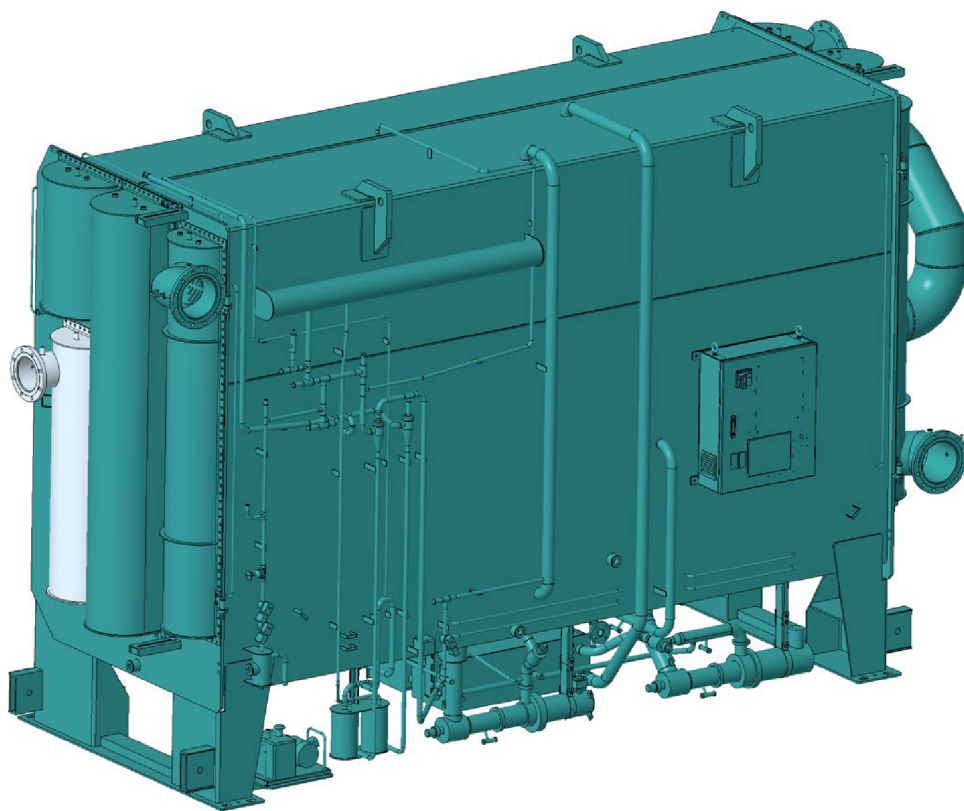




YHAU-CL/CH Single Effect Hot Water Absorption Chiller (Mod B)

200 to 1000 ton, 703 to 3517 kW



Parts Manual

Form Number: 155.51-RP1 (223)

Issue Date: 2023-02-16

New Release



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General safety guidelines

► **Important:** Read before proceeding.

This equipment is a relatively complicated apparatus. During rigging, installation, operation, maintenance, or service, individuals may be exposed to certain components or conditions including, but not limited to: heavy objects, refrigerants, materials under pressure, rotating components, and both high and low voltage. Each of these items has the potential, if misused or handled incorrectly, to cause bodily injury or death. It is the obligation and responsibility of rigging, installation, and operating or service personnel to identify and recognize these inherent hazards, protect themselves, and proceed safely in completing their tasks. Failure to comply with any of these requirements could result in serious damage to the equipment and the property in which it is situated, as well as severe personal injury or death to themselves and people at the site.

This document is intended for use by owner-authorized rigging, installation, and operating or service personnel. It is expected that these individuals possess independent training that will enable them to perform their assigned tasks correctly and safely. It is essential that, before performing any task on this equipment, this individual shall have read and understood the on-product labels, this document and any referenced materials. This individual shall also be familiar with and comply with all applicable industry and governmental standards and regulations pertaining to the task in question.

Safety symbols

The following symbols are used in this document to alert the reader to specific situations:



Indicates a possible hazardous situation which will result in death or serious injury if proper care is not taken.



Indicates a potentially hazardous situation which will result in possible injuries or damage to equipment if proper care is not taken.



Identifies a hazard which could lead to damage to the machine, damage to other equipment and/or environmental pollution if proper care is not taken or instructions are not followed.

① **Note:** Highlights additional information useful to the technician in completing the work being performed correctly.

WARNING

External wiring, unless specified as an optional connection in the manufacturer's product line, is not to be connected inside the control cabinet. Devices such as relays, switches, transducers and controls and any external wiring must not be installed inside the micro panel. All wiring must be in accordance with Johnson Controls' published specifications and must be performed only by a qualified electrician. Johnson Controls will not be responsible for damage/problems resulting from improper connections to the controls or application of improper control signals. Failure to follow this warning will void the manufacturer's warranty and cause serious damage to property or personal injury.

Changeability of this document

In complying with Johnson Controls' policy for continuous product improvement, the information contained in this document is subject to change without notice. Johnson Controls makes no commitment to update or provide current information automatically to the manual or product owner. Updated manuals, if applicable, can be obtained by contacting the nearest Johnson Controls Service office or accessing the Johnson Controls Knowledge Exchange website at <https://docs.johnsoncontrols.com/chillers/>.

The rigging, lifting, and operating or service personnel are responsible for verifying the applicability of these documents to the equipment. If there is any question regarding the applicability of these documents, rigging, lifting, and operating or service personnel should verify whether the equipment has been modified and if current literature is available from the owner of the equipment before performing any work on the chiller.

Using the Parts Manual

Johnson Controls has an assortment of replacement parts for Johnson Controls, YORK, and DS units. Each replacement part is manufactured and fitted for a specific model. This Parts Manual is for standard Johnson Controls units. Chiller units built with special options, modifications, or conversions are not covered in this manual.

This Parts Manual provides Johnson Controls chiller replacement parts by part numbers, descriptions, quantities, and drawing figures. To determine the correct replacement part, locate the item on drawing figure and refer to the parts list for the part number, description, and quantity.

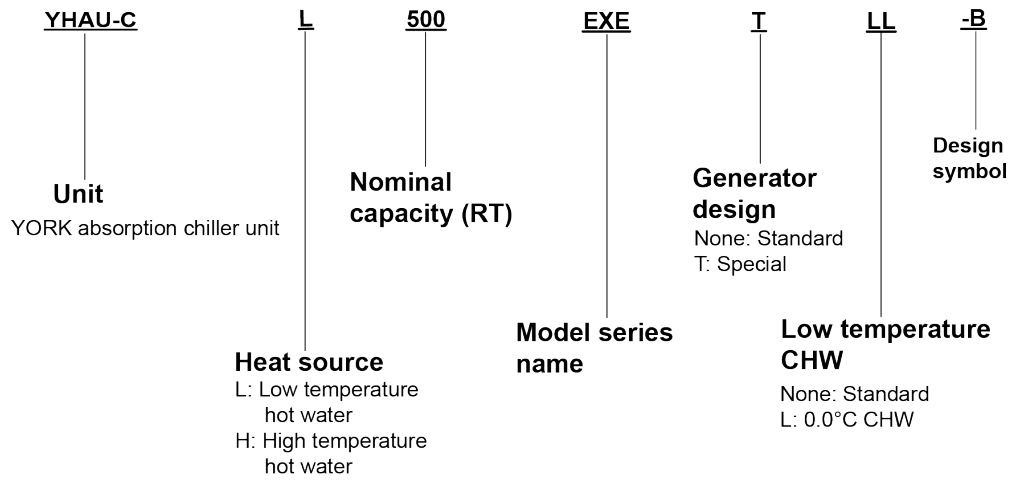
- ① **Note:** When requesting a quotation or placing an order, provide a unit model number, unit serial number and part number. The model and serial numbers for the unit are located on the nameplate on the side of the control panel. Failure to provide this information may delay processing of your request.

Table 1: Contact details for replacement parts

Region	Contact details
North America	Chiller Parts Center Baltimore Telephone: +1 800 932 1701 Email: chillerparts@jci.com
	Chiller Parts Center Houston Telephone: +1 833 278 7991 Email: chillerpartsHouston@jci.com
	Chiller Parts Center NOLA Telephone: +1 833 283 3738 Email: chillerpartsNOLA@jci.com
	Chiller Parts Center Toronto Telephone: +1 905 488 3642 or +1 905 488 3641 Email: chillerpartstoronto@jci.com
	Equipment Owners within USA who maintain their own equipment Telephone: +1 800 482 2778 Email: cg-baltimore-parts-customer@jci.com
Europe	For parts availability and ordering YORK HVAC Parts, use the following link: solutionnavigator.com
APAC	Applied APAC Parts Center Website: https://jcibeasia.my.salesforce.com/
Global PTS	Address: 5000 Renaissance Drive New Freedom, PA, USA 17349 Telephone: 1-717-771-6161 Email: bechillerspt-absorber@jci.com

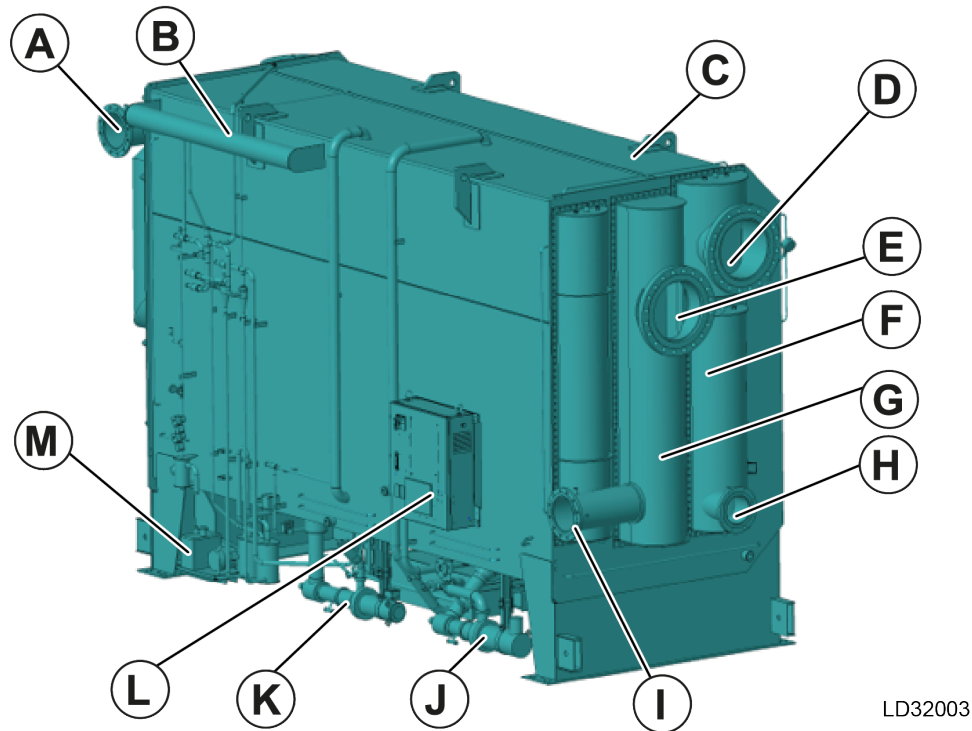
Note: This manual does not include part numbers for tubes. If you need tubes or any other parts that are not in this manual, inform the global or local product technical support (PTS) department and they can provide the part number for you.

