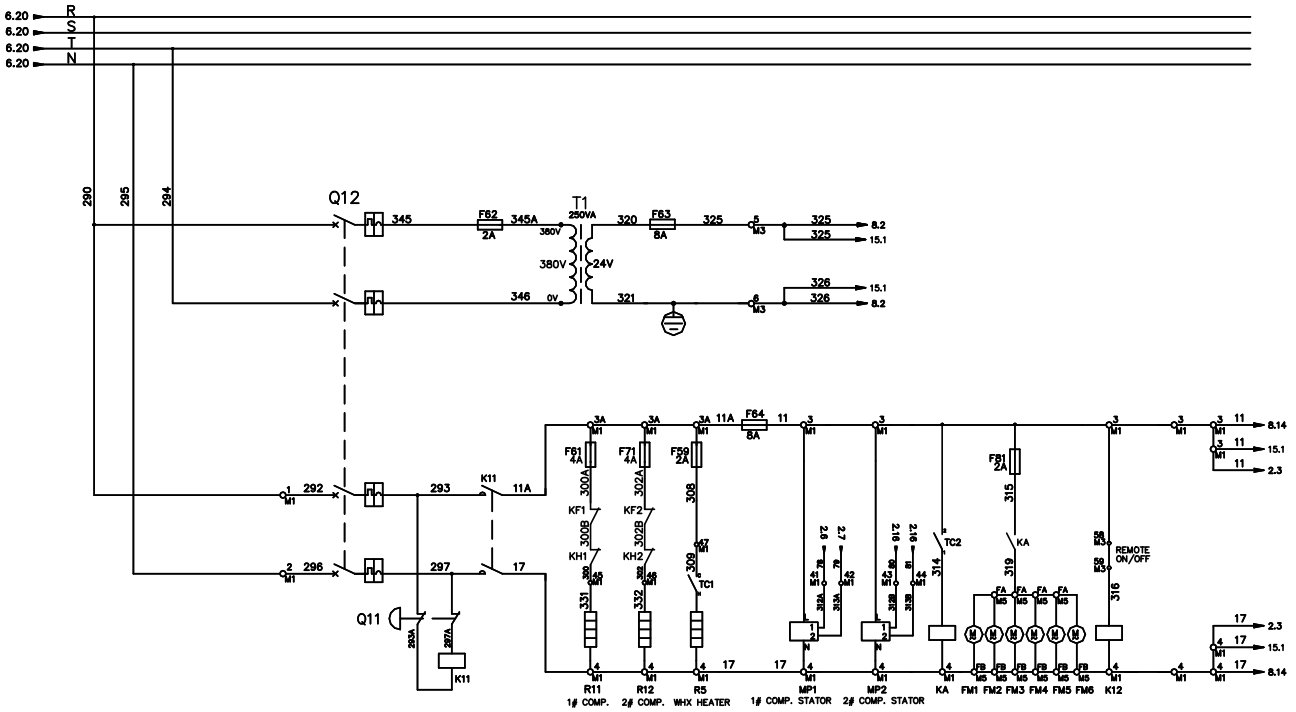
FAN2 POWER SUPPLY



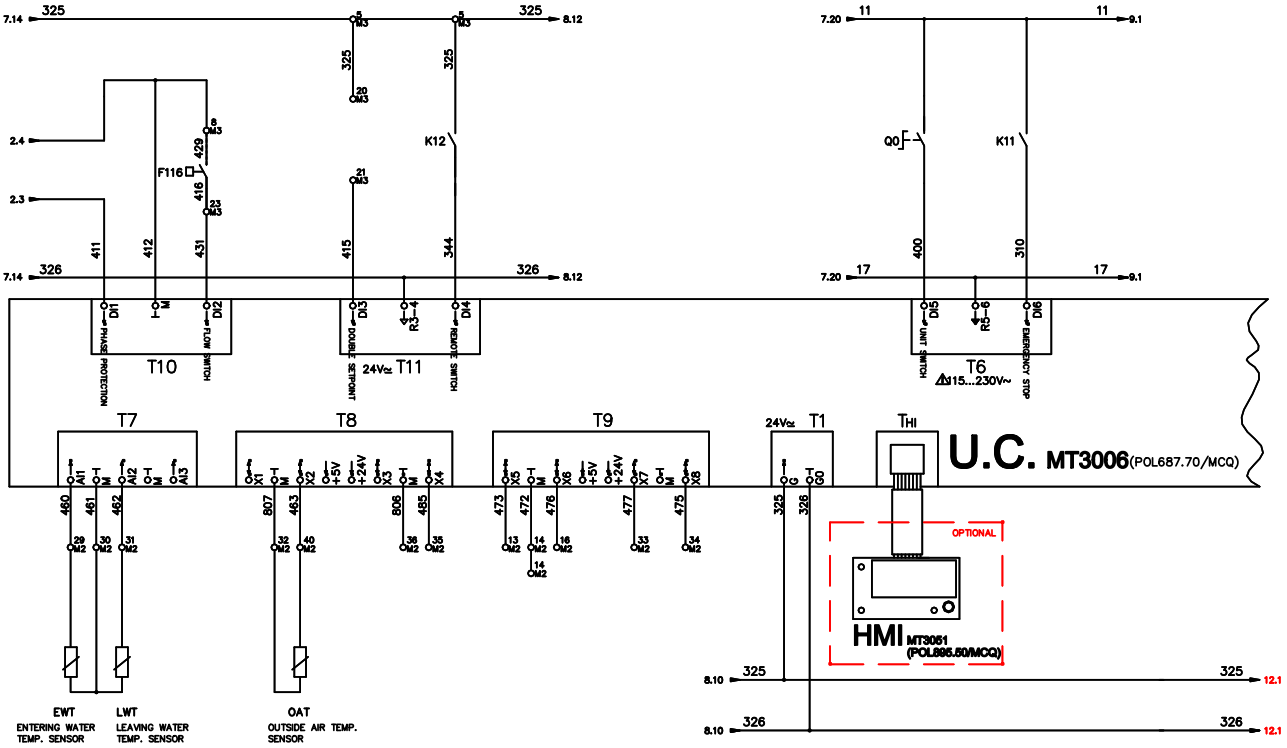
FAN2 POWER SUPPLY



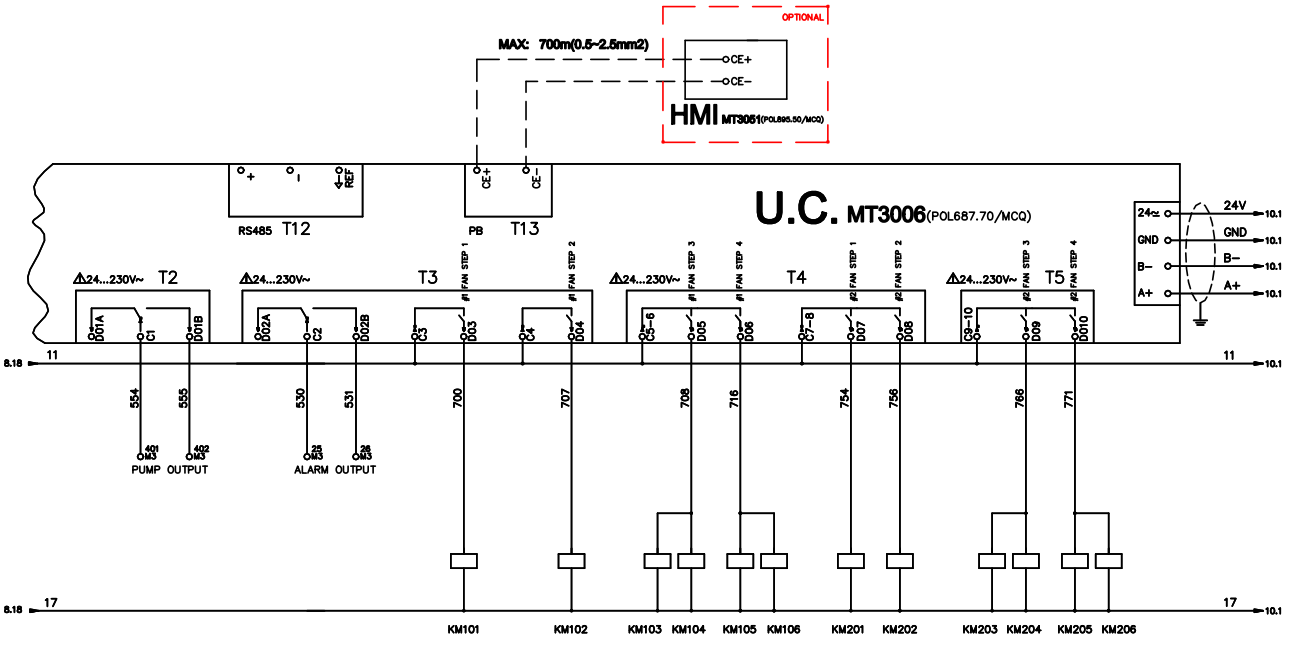
CONTROL POWER SUPPLY



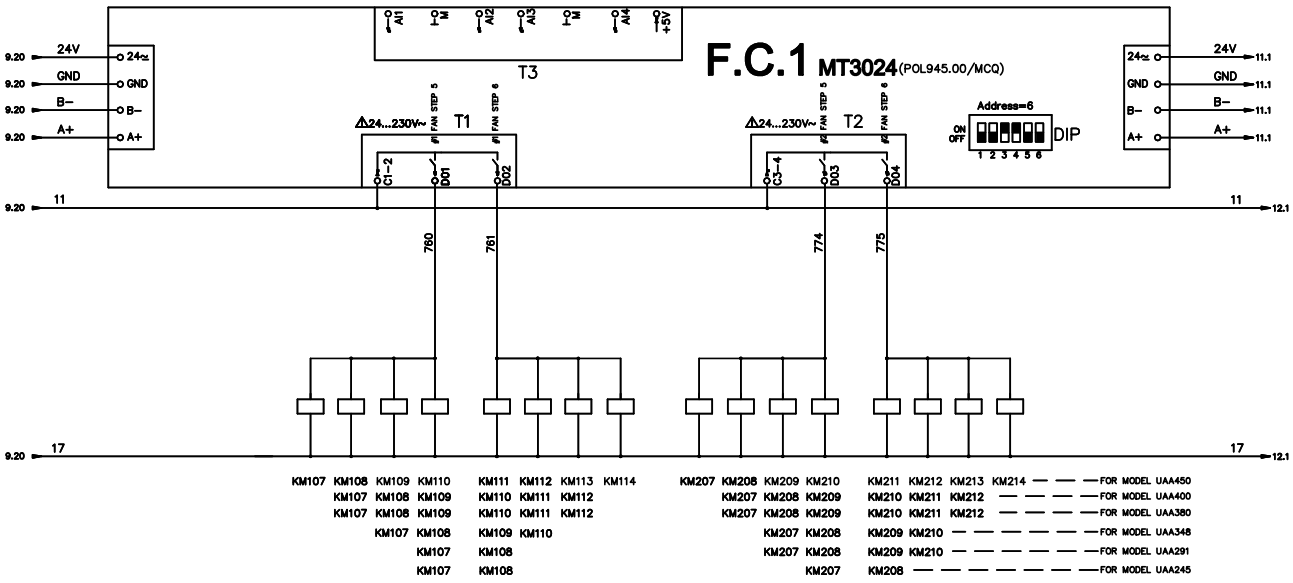
ANALOG INPUTS-OUTPUTS & DIGITAL INPUTS BOARD



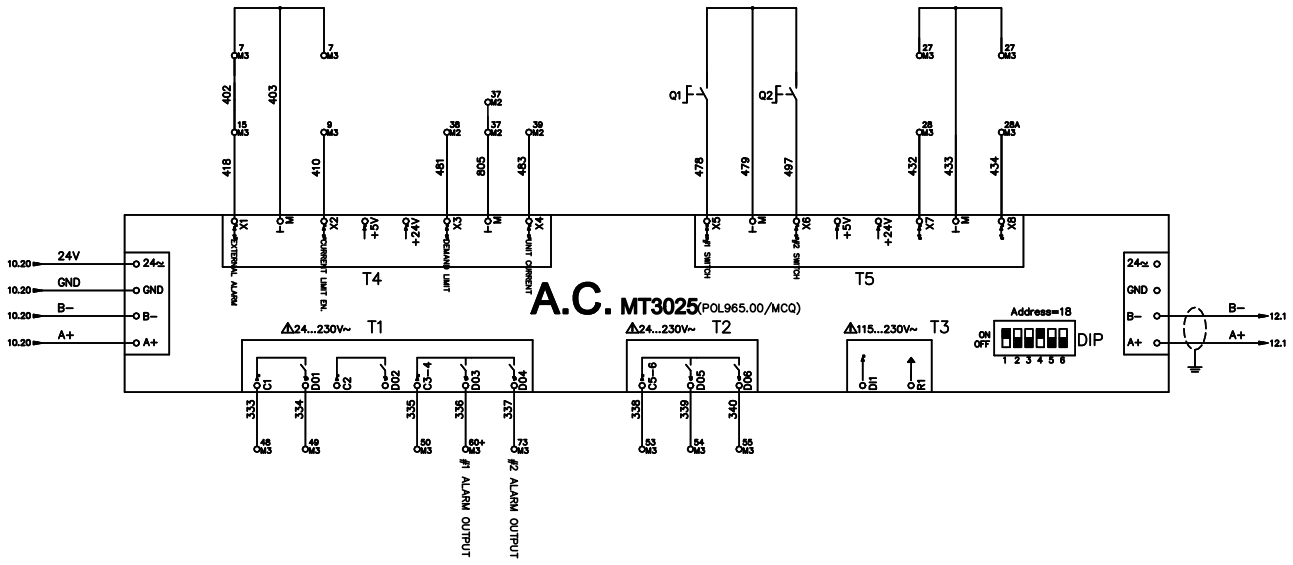
DIGITAL OUTPUTS BOARD



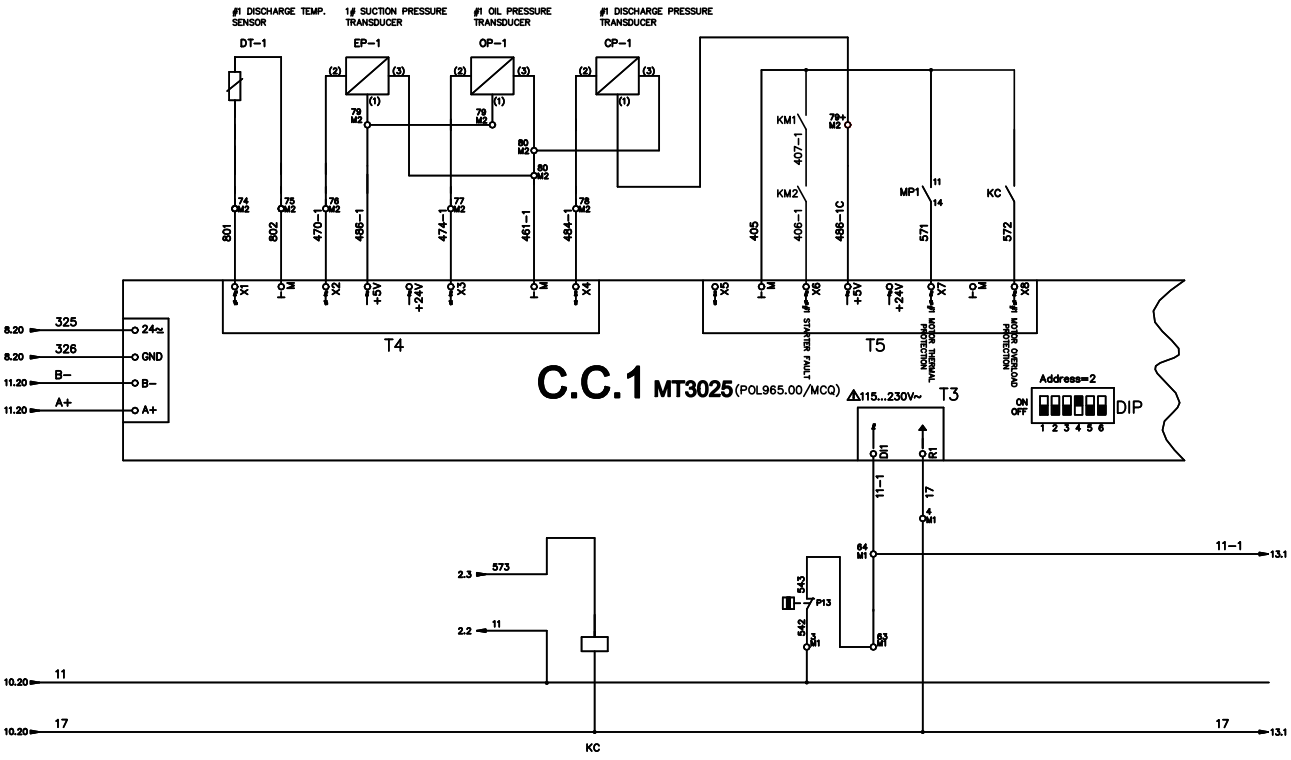
EXPANSION OUTPUTS,FANS1-2 CONTROL



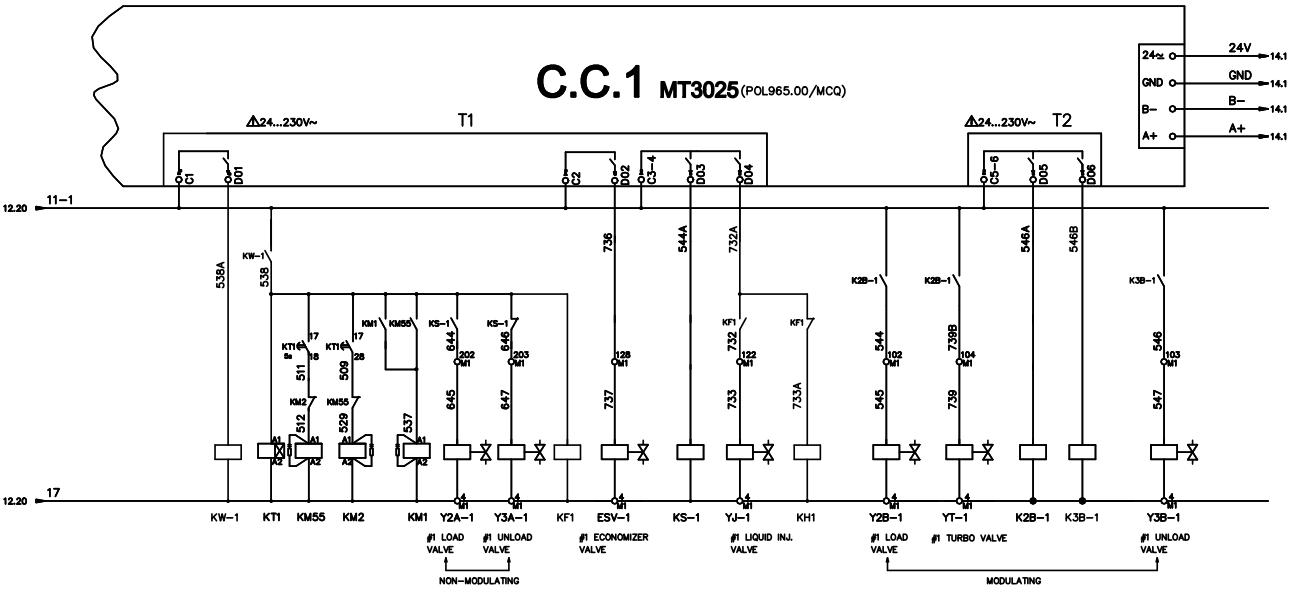
EXPANSION INPUTS/OUTPUTS, UNIT ALARM & LIMITING



