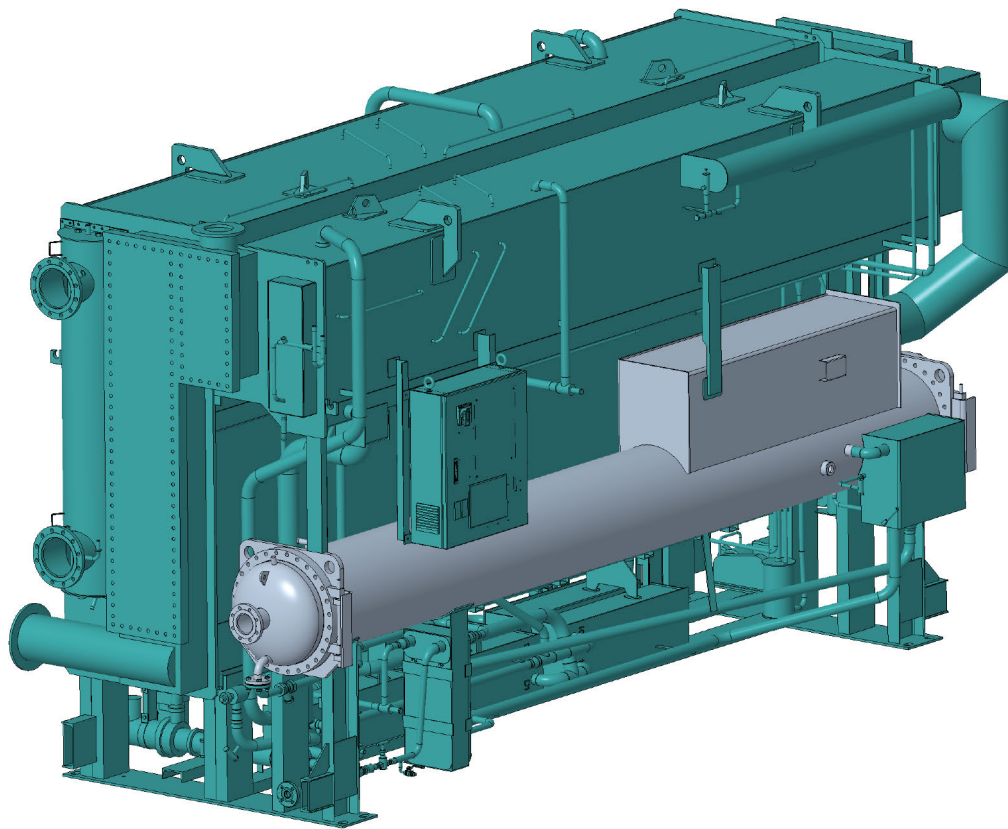




YHAU-CW-B Double Effect Steam Fired Absorption Chiller Mod B

496 ton to 1,488 ton, 1,744 kW to 5,232 kW



Parts Manual

Form Number: 155.52-RP1 (822)

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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 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 outlines Johnson Controls chiller replacement parts by using part numbers, descriptions, quantities and images. To determine the correct replacement part, locate the item on the image figure and refer to the figure table with the parts list for part numbers, descriptions, and quantities.

- 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.