Nomenclature



YHAU-CL/CH-B components overview

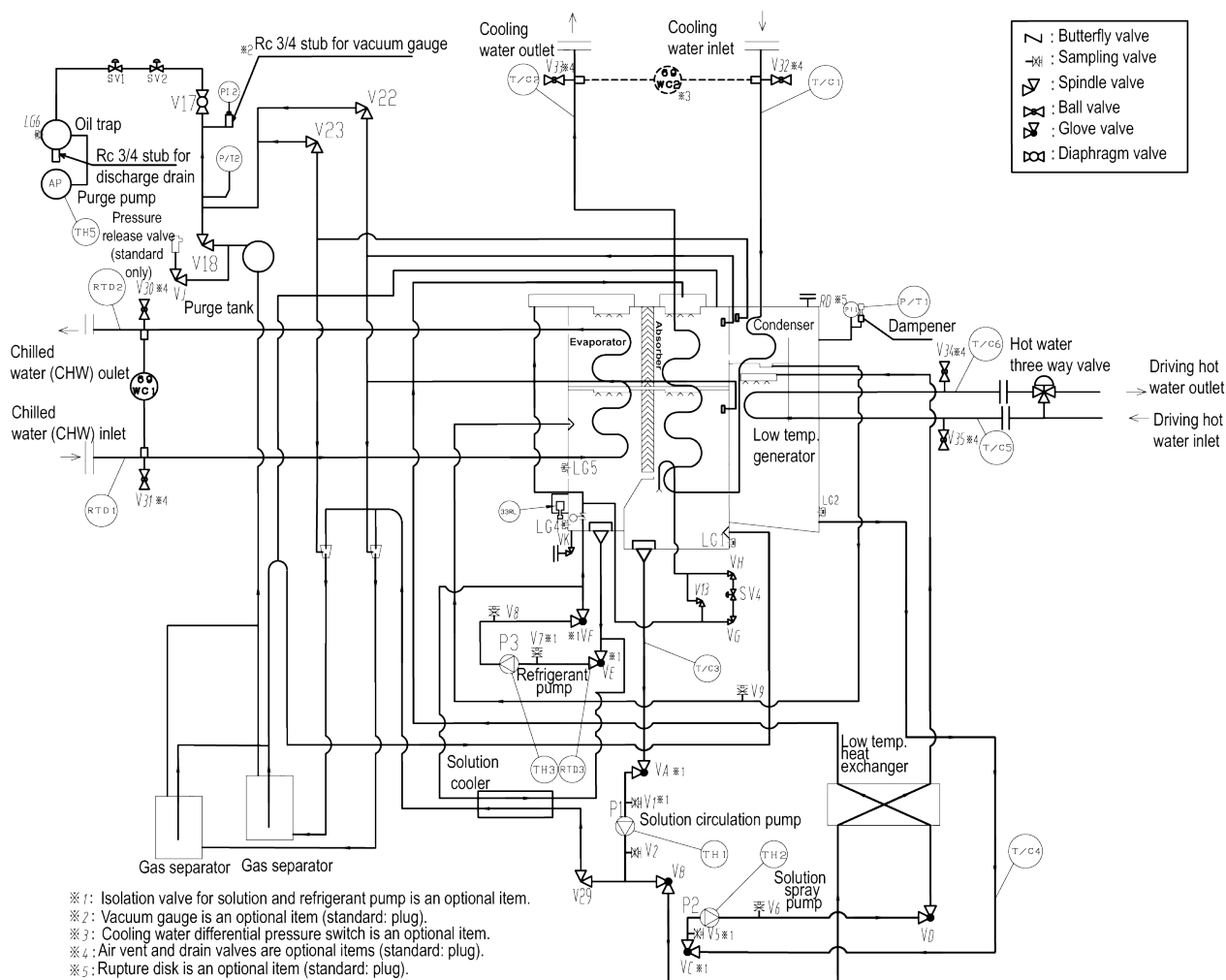
Figure 1: Components overview



Callout	Component
A	Chilled water outlet
B	Purge tank
C	Condenser
D	Cooling water inlet
E	Cooling water outlet
F	Generator
G	Absorber
H	Hot water inlet
I	Chilled water inlet
J	Solution circulation pump
K	Refrigerant pump
L	Control panel
M	Vacuum pump

Process and instrumentation diagram

Figure 2: Process and instrumentation diagram



LD31955

Note: The process and instrumentation diagram is for reference only.

Table 2: Symbol list of process and instrumentation diagram

Symbol	Name	Use
VA*1	Shutoff valve	Shutoff valve for solution circulation pump P1
VB*1	Shutoff valve	Shutoff valve for solution circulation pump P1
VC*1	Shutoff valve	Shutoff valve for solution spray pump P2
VD*1	Shutoff valve	Shutoff valve for solution spray pump P2
VE*1	Shutoff valve	Shutoff valve for refrigerant pump P3
VF*1	Shutoff valve	Shutoff valve for refrigerant pump P3
VG	Shutoff valve	Shutoff valve for ref. blow solenoid valve
VH	Shutoff valve	Shutoff valve for ref. blow solenoid valve

Table 2: Symbol list of process and instrumentation diagram

Symbol	Name	Use
VJ	Shutoff valve	Shutoff valve for pressure release valve
VK	Shutoff valve	Shutoff valve for manufacture purge
VM*7	Shutoff valve	Shutoff valve for solution blow solenoid valve
VN*7	Shutoff valve	Shutoff valve for solution blow solenoid valve
VP*7	Shutoff valve	Shutoff valve for density meter
VQ*7	Shutoff valve	Shutoff valve for density meter
V1	Sampling valve	Sampling valve on solution circulation pump P1 suction side
V2	Sampling valve	Sampling valve on solution circulation pump P1 discharge side
V5	Sampling valve	Sampling valve on solution spray pump P2 suction side
V6	Sampling valve	Sampling valve on solution spray pump P2 discharge side
V7	Sampling valve	Sampling valve on refrigerant pump P3 suction side
V8	Sampling valve	Sampling valve on refrigerant pump P3 discharge side
V9	Sampling valve	Sampling valve on U pipe between condenser to evaporator
V17	Purge valve (diaphragm)	Main purge valve
V18	Purge valve	Purge valve for purge tank
V19	Purge valve	Purge valve from condenser to upper absorber
V20	Purge valve	Purge valve from condenser to lower absorber
V22	Purge valve	Direct purge valve for upper absorber
V23	Purge valve	Direct purge valve for lower absorber
V28	Adjust valve	Adjust refrigerant flow to solution cooler
V29	Adjust valve	Adjust solution flow to solution cooler
V30*4	Air release valve	Air release valve for chilled water box
V31*4	Water drain valve	Water drain valve for chilled water box
V32*4	Air release valve	Air release valve for cooling water box
V33*4	Water drain valve	Water drain valve for cooling water box
V34*4	Air release valve	Air release valve for hot water box
V35*4	Water drain valve	Water drain valve for hot water box
SV1	Solenoid valve	Purge solenoid valve
SV2	Solenoid valve	Purge solenoid valve
SV4	Solenoid valve	Refrigerant blow solenoid valve
SV5*7	Solenoid valve	Solution blow solenoid valve
LG1	Sight glass	Sight glass for refrigerant overflow

Table 2: Symbol list of process and instrumentation diagram

Symbol	Name	Use
LG2	Sight glass	Sight glass for evaporator tank
LG4	Sight glass	Sight glass for absorber tank
LG5	Sight glass	Sight glass for generator
LG6	Sight glass	Sight glass for oil trap

① **Note:**

*1: Option for isolation valve for solution and refrigerant pump

*4: Option for air vent and drain valve

*7: Only for EXL-B model

Table 3: Tag list of process and instrumentation diagram

Tag	Item
RTD1	Chilled water inlet temperature
RTD2	Chilled water outlet temperature
RTD3	Refrigerant temperature
T/C1	Cooling water inlet temperature
T/C2	Cooling water outlet temperature
T/C3	Absorber solution temperature
T/C4	Generator solution temperature
T/C5	Hot water inlet temperature
T/C6	Hot water outlet temperature
P/T1	Generator pressure
P/T2	Purging tank pressure
TH1	Solution circulation pump thermal relay
TH2	Solution spray pump thermal relay
TH3	Refrigerant pump thermal relay
TH5	Purge pump thermal relay
69WC1	Chilled water pressure differential switch
69WC2	Cooling water pressure differential switch
33RL	Level switch for evaporator tank
PI1	Generator pressure gauge
PI2	Purge line pressure gauge

Unit components

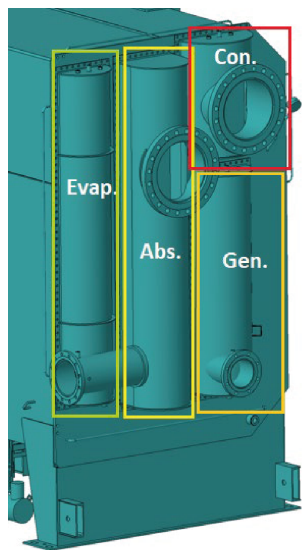
Water box gasket

Table 4: Water box gasket

Description		Unit	200EXE-B	255EXE-B	320EXE-B	400EXE-B	500EXE-B	650 EXE-B	720 EXE-B	800 EXE-B	900 EXE-B	1000 EXE-B
Part name	Part number											
Sheet gasket for hot water box (CL)	093W86631-000	Pcs	2	2	2	2	2					
	093W92766-000	Pcs						2	2	2	2	2
Rope gasket B for hot water box (CL) option 20 barg	028W03242-000	m	8	8	8	8	8	10	10	10	10	10
Sheet gasket for hot water box (CH)	TBD	Pcs										
Sheet gasket for chilled water box	093W86630-000	Pcs	2	2	2	2	2					
	093W92747-000	Pcs						2	2	2	2	2
Rope gasket B for chilled water box option 20 barg	028W03242-000	m	12	12	12	12	12	14	14	14	14	14
Sheet gasket for cooling water	093W89069-000 for absorber	Pcs	2	2	2	2	2					
	093W89070-000 for condenser	Pcs	2	2	2	2	2					
	093W92362-000 for absorber	Pcs						2	2	2	2	2
	093W92363-000 for condenser	Pcs						2	2	2	2	2
Rope gasket B for cooling water box option 20 barg	028W03242-000	m	18	18	18	18	18	20	20	20	20	20
U type gasket for pass partition of water box	028W09951-001	m	10	10	10	10	10	12	12	12	12	12

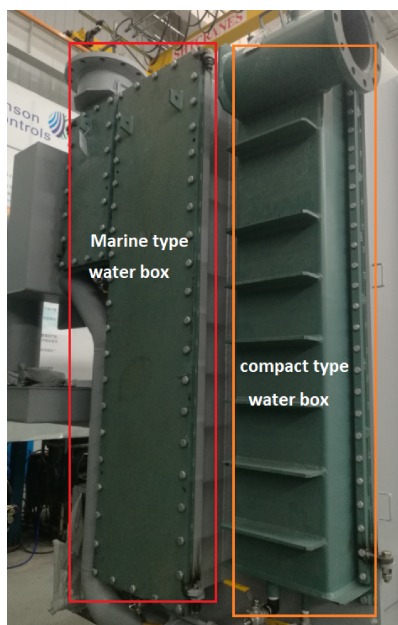
Note: If the water pressure is 20 bar(g), the water box is the marine type, and the water box gasket will use the Rope B gasket. For the standard water pressure, the water box is the compact type.