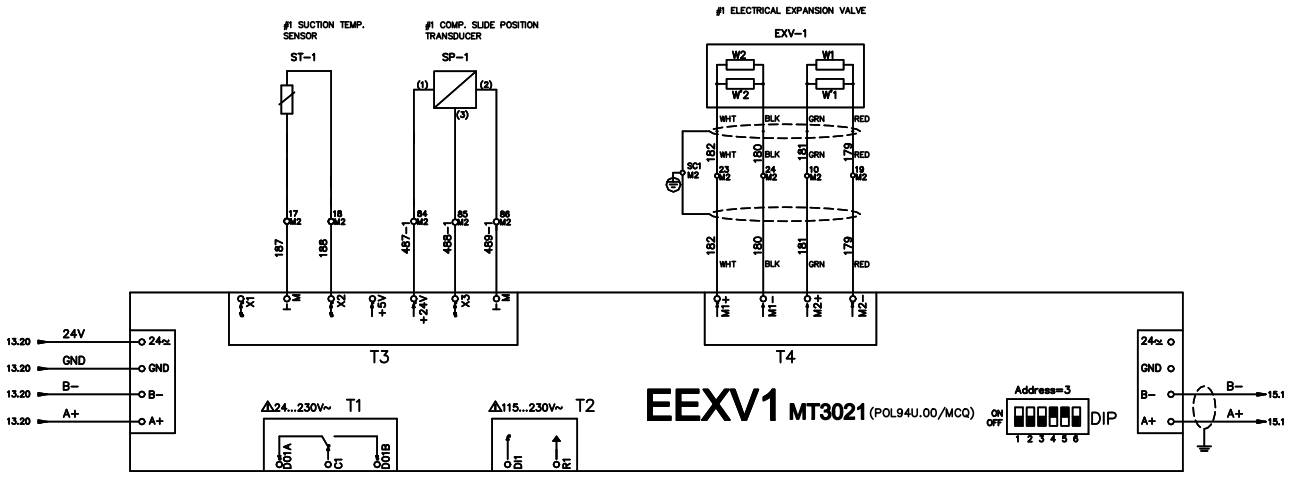
EXPANSION INPUTS,COMPRESSOR1 CONTROL



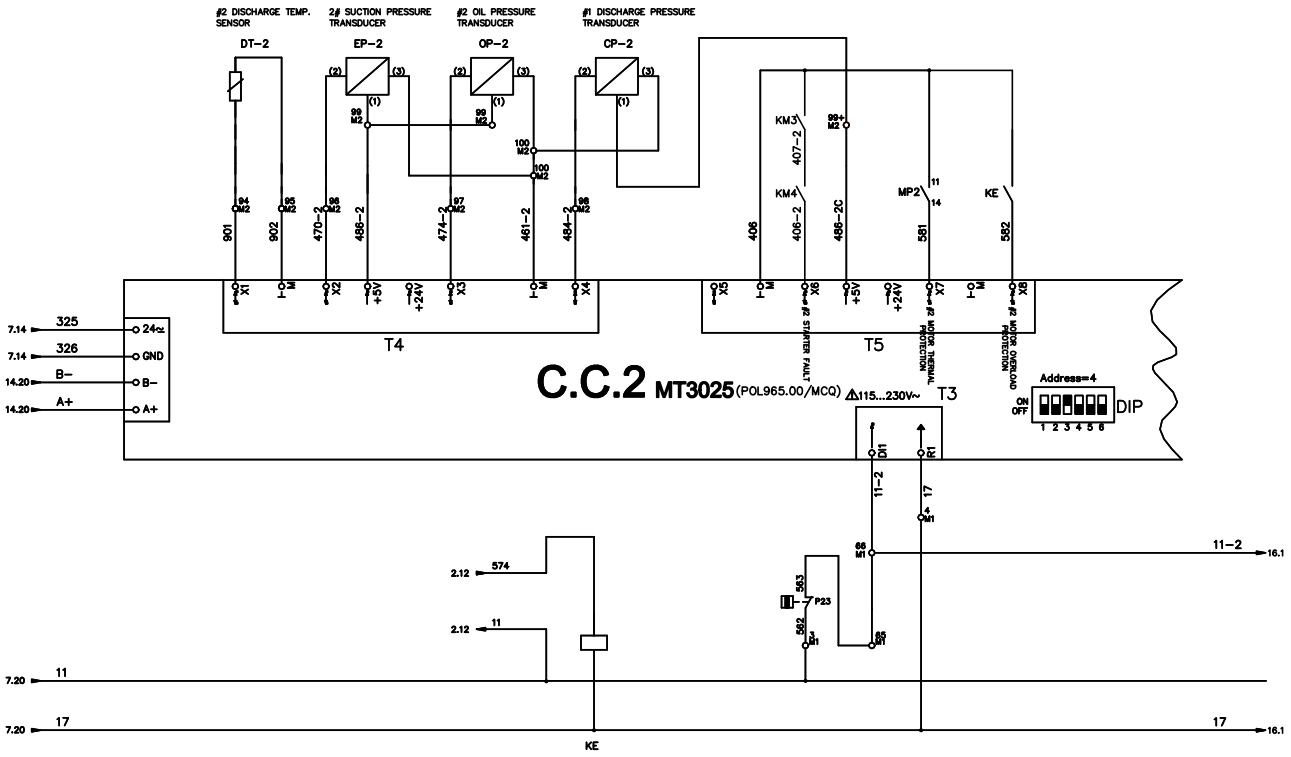
EXPANSION OUTPUTS,COMPRESSOR1 CONTROL



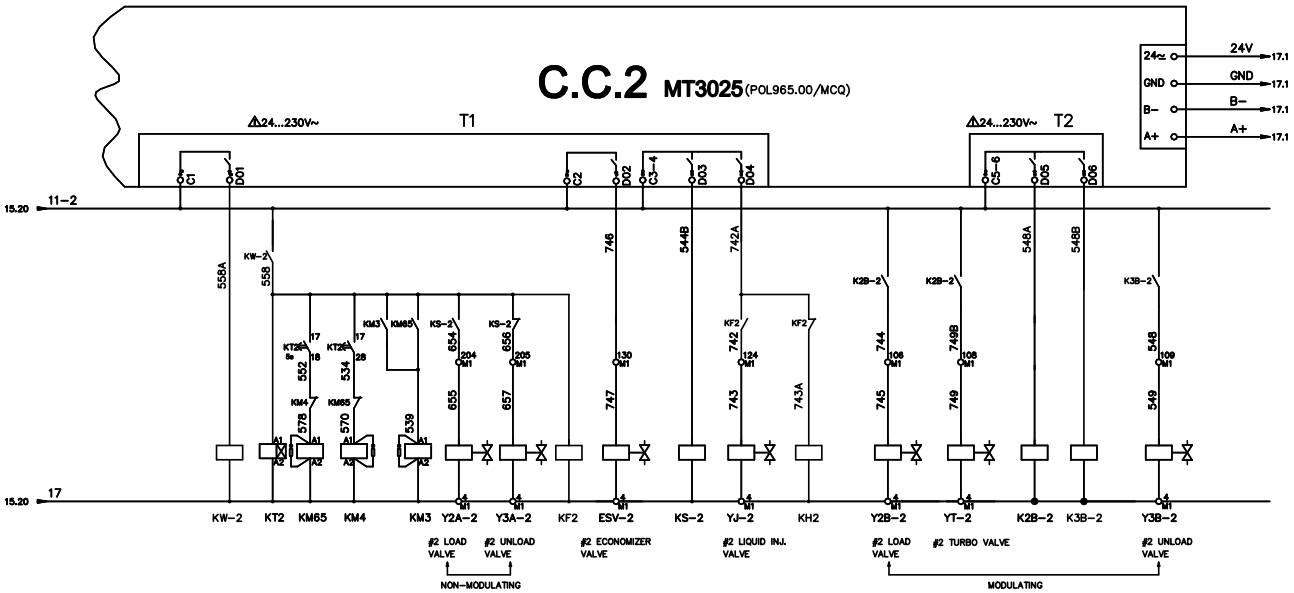
COMPRESSOR1 EEXV CONTROL



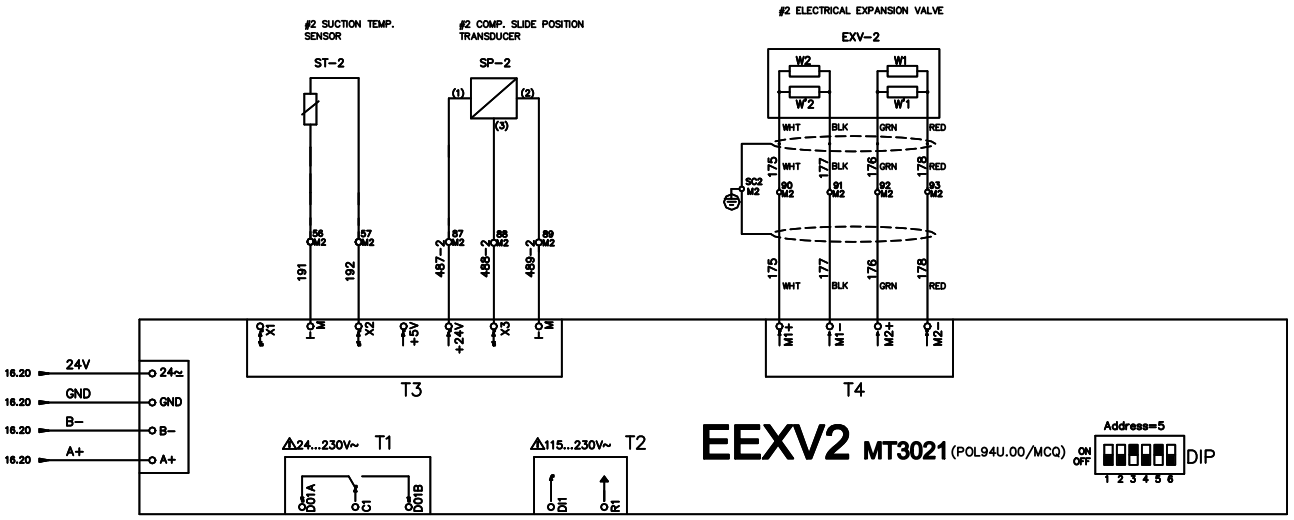
EXPANSION INPUTS,COMPRESSOR2 CONTROL



EXPANSION OUTPUTS,COMPRESSOR2 CONTROL



EXPANSION OUTPUTS,COMPRESSOR2 CONTROL

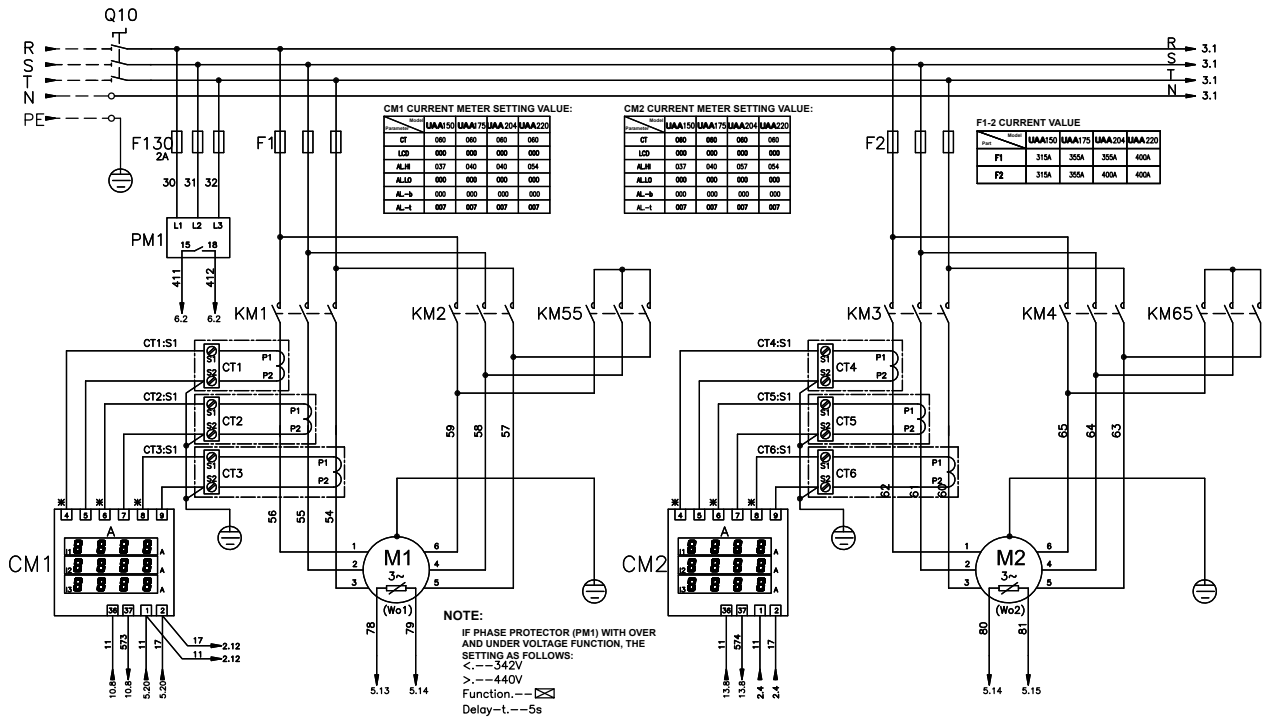


SYMBOL DESCRIPTION

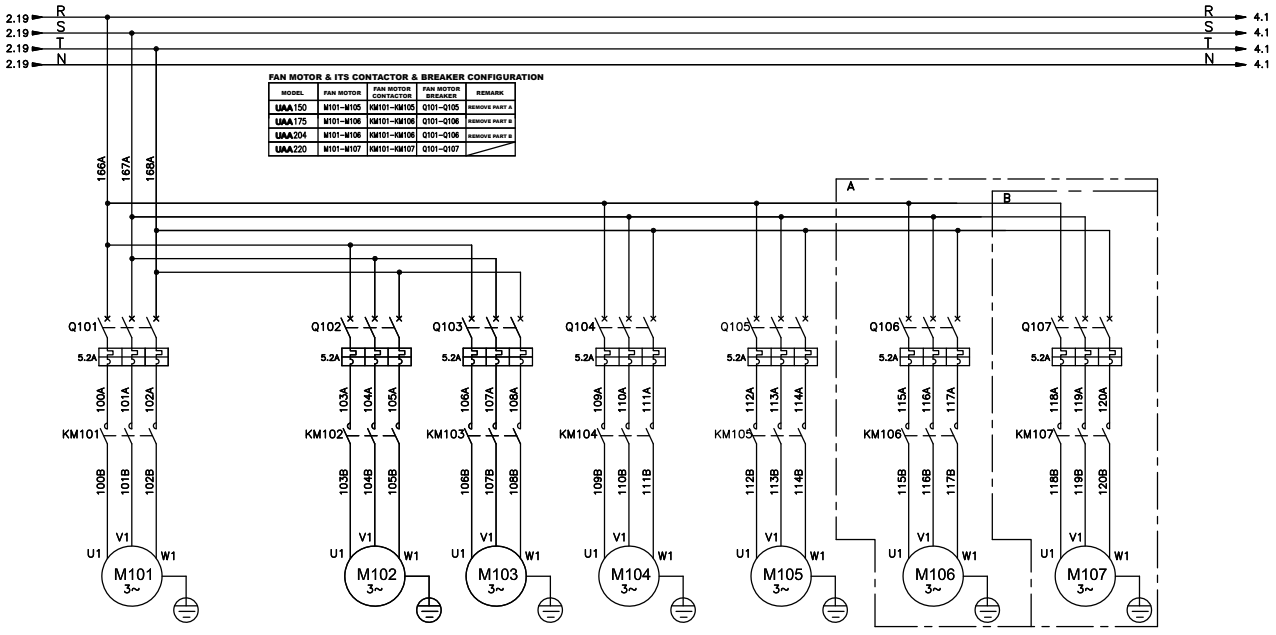
ITEM	SYMBOL	DESCRIPTION	ITEM	SYMBOL	DESCRIPTION
1	Q10	MAIN SWITCH	34	P13/P23	#1-2 HIGH PRESSURE SWITCH
2	F1-2	COMPRESSOR & FAN FUSE	35	EWT	ENTERING WATER TEMPERATURE SENSOR
3	PM1	PHASE PROTECTOR	36	LWT	LEAVING WATER TEMPERATURE SENSOR
4	KM1-2,KM55 KM3-4,KM65	COMPRESSOR CONTACTOR	37	OAT	OUTSIDE AIR TEMPERATURE SENSOR
5	CM1-2	PROGRAMMABLE CURRENT METERS	38	DT-1/2	#1-2 DISCHARGE TEMPERATURE SENSOR
6	M1-2	COMPRESSOR	39	EP-1/2	#1-2 SUCTION PRESSURE TRANSDUCER
7	Q12,Q101-114 Q201-214,Q120	CONTROL CIRCUIT BREAKER & FAN BREAKER	40	OP-1/2	#1-2 OIL PRESSURE TRANSDUCER
8	KT1-2	TIME RELAY	41	CP-1/2	#1-2 CONDENSER PRESSURE TRANSDUCER
9	KM101-114,KM201-214	FAN CONTACTOR	42	ST-1/2	#1-2 SUCTION TEMPERATURE SENSOR
10	M101-114,M201-214	FAN MOTOR	43	Wo1/2	#1-2 COMPRESSOR STATOR TEMPERATURE PROBE
11	F59,F61-64,F71,F81 F130	FUSE	44	EXV1/2	#1-2 ELECTRICAL EXPANSION VALVE
12	T1	CONTROL TRANSFORMER	45	HMI	HUMAN MACHINE INTERFACE
13	Q11	EMERGENCY SWITCH	46	U.C.	UNIT CONTROL BOARD
14	R11,R21	COMPRSSOR CRANKCASE HEATER	47	F.C.1	FAN CONTROL BOARD
15	R5	WATER HEAT EXCHANGE HEATER	48	C.C.1/2	#1-2 COMPRESSOR CONTROL BOARD
16	MP1-2	COMPRESSOR STATOR TEMPERATURE PROTECTOR	49	EEXV1/2	#1-2 ELECTRICAL EXPANSION VALVE CONTROL BOARD
17	TC1	EVAPORATOR THERMOSTAT(<3℃,CLOSED;>8℃,OPEN)	50	A.C.	ALARM CONTROL BOARD
18	K11,K12,KS-1,K3B-1~2,KF1~2,KM1~2 KS-2,K3B-1~2,KA,KC,KE,KH1~2	RELAY	51	TC2	EXHAUST FAN THERMOSTAT(>40℃,CLOSED)
19	F116	FLOW SWITCH	52	FM1-6	EXHAUST FAN MOTOR
20	Q0	ON-OFF UNIT SWITCH	53	CT1-3/CT4-6	#1-2 CURRENT TRANSFORMER
21	Q1/2	ON-OFF COMPRESSOR1-2 SWITCH	54		
22	Y2A-1/2	#1-2 LOAD SOLENOID VALVE(NON-MODULATING)	55		
23	Y3A-1/2	#1-2 UNLOAD SOLENOID VALVE(NON-MODULATING)	56		
24	ESV-1/2	#1-2 ECONOMIZER SOLENOID VALVE	57		
25	YJ-1/2	#1-2 LIQUID INJECTION SOLENOID VALVE	58		
26	YT-1/2	#1-2 TURBO SOLENOID VALVE	59		
27	Y2B-1/2	#1-2 LOAD SOLENOID VALVE(MODULATING)			
28	Y3B-1/2	#1-2 UNLOAD SOLENOID VALVE(MODULATING)			
29	SP-1/2	#1-2 COMPRESSOR SLIDE POSITION TRANSDUCER			
30					
31					
32					
33					

- **UAA 150/175/204/220ST3-FDAE**

COMPRESSOR1-2 POWER SUPPLY

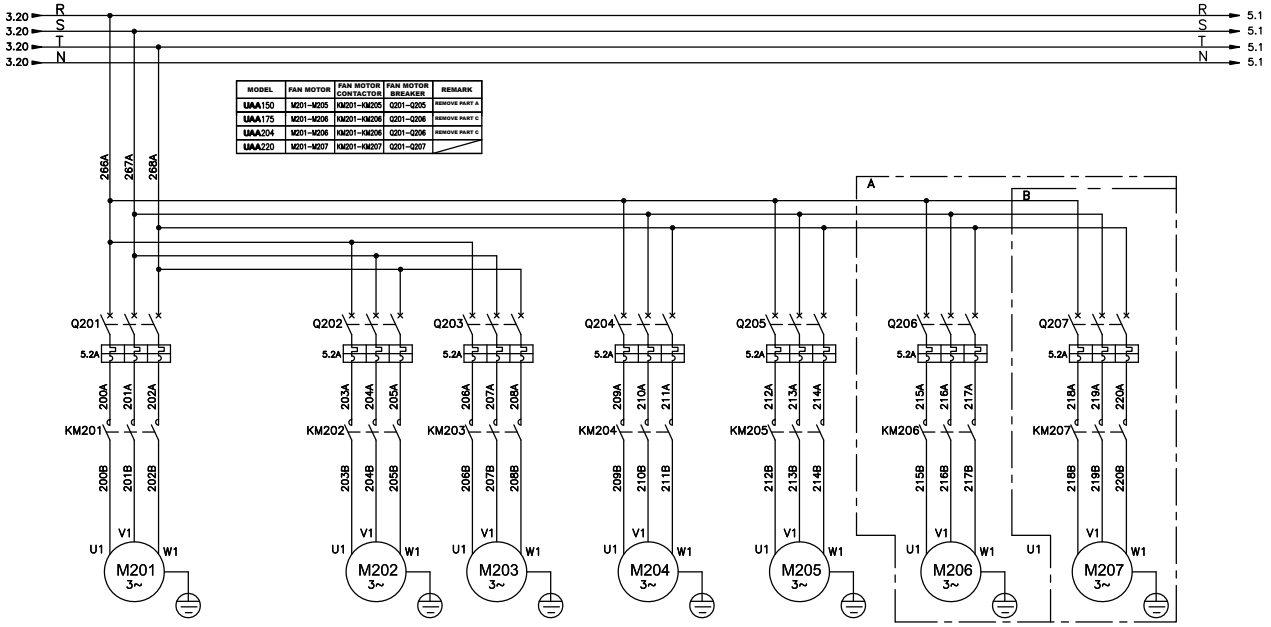


FAN1 POWER SUPPLY

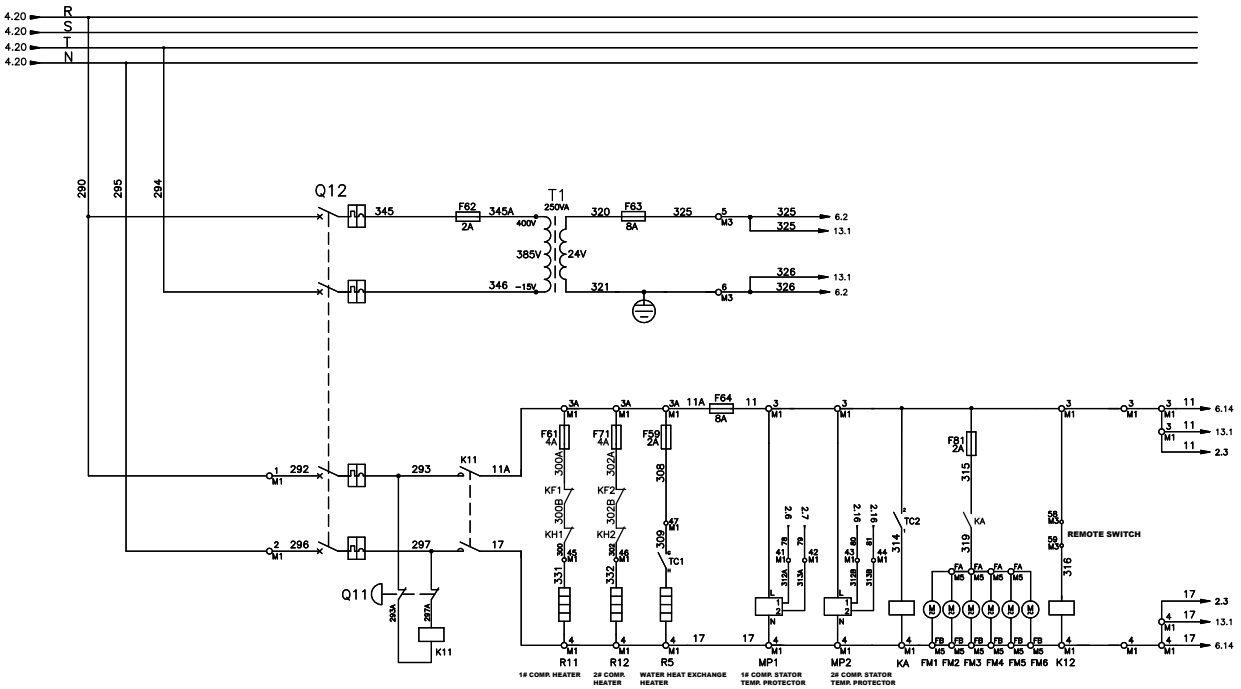


MODEL	FAN MOTOR	FAN MOTOR CONTACTOR	FAN MOTOR BREAKER	REMARK
UAA150	M101~M105	KM101~KM105	Q101~Q105	REMOVE PART A
UAA175	M101~M106	KM101~KM106	Q101~Q106	REMOVE PART B
UAA204	M101~M106	KM101~KM106	Q101~Q106	REMOVE PART B
UAA220	M101~M107	KM101~KM107	Q101~Q107	

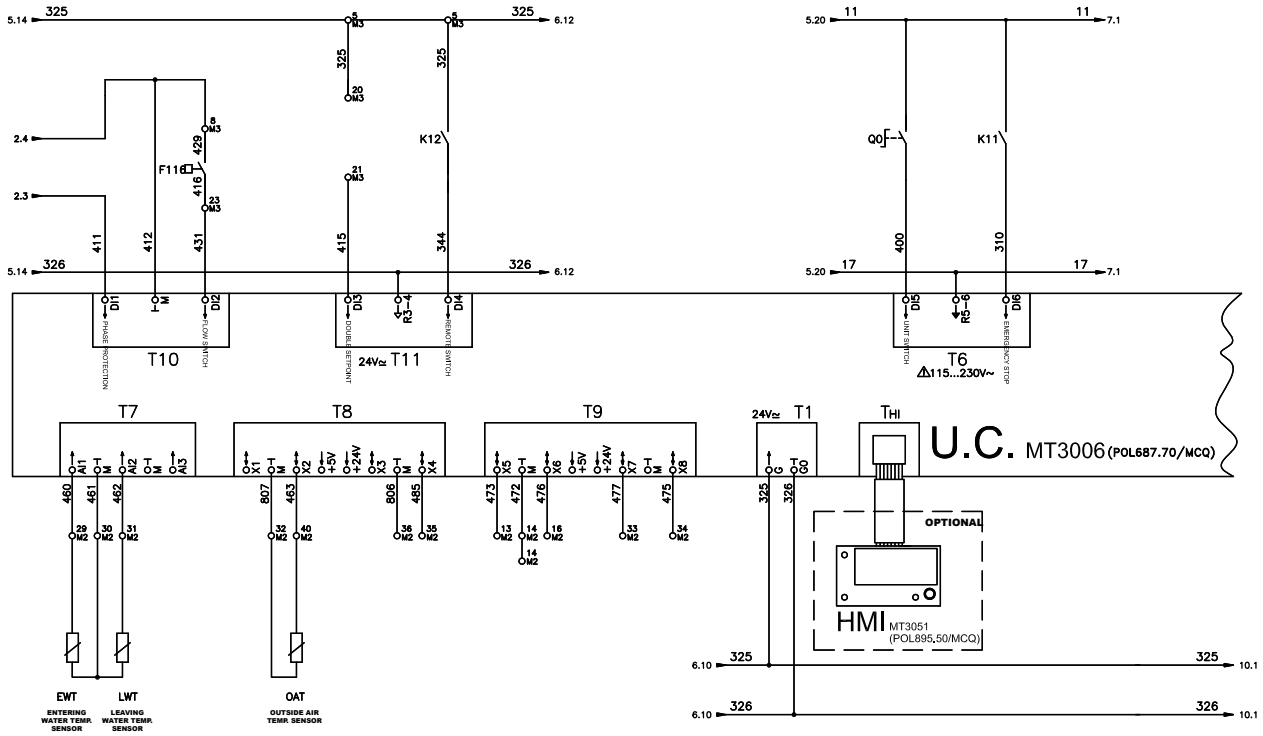
FAN1 POWER SUPPLY



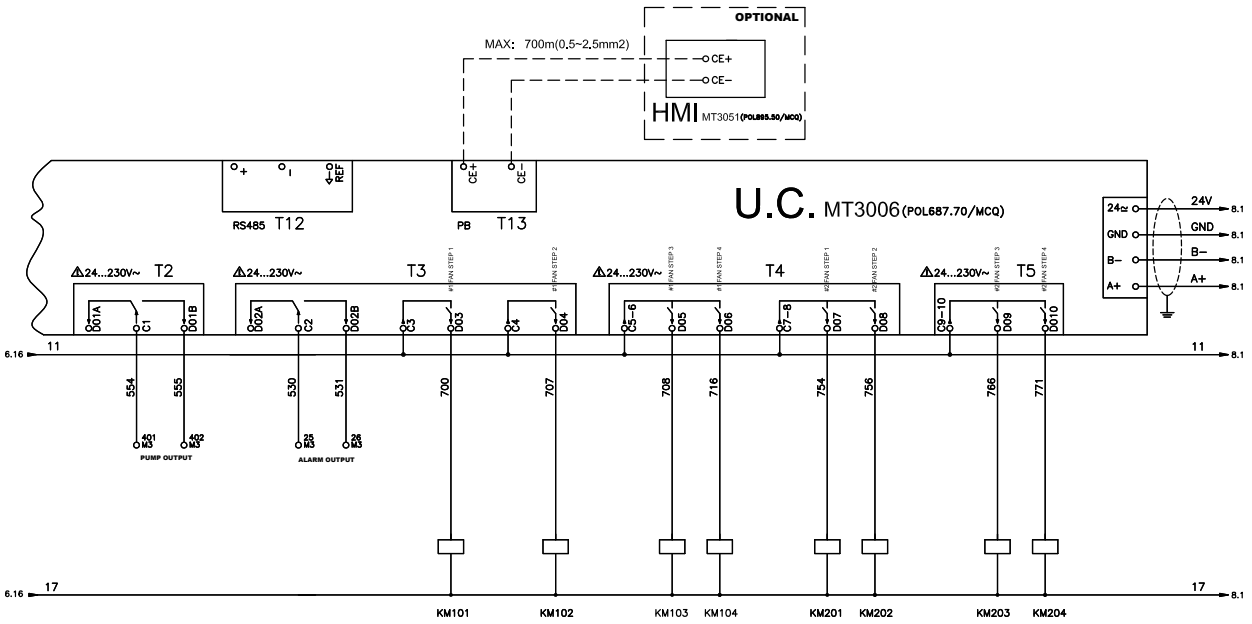
CONTROL POWER SUPPLY



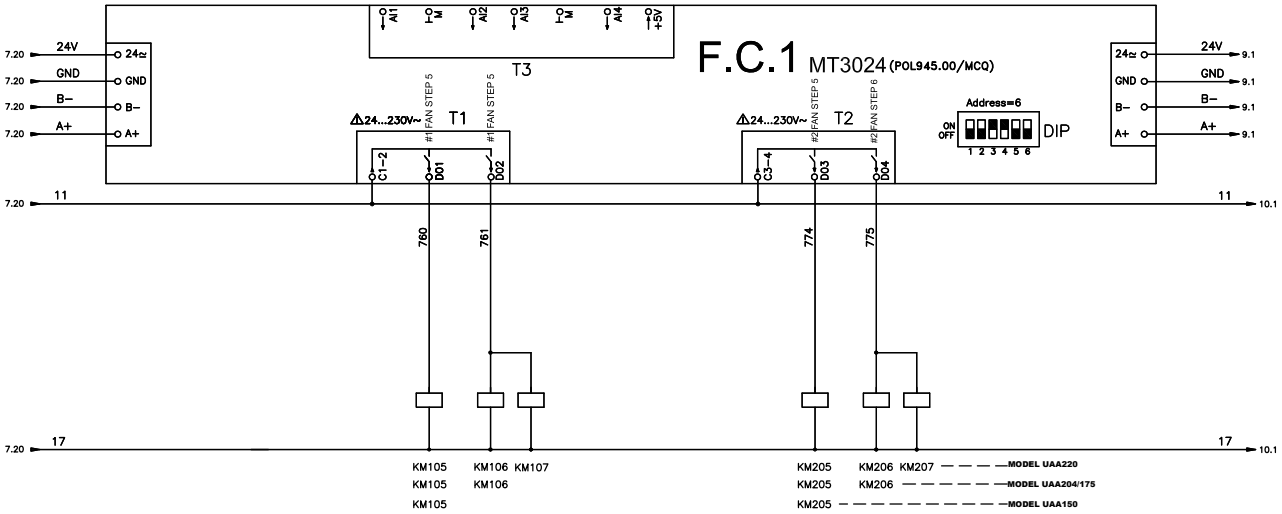
ANALOG INPUTS-OUTPUTS & DIGITAL INPUTS BOARD