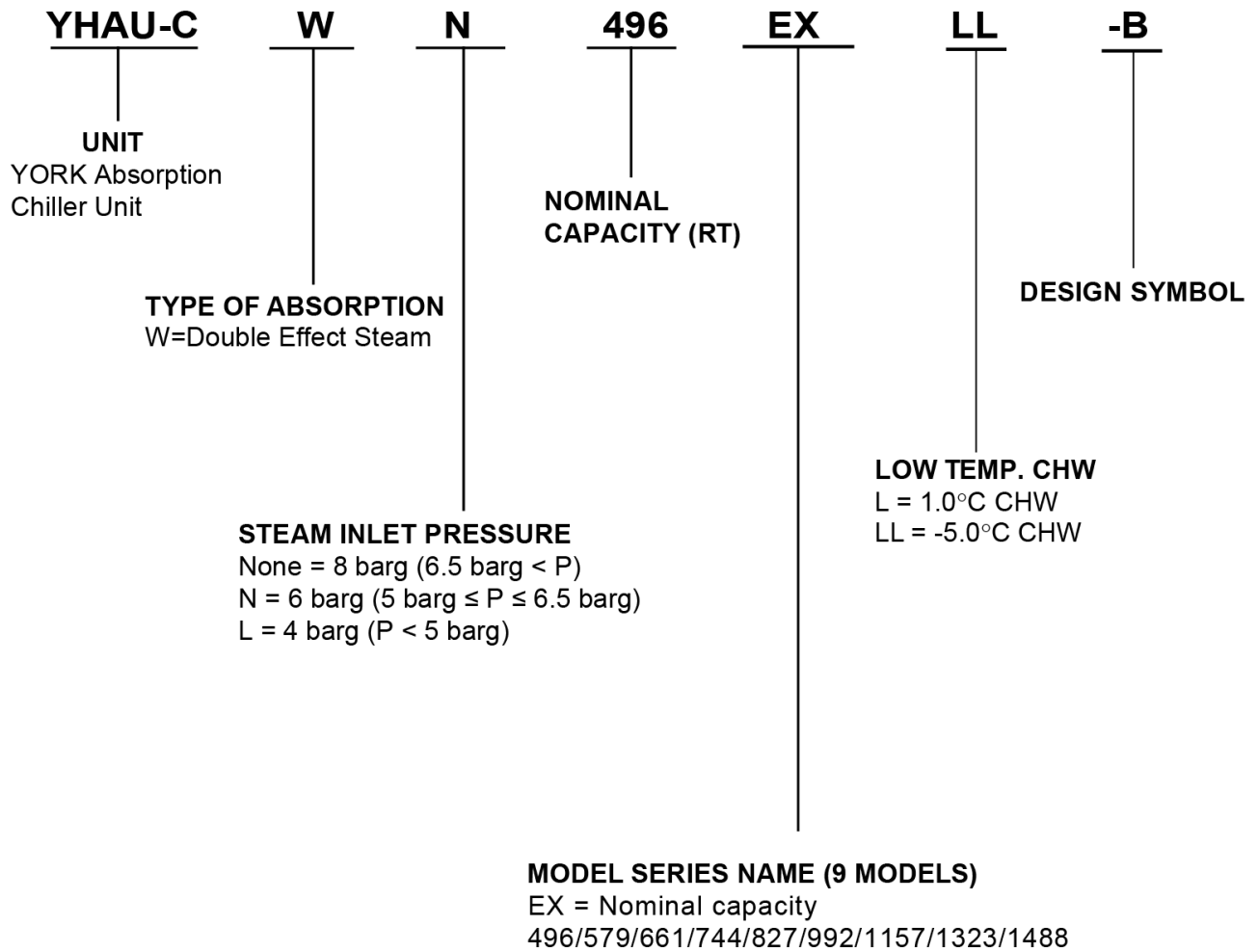
Table 1: Contact details for replacement parts

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 and North America	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.