Figure 3: Location of water box



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Figure 4: Outline of compact and marine type water box



LD30872

Figure 5: Sheet gasket (mm)

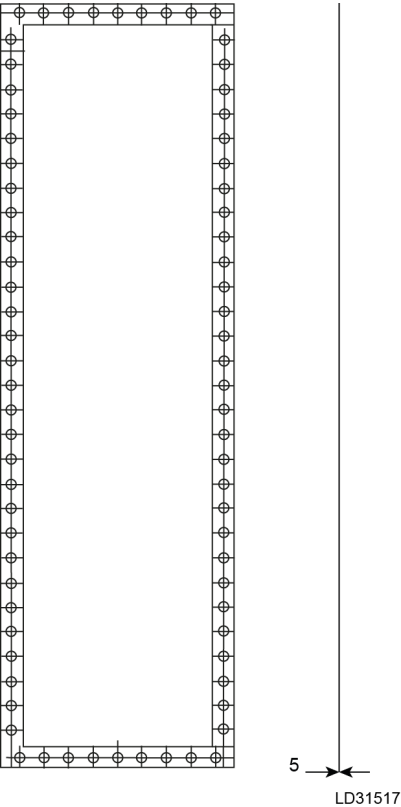


Figure 6: U type gasket for partition of water box

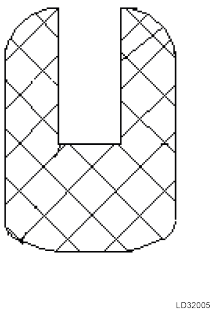
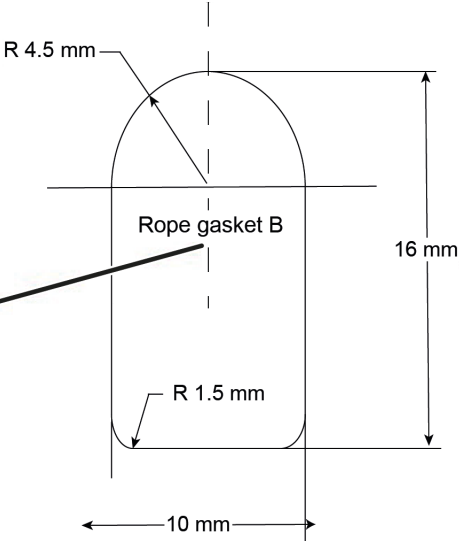


Figure 7: Rope gasket B



LD29531

Control panel components

Table 5: Control panel components

Description			200EXE-B	255EXE-B	320EXE-B	400EXE-B	500EXE-B	650 EXE-B	720 EXE-B	800 EXE-B	900 EXE-B	1000 EXE-B
Part name	Part number	Model										
Main circuit board (PLC)	025W51073-001	TC5-17B	1	1	1	1	1	1	1	1	1	1
Touch panel (TP)	025W48016-129	PFXGP4501TADW	1	1	1	1	1	1	1	1	1	1
Auxiliary relay (PWX)	025W48016-131	MY4N-GS	1	1	1	1	1	1	1	1	1	1
Timer (PWT)	025W48016-033	H3Y-2(5sec)	1	1	1	1	1	1	1	1	1	1
Power supply (24 VDC) (PSU1)	025W48016-037	RS-75-24	1	1	1	1	1	1	1	1	1	1
Circuit protector (CP1)	024W33919-732	S202-C2	1	1	1	1	1	1	1	1	1	1
Circuit breaker (MCCB) GB/CE 380V-50/60Hz	025W48016-120	XT1 N 160 TMF20	1	1	1							
	025W48016-121	XT1 N 160 TMD32				1						
	025W48016-122	XT1 N 160 TMD40					1	1	1			
	025W48016-151	XT1 N 160 TMD50								1	1	1
Circuit breaker (MCCB) GB/CE 400/415V-50/60Hz	025W48016-120	XT1 N 160 TMF20	1	1	1							
	025W48016-121	XT1 N 160 TMD32				1	1					
	025W48016-122	XT1 N 160 TMD40						1	1	1		
	025W48016-151	XT1 N 160 TMD50									1	1
Circuit breaker handle	025W48016-125		1	1	1	1	1	1	1	1	1	1
Circuit breaker (MCB2)	024W33919-529	S202-C3	1	1	1	1	1	1	1	1	1	1
Transformer (T1)	025W48016-130	JBK3-500VA	1	1	1	1	1	1	1	1	1	1
Magnet switch, (MC1, MC2, MC3, MC6) for GB and CE	024W33857-353	AX09-30-10-80	4	4	4	4	3	3	3	2	2	2
	024W33857-354	AX12-30-10-80					1			1	1	1
	024W33857-355	AX18-30-10-80						1	1	1		
	024W33857-356	AX25-30-10-80									1	1

Table 6: Control panel components (continued)

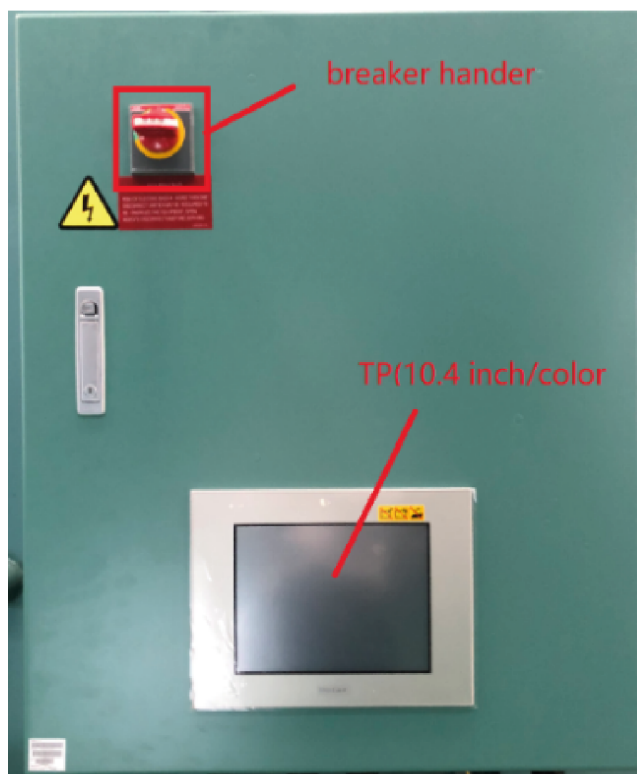
Description			200EXE-B	255EXE-B	320EXE-B	400EXE-B	500EXE-B	650 EXE-B	720 EXE-B	800 EXE-B	900 EXE-B	1000 EXE-B
Part name	Part number	Model										
Thermal relay (TH1, TH2, TH3, TH6) for GB and CE 380V-50/60Hz	025W48016-064	TA25DU-1.8M	1	1	1	1						
	025W44341-346	TA25DU-2.4M	1	1	1	1	1	1	1	1	1	1
	025W48016-127	TA25DU-6.5M					1	1	1	1	1	1
	025W48207-039	TA25DU-8.5M	2	2	1							
	024W33860-067	TA25DU-11M			1	2	1	1	1			
	024W33860-061	TA25DU-14M					1			1	1	1
	024W33860-077	TA25DU-19M						1	1	1		
Thermal relay (TH1, TH2, TH3, TH6) 400V-50Hz	024W33860-078	TA25DU-25M									1	1
	025W48016-064	TA25DU-1.8M	1	1	1	1						
	025W44341-346	TA25DU-2.4M	1	1	1	1	1	1	1	1	1	1
	025W48016-127	TA25DU-6.5M	2	2	1							
	025W48207-039	TA25DU-8.5M			1	2	1	1	1	1	1	1
	024W33860-061	TA25DU-14M					1			1	1	1
	024W33860-077	TA25DU-19M						1	1	1		
Thermal relay (TH1, TH2, TH3, TH6) 400V-60Hz	024W33860-078	TA25DU-25M									1	1
	025W48016-064	TA25DU-1.8M	2	2	2	2	1	1	1	1	1	1
	025W48207-038	TA25DU-5M					1	1	1	1		
	025W48016-127	TA25DU-6.5M	2	2	1						1	1
	025W48207-039	TA25DU-8.5M			1	2	1	1	1			
	024W33860-067	TA25DU-11M					1			1	1	1
	024W33860-061	TA25DU-14M						1	1	1		
	024W33860-078	TA25DU-25M									1	1

Table 6: Control panel components (continued)