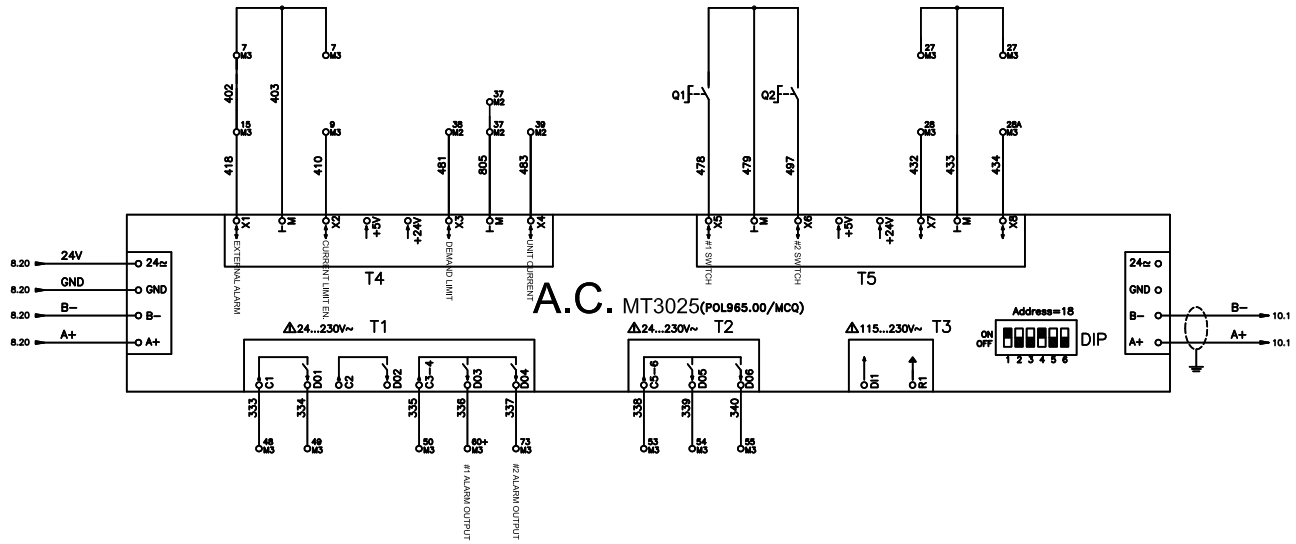
DIGITAL OUTPUTS BOARD



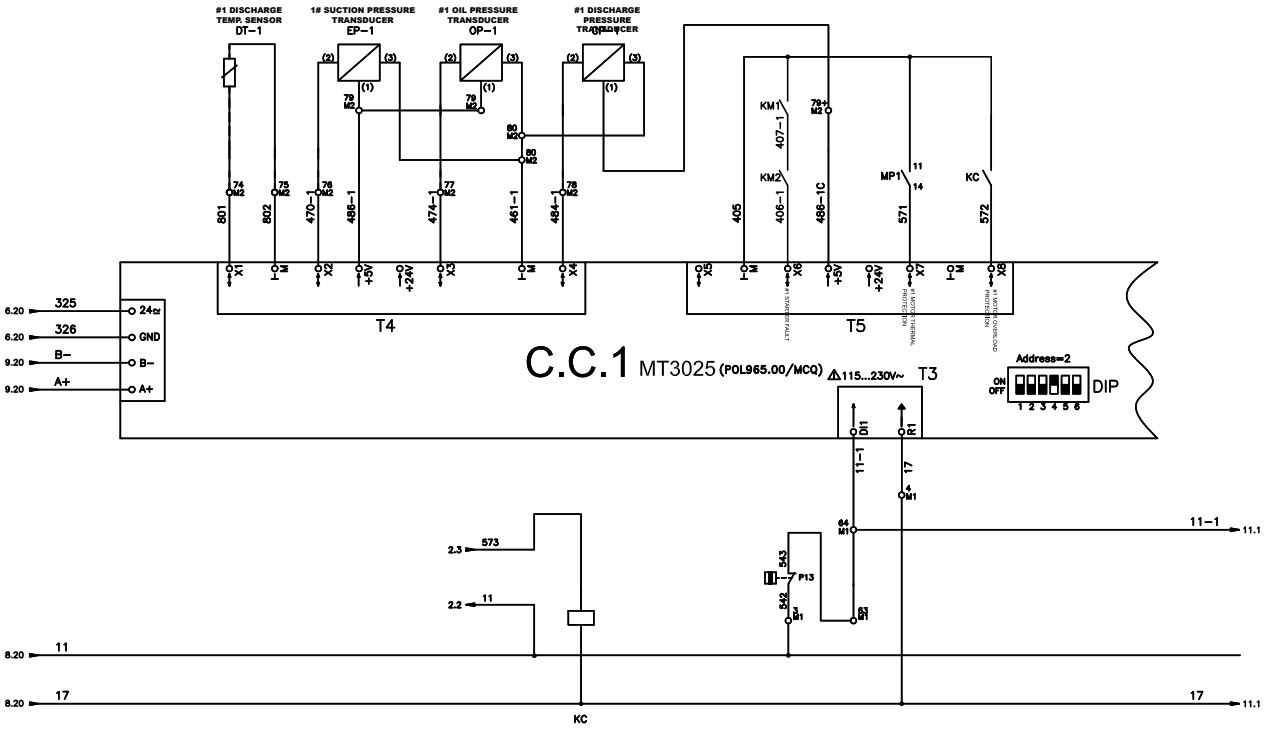
EXPANSION OUTPUTS, FANS CONTROL



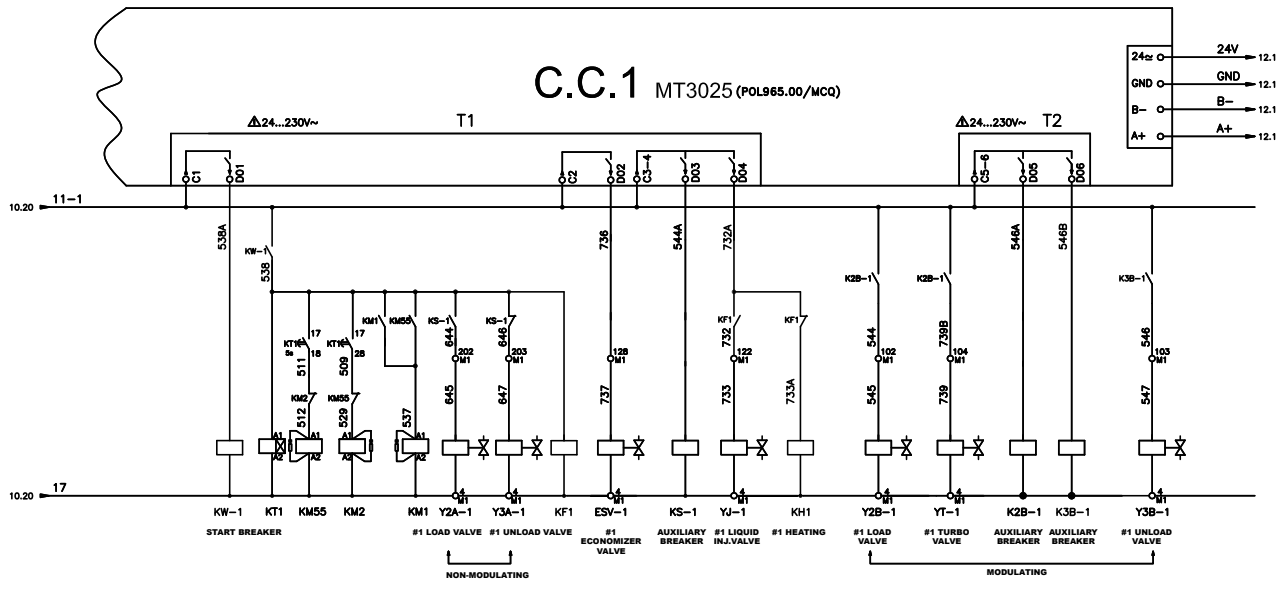
EXPANSION INPUTS/OUTPUTS, UNIT ALARM & LIMITING



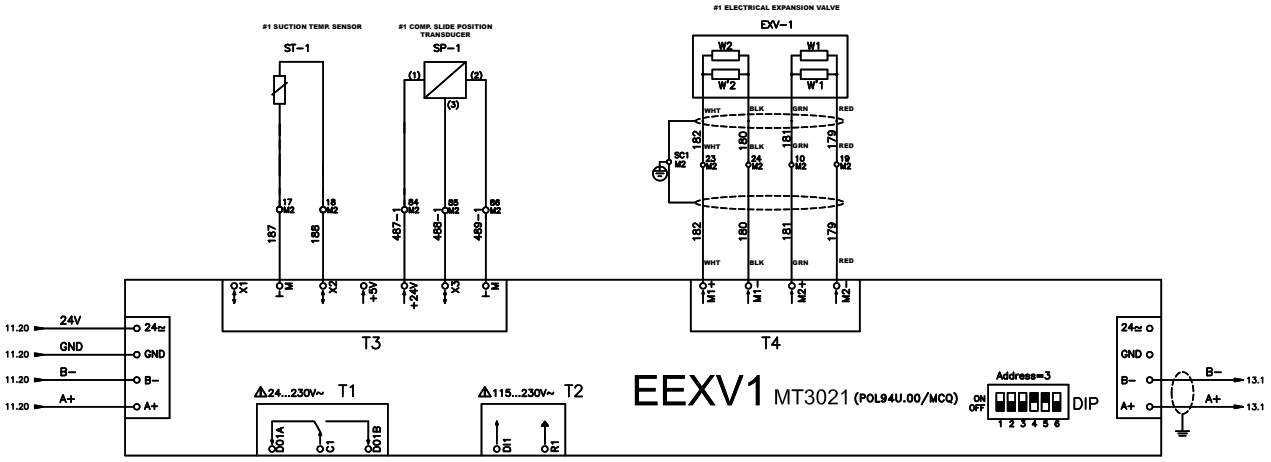
EXPANSION INPUTS, COMPRESSOR1 CONTROL



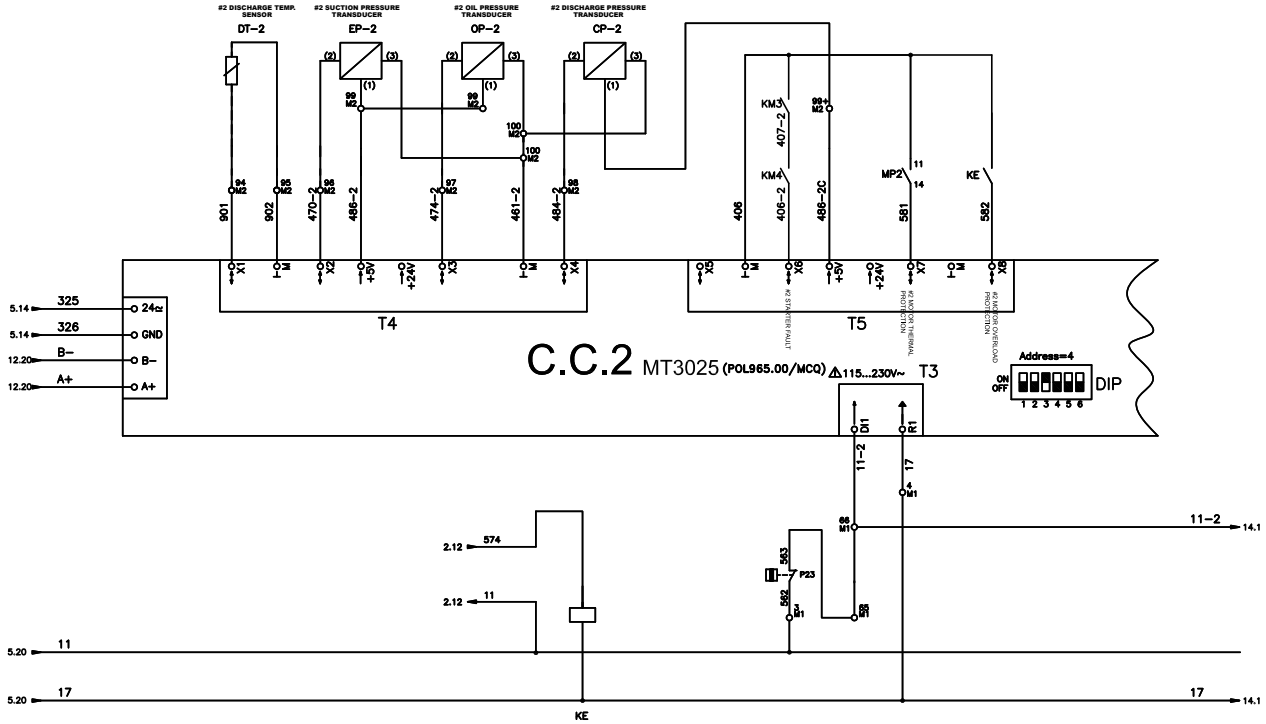
EXPANSION OUTPUTS, COMPRESSOR1 CONTROL



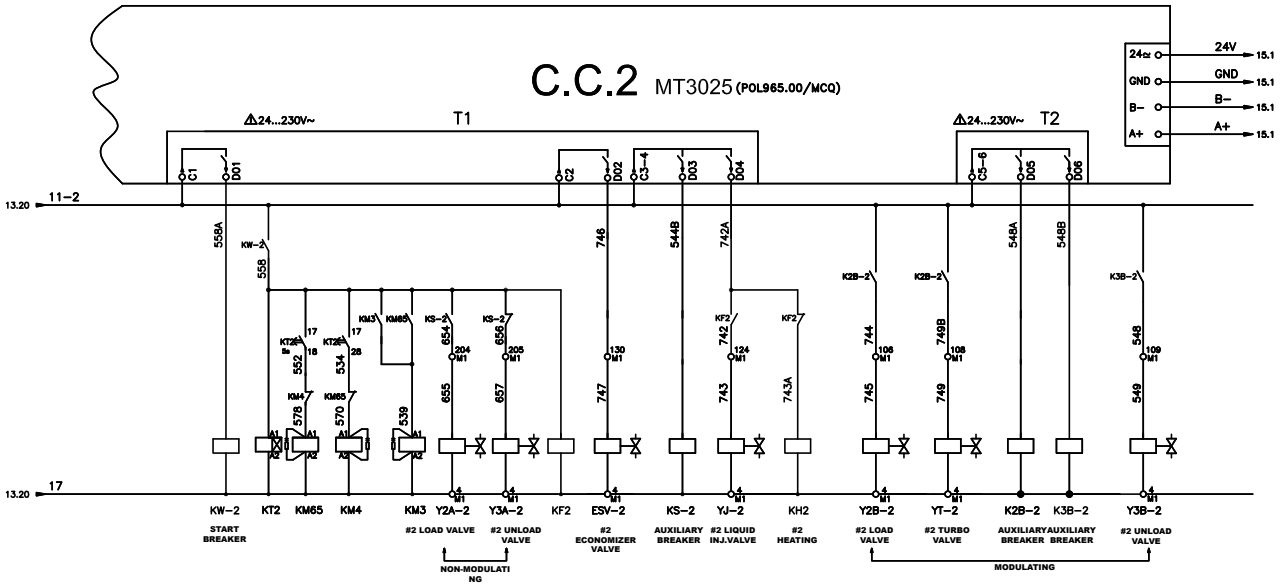
COMPRESSOR1 EEXV CONTROL



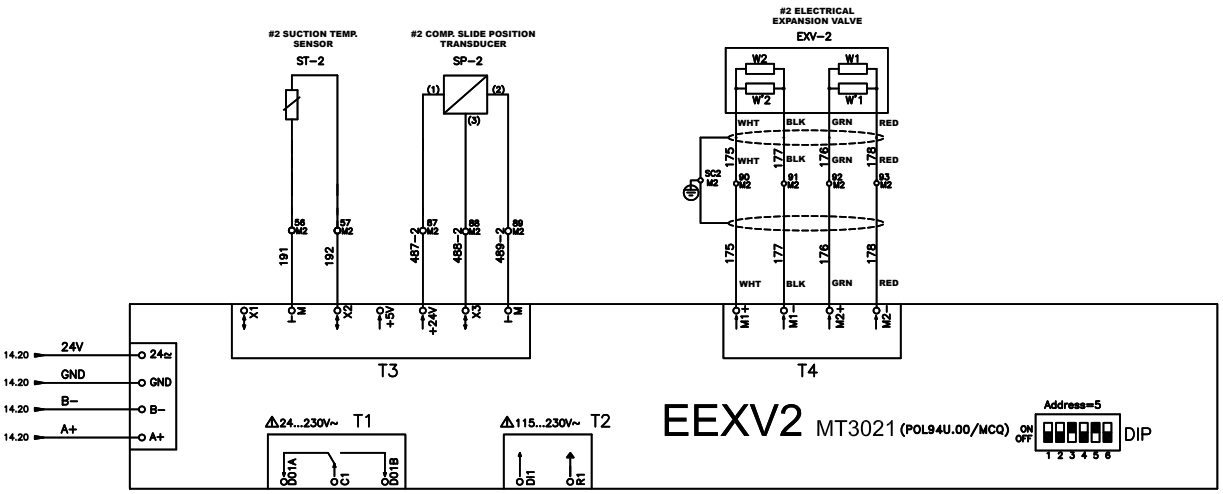
EXPANSION INPUTS, COMPRESSOR2 CONTROL



EXPANSION OUTPUTS, COMPRESSOR2 CONTROL



COMPRESSOR2 EEXV CONTROL

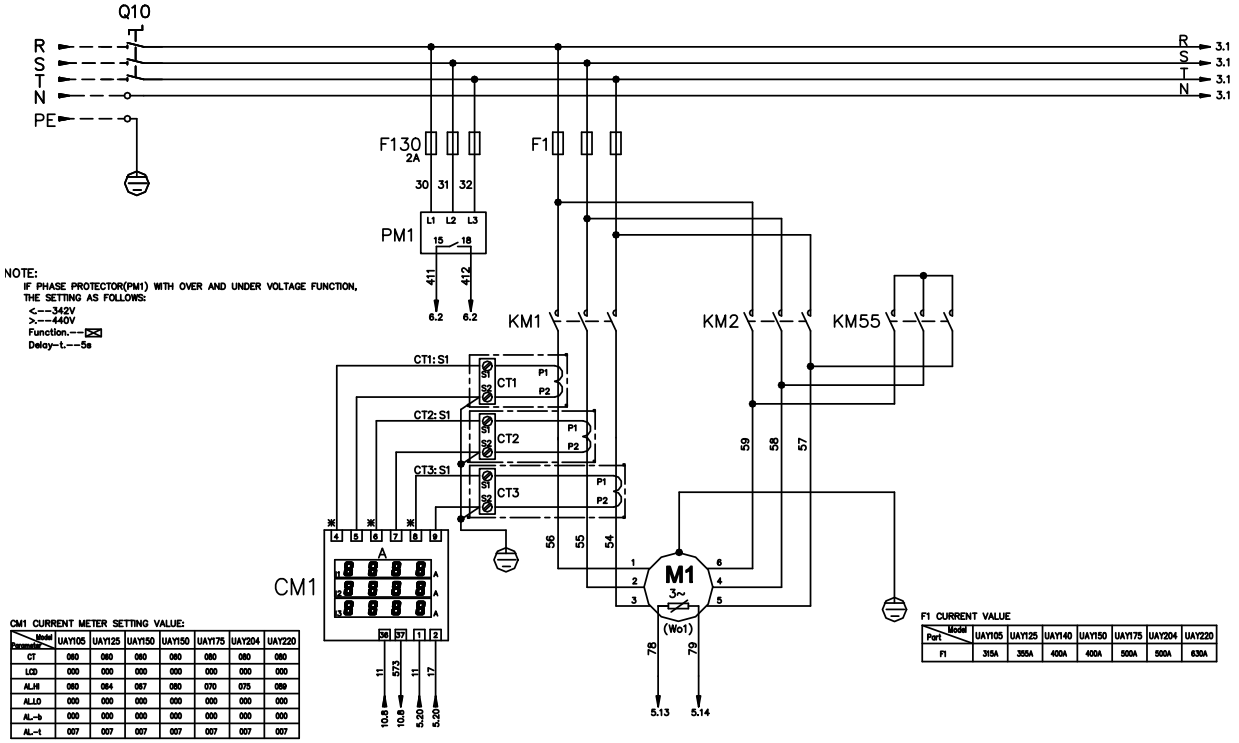


SYMBOL DESCRIPTION

ITEM	SYMBOL	DESCRIPTION	ITEM	SYMBOL	DESCRIPTION
1	Q10	MAIN SWITCH	34	P13/P23	#1-2 HIGH PRESSURE SWITCH
2	F1-2	COMPRESSOR	35	EWT	ENTERING WATER TEMP. SENSOR
3	PM1	PHASE PROTECTOR	36	LWT	LEAVING WATER TEMPERATURE SENSOR
4	KM1-2,KM55 KM3-4,KM65	COMPRESSOR CONTACTOR	37	OAT	OUTSIDE AIR TEMP. SENSOR
5	CM1-2	PROGRAMMABLE CURRENT METERS	38	DT-1/2	#1-2 DISCHARGE TEMPERATURE SENSOR
6	M1-2	COMPRESSOR	39	EP-1/2	#1-2 SUCTION PRESSURE TRANSDUCER
7	Q12,Q101-107 Q201-207	CONTROL CIRCUIT BREAKER & FAN BREAKER	40	OP-1/2	#1-2 OIL PRESSURE TRANSDUCER
8	KT1-2	TIME RELAY	41	CP-1/2	#1-2 DISCHARGE PRESSURE TRANSDUCER
9	KM101-107,KM201-207	FAN CONTACTOR	42	ST-1/2	#1-2 SUCTION TEMPERATURE SENSOR
10	M101-107,M201-207	FAN MOTOR	43	Wo1/2	#1-2 COMPRESSOR STATOR TEMPERATURE PROBE
11	F59,F61-64,F71,F81 F130	FUSE	44	EXV1/2	#1-2 ELECTRICAL EXPANSION VALVE
12	T1	CONTROL TRANSFORMER	45	HMI	HUMAN MACHINE INTERFACE (OPTIONAL)
13	Q11	EMERGENCY SWITCH	46	U.C.	UNIT CONTROL BOARD
14	R11,R21	COMPRESSOR HEATER	47	F.C.1	FAN CONTROL BOARD
15	R5	WATER HEAT EXCHANGE HEATER	48	C.C.1/2	#1-2 COMPRESSOR CONTROL BOARD
16	MP1-2	COMPRESSOR STATOR TEMPERATURE PROTECTOR	49	EEXV1/2	#1-2 ELECTRICAL EXPANSION VALVE CONTROL BOARD
17	TC1	EVAPORATOR THERMOSTAT(<3℃,CLOSED;>8℃,OPEN)	50	A.C.	ALARM CONTROL BOARD
18	K11,K91-2,KA,K12,KC,KE KF1/2,KS-1/2,KH/2,KSB-1/2,KSB-1/2	RELAY	51	TC2	EXHAUST FAN THERMOSTAT(>40℃,CLOSED)
19	F116	FLOW SWITCH	52	FM1-6	EXHAUST FAN MOTOR
20	Q0	UNIT SWITCH	53	CT1-3/CT4-6	#1-2 CURRENT TRANSFORMER
21	Q1/2	COMPRESSOR1 SWITCH	54		
22	Y2A-1/2	#1-2 LOAD SOLENOID VALVE(NON-MODULATING)	55		
23	Y3A-1/2	#1-2 UNLOAD SOLENOID VALVE(NON-MODULATING)	56		
24	ESV-1/2	#1-2 ECONOMIZER SOLENOID VALVE	57		
25	YJ-1/2	#1-2 LIQUID INJECTION SOLENOID VALVE	58		
26	YT-1/2	#1-2 TURBO SOLENOID VALVE			
27	Y2B-1/2	#1-2 LOAD SOLENOID VALVE(MODULATING)			
28	Y3B-1/2	#1-2 UNLOAD SOLENOID VALVE(MODULATING)			
29	SP-1/2	#1-2 COMPRESSOR SLIDE POSITION TRANSDUCER			
30					
31					
32					
33					

- **UAY105/125/140/150/175/204/220ST3**

COMPRESSOR1 POWER SUPPLY



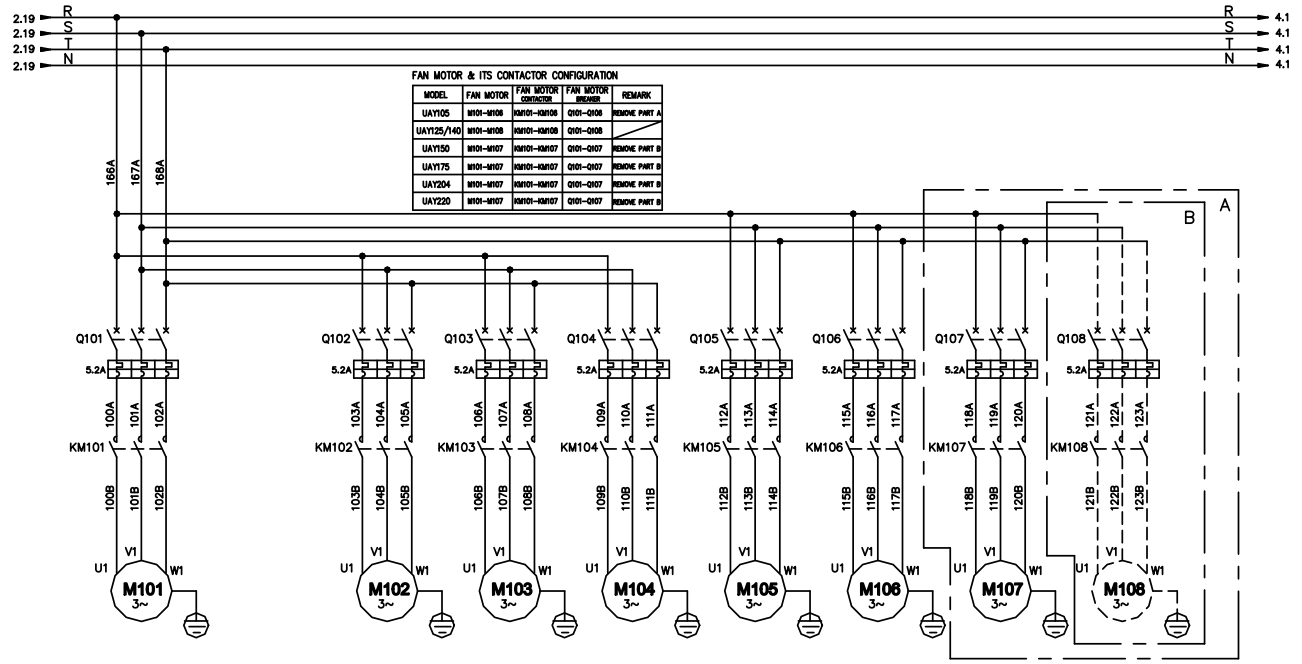
CM1 CURRENT METER SETTING VALUE:

Model / Parameter	UAY105	UAY125	UAY150	UAY150	UAY175	UAY204	UAY220
CT	080	080	080	080	080	080	080
LCD	000	000	000	000	000	000	000
AL-H	080	084	087	080	070	075	089
AL-L	000	000	000	000	000	000	000
AL-b	000	000	000	000	000	000	000
AL-t	007	007	007	007	007	007	007

F1 CURRENT VALUE

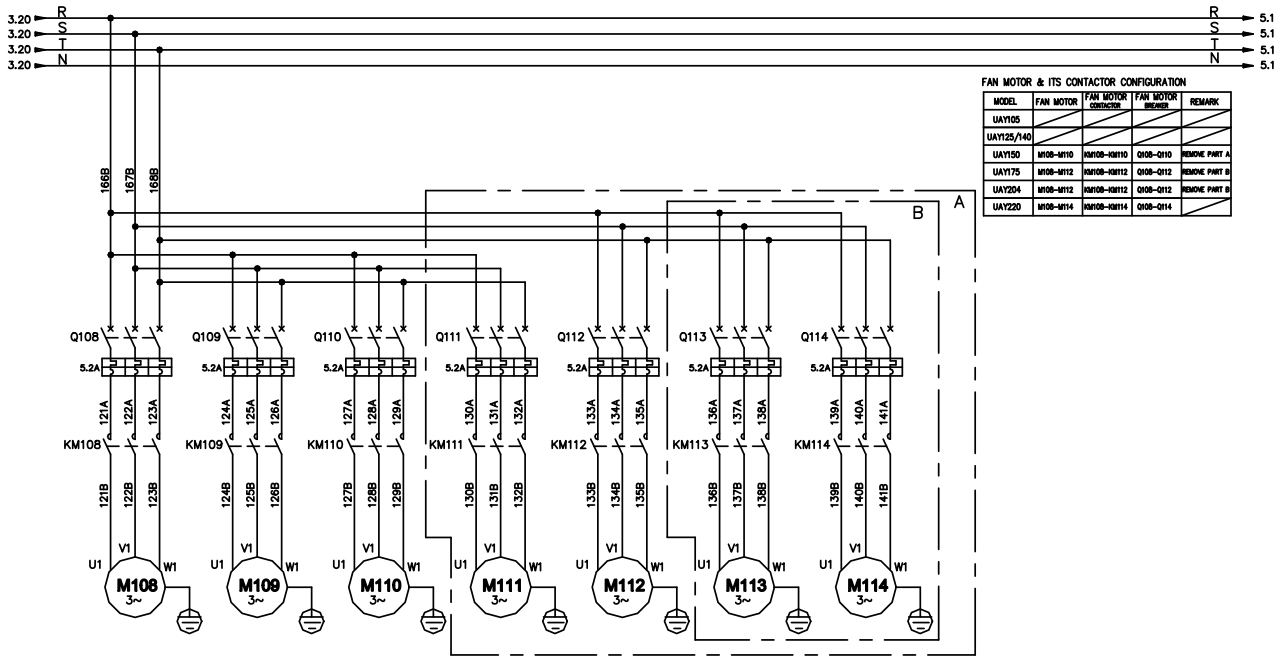
Part / Model	UAY105	UAY125	UAY140	UAY150	UAY175	UAY204	UAY220
F1	315A	355A	400A	400A	500A	500A	630A