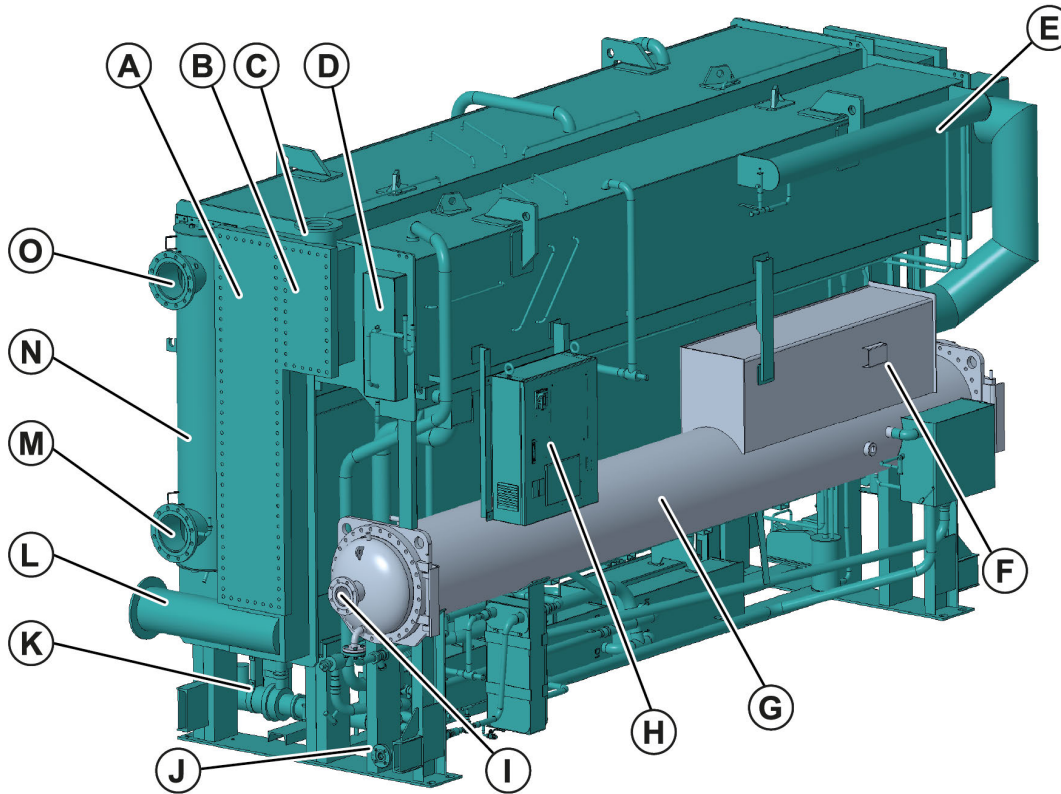
Nomenclature

Figure 1: Nomenclature for Mod A direct fired chiller-heater



YHAU-CW-B components overview

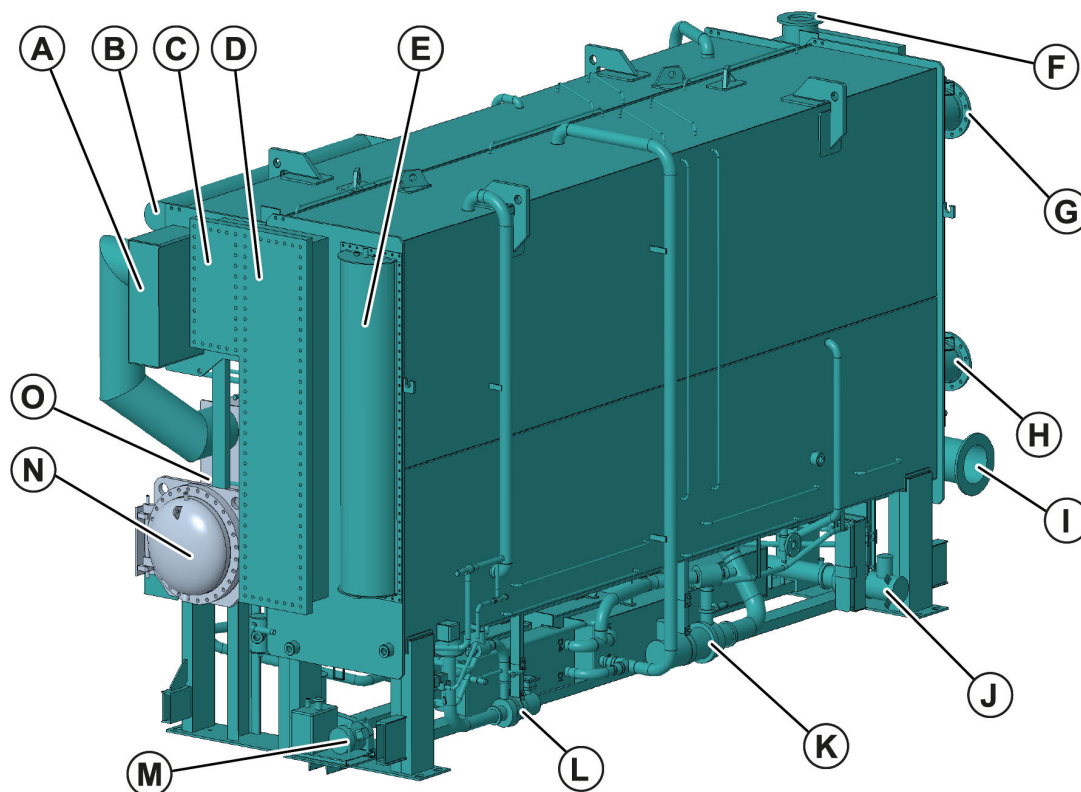
Figure 2: YHAU-CW components (view from steam inlet side)