Description			200EXE-B	255EXE-B	320EXE-B	400EXE-B	500EXE-B	650 EXE-B	720 EXE-B	800 EXE-B	900 EXE-B	1000 EXE-B
Part name	Part number	Model										
Thermal relay (TH1, TH2, TH3, TH6) 415V-50Hz	025W48016-064	TA25DU-1.8M	1	1	1	1						
	025W44341-346	TA25DU-2.4M	1	1	1	1		1	1	1	1	1
	025W48207-038	TA25DU-5.0M					1	1	1	1		
	025W48016-127	TA25DU-6.5M	2	2	1						1	1
	025W48207-039	TA25DU-8.5M			1	2	1	1	1			
	024W33860-067	TA25DU-11M					1			1	1	1
	024W33860-061	TA25DU-14M						1	1	1		
	024W33860-078	TA25DU-25M									1	1
Noise filter (NF0) for CE	025W48016-055	CW7N-60A-R	1	1	1	1	1	1	1	1	1	1
Noise filter (NF1)	025W48016-038	RSAN-2006D	1	1	1	1	1	1	1	1	1	1
56-Pin connector 1	025W48016-068	FCN-360C056-8	1	1	1	1	1	1	1	1	1	1
56-Pin connector 2	025W48016-069	FCN-361J056-AU	1	1	1	1	1	1	1	1	1	1
Buzzer (BZ)	025W48016-071	CB1-620B	1	1	1	1	1	1	1	1	1	1
Fan (FAN) GB/CE	025W48016-056	4656Z	1	1	1	1	1	1	1	1	1	1
Fan-protector (FAN)	025W48016-134	FU-8812B	1	1	1	1	1	1	1	1	1	1
Fan-filter	025W48016-136	FU-9803A	2	2	2	2	2	2	2	2	2	2
Battery for main circuit board	025W51225-000	CR2032	1	1	1	1	1	1	1	1	1	1
Battery for main touch panel	025W51226-000	PFXZCBBT1	1	1	1	1	1	1	1	1	1	1
Signal conditioner	025W48016-255	MS3704-A-AAA MTT										

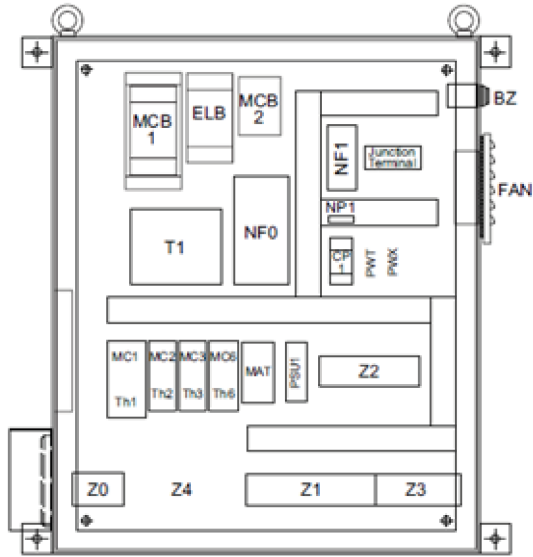
① **Note:** The electrical parts are for IP42.

Figure 8: Control panel cover



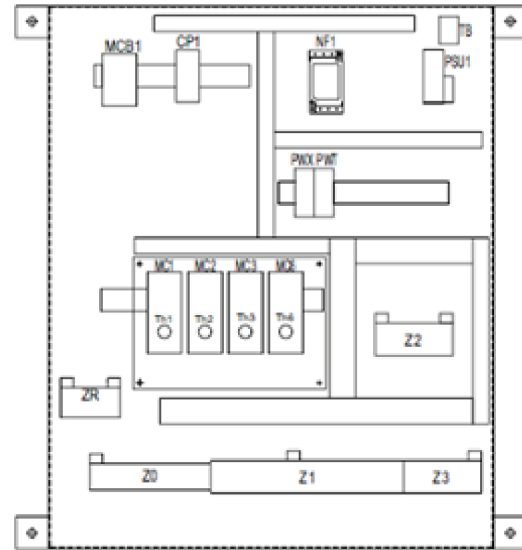
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Figure 9: Interior control panel for Europe



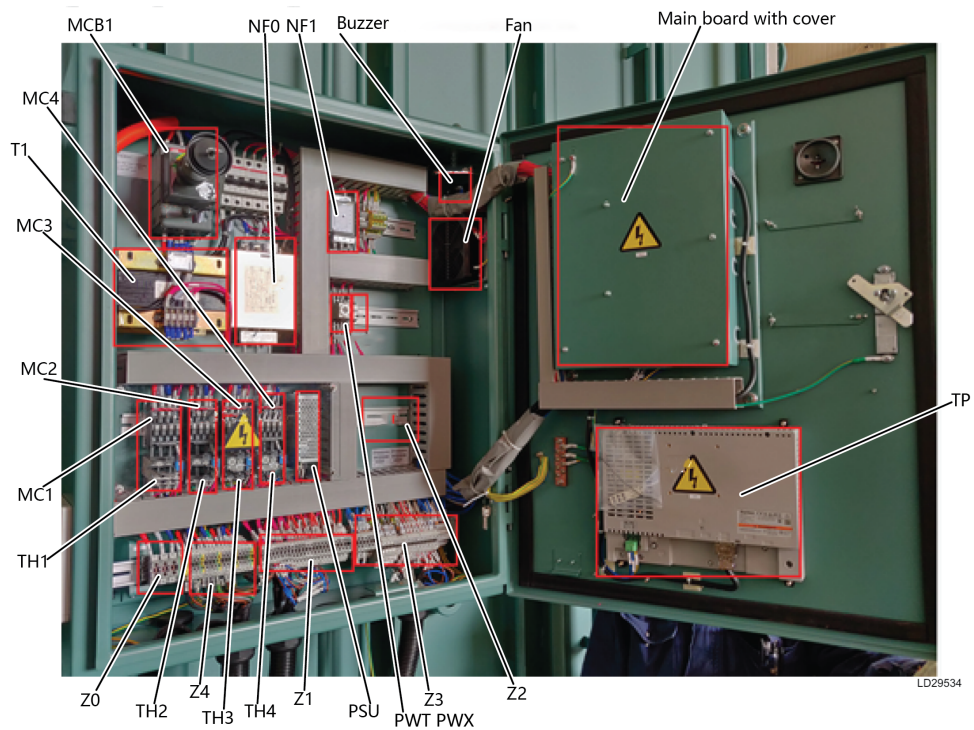
LD32006

Figure 10: Interior control panel for GB



LD32007

Figure 11: Reference layout of internal control panel



LD29534

Figure 12: Fan, fan protector, and fan filter

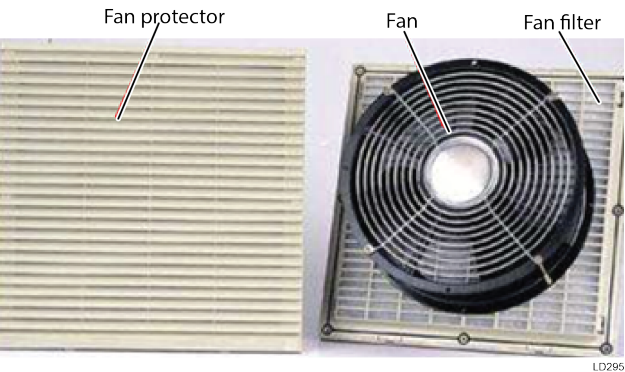


Figure 13: Signal conditioner



LD32008

Figure 14: Battery for touch screen

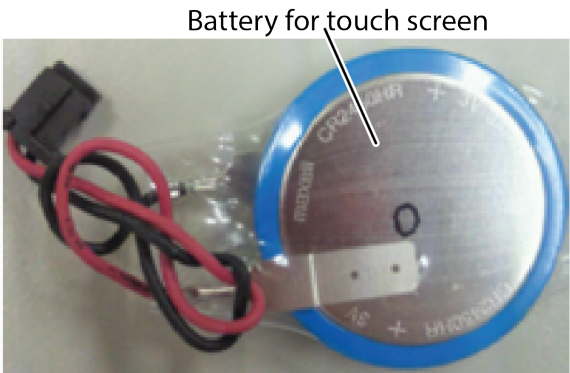


Figure 15: Main board battery

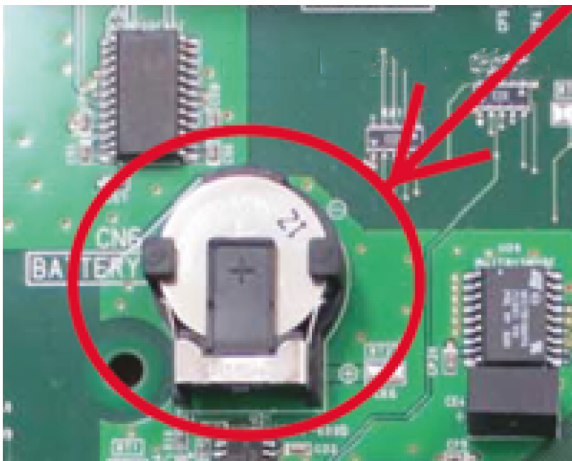
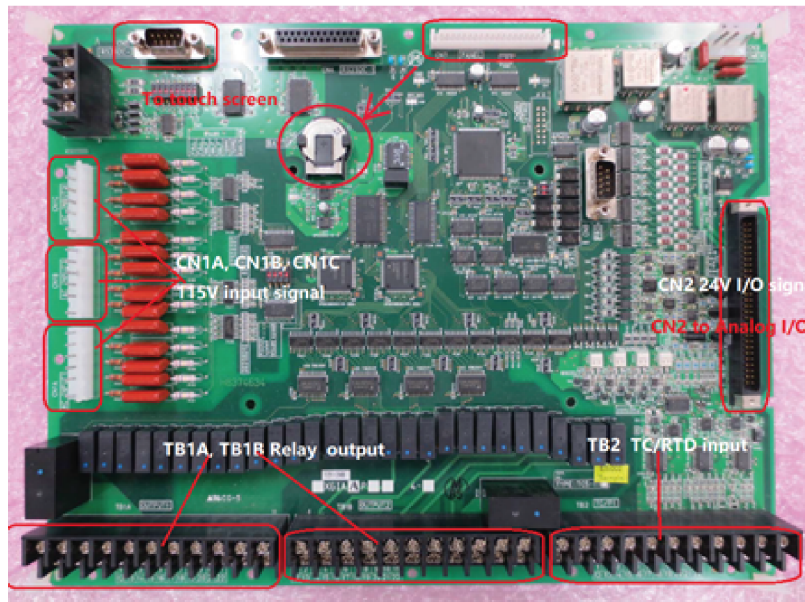