FAN1 POWER SUPPLY

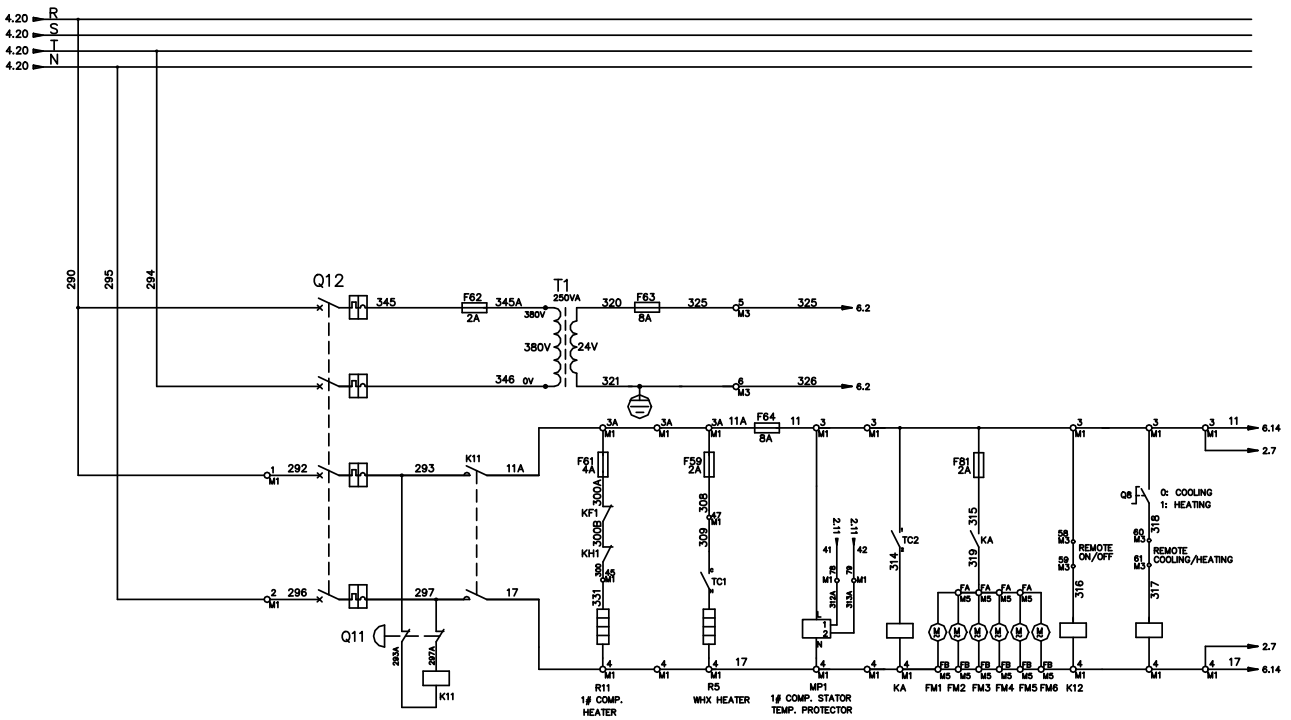


MODEL	FAN MOTOR	FAN MOTOR CONTACTOR	FAN MOTOR BREAKER	REMARK
UAY105	M101~M108	KM101~KM108	Q101~Q108	REMONE PART A
UAY125/140	M101~M108	KM101~KM108	Q101~Q108	
UAY150	M101~M107	KM101~KM107	Q101~Q107	REMONE PART B
UAY175	M101~M107	KM101~KM107	Q101~Q107	REMONE PART B
UAY204	M101~M107	KM101~KM107	Q101~Q107	REMONE PART B
UAY220	M101~M107	KM101~KM107	Q101~Q107	REMONE PART B

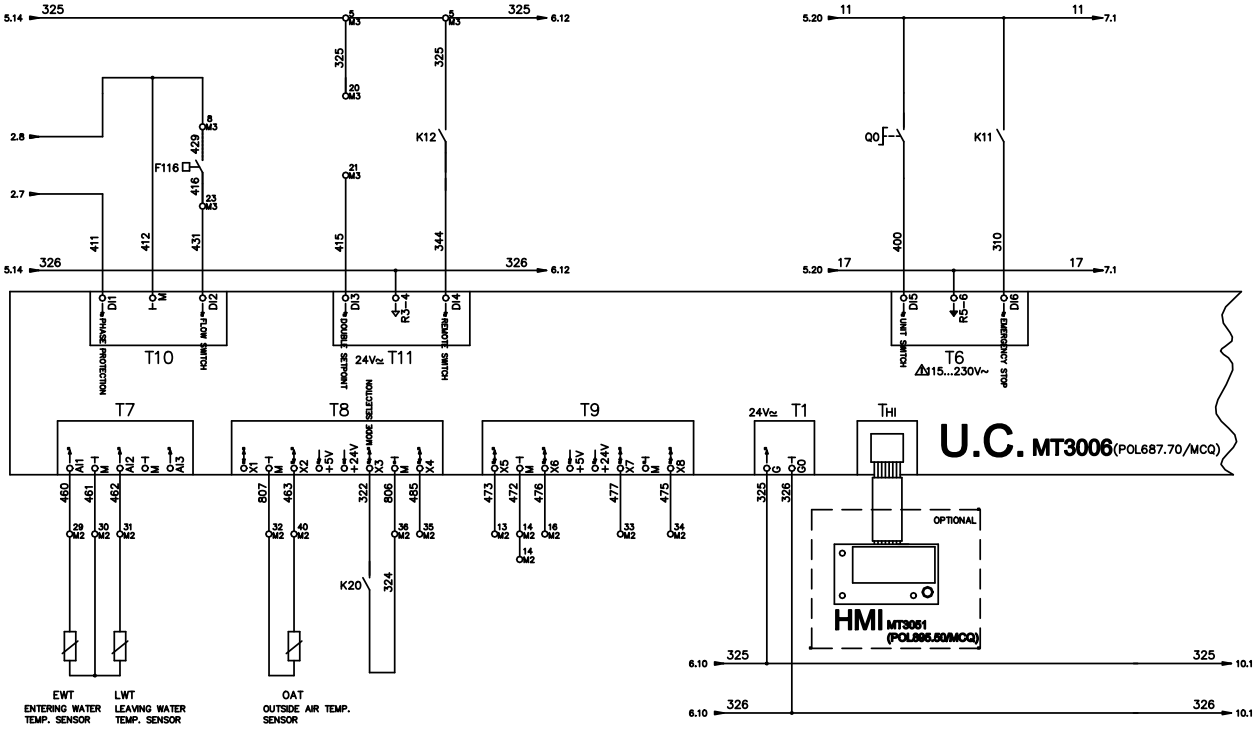
FAN1 POWER SUPPLY



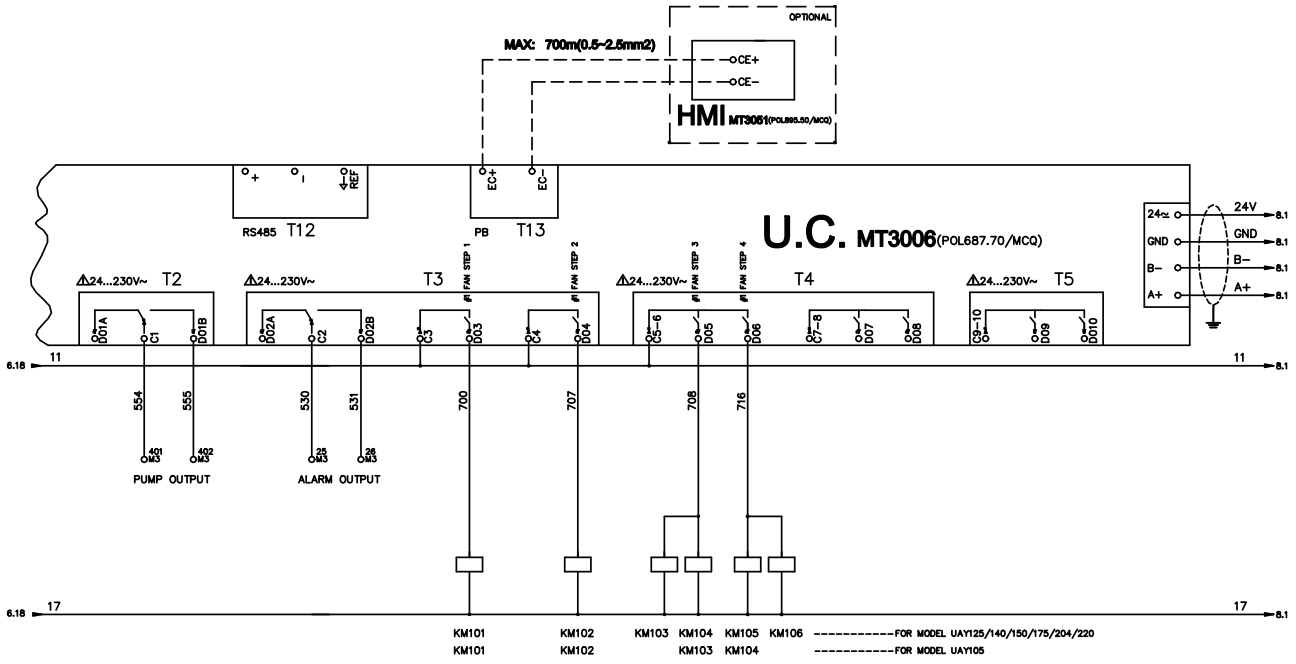
CONTROL POWER SUPPLY



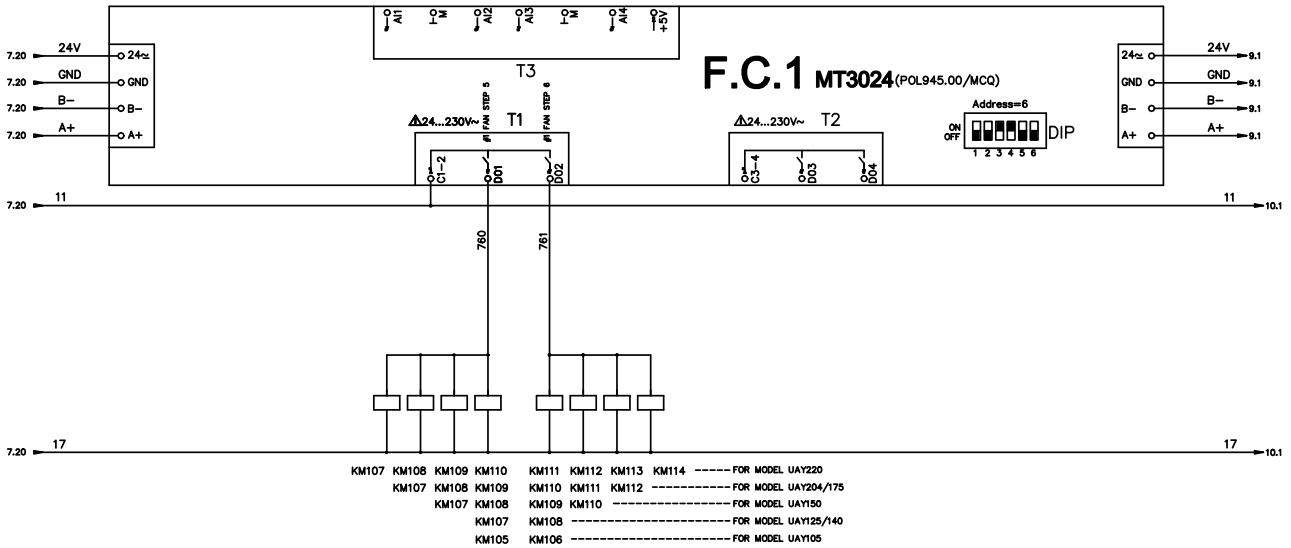
ANALOG INPUTS-OUTPUTS & DIGITAL INPUTS BOARD



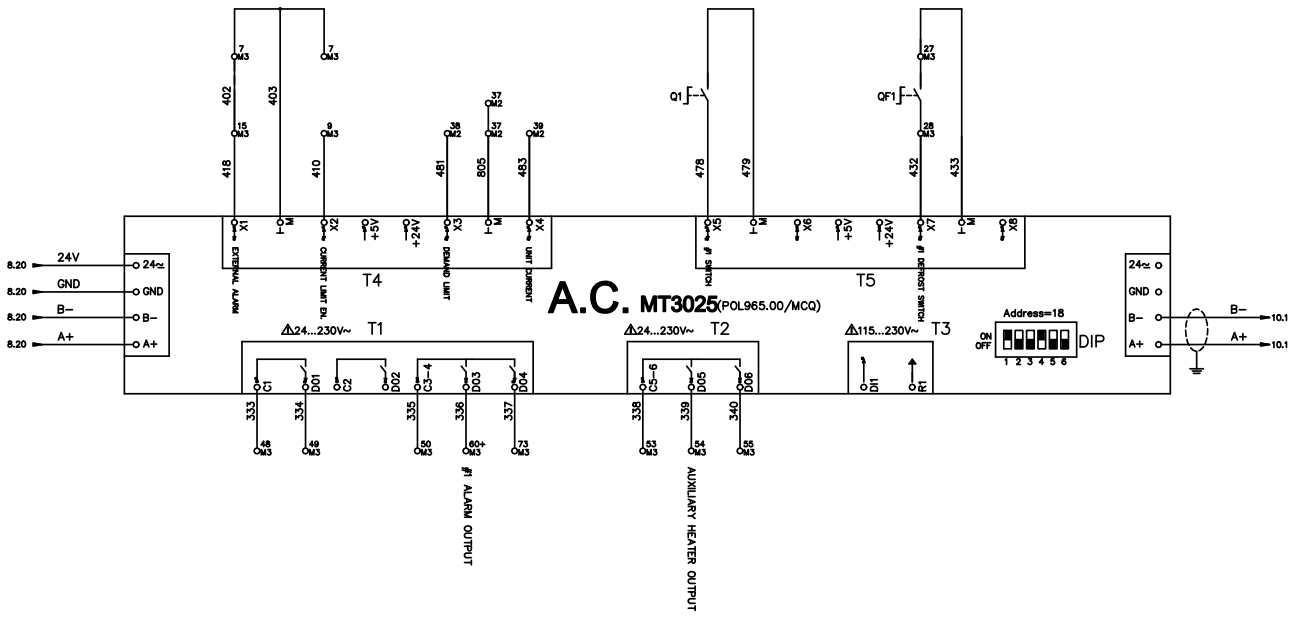
DIGITAL OUTPUTS BOARD



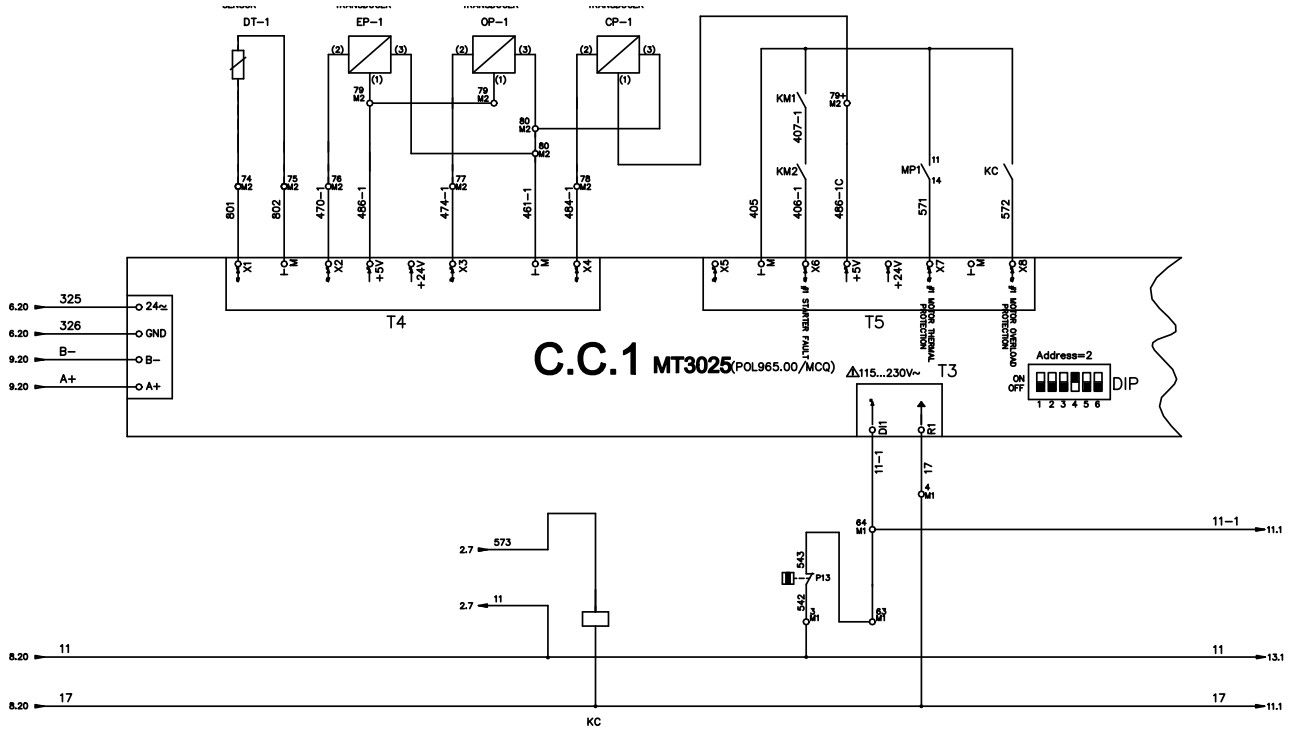
EXPANSION OUTPUTS, FANS CONTROL



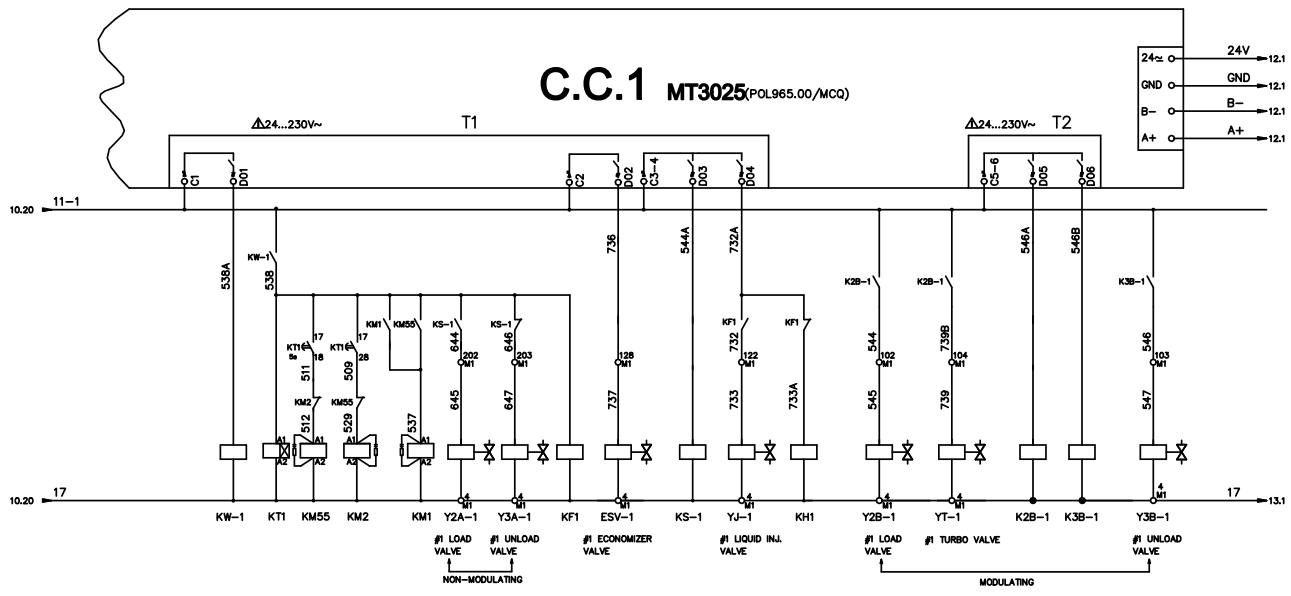
EXPANSION INPUTS/OUTPUTS, UNIT ALARM & LIMITING