LD31372

Callout	Component
A	Absorber
B	Condenser
C	Cooling water outlet
D	Low temperature generator
E	Purge tank
F	Refrigerant vapor separator
G	High temperature generator
H	Control panel
I	Steam inlet
J	Steam drain outlet
K	Solution spray pump
L	Cooling water inlet
M	Chilled water inlet
N	Evaporator
O	Chilled water outlet

Figure 3: YHAU-CW unit components (view from vacuum pump side)

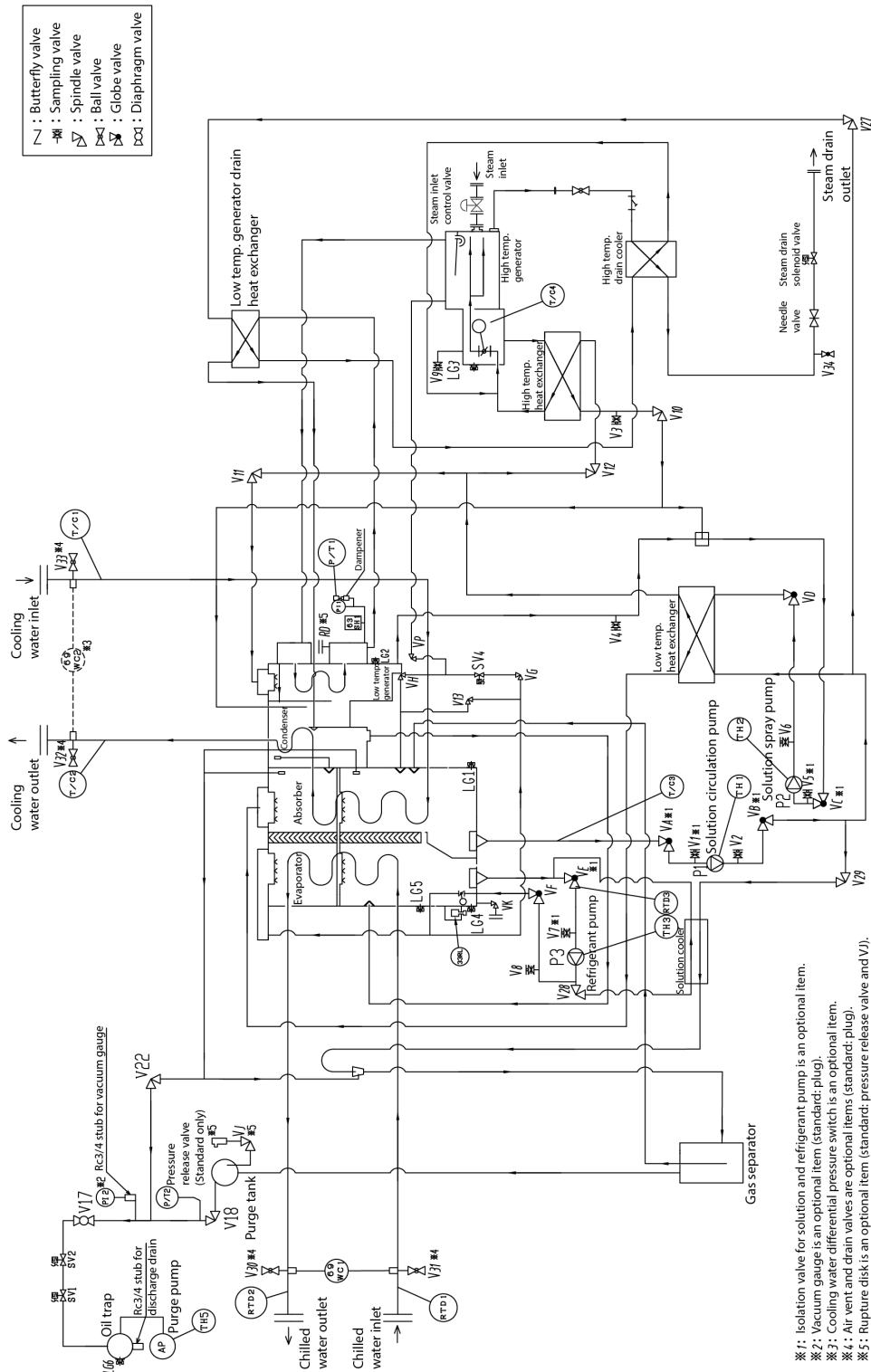


LD31373

Callout	Component
A	Low temperature generator
B	Purge tank
C	Condenser
D	Absorber
E	Evaporator
F	Cooling water outlet
G	Chilled water outlet
H	Chilled water inlet
I	Cooling water inlet
J	Solution spray pump
K	Solution circulation pump
L	Refrigerant pump
M	Vacuum pump
N	High temperature generator
O	Refrigerant vapor separator

Process and instrumentation diagram

Figure 4: Process and instrumentation diagram



LD31383

Note: The process and instrumentation diagram is for reference only and is different depending on the order and burner.

Table 2: Symbol list of process and instrumentation diagram

Symbol	Name	Use
VA	Shut-off valve option	Shut-off valve for solution pump
VB	Shut-off valve option	Shut-off valve for solution pump
VC	Shut-off valve option	Shut-off valve for solution spray pump
VD	Shut-off valve	Shut-off valve for solution spray pump
VE	Shut-off valve option	Shut-off valve for refrigerant pump
VF	Shut-off valve option	Shut-off valve for refrigerant pump
VG	Shut-off valve	Shut-off valve for refrigerant blow solenoid valve
VH	Shut-off valve	Shut-off valve for refrigerant blow solenoid valve
VJ	Shut-off valve	Shut-off valve for pressure release valve
VK	Shut-off valve	Shut-off valve for vacuum (manufacture process)
VP	Shut-off valve	Shut-off valve for de-crystallization