Figure 16: PLC board



LD32009

Pump and maintenance kits

Table 7: Pump and maintenance kits

Description			200EXE-B	255EXE-B	320EXE-B	400EXE-B	500EXE-B	650 EXE-B	720 EXE-B	800 EXE-B	900 EXE-B	1000 EXE-B
Part name	Part number	Model										
Solution circulation pump (AC380-415V/50Hz)	026W50010-001	NP80-40B/212H4-F-4	1	1								
	026W49986-001	NP100-50B/213H4-F-3			1	1						
	026W51260-176	NP100-50D/322H4-F-3					1					
	026W50365-001	NP100-60C/312H4-F-6						1	1	1		
Solution circulation pump (AC380-400V/60Hz)	026W51260-035	NP125-80E/421H4-F-2									1	1
	026W51260-013	NP80-40B/212H4-E-4	1	1								
	026W51260-020	NP100-50B/213H4-E-3			1	1						
	026W51260-177	NP100-50D/322H4-E-3					1					
Solution circulation pump (AC460V/60Hz)	026W50365-004	NP100-60C/312H4-E-6						1	1	1		
	026W51260-036	NP125-80E/421H4-E-2									1	1
	026W51260-015	NP80-40B/212H4-E-4	1	1								
	026W51260-022	NP100-50B/213H4-E-3			1	1						
Solution circulation pump (AC460V/60Hz)	026W51260-179	NP100-50D/322H4-E-3					1					
	026W51230-000	NP100-60C/312H4-E-6						1	1	1		
	026W51260-038	NP125-80E/421H4-E-2									1	1
	026W50436-003	NP80-40B/212H2-E-4	1	1								
Solution circulation pump (AC200/208/220V/60Hz)	026W50875-003	NP100-50B/213H2-E-3			1	1						
	026W51260-175	NP100-50D/322H2-E-3					1					
	026W51260-026	NP100-60C/312H2-E-6						1	1	1		
	026W51234-003	NP125-80E/421H2-E-2									1	1
Solution spray pump (AC380-415V/50Hz)	026W50010-001	NP80-40B/212H4-F-4	1	1	1							
	026W49986-001	NP100-50B/213H4-F-3				1	1					
	026W51260-158	NP100-50B/213H4-F-5						1	1			
	026W51260-176	NP100-50D/322H4-F-3								1	1	1
Solution spray pump (AC380-400V/60Hz)	026W51260-013	NP80-40B/212H4-E-4	1	1	1							
	026W51260-020	NP100-50B/213H4-E-3				1	1					
	026W51260-159	NP100-50B/213H4-E-5						1	1			
	026W51260-177	NP100-50D/322H4-E-3								1	1	1
Solution spray pump (AC460V/60Hz)	026W51260-015	NP80-40B/212H4-E-4	1	1	1							
	026W51260-022	NP100-50B/213H4-E-3				1	1					
	026W51260-161	NP100-50B/213H4-E-5						1	1			
	026W51260-179	NP100-50D/322H4-E-3								1	1	1
Solution spray pump (AC200/208/220V/60Hz)	026W50436-003	NP80-40B/212H2-E-4	1	1	1							
	026W50875-003	NP100-50B/213H2-E-3				1	1					
	026W51260-157	NP100-50B/213H2-E-5						1	1			
	026W51260-175	NP100-50D/322H2-E-								1	1	1
Refrigerant pump (AC380-415V/50Hz)	026W50344-001	NP65-40C/122H4-B-9	1	1	1	1						
	026W51260-104	NP100-50C/222H4-F-5					1	1	1	1		
	026W51260-137	NP100-50D/321H4-F-4									1	1
Refrigerant pump (AC380-400V/60Hz)	026W51260-097	NP65-40C/122H4-A-9	1	1	1	1						
	026W51260-105	NP100-50C/222H4-E-5					1	1	1	1		
	026W51260-138	NP100-50D/321H4-E-4									1	1
Refrigerant pump (AC460V/60Hz)	026W50671-000	NP65-40C/122H4-A-9	1	1	1	1						
	026W51260-107	NP100-50C/222H4-E-5					1	1	1	1		
	026W51260-140	NP100-50D/321H4-E-4									1	1
Refrigerant pump (AC200/208/220V/60Hz)	026W50739-000	NP65-40C/122H2-A-9	1	1	1	1						
	026W51260-103	NP100-50C/222H2-E-5					1	1	1	1		
	026W51260-136	NP100-50D/321H2-E-4									1	1
Maintenance parts kit for solution circulation pump	026W51221-002	For NP80-40B/212	1	1								
	026W51221-003	For NP100-50B/213			1	1						
	026W51222-007	For NP100-50D/322					1					
	026W51221-004	For NP100-60C/312						1	1	1		
	026W51221-005	For NP125-80E/421									1	1

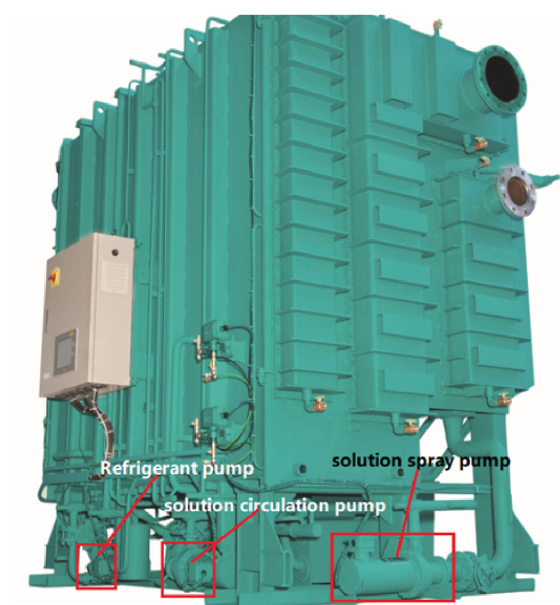
Table 8: Pump and maintenance kits

Description			200 EXE-B	255 EXE-B	320 EXE-B	400 EXE-B	500 EXE-B	650 EXE-B	720 EXE-B	800 EXE-B	900 EXE-B	1000 EXE-B
Part name	Part number	Model										
Maintenance parts kit for solution spray pump	026W51221-002	For NP80-40B/212	1	1	1							
	026W51221-003	For NP100-50B/213				1	1					
	026W51221-003	For NP100-50B/213						1	1			
	026W51222-007	For NP100-50D/322								1	1	1
Maintenance parts kit for refrigerant pump	026W51223-003	For NP65-40C/122	1	1	1	1						
	026W51223-005	For NP100-50C/222					1	1	1	1		
	026W51222-004	For NP100-50D/321									1	1
Gasket kit for solution circulation pump	093W76652-002	For NP80-40B/212	1	1								
	093W76652-002	For NP100-50B/213			1	1						
	093W76652-006	For NP100-50D/322					1					
	093W76652-002	For NP100-60C/312						1	1	1		
	093W76652-004	093W76652-002									1	1
Gasket kit for solution spray pump	093W76652-002	For NP80-40B/212	1	1	1							
	093W76652-002	For NP100-50B/213				1	1					
	093W76652-002	For NP100-50B/213						1	1			
	093W76652-006	For NP100-50D/322								1	1	1
Gasket kit for refrigerant pump	093W76652-008	For NP65-40C/122	1	1	1	1						
	093W76652-010	For NP100-50C/222					1	1	1	1		
	093W76652-006	For NP100-50D/321									1	1
Vacuum pump (AC380~415V/50Hz; 400~460V/60Hz) Standard/IP54	026W49989-000	PVD-N360-1	1	1	1	1	1	1	1	1	1	1
Vacuum pump (AC200/220 50Hz and 60Hz)	026W50677-001	PVD-N360-1	1	1	1	1	1	1	1	1	1	1
Maintenance parts kit for vacuum pump	026W50889-000	For PVD-N360-1	1	1	1	1	1	1	1	1	1	1
Vacuum pump V-belt	026W50890-000	For PVD-N360-1	1	1	1	1	1	1	1	1	1	1

Note: The maintenance parts kit is suitable for various power supply pumps. The vacuum pump maintenance parts kit is for indoor and outdoor vacuum pumps.

The following tables list examples of the parts included in the maintenance parts kits for the solution and refrigerant pump, and vacuum pump.

Figure 17: Solution and refrigerant pumps



LD32010

Figure 18: Vacuum pump



LD29541

Table 9: Maintenance parts kit for solution and refrigerant pump

Part number	Part list
026W51221-002	Front bearing
	Rear bearing
	Front shaft sleeve
	Rear shaft sleeve
	Front thrust collar
	Rear thrust collar
	Sealing gasket for casing
	Sealing gasket for rear bearing housing
	Lock washer for front end of shaft

① **Note:** The parts are different depending on the pump model.

Table 10: Maintenance parts kit for vacuum pump

Part number	Part list
026W50889-000	Oil seal
	Deep groove ball bearing 1
	Deep groove ball bearing 2
	Oil level gauge
	First blade spring
	Second blade spring
	Exhaust valve plate
	Exhaust valve plate spring
	Composite seal gasket
	Gas ballast valve gasket
	O-ring for PVD-N360
	V-belt

Valves

Table 11: Valve components

Description			200EXE-B	255EXE-B	320EXE-B	400EXE-B	500EXE-B	650 EXE-B	720 EXE-B	800 EXE-B	900 EXE-B	1000 EXE-B
Part name	Part number	Model										
Diaphragm valve Haimen (15A)	022W13807-001		1	1	1	1	1	1	1	1	1	1
Diaphragm for valve Haimen (15A)	022W13807-101		1	1	1	1	1	1	1	1	1	1
V17: Main purge valve												
Solenoid valve for purge line and ref. blowing line (AC200)	025W48003-002	AB41-04-8-D-3M (AC220V)	3	3	3	3	3	3	3	3	3	3
SV1: Vacuum purging solenoid valve SV2: Vacuum purging solenoid valve SV4: Refrigerant blowing solenoid valve												
Sampling valve	022W13372-000		8	8	8	8	8	8	8	8	8	8
O-Ring for sampling valve P21	028W18176-000		8	8	8	8	8	8	8	8	8	8
O-Ring for adjusting and sampling valve P16	028W18177-000		21	21	21	21	21	21	21	21	21	21
V1: Sampling valve on solution circulation pump P1 suction side V2: Sampling valve on solution circulation pump P1 discharge side V5: Sampling valve on solution spray pump P2 suction side V6: Sampling valve on solution spray pump P2 discharge side V7: Sampling valve on refrigerant pump P3 suction side V8: Sampling valve on refrigerant pump P3 discharge side V9: Sampling valve on U pipe between condenser and evaporator												
Pressure release valve for GB	322W13373-001	SAFTY-V/10A 0.8bar	1	1	1	1	1	1	1	1	1	1
Pressure release valve for CE	022W14372-000	SAFTY-V/10A 0.48bar										
Huali rupture disk kits (DN80) 3 in. 7 psig for CE option	393W73906-000											
Huali rupture disk kits (DN50) 2 in. 12 psig for GB option	326W50681-202											
Huali rupture disk kits (DN80) 3 in. 12 psig for GB option	326W50681-102											
Huali rupture disk (DN80) 7 psig for CE option	026W50860-101	YF80-0.048-121A										
Huali rupture disk (DN50) 12psig GB option	026W50861-201	YF50-0.083-121A										
Huali rupture disk (DN80) 12 psig GB option	026W50861-101	YF80-0.083-121A										
BS&B rupture disc (DN50) 0.4 barg	026W51936-000	AVV 2"										
- The pressure release valve is located on the purging tank as standard for GB and CE. - The rupture disc assessor is located on the generator shell side. - The BS&B 0.4 barg rupture disc is used for special projects only.												
Air vent valve for water box option	022W13246-002	BALL-V/10A	6	6	6	6	6	6	6	6	6	6
Drain valve for water box option	022W13246-004	BALL-V/20A	6	6	6	6	6	6	6	6	6	6
Float valve for refrigerant tank	322W13927-000	REF-FLOAT/50A	1	1	1	1	1	1	1	1	1	1
Globe valve	022W13370-001	V/40A 20#	3	3	2			1				
	022W13370-002	V/50A 20#			1	3	3	2	1	1		
	022W13370-003	V/65A 20#	1	1	1	1			1	2	3	3
	022W13370-004	V/80A 20#	2	2	1							
	022W13370-005	V/100A 20#			1	2	3	3	3	3	2	2
	022W13901-001	V/125A 20#									1	1
Cupper Packing for globe valve (40A)	021W35469-001		7	7	4	4	3	2	2	2	2	2