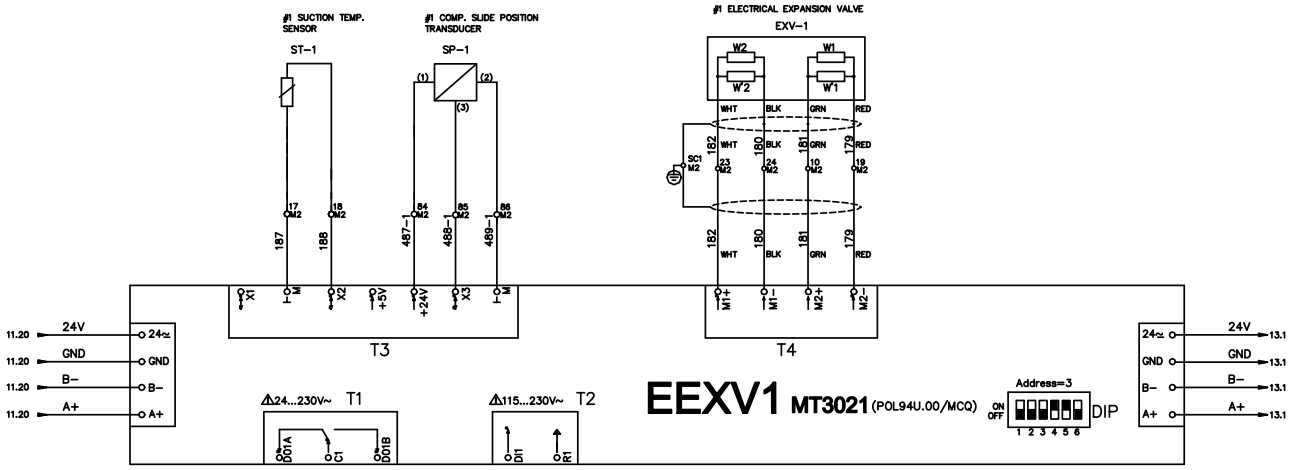
EXPANSION INPUTS, COMPRESSOR1 CONTROL



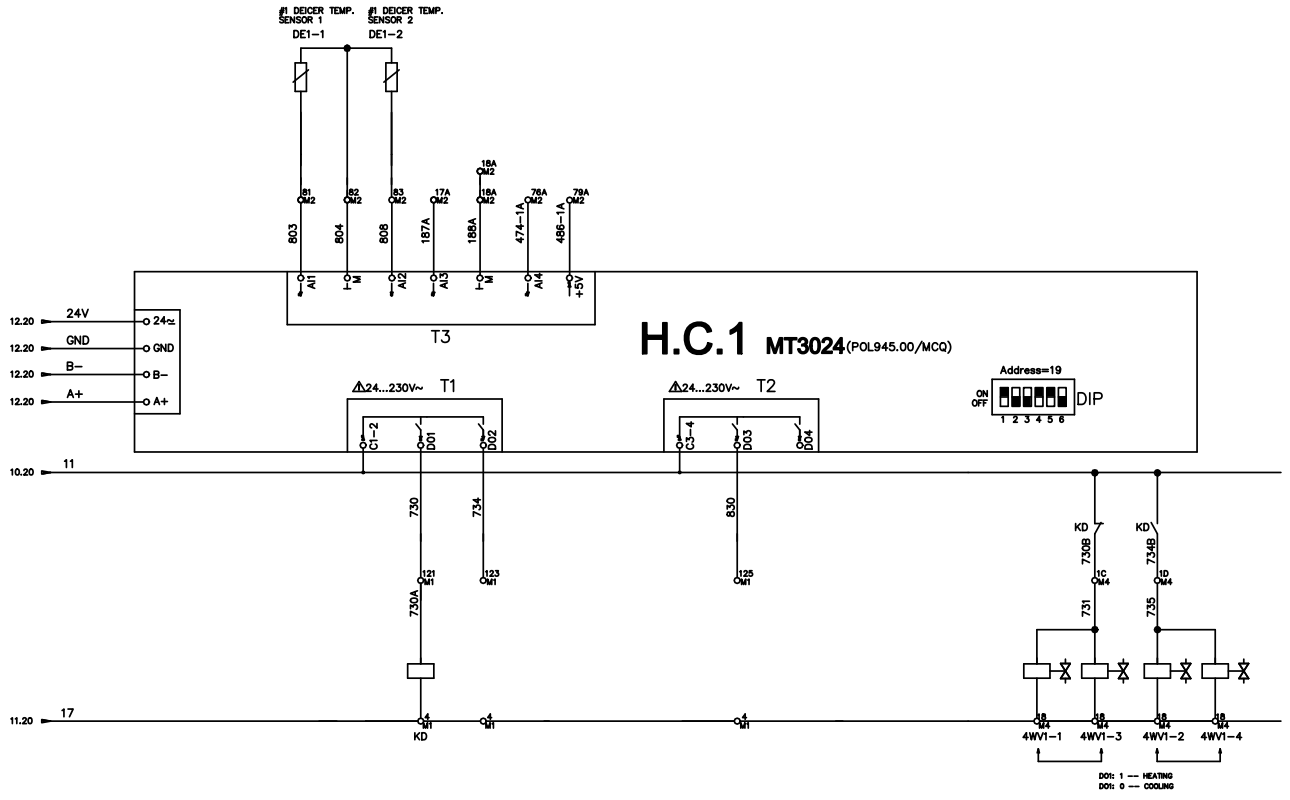
EXPANSION OUTPUTS, COMPRESSOR1 CONTROL



COMPRESSOR1 EEXV CONTROL



HEATING CONTROL PANEL

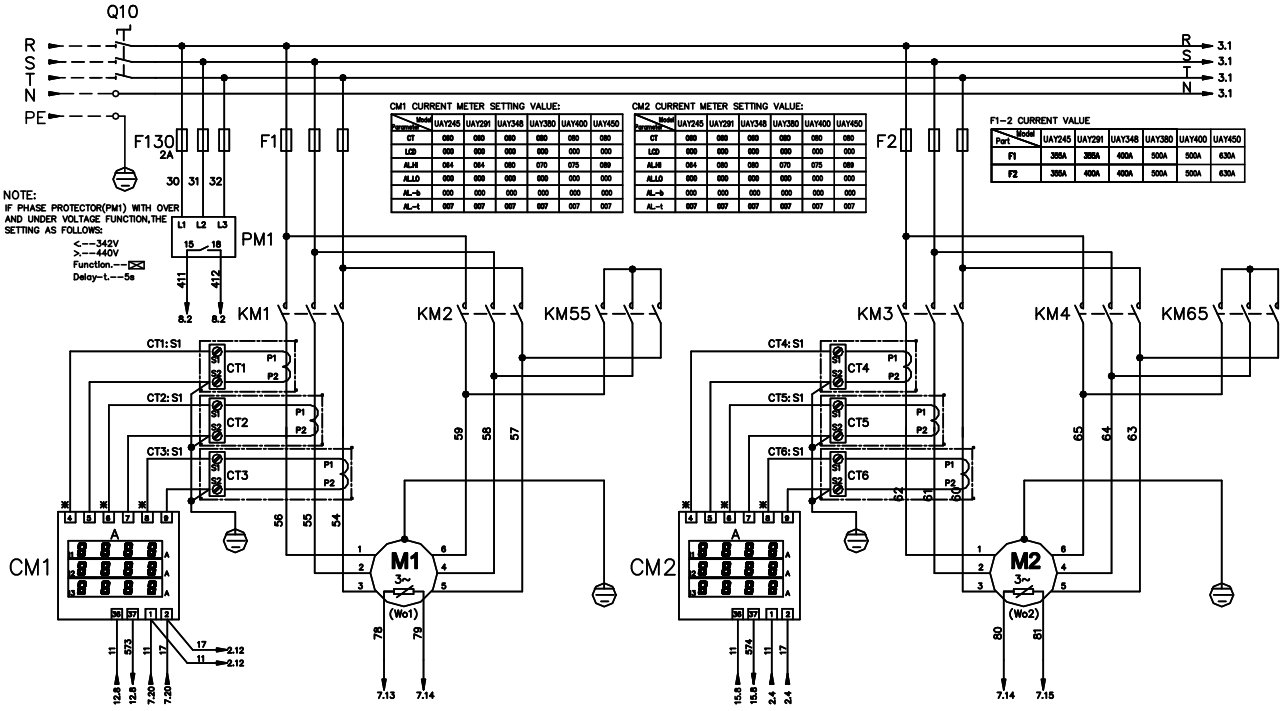


SYMBOL DESCRIPTION

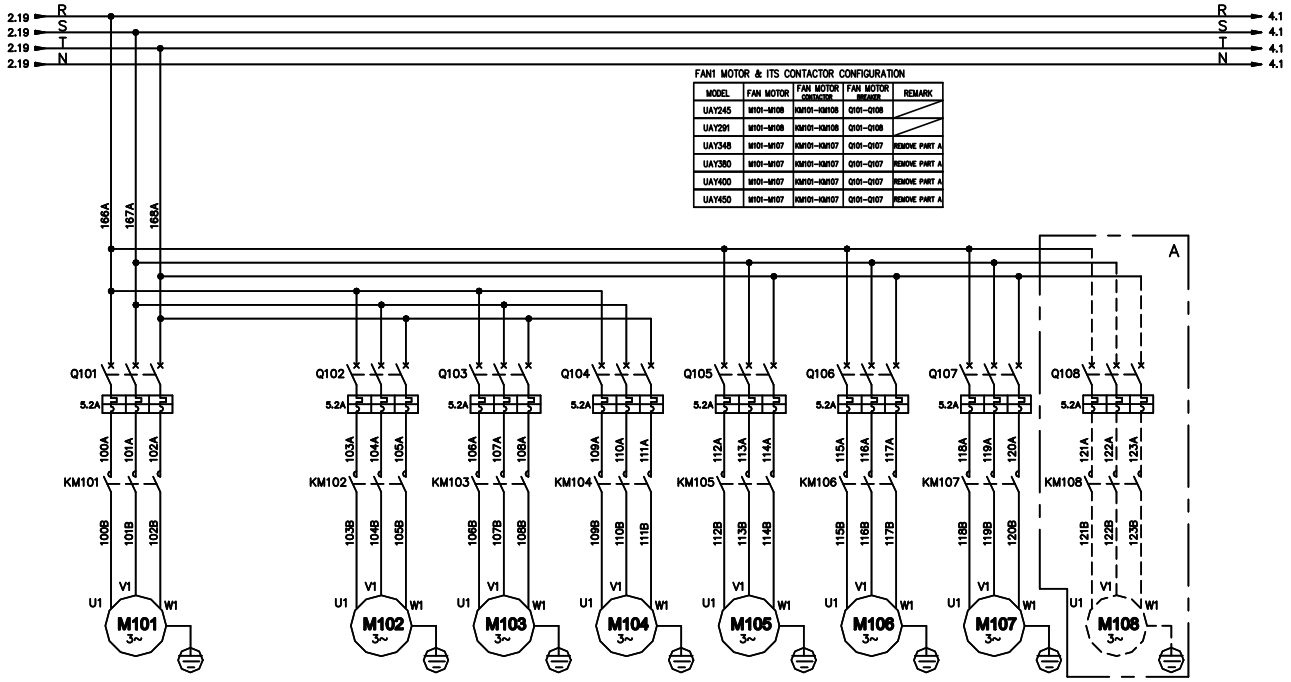
ITEM	SYMBOL	DESCRIPTION	ITEM	SYMBOL	DESCRIPTION
1	Q10	MAIN SWITCH	34	P13	#1 HIGH PRESSURE SWITCH
2	F1	COMPRESSOR & FAN FUSE	35	EWT	ENTERING WATER TEMPERATURE SENSOR
3	PM1	PHASE PROTECTOR	36	LWT	LEAVING WATER TEMPERATURE SENSOR
4	KM1-2,KM55	COMPRESSOR CONTACTOR	37	OAT	OUTSIDE AIR TEMPERATURE SENSOR
5	CM1	PROGRAMMABLE CURRENT METERS	38	DT-1	#1 DISCHARGE TEMPERATURE SENSOR
6	M1	COMPRESSOR	39	EP-1	#1 SUCTION PRESSURE TRANSDUCER
7	Q12,Q101-114	CONTROL CIRCUIT BREAKER & FAN BREAKER	40	OP-1	#1 OIL PRESSURE TRANSDUCER
8	KT1	TIME RELAY	41	CP-1	#1 CONDENSER PRESSURE TRANSDUCER
9	KM101-114	FAN CONTACTOR	42	ST-1	#1 SUCTION TEMPERATURE SENSOR
10	M101-114	FAN MOTOR	43	DE1-1/2	#1 DEICER TEMPERATURE SENSOR 1/2
11	F59,F61-64,F81,F130	FUSE	44	Wo1	#1 COMPRESSOR STATOR TEMPERATURE PROBE
12	T1	CONTROL TRANSFORMER	45	EXV1	#1 ELECTRICAL EXPANSION VALVE
13	Q11	EMERGENCY SWITCH	46	HMI	HUMAN MACHINE INTERFACE
14	Q8	CHOICE SWITCH OF COOLING/HEATING	47	U.C.	UNIT CONTROL BOARD
15	R11	COMPRSSOR CRANKCASE HEATER	48	F.C.1	FAN CONTROL BOARD
16	R5	WATER HEAT EXCHANGE HEATER	49	C.C.1	#1 COMPRESSOR CONTROL BOARD
17	MP1	COMPRESSOR STATOR TEMPERATURE PROTECTOR	50	EEXV1	#1 ELECTRICAL EXPANSION VALVE CONTROL BOARD
18	TC1	EVAPORATOR THERMOSTAT(<3℃,CLOSED;>8℃,OPEN)	51	H.C.1	#1 HEATING CONTROL BOARD
19	K11,K12,K20,KS-1,K2B-1,KW-1 K3B-1,KA,KC,KD,KF1,KH1	RELAY	52	A.C.	ALARM CONTROL BOARD
20	F116	FLOW SWITCH	53	TC2	EXHAUST FAN THERMOSTAT(>40℃,CLOSED)
21	Q0	ON-OFF UNIT SWITCH	54	FM1-6	EXHAUST FAN MOTOR
22	Q1	ON-OFF COMPRESSOR1 SWITCH	55	CT1-3	#1 CURRENT TRANSFORMER
23	QF1	#1 MANUAL DEFROST SWITCH	56		
24	Y2A-1	#1 LOAD SOLENOID VALVE(NON-MODULATING)	57		
25	Y3A-1	#1 UNLOAD SOLENOID VALVE(NON-MODULATING)	58		
26	ESV-1	#1 ECONOMIZER SOLENOID VALVE	59		
27	YJ-1	#1 LIQUID INJECTION SOLENOID VALVE	60		
28	YT-1	#1 TURBO SOLENOID VALVE			
29	Y2B-1	#1 LOAD SOLENOID VALVE(MODULATING)			
30	Y3B-1	#1 UNLOAD SOLENOID VALVE(MODULATING)			
31	4WV1-1/3	#1 4-WAY VALVE1,3			
32	4WV1-2/4	#1 4-WAY VALVE2,4			
33	SP-1	#1 COMPRESSOR SLIDE POSITION TRANSDUCER			

- **UAY245/291/348/380/400/450ST3**

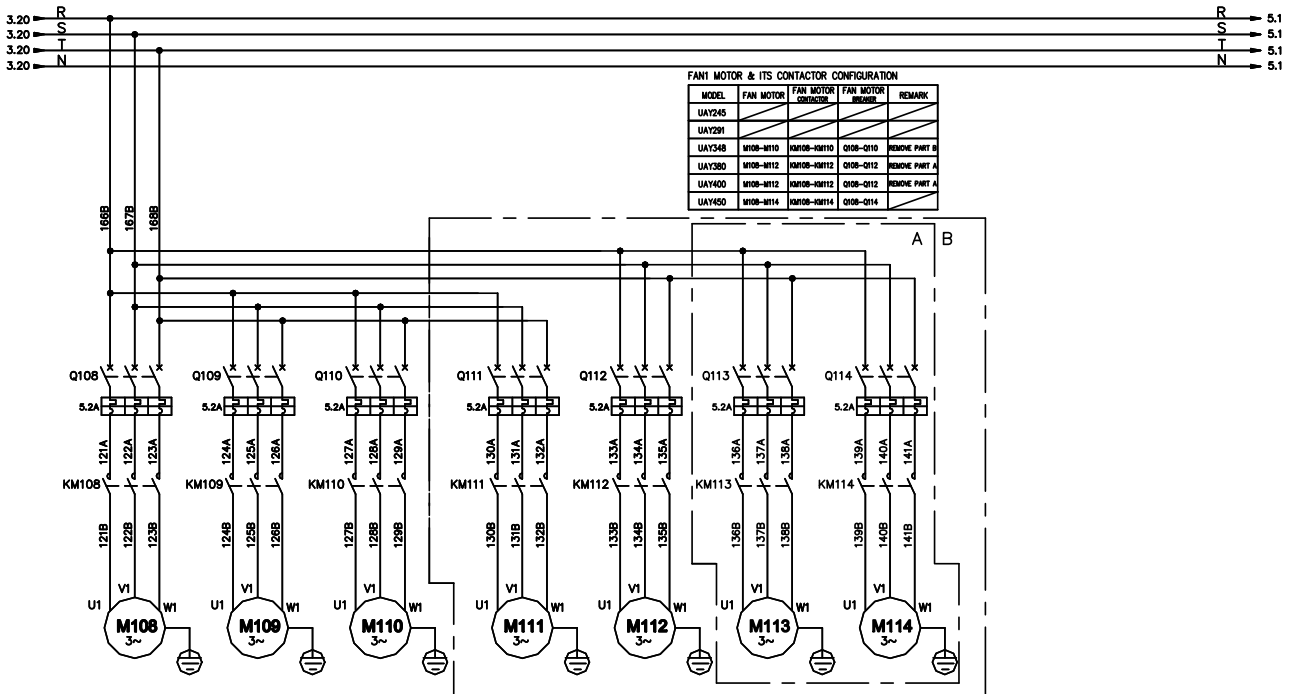
COMPRESSOR1-2 POWER SUPPLY



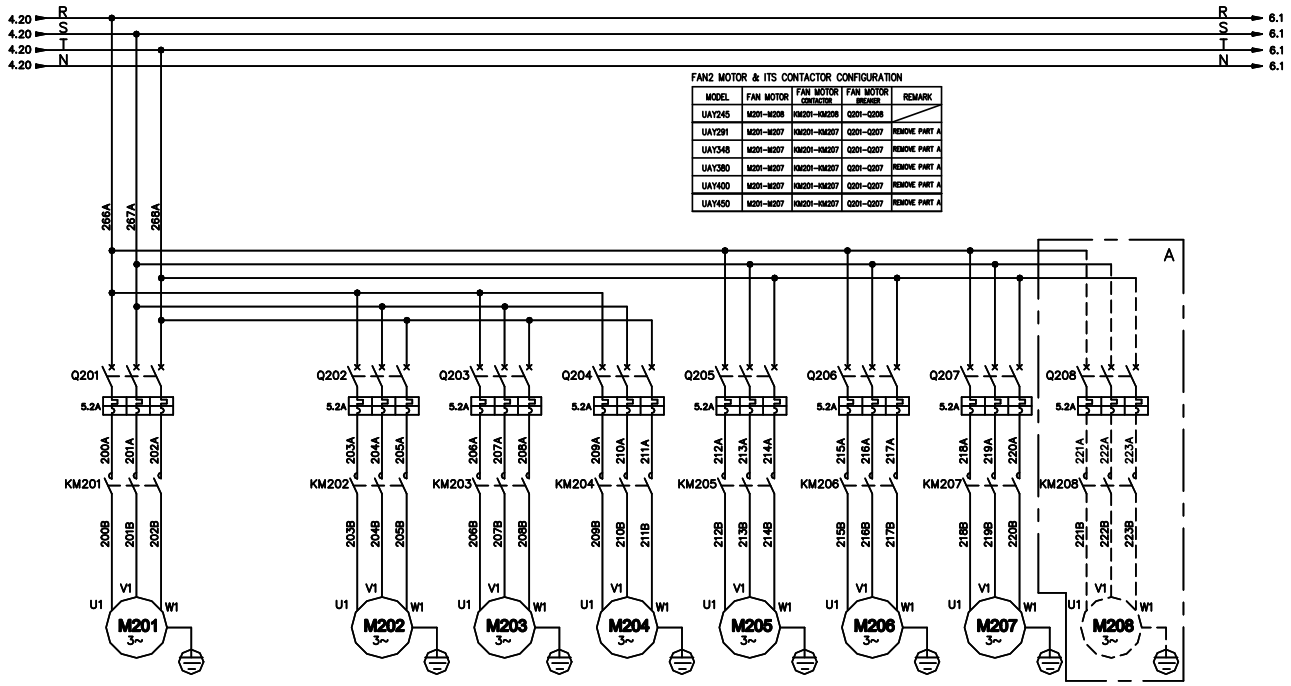
FAN1 POWER SUPPLY



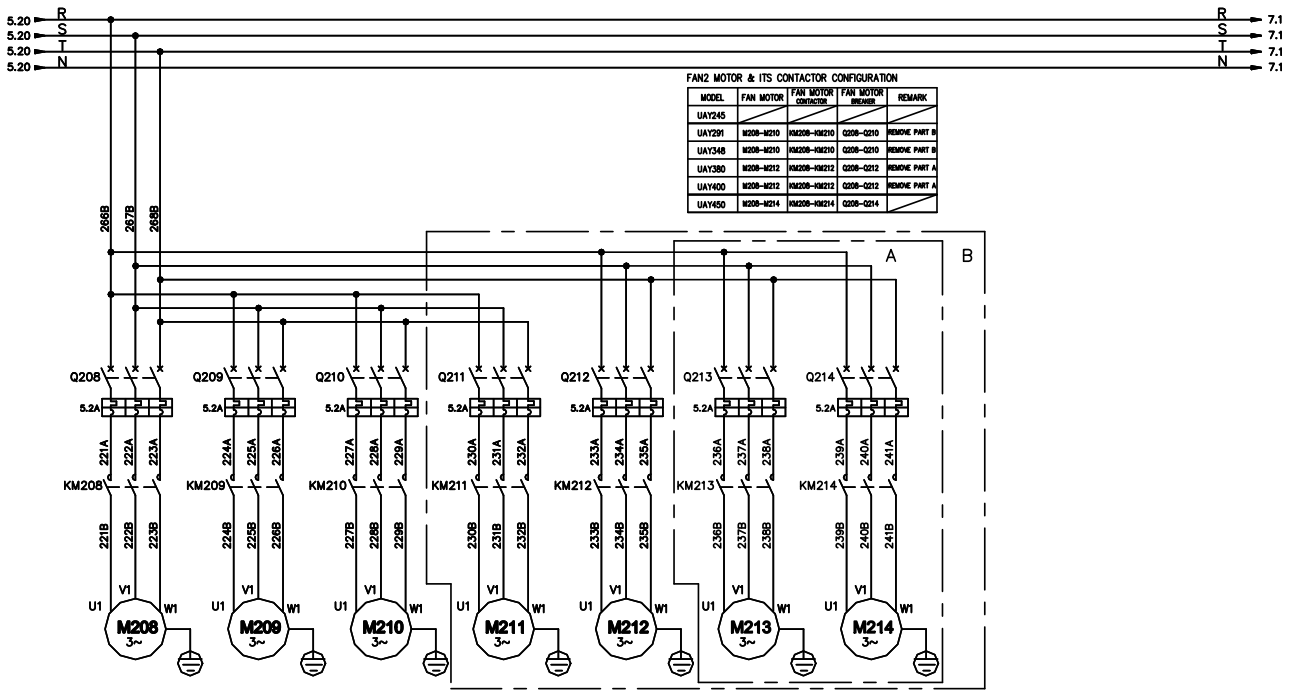
FAN1 POWER SUPPLY



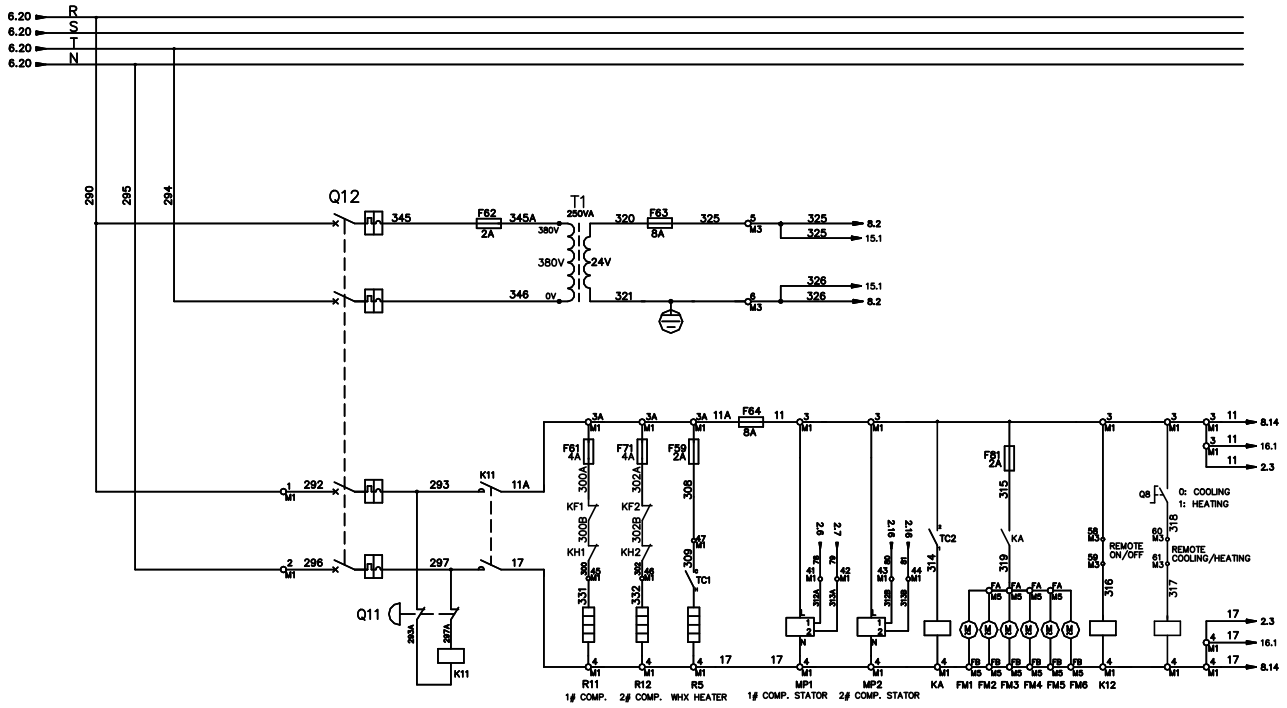
FAN2 POWER SUPPLY



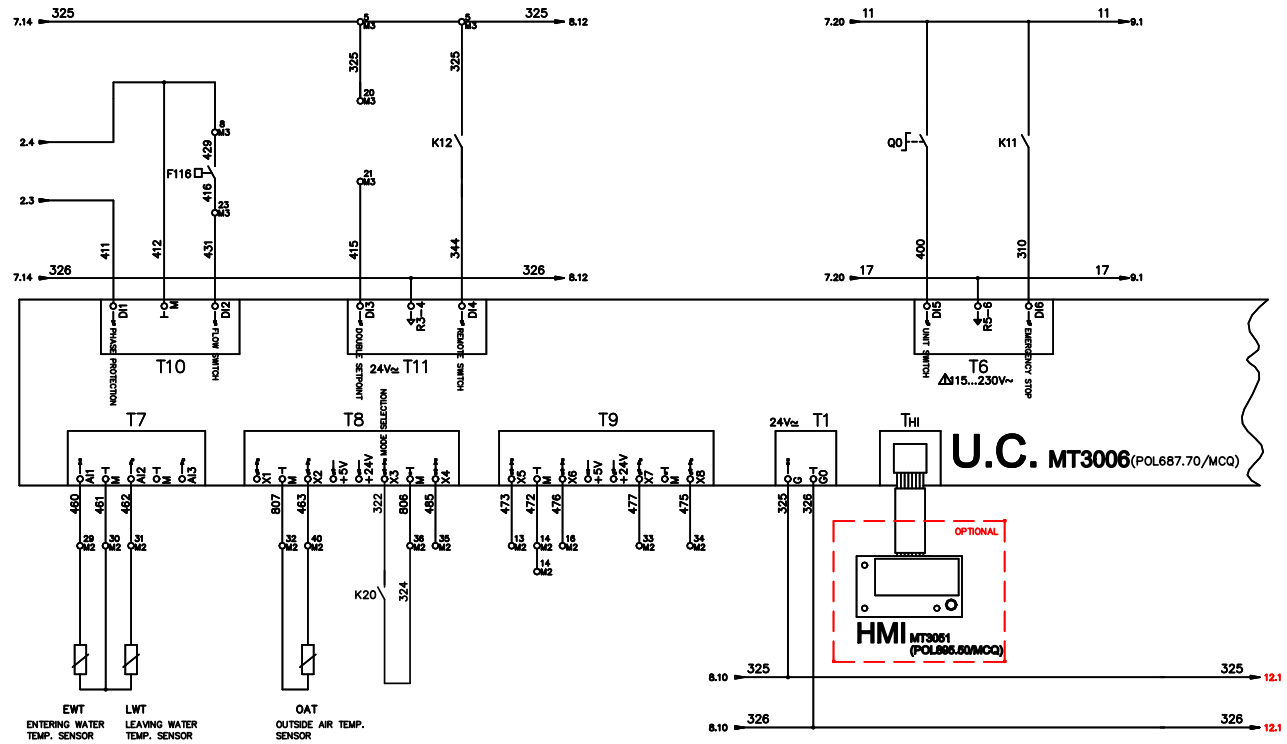
FAN1 POWER SUPPLY



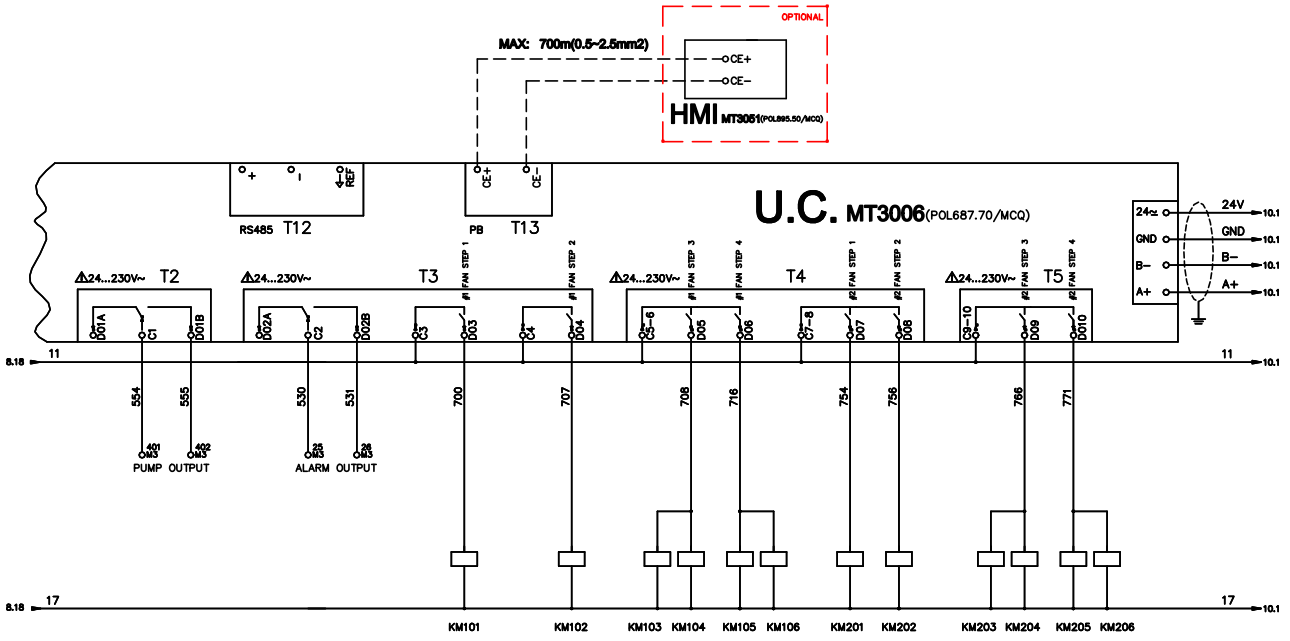
CONTROL POWER SUPPLY



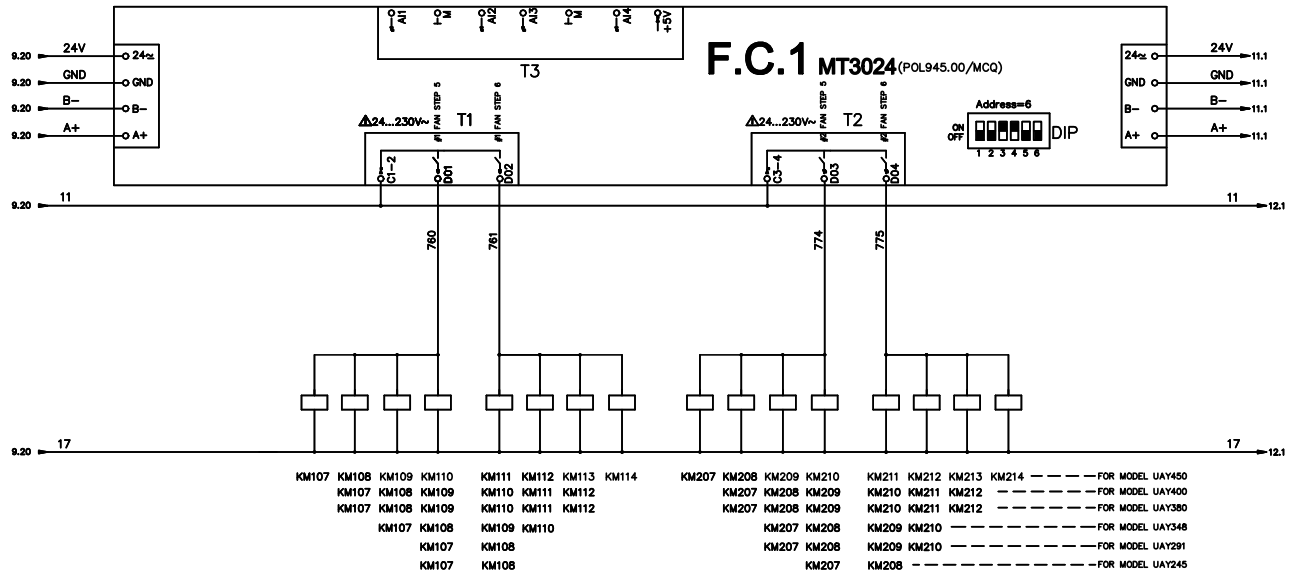
ANALOG INPUTS-OUTPUTS & DIGITAL INPUTS BOARD