V1	Sampling valve option	Solution sampling valve from p1 pump suction
V2	Sampling valve	Solution sampling valve from p1 pump discharge
V3	Sampling valve	Solution sampling valve from HTG
V4	Sampling valve	Solution sampling valve from LTG
V5	Sampling valve option	Solution sampling valve from P2 pump suction
V6	Sampling valve	Solution sampling valve from P2 pump discharge
V7	Sampling valve option	Refrigerant sampling valve from P3 pump suction
V8	Sampling valve	Refrigerant sampling valve from P3 pump discharge
V10	Adjusting valve	Adjust flow for HTG solution outlet
V11	Adjusting valve	Adjust flow for LTG solution inlet
V12	Adjusting valve	Adjust flow for HTG solution inlet
V13	Refrigerant manual blow	Refrigerant manual blow valve
V17	Purge valve (diaphragm)	Main purge valve
V18	Purge valve	Purge valve
V22	Purge valve	Purge valve for direct purge of upper absorber
V27	Adjusting valve	Adjust flow for solution of steam drain cooler
V28	Adjusting valve	Adjust flow for refrigerant of solution cooler
V29	Adjusting valve	Adjust flow for solution of solution cooler
V30	Shut-off valve option	Air vent valve for chilled water box
V31	Shut-off valve option	Drain valve for chilled waterbox
V32	Shut-off valve option	Air vent valve for cooling waterbox
V33	Shut-off valve option	Drain valve for cooling waterbox
SV1	Solenoid valve	Purge solenoid valve
SV2	Solenoid valve	Purge solenoid valve
SV4	Solenoid valve	Refrigerant blow solenoid valve
LG1	Sight glass	Sight glass for absorption tank
LG2	Sight glass	Sight glass for LTG
LG3	Sight glass	Sight glass for HTG
LG4	Sight glass	Sight glass for refrigerant low level
LG5	Sight glass	Sight glass for refrigerant high level
LG6	Sight glass	Sight glass for oil trap