Table 11: Valve components

Description			200EXE-B	255EXE-B	320EXE-B	400EXE-B	500EXE-B	650 EXE-B	720 EXE-B	800 EXE-B	900 EXE-B	1000 EXE-B
Part name	Part number	Model										
Copper Packing for globe valve (65A)	021W35469-002				1	2	3	3	3	3	3	3
Adjusting valve	022W13371-001	V/15A SUS304	4	4	4	4	4	4	4	4	4	4
	022W13371-002	V/25A SUS304	5	5	5	5	5	5	5	5	5	5
	022W13371-003	V/40A SUS304	1	1	1	1	1	1	1	1	1	1

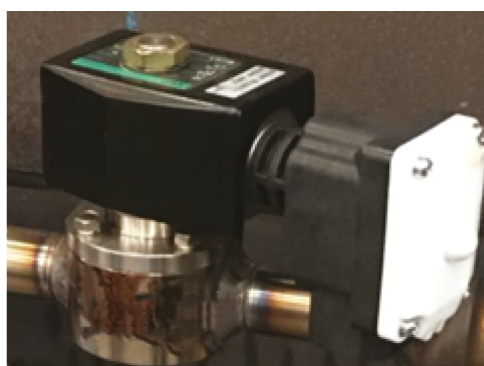
VA: Shut off valve for solution circulation pump P1
VB: Shut off valve for solution circulation pump P1
VC: Shut off valve for solution spray pump P2
VD: Shut off valve for solution spray pump P2
VE: Shut off valve for refrigerant pump P3
VF: Shut off valve for refrigerant pump P3
VG: Shut off valve for ref. blow solenoid valve
VH: Shut off valve for ref. blow solenoid valve

VJ: Shut off valve for pressure release valve
VK: Shut off valve for manufacture purge
VM: Shut off valve for solution blow solenoid valve
VN: Shut off valve for solution blow solenoid valve
VP: Shut off valve for density meter
VQ: Shut off valve for density meter
V17: Main purge valve
V18: Purge valve for purge tank

V19: Purge valve from condenser to up Absorber
V20: Purge valve from condenser to low Absorber
V22: Direct purge valve for upper absorber
V23: Direct purge valve for lower absorber
V28: Adjust refrigerant flow to solution cooler
V29: Adjust solution flow to solution cooler

- ① **Note:** The quantity of globe valves and adjusting valves varies depending on the chiller order. When placing the order, measure the size of these valves.

Figure 19: Solenoid valve for purge and blow pump



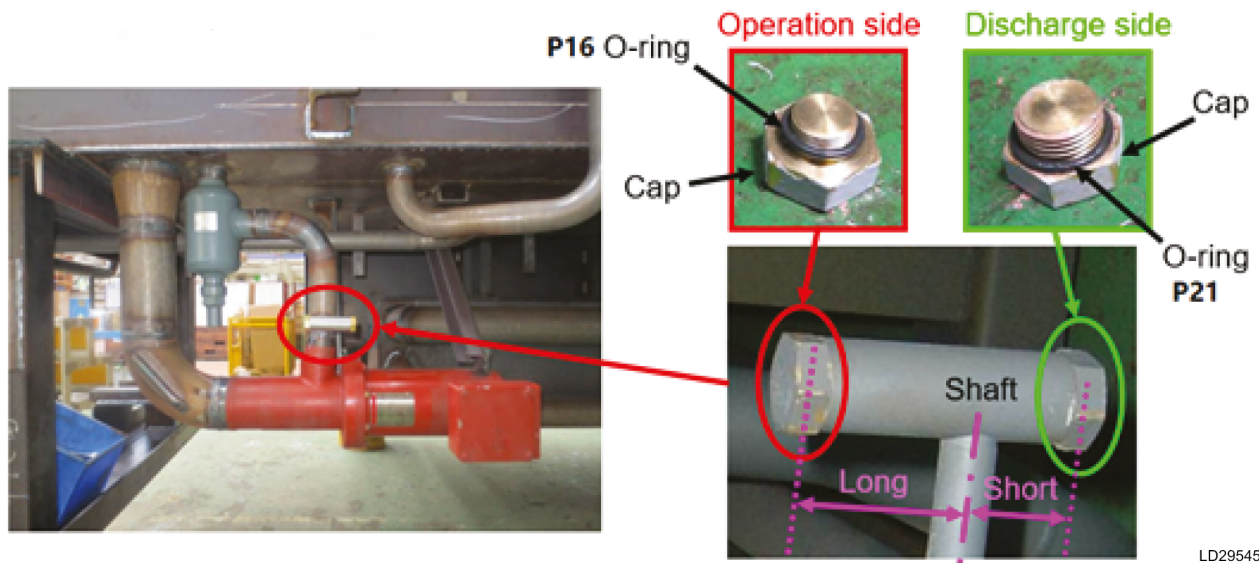
LD29544

Figure 20: Refrigerant water float ball valve



LD29548

Figure 21: Sampling valve



LD29545

Figure 22: Huali rupture disc kit and Huali rupture disc

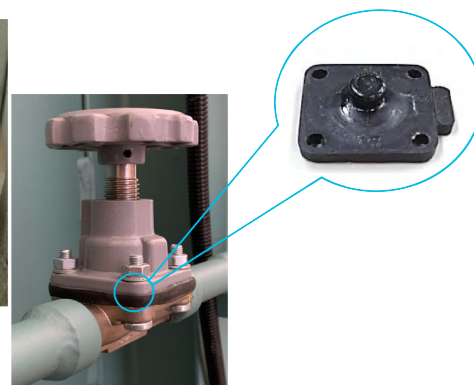


Huali Rupture disc kit

Huali Rpture disc

LD31291

Figure 23: Haimen diaphragm valve and gasket



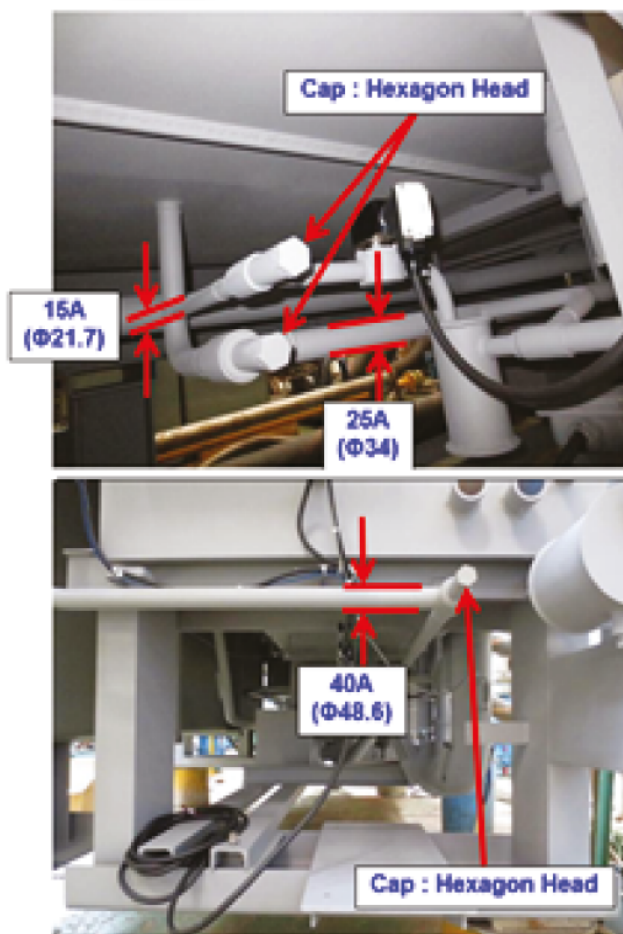
LD30811

Valve names, part number and model

Table 12: Valve sizes

Size code	15A	25A	40A	50A	65A	80A	100A	125A	150A
Diameter, mm	Φ21.7	Φ34	Φ48.6	Φ60	Φ76	Φ89	Φ114	Φ140	Φ165

Figure 24: Adjusting valve

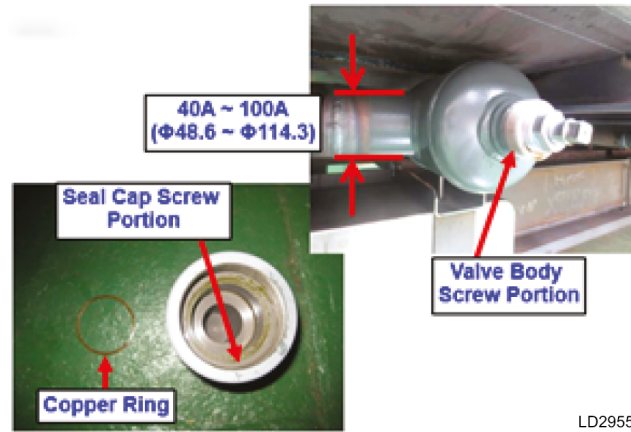


LD29549

Table 13: Adjusting valve part number and model

Valve name	Part number	Valve model
Adjusting valve	022W13371-001	V-15A
	022W13371-002	V-25A
	022W13371-003	V-40A

Figure 25: Globe valve



LD29550

Table 14: Globe valve part number and model

Valve name	Part number	Valve model
Globe valve	022W13370-002	V-50A
	022W13370-003	V-65A
	022W13370-004	V-80A
	022W13370-005	V-100A