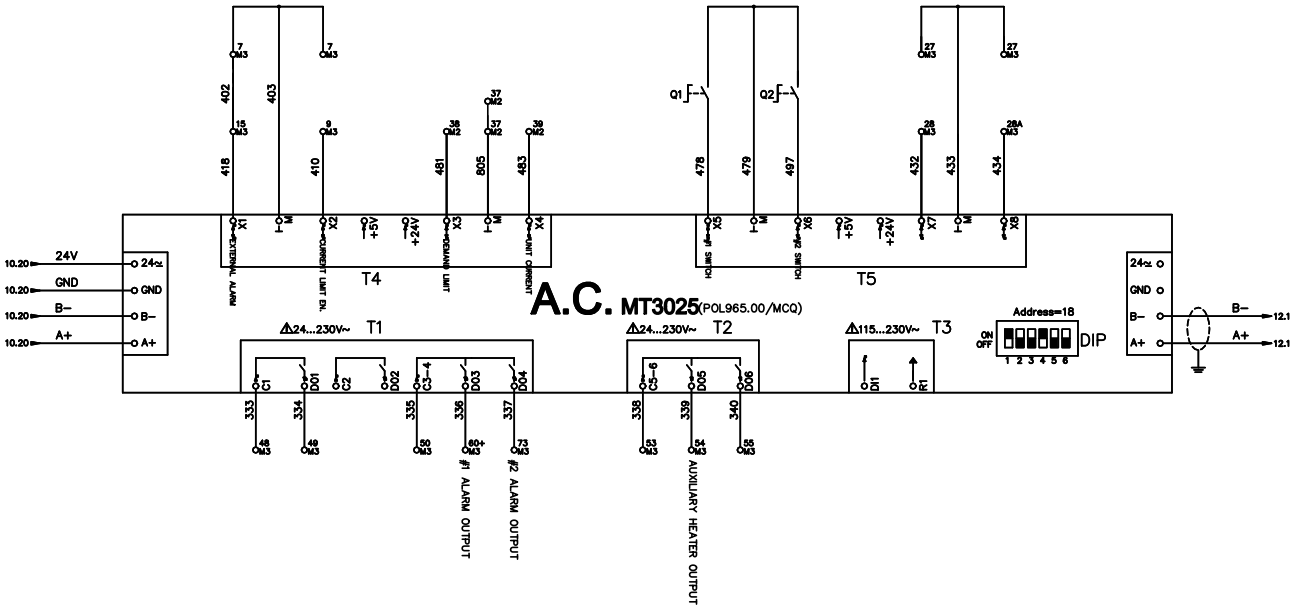
DIGITAL OUTPUTS BOARD



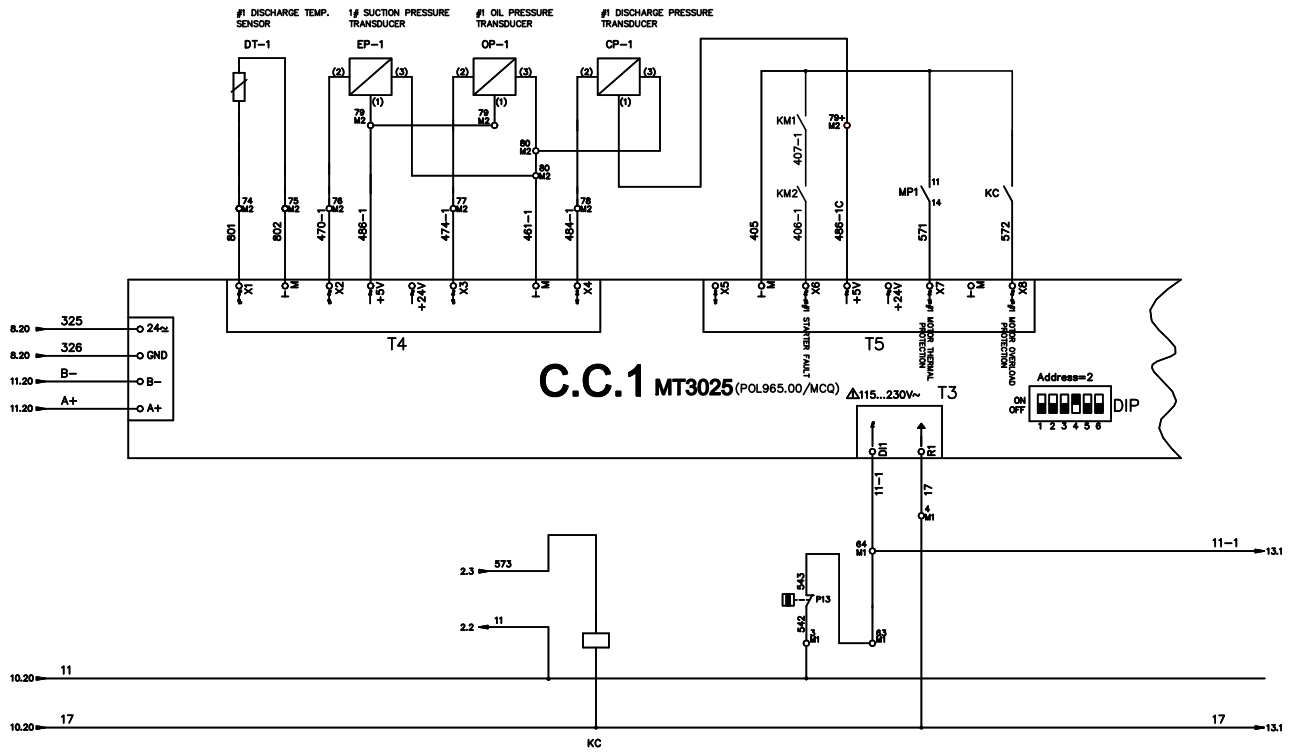
EXPANSION-OUTPUTS, FANS1-2 CONTROL



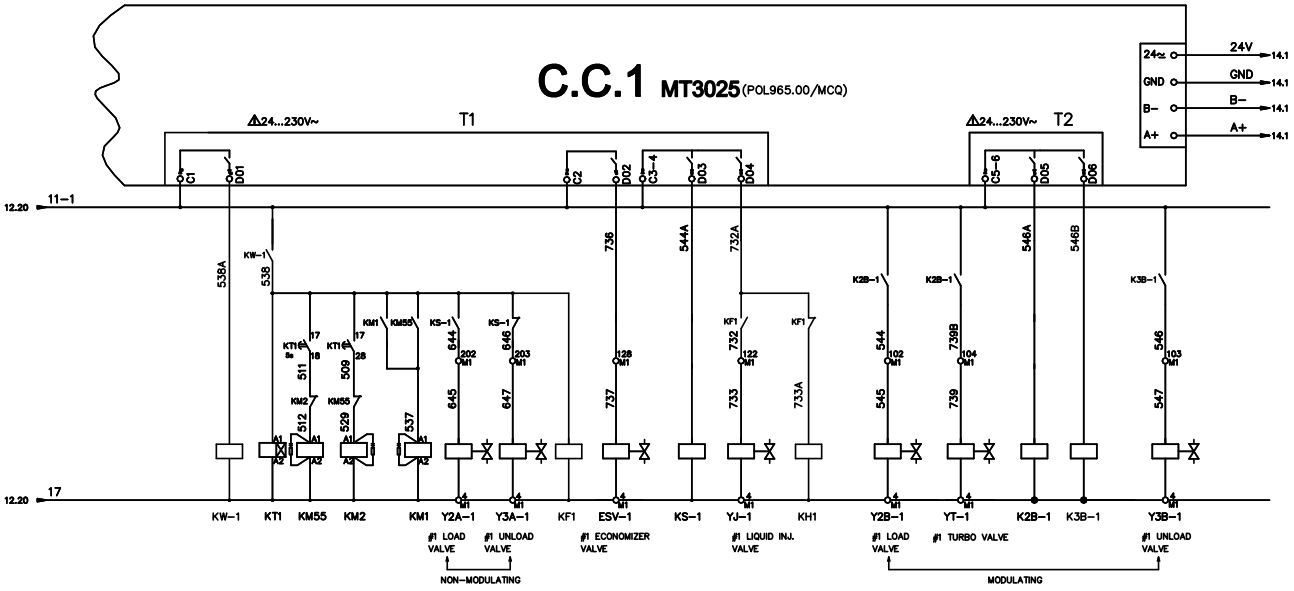
EXPANSION INPUTS/OUTPUTS,UNIT ALARM & LIMITNG



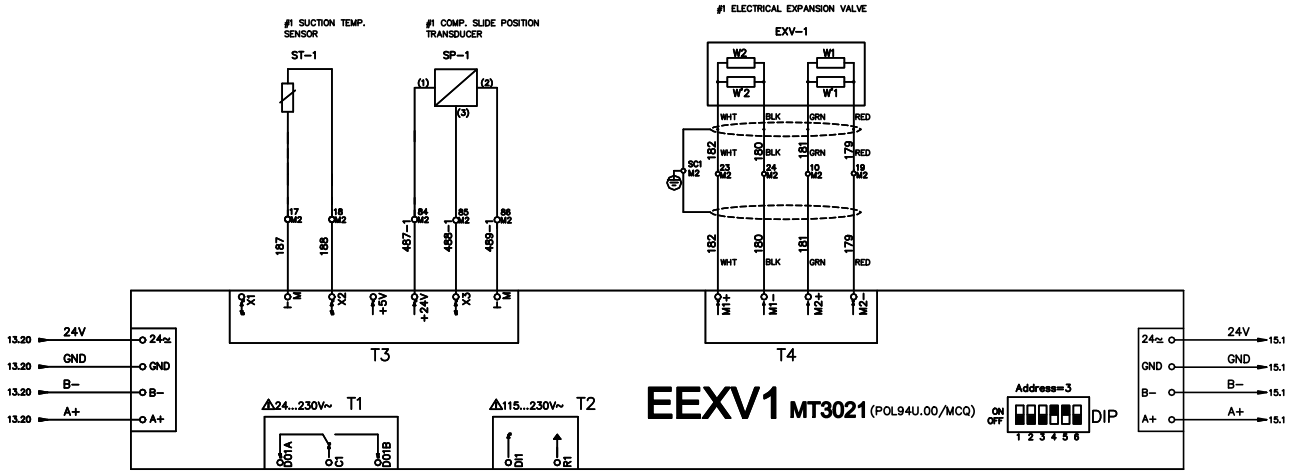
EXPANSION-INPUTS, COMPRESSOR1 CONTROL



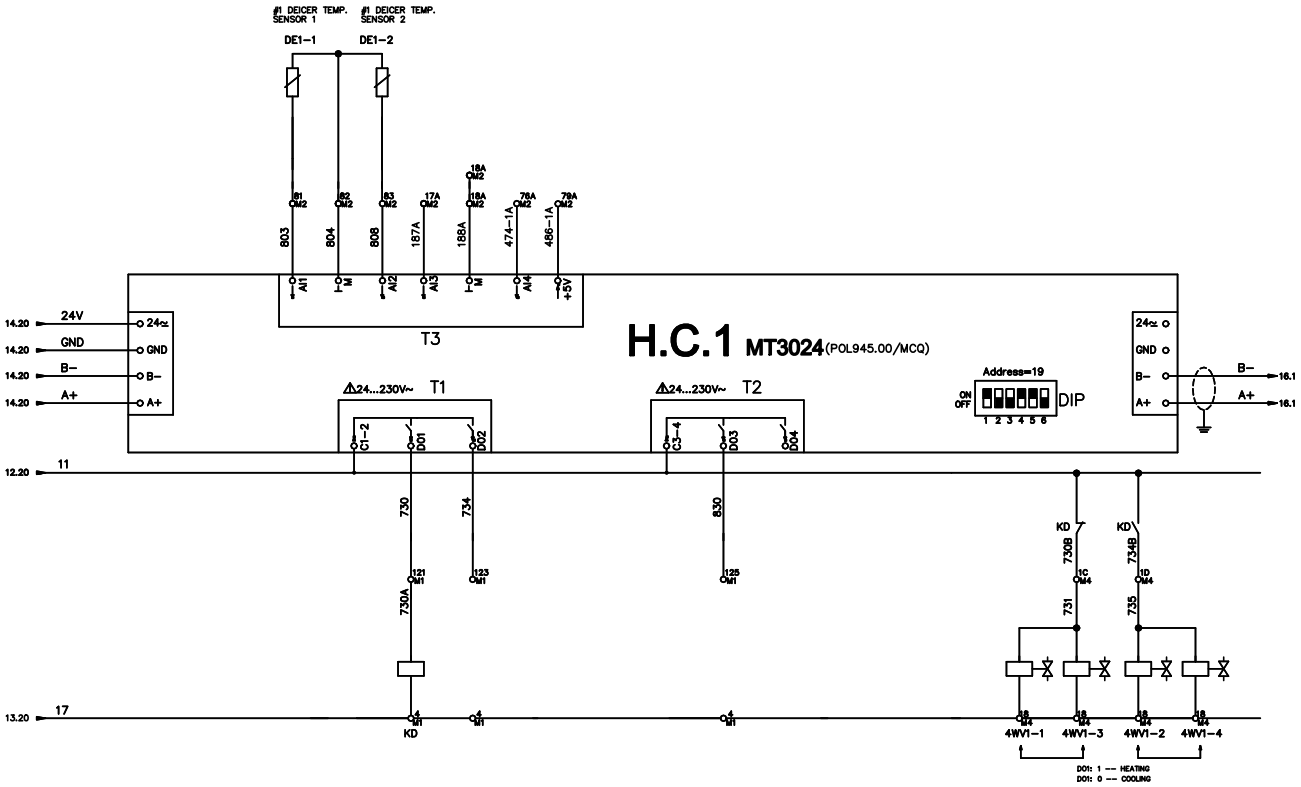
EXPANSION-OUTPUTS, COMPRESSOR1 CONTROL



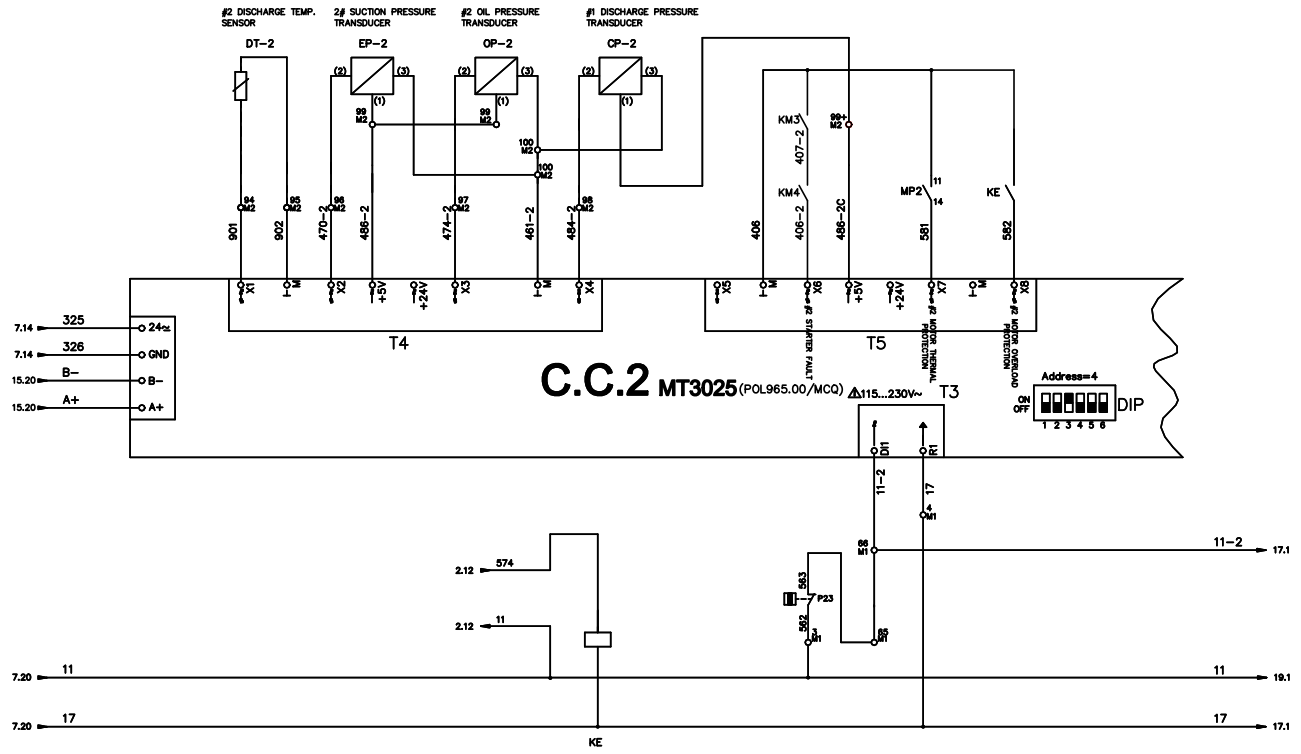
COMPRESSOR1 EEXV CONTROL



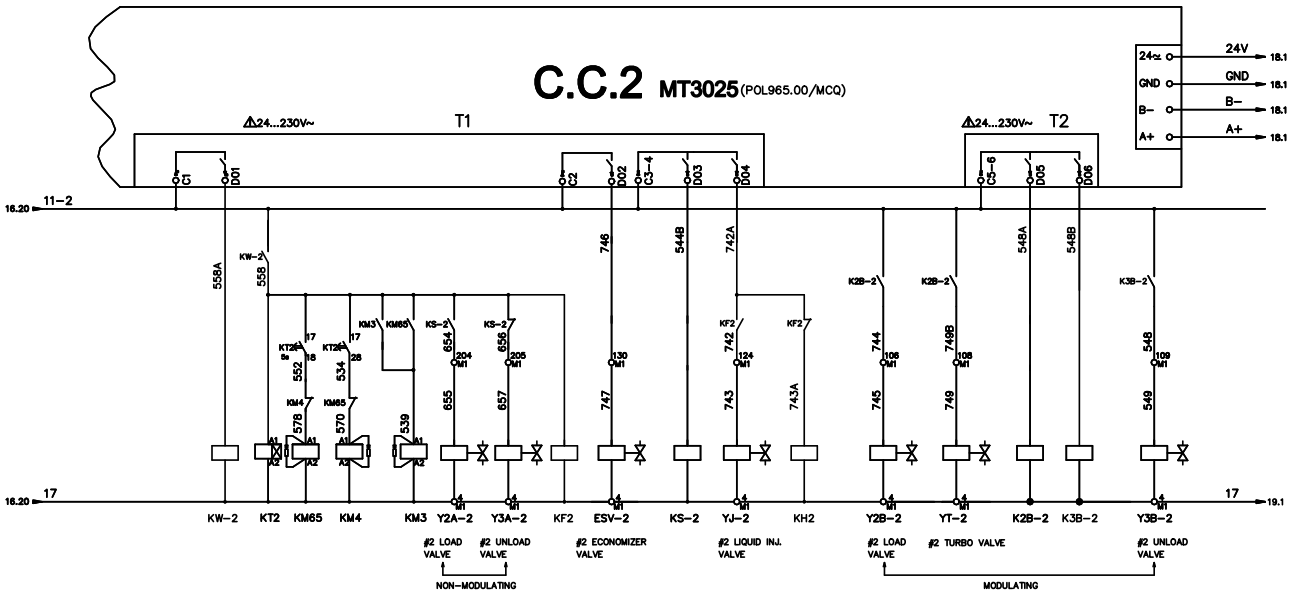
HEATING CONTROL BOARD 1



EXPANSION INPUTS, COMPRESSOR2 CONTROL



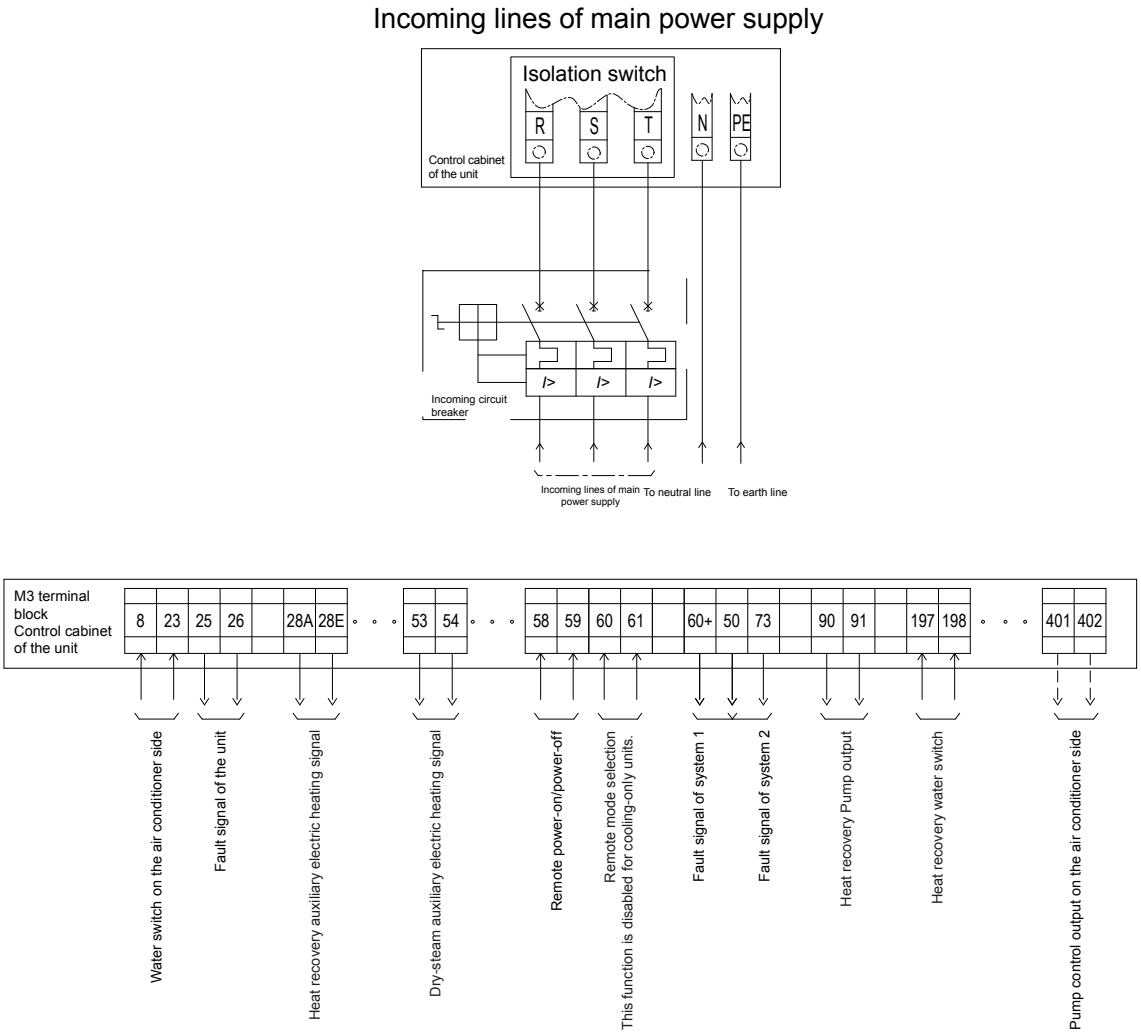
EXPANSION OUTPUTS, COMPRESSOR2 CONTROL

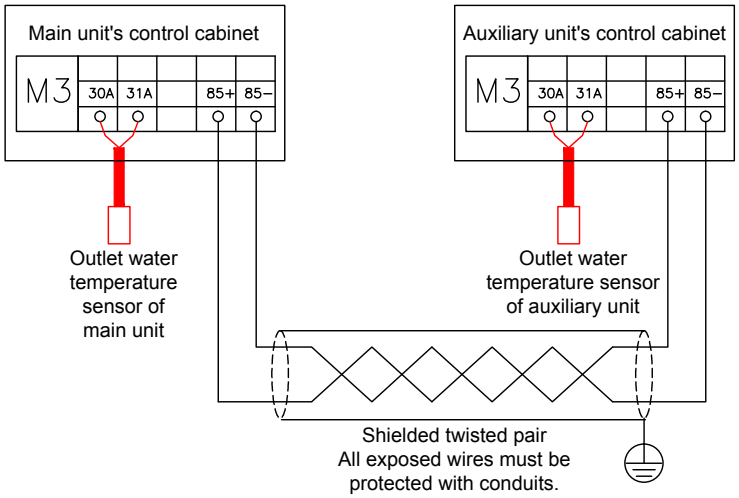


SYMBOL DESCRIPTION

ITEM	SYMBOL	DESCRIPTION	ITEM	SYMBOL	DESCRIPTION
1	Q10	MAIN SWITCH	34	P13/P23	#1-2 HIGH PRESSURE SWITCH
2	F1-2	COMPRESSOR & FAN FUSE	35	EWT	ENTERING WATER TEMPERATURE SENSOR
3	PM1	PHASE PROTECTOR	36	LWT	LEAVING WATER TEMPERATURE SENSOR
4	KM1-2,KM55 KM3-4,KM65	COMPRESSOR CONTACTOR	37	OAT	OUTSIDE AIR TEMPERATURE SENSOR
5	CM1-2	PROGRAMMABLE CURRENT METERS	38	DT-1/2	#1-2 DISCHARGE TEMPERATURE SENSOR
6	M1-2	COMPRESSOR	39	EP-1/2	#1-2 SUCTION PRESSURE TRANSDUCER
7	Q12,Q101-114 Q201-214,Q120	CONTROL CIRCUIT BREAKER & FAN BREAKER	40	OP-1/2	#1-2 OIL PRESSURE TRANSDUCER
8	KT1-2	TIME RELAY	41	CP-1/2	#1-2 CONDENSER PRESSURE TRANSDUCER
9	KM101-114,KM201-214	FAN CONTACTOR	42	ST-1/2	#1-2 SUCTION TEMPERATURE SENSOR
10	M101-114,M201-214	FAN MOTOR	43	DE1/2-1,2	#1-2 DEICER TEMPERATURE SENSOR 1/2
11	F59,F61-64,F71,F81 F130	FUSE	44	Wo1/2	#1-2 COMPRESSOR STATOR TEMPERATURE PROBE
12	T1	CONTROL TRANSFORMER	45	EXV1/2	#1-2 ELECTRICAL EXPANSION VALVE
13	Q11	EMERGENCY SWITCH	46	HMI	HUMAN MACHINE INTERFACE
14	Q8	CHOICE SWITCH OF COOLING/HEATING	47	U.C.	UNIT CONTROL BOARD
15	R11,R21	COMPRSSOR CRANKCASE HEATER	48	F.C.1	FAN CONTROL BOARD
16	R5	WATER HEAT EXCHANGE HEATER	49	C.C.1/2	#1-2 COMPRESSOR CONTROL BOARD
17	MP1-2	COMPRESSOR STATOR TEMPERATURE PROTECTOR	50	EEXV1/2	#1-2 ELECTRICAL EXPANSION VALVE CONTROL BOARD
18	TC1	EVAPORATOR THERMOSTAT(<3°C,CLOSED; >8°C,OPEN)	51	H.C.1/2	#1-2 HEATING CONTROL BOARD
19	K11,K12,K2U,K3-1,K3B-1~2,JV1~2,JY1~2 K3-2,K3B-1~2,KA,KC,KD,KE,KF,JK1~2	RELAY	52	A.C.	ALARM CONTROL BOARD
20	F116	FLOW SWITCH	53	TC2	EXHAUST FAN THERMOSTAT(>40°C,CLOSED)
21	Q0	ON-OFF UNIT SWITCH	54	FM1-6	EXHAUST FAN MOTOR
22	Q1/2	ON-OFF COMPRESSOR1-2 SWITCH	55	CT1-3/CT4-6	#1-2 CURRENT TRANSFORMER
23	QF1/2	#1-2 MANUAL DEFROST SWITCH	56		
24	Y2A-1/2	#1-2 LOAD SOLENOID VALVE(NON-MODULATING)	57		
25	Y3A-1/2	#1-2 UNLOAD SOLENOID VALVE(NON-MODULATING)	58		
26	ESV-1/2	#1-2 ECONOMIZER SOLENOID VALVE	59		
27	YJ-1/2	#1-2 LIQUID INJECTION SOLENOID VALVE			
28	YT-1/2	#1-2 TURBO SOLENOID VALVE			
29	Y2B-1/2	#1-2 LOAD SOLENOID VALVE(MODULATING)			
30	Y3B-1/2	#1-2 UNLOAD SOLENOID VALVE(MODULATING)			
31	4WV1/2-1,3	#1-2 4-WAY VALVE1,3			
32	4WV1/2-2,4	#1-2 4-WAY VALVE2,4			
33	SP-1/2	#1-2 COMPRESSOR SLIDE POSITION TRANSDUCER			

On-site Wiring Diagram





Notes:

1. Wirings for main and auxiliary unit control cabinets showed in the left figure are applicable only to the following unit models:
   UAY/UAA266ST3-FBBE
   UAY/UAA300ST3-FBBE
   UAY/UAA355ST3-FBBE
   UAA380ST3-FBCE
   UAY/UAA390ST3-FBBE
   UAY400ST3-FBBE/FBCE
   UAY/UAA415ST3-FBBE
   UAY/UAA424ST3-FBBE
   UAY450ST3-FBBE/FBCE

2. The preceding models adopt twin power supply wiring.

Notes:

- The wiring of the dashed part must be completed by the customer.
- The customer is advised to configure an outdoor incoming circuit breaker.
- The selected external wires and circuit breakers for all units must be larger than the maximum operating current of the units, and furthermore, they will not cause malfunction conditions due to start current.
- Due to the impact of layout and length, supplies cannot provide details about the main power wiring. Please refer to relevant materials.

No.	Signal	Signal type	Type
1	Unit failure	Passive dry contact output	For failure signal output of the unit (Figure 1)
2	Water pump control output	Passive dry contact output	For water pump control output (Figures 2 and 3)
3	Water flow switch	Passive dry contact input	For detecting water flow of the unit (Figure 4)
4	Remote startup/shutdown	Passive dry contact input	For remote startup/shutdown of the unit (Figure 5)
5	Remote mode selection	Passive dry contact input	For remote mode selection of the unit (Figure 6)
6	System failure signal 1	Passive dry contact output	For failure signal output of the unit (Figure 7)
7	System failure signal 2	Passive dry contact output	For failure signal output of the unit (Figure 8)
8	Heat recovery auxiliary electric heating signal	Passive dry contact output	Used to output the auxiliary electric heating signal for units. For details, see Figures 9 and 10.
9	Dry-steam auxiliary electric heater signal	Passive dry contact output	Used to output the auxiliary electric heating signal for units. For details, see Figures 9 and 10.
10	Heat recovery pump control output	Passive dry contact output	Used to output the heat recovery pump control signal for units. For details, see Figures 2 and 3.
11	Heat recovery water switch	Passive dry contact output	Used to detect the heat recovery water flow of the unit. For details, see Figures 11.