Table 3: Tag list of process and instrumentation diagram

Symbol	Scope	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		HTG solution temperature
P/T1		HTG Pressure
P/T2		Purging tank pressure
PI1		HTG Pressure gauge
PI2	Option	Vacuum gauge
THR1		Solution circulation pump thermal relay
THR2		Solution spray pump thermal relay
THR3		Refrigerant pump thermal relay
THR6		Purge pump thermal relay
69WC1		Chilled water pressure differential switch
69WC2	Option	Cooling water pressure differential switch
63SH1		HTG Pressure switch
33RL		Level switch for evaporator tank

Unit components

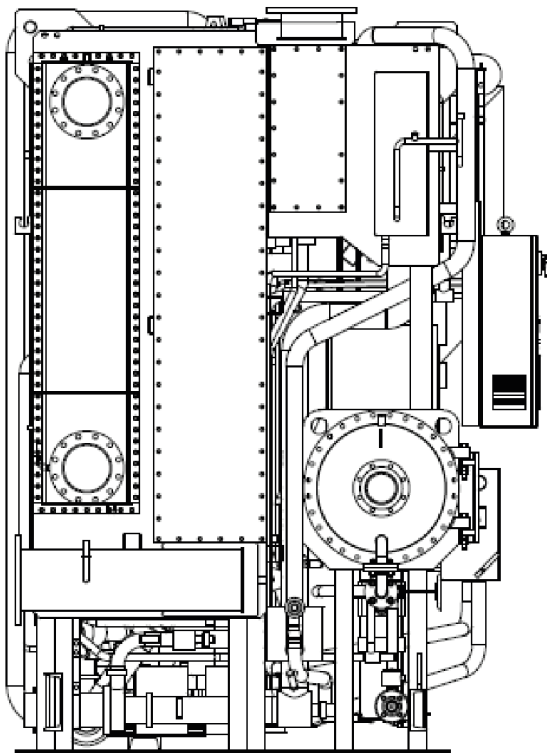
Waterbox gasket

Table 4: Waterbox gasket

Description		Unit	496EX(L)-B	579EX(L)-B	661EX(L)-B	744EX(L)-B	827EX(L)-B	992EX(L)-B	1157EX(L)-B	1323EX(L)-B	1488EX(L)-B
Part name	Part number										
Sheet gasket for chilled waterbox	093W72380-000	Pcs	2	2	2	2	2				
Rope gasket A for chilled water 1 set = 10 m	028W17640-013	Set						2	2	2	2
Rope gasket A for cooling water box 1 set = 10 m	028W17640-013	Set	3	3	3	3	3	4	4	4	4
Sheet gasket for steam generator inlet side	093W75638-001	Pcs	1								
	093W75629-001	Pcs		1	1	1	1				
	093W74240-001	Pcs						1	1	1	1
Sheet gasket for steam generator turn side	093W75638-002	Pcs	1								
	093W75629-002	Pcs		1	1	1	1				
	093W74240-002	Pcs						1	1	1	1

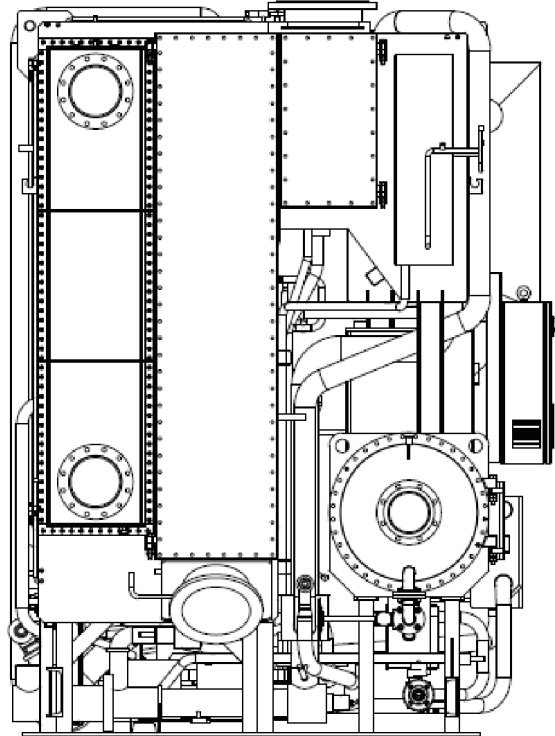
① **Note:** For rope gasket A : 1 set = 10 m