Figure 26: Air vent and water drain valve

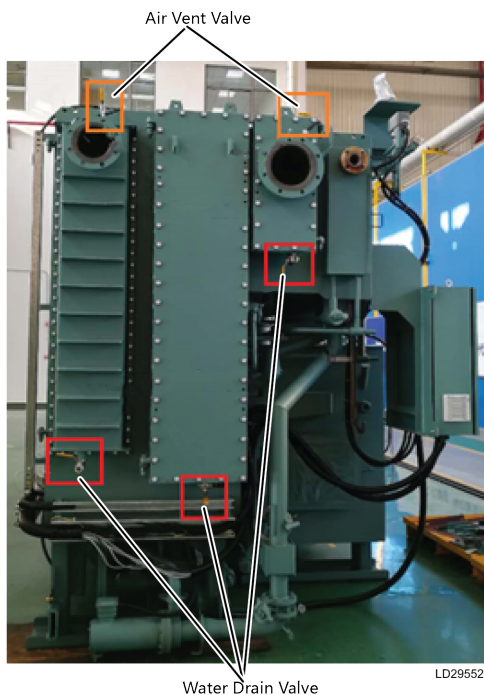
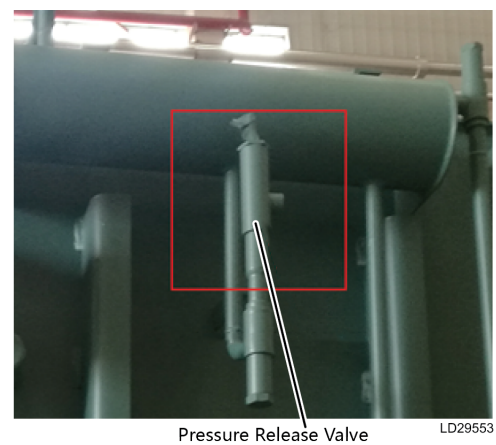


Figure 27: Pressure release valve



Sensor and control switch

Table 15: Components

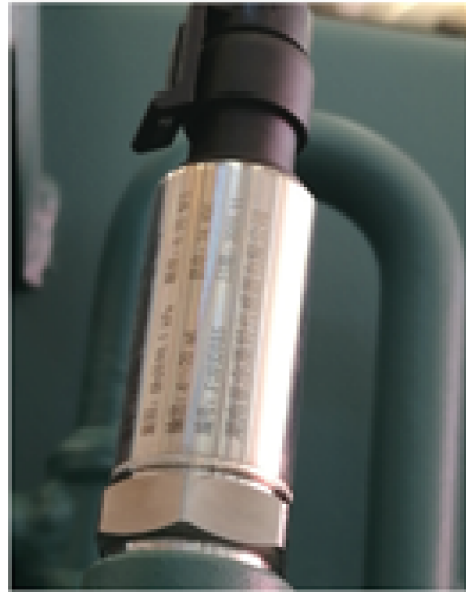
Description			200EXE-B	255EXE-B	320EXE-B	400EXE-B	500EXE-B	650 EXE-B	720 EXE-B	800 EXE-B	900 EXE-B	1000 EXE-B
Part name	Part number	Model										
First resistance temp. sensor with connector, well and cable (RTD-1, RTD-2)	025W51243-007	FST600-103X (long) (5m)	2	2	2	2	2	2	2	2	2	2
First resistance temp. sensor with connector (RTD-1, RTD-2)	025W51243-011	FST600-103X (long)										
First resistance temp. sensor with connector, well and cable (RTD-3)	025W51244-003	FST600-103A (short) (3.5m)	1	1								
	025W51244-009	FST600-103A (short) (5m)			1	1	1	1	1	1		
	025W51244-004	FST600-103A (short) (7m)									1	1
First resistance temp. sensor with connector (RTD-3)	025W51244-006	FST600-103A (short)										
First thermocouple with connector, well and cable (T/C1, T/C2, T/C5, T/C6,)	025W51245-008	FST600-102K (long) (5m)	4	4	4	4	4	4	4	4	4	4
First thermocouple with connector (T/C1, T/C2, T/C5, T/C6,)	025W51245-012	FST600-102K (long)										
First thermocouple with connector and cable (T/C3, T/C4)	025W51246-007	FST600-102X (5.5m)	1	1								
	025W51246-005	FST600-102X (3.5m)	1	1	1	1	1	1	1	1	1	1
	025W51246-009	FST600-102X (7m)			1	1	1	1	1	1		
	025W51246-010	FST600-102X (10m)									1	1
First thermocouple with connector (T/C3, T/C4)	025W51246-011	FST600-102X										
① Note: The sensor may have the long or short type (RTD-1,RTD-2, T/C1, T/C2, T/C5, T/C6) , depending on the size of chilled water, cooling water, and hot water pipe. Check the specification.												
Armored thermocouple IP65 first	025W50985-001	WRNKT-50985K L100										
	025W50985-002	WRNKT-50985K L120										
	025W50985-003	WRNKT-50985K L150										
	025W50985-004	WRNKT-50985K L200										
	025W50985-005	WRNKT-50985K L250										
Armored resistance temp. sensor IP65 first	025W50986-001	WZPKT-50986 L100										
	025W50986-002	WZPKT-50986 L120										
	025W50986-003	WZPKT-50986 L150										
	025W50986-004	WZPKT-50986 L200										
	025W50986-005	WZPKT-50986 L250										
① Note: 1. The armored type thermocouple and the resistance temperature sensor are only for the IP65 and SQ projects. 2. The sensor length selection will be in accordance with pipe size and the design. Confirm the model during the purchase.												
First pressure sensor (PT1,PT2)	025W51239-002	FST800-501A	2	2	2	2	2	2	2	2	2	2
Level switch (33RL)	024W39631-000	KS3-1S-10593	1	1	1	1	1	1	1	1	1	1
Differential pressure relay (69WC1, 69WC2 (option))	024W39662-002	WFS10006BA	1	1	1	1	1	1	1	1	1	1
Density meter for low chilled water supply type chiller	025W51047-002	Proline Promass I 300										

Figure 28: Level switch



LD29581

Figure 29: First pressure sensor



LD31299

Figure 30: Pressure differential switch



LD29561

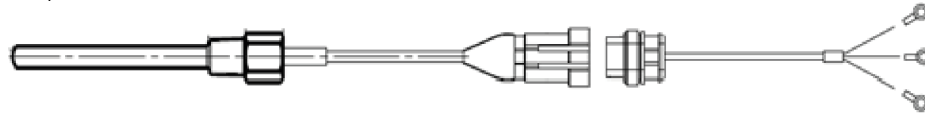
Figure 31: Density meter for low-chilled water supply type chiller



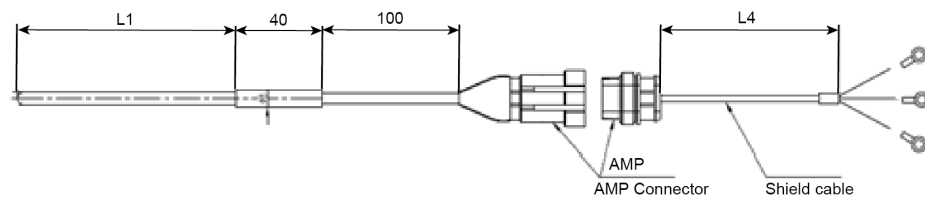
LD32973

Figure 32: First resistance temperature sensor for RTD1, RTD2, and RTD3

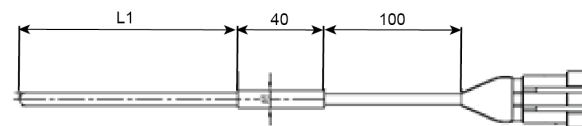
Temperature sensor with connector, well and cable for RTD-1 RTD-2



Temperature sensor with connector and cable for RTD-3



Temperature sensor with connector



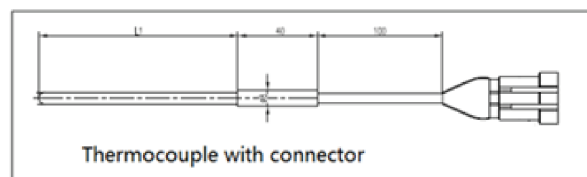
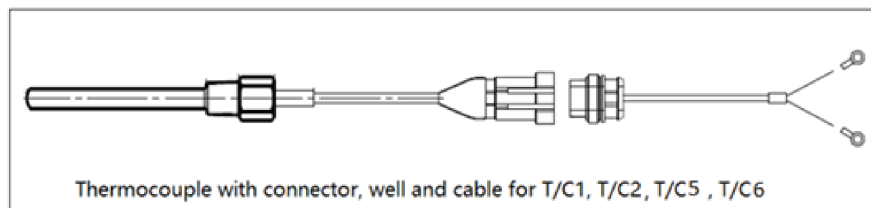
LD31294

① **Note:** The cable lengths are as follows:

- L1 = 80 mm (short)
L1 = 180 mm (long)
- L4 = 5 m or 7 m depending on the type

Figure 33: First thermocouple for T/C1, T/C2, T/C5, and T/C6

First Thermocouple



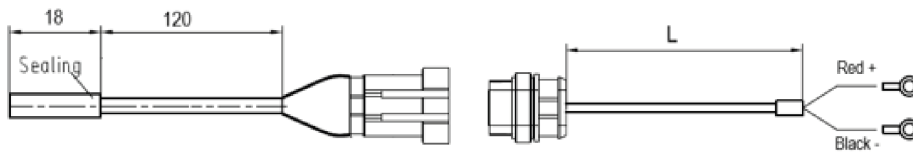
Note:

1. L1=80mm, say "short"
L1=180mm, say "long"
2. L4 is cable length,

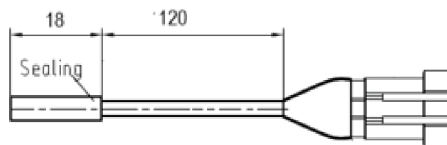
LD32018

Figure 34: First thermocouple for T/C3 and T/C4 (mm)

Thermocouple with connector and cable for T/C3 and T/C4



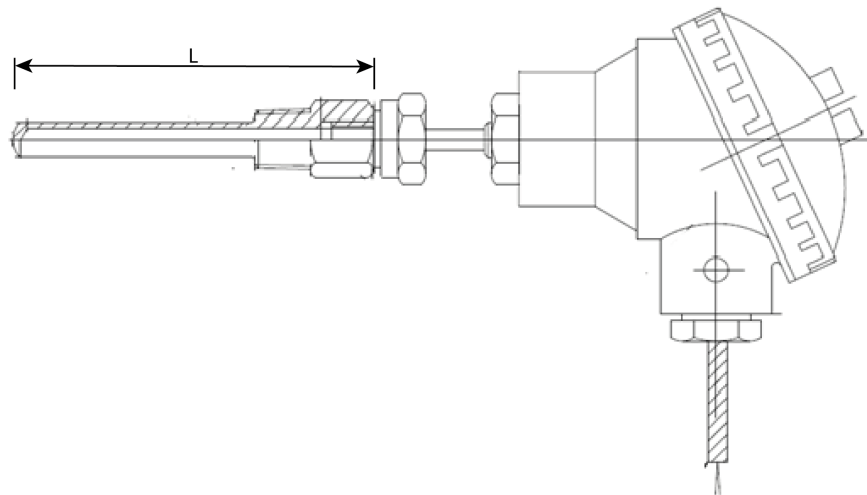
Thermocouple with connector for T/C3 and T/C4



LD32012

ⓘ **Note:** L= cable length.