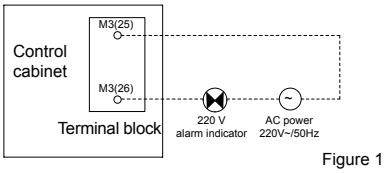


Figure 1

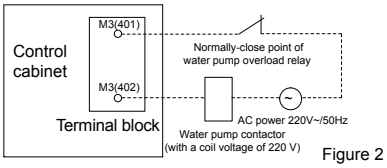


Figure 2

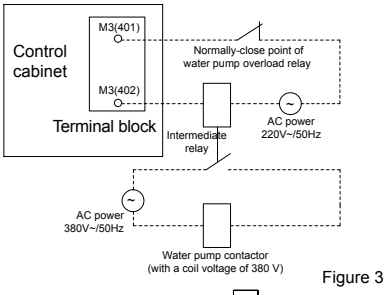


Figure 3

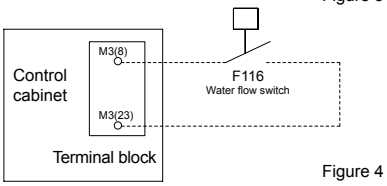


Figure 4

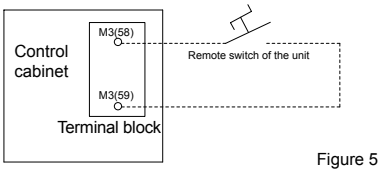


Figure 5

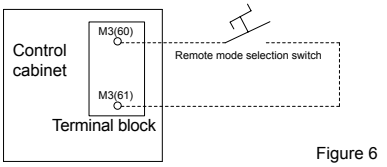


Figure 6

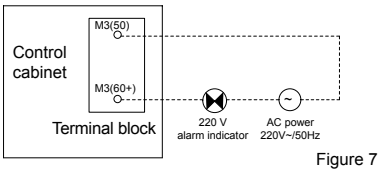


Figure 7

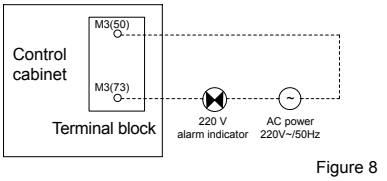


Figure 8

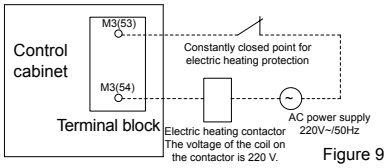


Figure 9

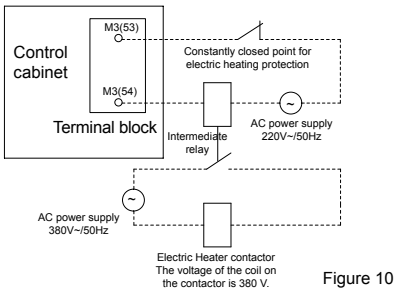


Figure 10

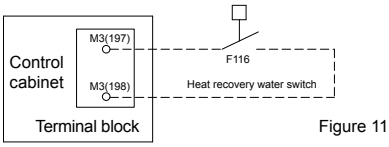
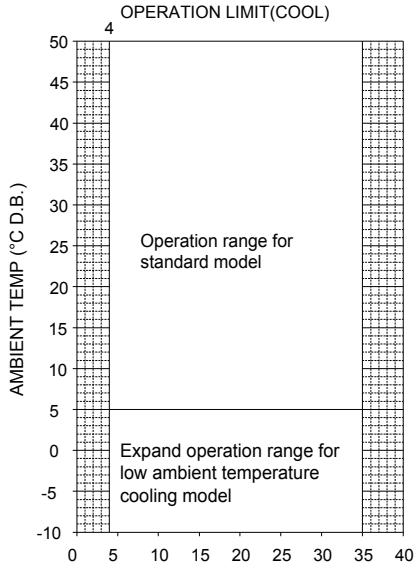


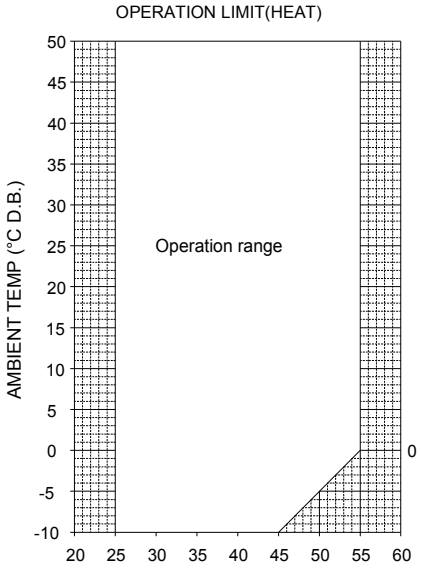
Figure 11

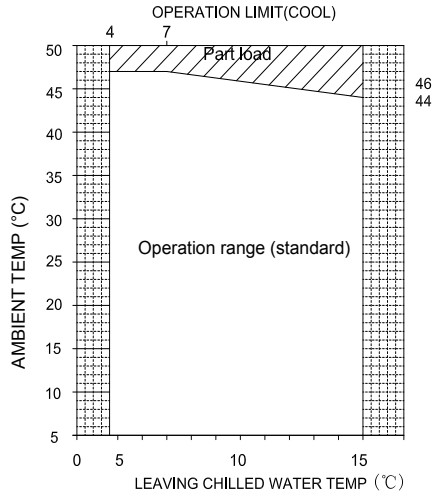
Notes:

- * This function is not available for cooling-only and total heat recovery units.
- For the terminal blocks in figures 2 and 3, M3(401) and M3(402) indicate the output contacts for pump control on the air conditioning side; M3(90) and M3(91) indicate the output contacts for pump control on the heat recovery side.
- For the terminal blocks in figures 9 and 10, M3(53) and M3(54) indicate the signal contacts for auxiliary electric heating on the air conditioning side; M3(28A) and M3(28E) indicate the signal contacts for auxiliary electric heating on the heat recovery side.
- Operating signals of the unit come from the operating signals of the water pump. If M3 (401) and M3 (402) are externally connected to a water pump contactor, the operating signals of unit come from the normally-open contact of the contactor.
- When the unit is in the remote mode control, switch Q8 must be set to “Heating". It can be controlled by connecting a remote switch to M3 (60) and M3 (61). The short contact tag between M3 (60) and M3 (61) must be removed.
- The failure, water pump output and electric heater contact can bear an AC voltage of only 230 V. If the water pump contactor uses a 380 V coil, conversion is required. See Figure 3/10.
- Since the units are under constant improvement, use the drawing delivered with the related unit for reference.

9. Operation Limits





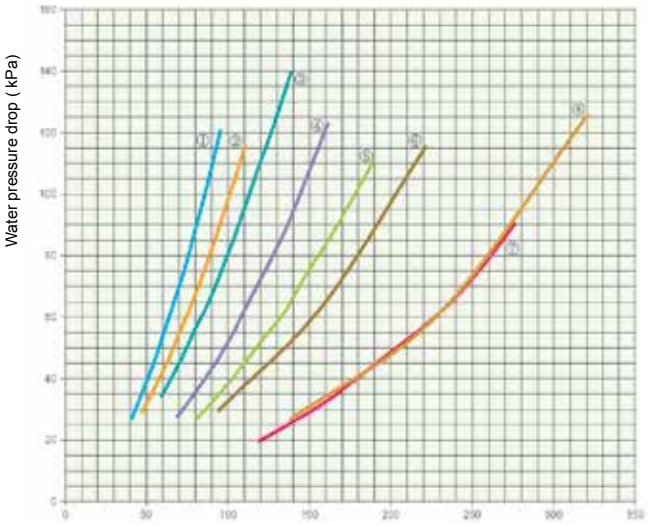


UAA 150/175/204/220ST3-FDA

Description of the application scope:
1.The water flow is the rated water flow for the cooling mode;
2.Add ethylene glycol in the water side,the minimum temperature of the leaving water for cooling can reach -8℃;
3.The relative humidity of the unit operating environment should be 90% or less.

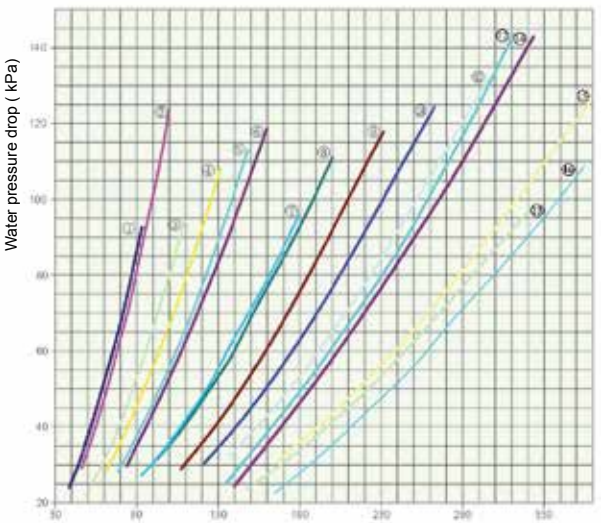
10. Water Pressure Drop of the Unit

Super-high-efficiency series



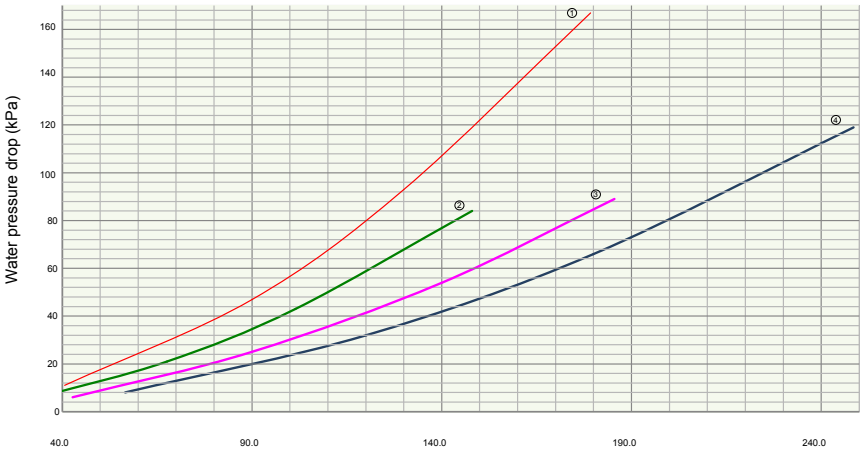
①UAY105ST3-FAAE ②UAY125ST3-FAAE ③UAY150ST3-FAAE ④UAY175ST3-FAAE
⑤UAY204ST3-FAAE ⑥UAY245ST3-FAAE ⑦UAY291ST3-FAAE ⑧UAY348ST3-FAAE

High-efficiency series



①UAY105ST3-FBBE/UAA105ST3-FBBE
②UAY125ST3-FBBE/UAA125ST3-FBBE
③UAY140ST3-FBBE/UAA140ST3-FBBE
④UAY150ST3-FBBE/UAA150ST3-FBBE
⑤UAY175ST3-FBBE/UAA175ST3-FBBE
⑥UAY204ST3-FBBE/UAA204ST3-FBBE
⑦UAY220ST3-FBBE/UAA220ST3-FBBE
⑧UAY245ST3-FBBE/UAA245ST3-FBBE
⑨UAY291ST3-FBBE/UAA291ST3-FBBE
⑩UAY348ST3-FBBE/UAA348ST3-FBBE
⑪UAY380ST3-FBBE/UAA380ST3-FBBE
⑫UAA380ST3-FBCE
⑬UAA400ST3-FBBE
⑭UAA400ST3-FBCE
⑮UAA450ST3-FBBE
⑯UAA450ST3-FBCE

High-efficiency series



①UAA150ST3-FDAE
②UAA175ST3-FDAE
③UAA204ST3-FDAE
④UAA220ST3-FDAE

11. Correction

Fouling factors (water side heat exchanger)

Fouling factor (m^2°C/kw)	Cooling capacity correction factor	Cooling power correction factor	Heating capacity correction factor	Heating power correction factor
<0.018	1	1	1	1
0.044	0.987	0.991	0.994	1.004
0.086	0.972	0.980	0.985	1.011
0.132	0.953	0.968	0.973	1.020

Altitude correction factors

Elevation above sea level (m)	0	300	600	900	1200	1500	1800
Barometric pressure (bar)	1	0.977	0.942	0.908	0.875	0.843	0.812
Cooling capacity correction factor	1	0.993	0.986	0.979	0.973	0.976	0.960
Power input correction factor	1	1.005	1.009	1.015	1.021	1.026	1.031
Heating capacity correction factor	1	0.990	0.980	0.970	0.960	0.950	0.940
Heating power correction factor	1	0.995	0.990	0.985	0.980	0.975	0.970

Ethylene glycol correction factors

% Of ethylene glycol by weight	0	10	20	30	40	50
Cooling capacity correction factor	1	0.991	0.982	0.972	0.961	0.946
Cooling power input correction factor	1	0.996	0.992	0.986	0.976	0.966
Water flow rate correction factor	1	1.013	1.04	1.074	1.121	1.178
Water pressure drops correction factor	1	1.070	1.129	1.181	1.263	1.308
Heating capacity correction factor	1	0.996	0.991	0.985	0.980	0.974
Heating power correction factor	1	1.005	1.010	1.016	1.023	1.030

Low temperature operation performance factors

Ethylene glycol leaving water temperature of chilled water (°C)	2	0	-2	-4	-6	-8
Max. ambient temperature (°C)	40	39	38	37	36	35
Cooling capacity correction factor	0.842	0.785	0.725	0.67	0.613	0.562
Power input of compressor correction factor	0.95	0.94	0.92	0.89	0.87	0.84
Min. % of ethylene glycol	10	15	18	20	23	25
COP correction factor	0.886	0.835	0.788	0.753	0.705	0.669

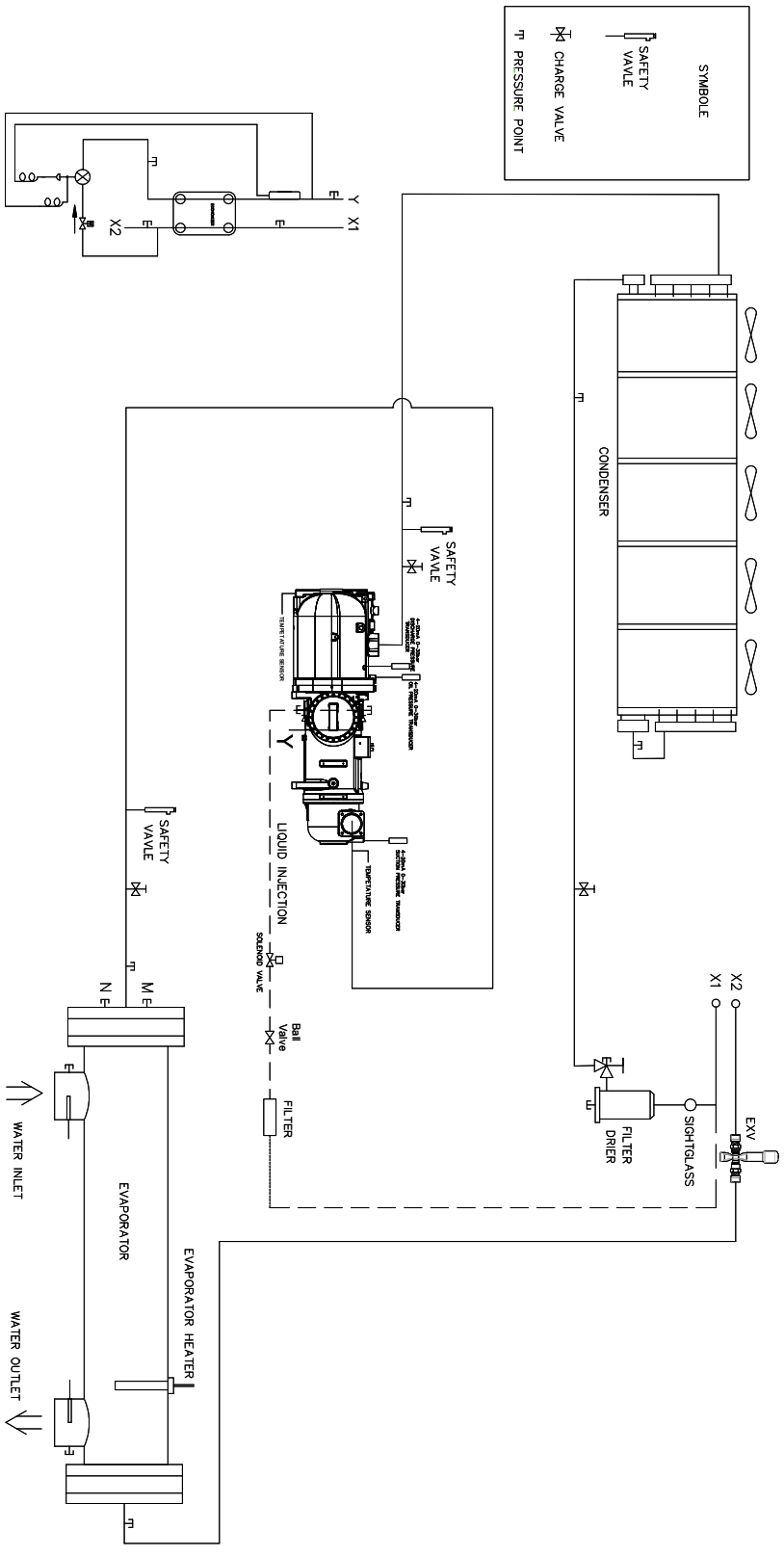
Low water resistance model

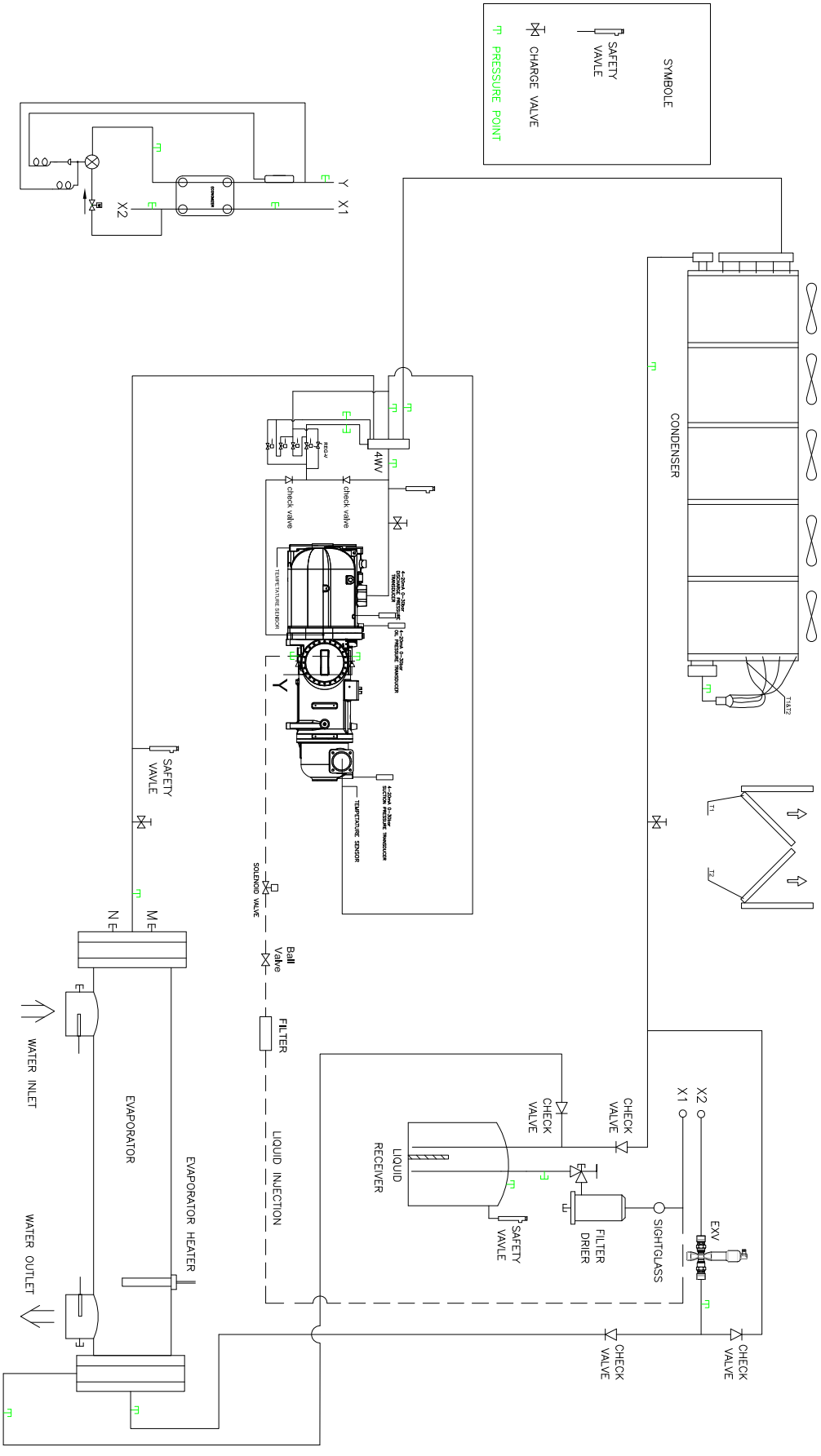
Model unit UAAST3-FBDE	105	125	140	150	175	204	220	245	266	291	300
Low water resistance option (kPa)	42	47	34	43	39	31	36	47	42/43	42	47/39
Model unit UAAST3-FBDE	348	355	380	380*	390	400	400*	415	424	450	450*
Low water resistance option (kPa)	46	43/39	47	39/39	39/31	48	31/31	39/36	31/31	49	36/36

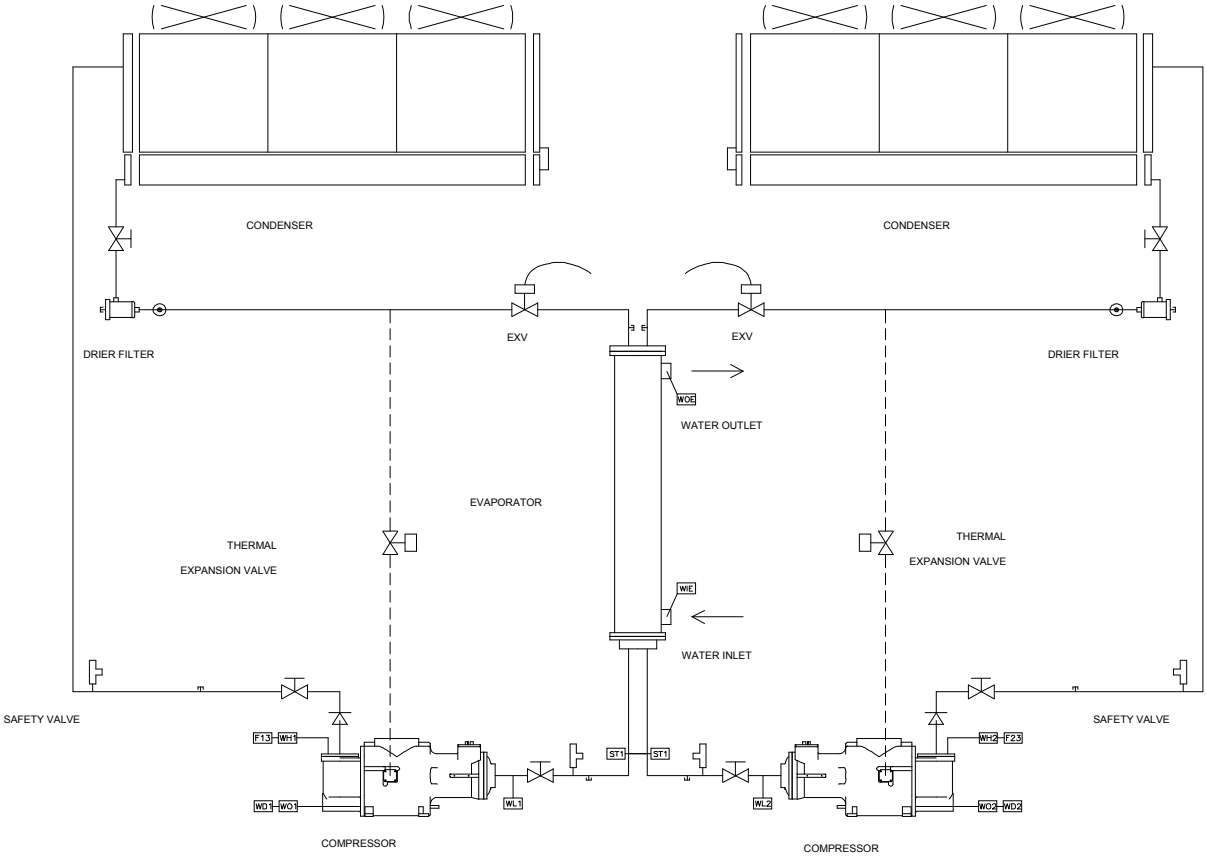
Notes: Low water resistance evaporator pipe dimension will be changed, please check dimensions and foundation in manual

12. Refrigerant Piping Layout

Cooling only




SYMBOLE
SAFETY VAVLE
CHARGE VALVE
PRESSURE POINT
Y
X1
X2
CONDENSER
4WV
check valve
check valve
TEMPERATURE SENSOR
SAFETY VAVLE
SOLENOID VALVE
Ball Valve
FILTER
LIQUID INJECTION
TEMPERATURE SENSOR
CHECK VALVE
CHECK VALVE
LIQUID RECEIVER
SAFETY VAVLE
FILTER DRIER
SIGHTGLASS
EXV
CHECK VALVE
CHECK VALVE
WATER INLET
EVAPORATOR
EVAPORATOR HEATER
WATER OUTLET


CONDENSER
CONDENSER
EXV
EXV
DRIER FILTER
DRIER FILTER
WOE
WATER OUTLET
EVAPORATOR
THERMAL
EXPANSION VALVE
THERMAL
EXPANSION VALVE
WIE
WATER INLET
SAFETY VALVE
SAFETY VALVE
F1.3
WH1
ST1
ST1
WH2
F2.3
WD1
WO1
WL1
WL2
WO2
WD2
COMPRESSOR
COMPRESSOR

13. Electrical Specifications

Super-high-efficiency series

Model UAYST3-FAAE	Compressor		Fan		Nominal operating current		Maximum operating current (A)	Inrush current (A)
	Quantity	Fuse specification (A)	Quantity	Nominal current (A) per pcs	Cooling (A)	Heating (A)		
105	1	315	10	4	200	212	304	488
125	1	355	10	4	241	234	356	488
150	1	425	12	4	293	295	449	715
175	1	500	14	4	362	352	559	723
204	2	315*2	20	4	415	424	608	804
245	2	355*2	20	4	491	494	734	849
291	2	425*2	24	4	638	614	886	1150
348	2	500*2	28	4	761	740	1119	1280

High-efficiency series

Model UAYST3-FBBE/FBCE	Compressor		Fan		Nominal operating current		Maximum operating current (A)	Inrush current (A)
	Quantity	Fuse specification (A)	Quantity	Nominal current (A) per pcs	Cooling (A)	Heating (A)		
105	1	315	6	4	190	200	321	473
125	1	355	8	4	238	233	349	480
140	1	355	8	4	227	230.0	379	480
150	1	400	10	4	312	290	431	708
175	1	500	12	4	342	332	505	715
204	1	500	12	4	374	355	540	715
220	1	630	14	4	415	400	637	740
245	2	355/355	16	4	477	466	698	829
266	2	315/400	16	4	502	490	752	1029
291	2	355/400	18	4	549	536	780	1057
300	2	355/500	20	4	580	565	854	1064
348	2	400/400	20	4	624	580	861	1139
355	2	400/500	22	4	654	622	936	1146
380	2	500/500	24	4	683	664	1011	1221
380	2	500/500	24	4	683	664	1011	1221
390	2	500/500	24	4	716	687	1045	1255
400	2	500/500	24	4	748	710	1080	1255
400	2	500/500	24	4	748	710	1080	1255
415	2	500/630	26	4	757	732	1142	1353
424	2	500/630	26	4	789	755	1177	1353
450	2	630/630	28	4	830	800	1274	1377
450	2	630/630	28	4	830	800	1274	1377