Figure 5: Waterbox for YHAU-CW496-827EX-B



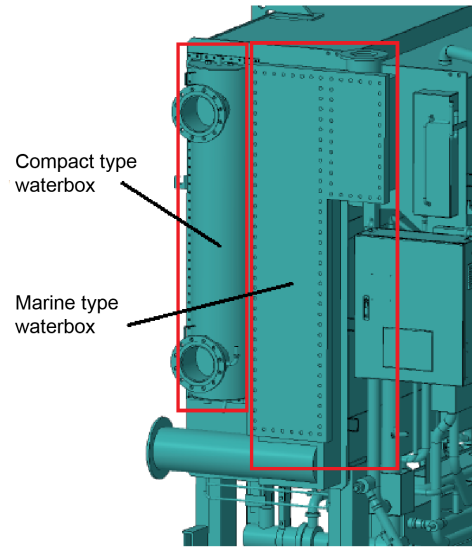
LD31388a

Figure 6: Waterbox for YHAU-CW992-1488EX-B



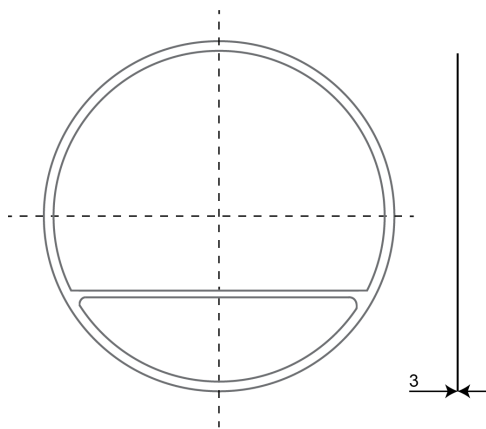
LD31389a

Figure 7: Marine type and compact type waterbox



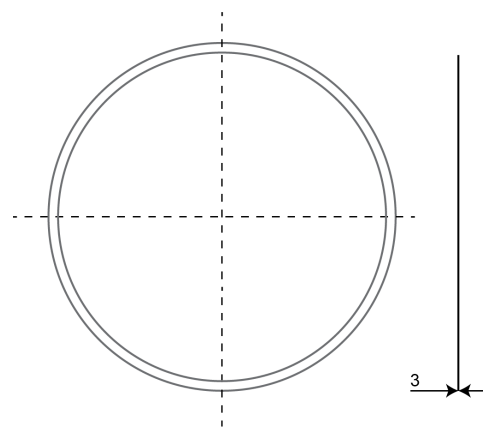
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Figure 8: Sheet gasket for steam HTG inlet side