Figure 35: Armored type thermocouple IP65



LD31297

Table 16: Part numbers and sizes of Armored type thermocouples

Part number	Length (mm)	Pipe size
025W50985-001	100	DN65-80
025W50985-002	120	DN100-125
025W50985-003	150	DN150-200
025W50985-004	200	DN250-300
025W50985-005	250	DN350-450

Other parts

Table 17: Other parts

Description		200EXE-B	255EXE-B	320EXE-B	400EXE-B	500EXE-B	650 EXE-B	720 EXE-B	800 EXE-B	900 EXE-B	1000 EXE-B
Part name	Part number										
	Model										
Compound gauge for generator-0.1MPa~0.2MPa	022W13350-002	1	1	1	1	1	1	1	1	1	1
Compound gauge for purge line -0.1MPa~0.15MPa	022W13350-005	1	1	1	1	1	1	1	1	1	1
Combined type sight glass	392W71221-000	4	4	4	4	4	4	4	4	4	4
	DN70										
Single type sight glass	026W50407-000										
	DN52.5										
① Note: The two type sight glass is the welding type. The single type is specifically used for the generator. Confirm which type is needed before replacing.											
Rubber hose for purge line	022W13899-001										
Paint for water box A	013W03621-000										
Paint for water box B	013W03620-000										
Water box paint thinner	013W03481-000										
Surface paint (base)	013W04022-000										
Surface paint (cure)	013W04023-000										
① Note: The surface paint is Munsell 4.65G 4.50/2.85 and does not have the standard RAL color code. The factory can send the color standard panel and the paint company can adjust the paint color to match the color standard panel.											
Vacuum pump oil	028W17656-000										
	ULVOIL R-7										
LiBr solution 320 kg/barrel	011W01075-000										
	55% 200L										
LiBr solution 100 kg/barrel	011W01083-001										
	55% 60L										
Lithium molybdate solution	011W01077-000										
Lithium nitrate solution	011W01076-000										
Octyl alcohol	011W01070-000										
① Note: The following items cannot be exported from China: vacuum pump oil, lithium molybdate, lithium nitrate, and octyl. To purchase any of these, contact the ICH part center.											

Figure 36: Compound gauge for generator



LD31561

Figure 37: Compound gauge for purge line



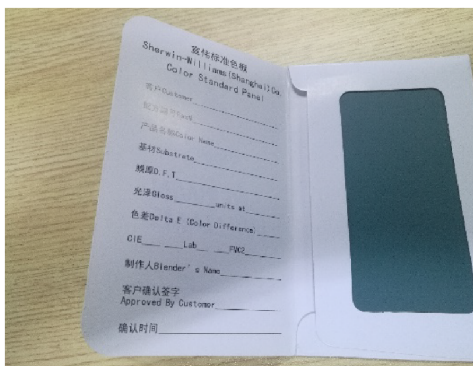
LD32013

Figure 38: Rubber hose for purge line

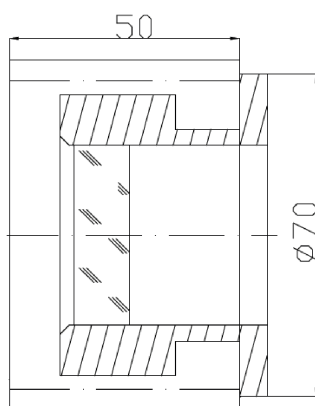


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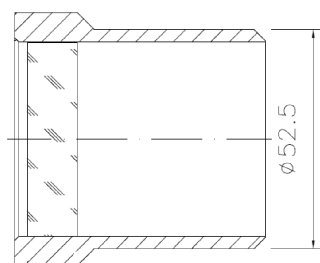
Figure 39: Color standard panel



LD31318



Combined Sight glass



Single type Sight glass

LD32014

Standard parts kit and tools kit

Table 18: Tools kit

Name	Part number	Part list	Model	Unit	Qty.
Tools kit	393W21036-000	PP measuring cylinder	(B class) -250ML 650941	Pcs	2
		Glass thermometer	H441 range 5°C to 135°C/40°F to 275°F	Pcs	2
		Glass thermometer	E520R 0°C to 80°C/ 20°F to 176°F	Pcs	2
		Density meter	14 pcs package	set	1
		Allen-key	8mm, 20	Pcs	1
		Spanner	8#	Pcs	1
		Sampler	250ML	Pcs	1
		Sampling joint for sampling valve		Pcs	1
		Sampling joint for purge line		Pcs	1
		Sampling hose	ID8mm OD18 L=1500	Pcs	2
		Suitcase for tools kit		Pcs	1

Figure 40: Tools kit



LD31319

Table 19: Parts kit

Name	Part number	Part list	Part model	Unit	Qty.
Parts kit	393W21037-000	Thermocouple	FST600-102K with thermowell, joint and 12 m cable	Pcs	1
		Resistance temperature sensor	FST600-103X with thermowell, joint and 12 m cable	Pcs	1
		Pressure sensor	FST800-501A	Pcs	1
		Cable with connector for pressure sensor	L= 4 m	Pcs	1
		Differential pressure switch	WFS10	Pcs	1
		O-Ring gasket of sampling valve	P-21 (extract side)	Pcs	10
		O-Ring for djusting valve (15A-40A)	P-16 (operate side)	Pcs	10
		Diaphragm gasket for purging vale	Haimen valve	Pcs	1
		Vacuum pump belt		Pcs	1
		Suitcase for parts kit		Pcs	1

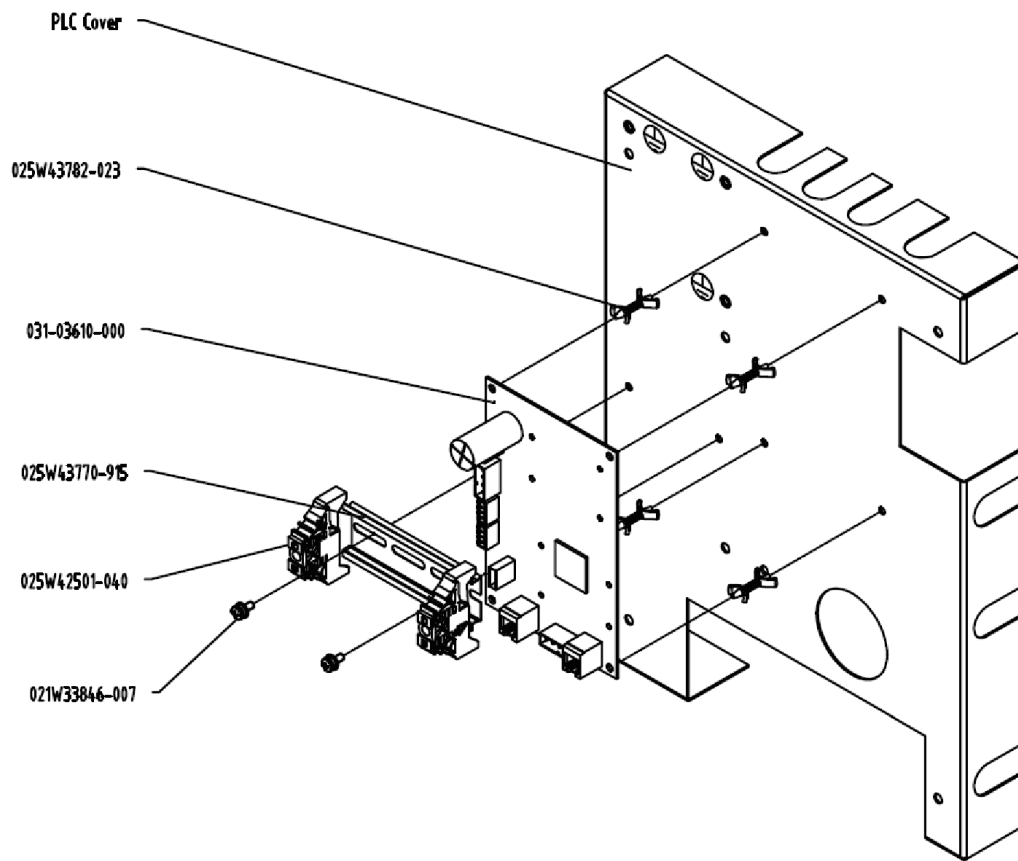
Figure 41: Parts kit



LD31320

SC-EQ board installation kit

Figure 42: SC-EQ installation kits

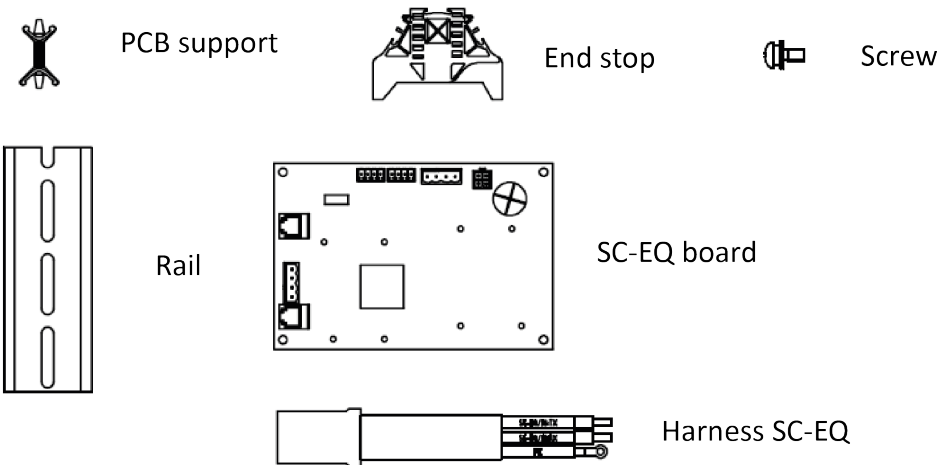


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Table 20: SC-EQ installation kit components

Name	Part number	Part list	Part model	Part number	Qty.
SC-EQ installation kit	371W09489-701	PCB support	CS-0813 KSS	025W43782-023	4
		Rail	DIN35 AL L=110	025W43770-915	1
		End stop	E/UK Phoenix	025W42501-040	2
		Screw thread tapping pan	ST3.5XL=9.5mm	021W33846-007	2
		SC-EQ board		031-03610-000	1
		Harness SC-EQ		393W34586-801	1

Figure 43: SC-EQ installation kit components



LD32016