Notes:

- The maximum operating current in the above table refers to the maximum operating current during cooling or heating within the operation range.
- Working conditions for the nominal operating current: During cooling, the ambient temperature for dry bulb is 35°C, and the temperature of inlet/outlet chilled water is 12°C/7°C. During heating, the ambient temperature for dry bulb is 7°C, the temperature for wet bulb is 6°C, and the temperature of inlet/outlet hot water is 40°C/45°C.
- Inter-phase unbalance range: ≤ 2%
- Power supply voltage: 380-400 V±10%

Electrical specifications

Total Heat Recovery Series

Model UAYST3-FBBE/ FBCE	Compressor		Fan		Nominal operating current		Maximum operating current (A)	Inrush current (A)
	Quantity	Fuse specification (A)	Quantity	Nominal current (A) per pcs	Cooling (A)	Heating (A)		
105	1	315	6	4	190	200	321	473
125	1	355	8	4	238	233	349	480
150	1	400	10	4	312	290	431	708
175	1	500	12	4	342	332	505	715
204	1	500	12	4	374	355	540	715
220	1	630	14	4	415	400	637	740

Notes:

- The maximum operating current in the above table refers to the maximum operating current during cooling or heating within the operation range.
- Working conditions for the nominal operating current: During cooling, the ambient temperature for dry bulb is 35°C, and the temperature of inlet/outlet chilled water is 12°C/7°C. During heating, the ambient temperature for dry bulb is 7°C, the temperature for wet bulb is 6°C, and the temperature of inlet/outlet hot water is 40°C/45°C.
- Inter-phase unbalance range: ≤ 2%
- Power supply voltage: 380-400 V±10%

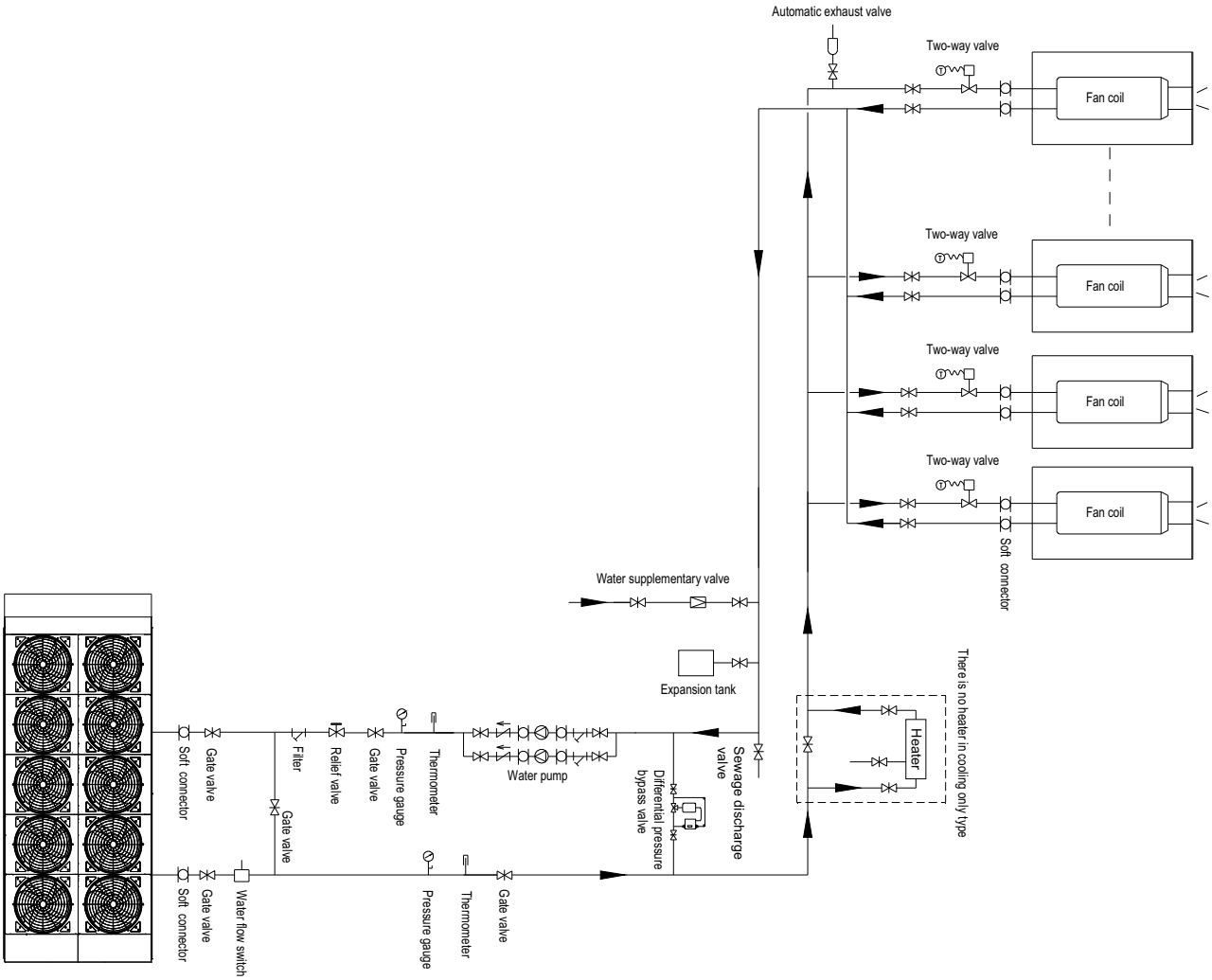
14. Sound Level

Model UAYST3-FBBE/FBCE	63Hz	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	8000Hz	Overall (dBA)
105	58.6	67	68.8	69.8	70.8	66.2	56.5	54.5	76.0
125	59.1	67.8	69.8	70.8	71.5	66.5	57.2	55.4	76.8
140	59.1	67.8	69.6	71.2	72.0	67.0	57.4	55.4	77.1
150	59.1	67.8	69.2	71.9	72.5	67.3	57.6	55.3	77.4
175	60.3	68.1	69.8	71.6	72.8	67.1	59.3	55.8	77.6
204	60.3	68.1	69.8	71.6	72.8	67.1	59.3	55.8	77.6
220	63.5	68.1	69.8	71.6	72.9	68.9	59.8	56.2	77.9
245	65.2	69.5	70.8	73.4	74.2	71.6	67.4	64.9	79.8
291	66.4	70.8	71.1	73.2	74.2	71.6	68.6	66.2	80.1
348	66.5	70.9	71.2	73.8	74.9	71.8	67.5	66.2	80.4
380	66.7	70.9	71.9	73.6	75.3	72.1	68.9	66.3	80.7
400	66.7	70.9	71.9	73.6	75.3	72.1	68.9	66.3	80.7
450	66.7	70.9	71.9	73.6	75.3	72.1	68.9	66.3	80.9
266	65.8	70.3	71	73.3	74.2	71.6	68.4	65.8	80.0
300	66.4	70.8	71.1	73.5	74.4	71.7	68.2	66.2	80.2
355	66.6	70.9	71.3	73.7	75.1	72	67.8	66.2	80.5
390	66.8	70.9	71.8	73.7	75.3	72.1	68.8	66.1	80.7
415	66.9	71	72.1	73.7	75.4	72.2	69.1	66.3	80.8
424	66.9	70.9	72.2	73.7	75.5	72.1	69	66.3	80.8

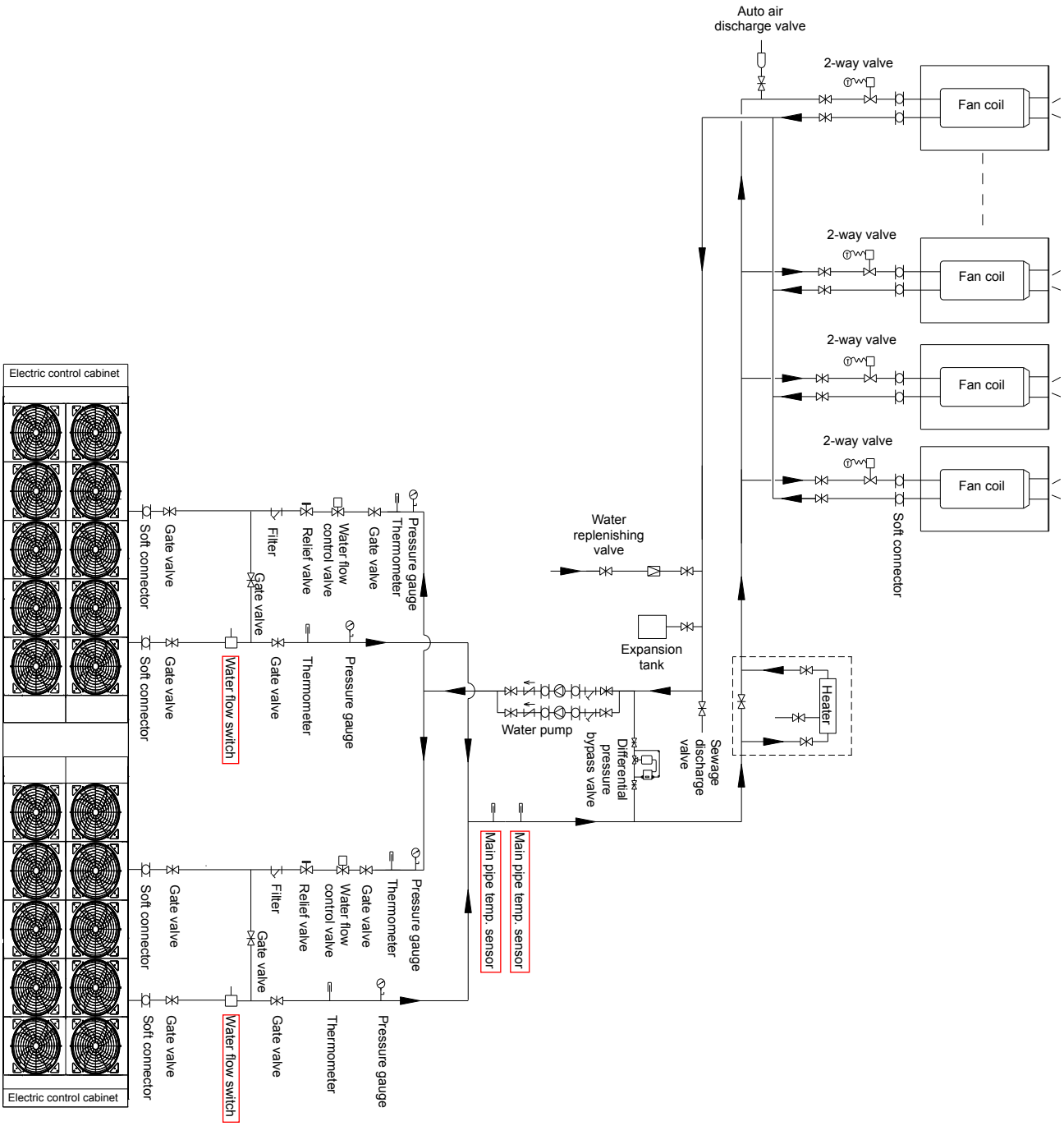
Notes:
- Average sound pressure level is tested based on semispheric free field conditions.
- Sound pressure levels are referred to units furnished without hydraulic kit.
- Measuring location is at 1m from the unit in semispheric free field (rif. 2×10-5 Pa).

15. Installation

Requirements for Water System Installation



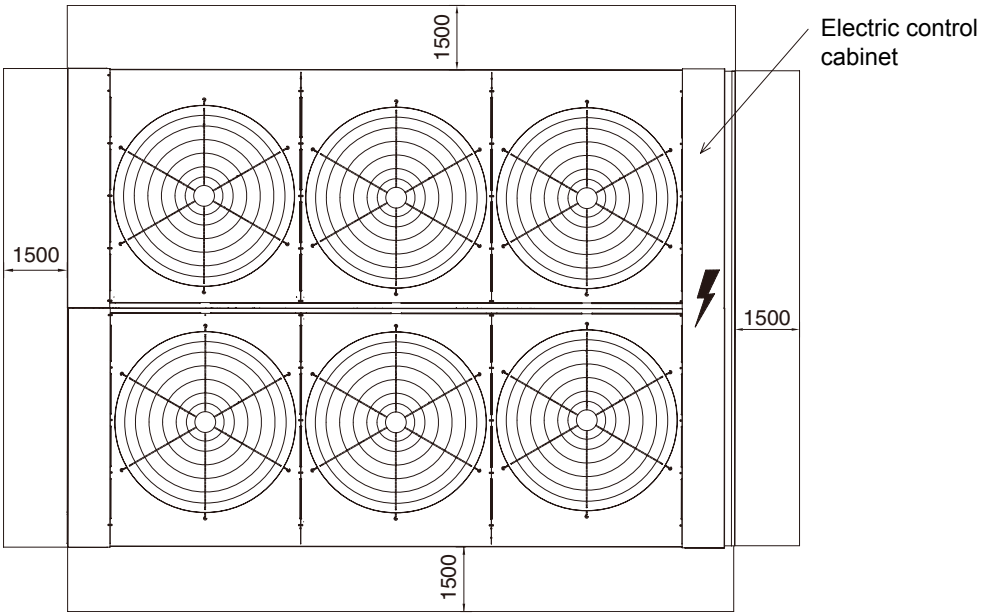
Requirements for the water system of a dual system control:



Note: Red mark is factory standard accessory

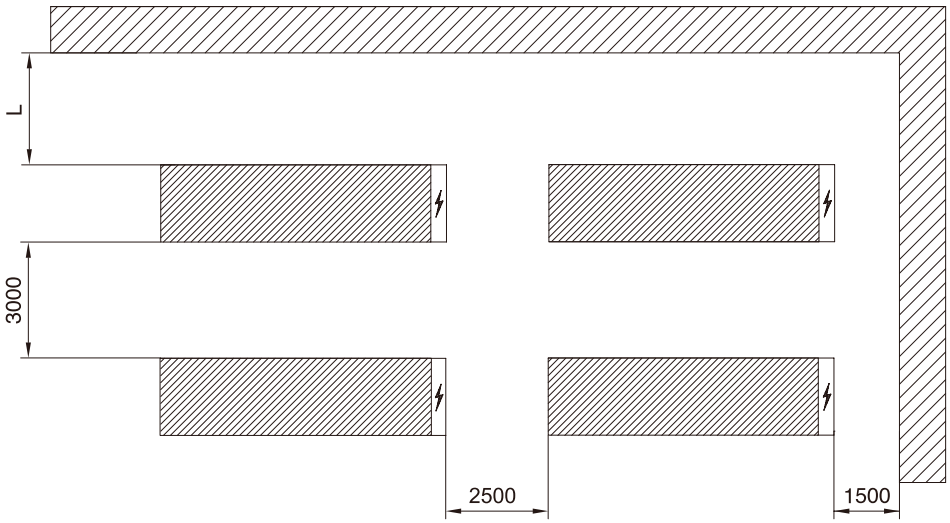
Requirement for Unit Maintenance Space

Unit: mm



Requirement for Unit Installation Space

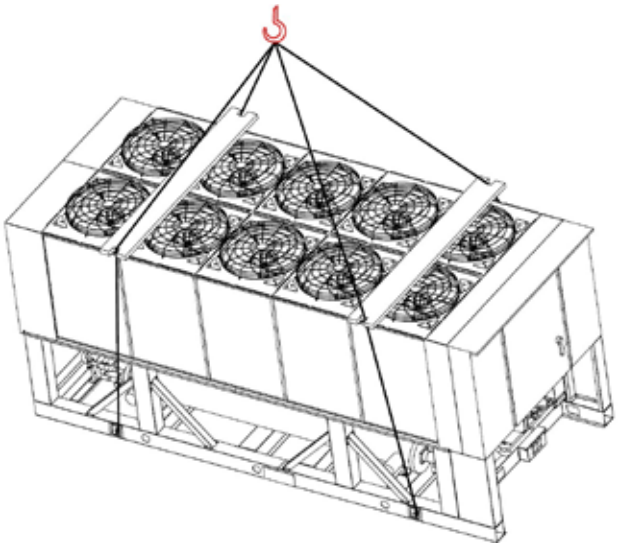
Unit: mm



Notes: ■ During the installation of the unit: (1) If the wall height H > 2.5 m, the distance between the unit and the wall L ≥ 3 m;
(2) If 1.1 m ≤ wall height H ≤ 2.5 m, L ≥ 2.5 m;
(3) If wall height H < 1.1 m, L ≥ 1.5 m.
■ If multiple units are installed, each unit must have sufficient space for maintenance.

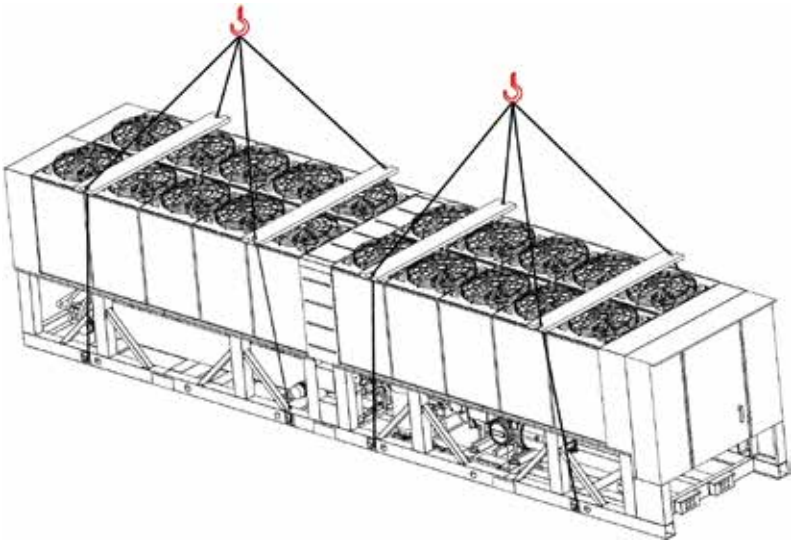
Lifting Method

Use proper Lifting method:
Please use spreader bar and the lifting holes of the machine when lifting to avoid damage to the equipments. For UAY/UAA105~220, the hoisting belt (such as tight wire, nylon)should be two and not shorter than ten meters (Or four and not shorter than five meters),and both sides of pole should be extended over 100mm out of unit in order to prevent the hoisting belt from damaging unit. (Refer to the figure)



UAY/UAA105~220 lifting figure

The increase of length and weight of UAY/UAA245~450 units bring a lot of difficulties to hoisting work. **Use double lifting ropes and holes as that used for UAY/UAA105~220 units**. (Refer to the figure)



UAY/UAA245~450 lifting figure

It is necessary that the unit maintain a level when being hoisted. Tilt angle should be less than 15 degrees; otherwise the unit may be overturned.

16. Guide Specitication

General

Before shipment a full test will be held to avoid any losses.
Chiller will be delivered to the job site completely assembled and charged with refrigerant and oil.
Comply with the manufacturer instructions for rigging and handling equipment.
The unit will be able to start up and operate as standard at full load and outside air temperature from ___ °C to ___ °C with an evaporator leaving fluid temperature between ___ °C and 15 °C.

Performance

Number of unit: ___
Cooling capacity for single air-cooled water chiller: ___ kW
Power input for single air-cooled water chiller: ___ kW
Evaporator entering water temperature: ___ °C
Evaporator leaving water temperature: ___ °C
Evaporator water flow: ___ L/min
Outside working ambient temperature: ___ °C
The unit should work with electricity at ___ V ±10% , 3ph, 50Hz without neutral and shall only have one power connection point. The control circuit voltage shall be 24V maximum, supplied by a factory-installed transformer.
The electrical power absorbed should not exceed ___ kW

Unit description

Each chiller consists of multiple semi-hermetic rotary screw compressor, direct expansion shell & tube evaporator, air-cooled condenser section, control system and all components necessary for safety.
The units will have 2 independent refrigerant circuits, and the respective electronic microprocessor will allow the starting of the compressors. Each chiller will be factory assembled on a robust base-frame made steel, protected by an epoxy paint.

Noise level and vibrations

Sound pressure level at 1 meter distance in free field, semispheric conditions, shall not exceed ___ dB(A).
Other types of rating are unacceptable. Vibration level should not exceed 2mm/s.

Dimensions

Unit dimensions shall not exceed following indications:
Unit length ___ mm
Unit width ___ mm
Unit height ___ mm

Compressors

The compressors shall be field serviceable, semi-hermetic, single-screw type with one main helical rotor meshing with gate-rotor. The gate-rotor will be constructed of a carbon impregnated engineered composite material. The gate-rotor supports will be constructed of cast iron.
The compressor shall be provided with an automatic spring return of capacity control valve to the minimum load position to ensure compressor starting always at minimum motor load, with minimum in-rush current.
The oil injection shall be used in order to get high EER (Energy Efficiency Ratio) also at any load conditions.
Refrigerant system differential pressure shall provide oil flow through service replaceable, and cartridge type oil filter internal to compressor.
Refrigerant system differential pressure shall provide oil injection on all moving compressor parts to correctly lubricate them.
The compressor's oil cooling must be realized, when necessary, by liquid injection. External dedicated heat exchanger and additional piping to carry the oil from the compressor to heat exchanger and vice versa will be not accepted.
The compressor shall be provided with an integrated, high efficiency, cyclonic type oil separator and with built-in oil filter.
The compressor shall be direct electrical drive (2950 rpm @ 50Hz), without gear transmission between

the screw and the electrical motor.
The motor's compressor shall be provided with star/delta start (D/Y) as standard.
The compressor casing shall be provided with ports to realize refrigerant economizer actions.
Shall be present two thermal protections realized by temperature sensors: one
is to protect motor temperature and the other against high discharge gas temperature.
The compressor shall be equipped with an electric oil-crankcase heater.

Regulation of cooling capacity

Each unit will have a microprocessor for the control of compressor slide valve's position.
The capacity control shall modulate slide valve's capacity from 100% to 25% for each compressor (from 100% down to 10% of full load for unit with 2 compressors).
The chiller shall be capable of stable operation to a minimum of 12,5% of full load, without hot gas bypass.
Step unloading unacceptable because of evaporator leaving water temperature fluctuation and low compressor's efficiency at partial load.
The system shall stage the unit based on the leaving evaporator water temperature that shall be controlled by a PID (Proportional Integral Derivative) loop.

Evaporator

The units shall be supplied with shell and tubes counter-flow evaporator with single pass refrigerant. It will be refrigerant direct expansion type with refrigerant inside the tubes and water outside (shell side). It will include carbon steel tube sheets, with straight copper tubes internally wound for higher efficiencies, expanded on the tube plates.
The external shell shall be linked with an electrical heater to prevent freezing down to -15 °C ambient temperature, commanded by a thermostat and shall be insulated with flexible, closed cell polyurethane insulation material (20mm thick).
The evaporator will have 2 circuits, one for each compressor and shall be single refrigerant pass.
The water connections shall be VICTAULIC type connections as standard to ensure quick mechanical disconnection between the unit and the hydraulic network.

Condenser coil

The condenser coils are constructed with internally finned seamless copper tubes of a "W" shape and arranged in a staggered row pattern and mechanically expanded into lanced and rippled aluminum fins with full fin collars for higher efficiencies. The space between the fins are given by a collar that will increase the surface area in connection with the tubes, protecting them from ambient corrosion.
The coils will have an integral sub cooler circuit that provides sufficient sub cooling to effectively eliminate the possibility of liquid flashing and increase the unit's efficiency of 5-7% without increasing in power absorption.
The condenser coil shall be leak-tested and submitted to a pressure test with nitrogen.
The total coil surface area will be designed in order to have an air velocity not higher than 3.05m/sec.

Condenser fans

The fans used in conjunction with the condenser coils, shall be helical type with aerofoil blades for higher efficiencies and lower noise. Each fan shall be protected by a fan guard.
The air discharge shall be vertical and each fan must be coupled to the electrical motor, supplied as standard to IP54 and capable to work to ambient temperatures of -10°C ~ 50°C.
They shall have individual overload protection via a disconnect switch.

Refrigerant circuit

The unit must have refrigerant circuits completely independent of each other with one compressor per circuit.
Each circuit shall include: electronic expansion valve device, a liquid line shut-off valve with charging connection, replaceable core filter-drier, sight glass with moisture indicator and insulated suction line.

Condensing pressure control

The units will be provided with an automatic control for condensing pressure, ensuring a proper condensing pressurethe. Fan speed control (options) , allows unit's operation with very low ambient temperature down to -18°C (cooling only) .

Automatic compressor unloading, prevents the shutdown of the refrigerant circuit (shutdown of the unit) due to a high-pressure fault.

Control panel

Unit control system should be centrally located in an electric panel (IP 54). Power and controls should be separated and operating in different compartments of the same panel.

Compressor contactor sequence will be star/delta type.

Power and starting controls should include fuses and contactors for each compressor motor coil and fan motors. Operating and safety controls should include energy saving control; emergency stop switch; overload protection for compressor motor; high and low pressure cutout switch (for each refrigerant circuit); anti-freeze thermostat; shut off switch for each compressor.

All of the information regarding the unit will be reported on a display and with the internal built-in calendar and clock that will switch the unit ON/OFF during day time all year long.

The following features and functions shall be included:

Chilled water temperature reset, controlled from the return water temperature or through a remote 4-20 mA DC signal or external ambient temperature;

Soft load function to prevent the system from operating at full load during the chilled fluid pull down period;

Password protection of critical parameters;

Start-to-start and stop-to-star timers to provide minimum compressor off-time with maximum motor protection;

Communication capability with a PC or remote monitoring;

Discharge pressure control through intelligent cycling of condenser fans;

Lead-lag selection by manual or automatically by circuit based on run hours;

Double set point for glycol unit version (options);

Scheduling via internal time clock to allow programming of a yearly start-stop schedule accommodating weekends and holidays.

Display Capabilities

The controller as a minimum shall be capable of monitoring and displaying the following data:

No.	Analogue Inputs (AI)	No.	Digital Inputs (DI)
1	Entering Evaporator fluid Temp.	1	Control switch one per comp.
2	Leaving Evaporator fluid Temp.	2	Evaporator water flow switch
3	Outside Air Temp.	3	Phase monitor
4	Not used	4	Double Set point (Ice Mode)
5	Discharge Press., one per comp.	5	High Press. Switch, one per compressor
6	Discharge Press., one per comp.	6	High Press. Switch, one per compressor
7	Setpoint Override (Set point Reset)	7	Low Press. Switch, one per compressor
8	Demand Limit or Current Limit (Site Selectable)	8	Oil Press. Switch, one per compressor
9	% Capacity Signal, one per comp.	9	Transition Fault, one per compressor
10	% Capacity Signal, one per comp.	10	Discharge Temp. Sensor, one per comp.
		11	External Alarm

Warning

- Daikin Industries, Ltd.'s products are manufactured for export to numerous countries throughout the world. Daikin Industries, Ltd. does not have control over which products are exported to and used in a particular country. Prior to purchase, please therefore confirm with your local authorized importer, distributor and/or retailer whether this product conforms to the applicable standards, and is suitable for use, in the region where the product will be used. This statement does not purport to exclude, restrict or modify the application of any local legislation.
- Ask a qualified installer or contractor to install this product. Do not try to install the product yourself. Improper installation can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Use only those parts and accessories supplied or specified by Daikin. Ask a qualified installer or contractor to install those parts and accessories. Use of unauthorized parts and accessories or improper installation of parts and accessories can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Read the User's Manual carefully before using this product. The User's Manual provides important safety instructions and warnings. Be sure to follow these instructions and warnings.

If you have any enquiries, please contact your local importer, distributor and/or retailer.

The air conditioners manufactured by Daikin Industries have received **ISO 9001 series** certification for quality assurance.

Certificate Number. 9601019

The airconditioning factories of Daikin Industries have received environmental management system standard **ISO 14001** certification.

Certificate Number. EMS80362

Cautions on product corrosion

1. The units should not be installed in areas where corrosive gases, such as acid gas or alkaline gas, are produced.
2. If the unit is to be installed close to the sea shore, direct exposure to the sea breeze should be avoided. If you need to install the unit close to the sea shore, contact your local distributor.

Dealer

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