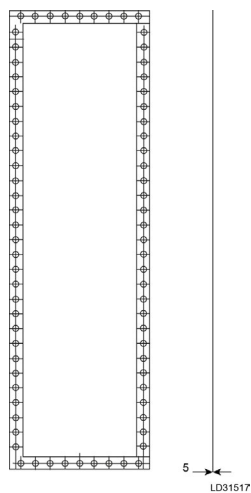
LD31571

Figure 9: Sheet gasket for steam HTG turn side



LD31572

Figure 10: Sheet gasket for chilled waterbox



LD31517

Figure 11: Rope gasket A



LD31518

Control panel components

Table 5: Control panel components

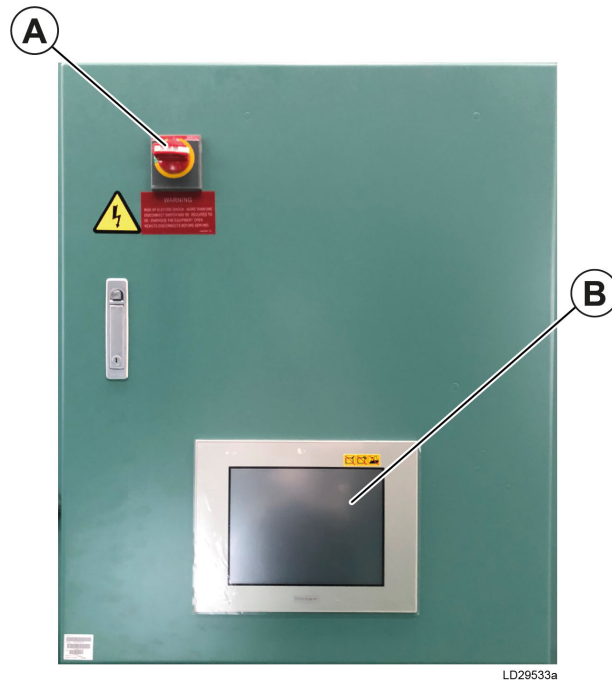
Description			496EX(L)-B	579EX(L)-B	661EX(L)-B	744EX(L)-B	827EX(L)-B	992EX(L)-B	1157EX(L)-B	1323EX(L)-B	1488EX(L)-B
Part name	Part number	Model									
Main circuit board (PLC)	025W48016-039	TC5-17A	1	1	1	1	1	1	1	1	1
Touch panel (TP)	025W48016-129	PFXGP4501TADW	1	1	1	1	1	1	1	1	1
Auxiliary relay (PWX) for GB/CE	025W48016-131	MY4N-GS AC220/240V	1	1	1	1	1	1	1	1	1
Timer (PWT) for GB/CE	025W48016-033	H3Y-2(5sec), PYF08A-E	1	1	1	1	1	1	1	1	1
Power supply (24VDC) (PSU1)	025W48016-037	RS-75-24	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
Main breaker (MCCB1) CE GB 380-3-50	025W48016-121	XT1 N 160 TMD32	1	1	1						
	025W48016-151	XT1 N 160 TMD50				1	1	1	1		
	025W48016-123	XT1 N 160 TMD63								1	1
Main breaker (MCCB1) CE GB 400-3-50	025W48016-121	XT1 N 160 TMD32	1	1	1						
	025W48016-151	XT1 N 160 TMD50				1	1	1	1		
	025W48016-123	XT1 N 160 TMD63								1	1
Main breaker (MCCB1) CE GB 380-3-60	025W48016-121	XT1 N 160 TMD32	1	1	1						
	025W48016-151	XT1 N 160 TMD50				1	1	1	1		
	025W48016-123	XT1 N 160 TMD63								1	1
Main breaker (MCCB1) CE GB 460-3-60	025W48016-150	XT1 N 160 TMD25	1	1	1						
	025W48016-122	XT1 N 160 TMD40				1	1	1	1		
	025W48016-151	XT1 N 160 TMD50								1	1
Circuit breaker handle	025W48016-125	1SDA066481R1	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
Transformer (T1) for CE	025W48016-130	JBK3-500VA	1	1	1	1	1	1	1	1	1
Magnet switch, (MC1, MC2, MC3, MC4) 380-3-50/ 400-3-50/380--3-60	024W33857-353	AX09-30-10-80	3	3	3	2	2	2	2	2	2
	024W33857-354	AX12-30-10-80				1	1	1	1	1	1
	024W33857-355	AX18-30-10-80	1	1	1						
	024W33857-356	AX25-30-10-80				1	1	1	1		
	024W33857-357	AX32-30-10-80								1	1
Magnet switch, (MC1, MC2, MC3, MC4) 460-3-60	024W33857-353	AX09-30-10-80	3	3	3	3	3	3	3	3	3
	024W33857-354	AX12-30-10-80	1	1	1						
	024W33857-355	AX18-30-10-80				1	1	1	1		
	024W33857-356	AX25-30-10-80								1	1
Thermal relay (TH1, TH2, TH3, TH4) 380-3-50/380--3-60	025W48016-064	TA25DU-1.8M(1.3-1.8)	1	1							
	025W44341-346	TA25DU-2.4M(1.7-2.4)	1	1	1	1	1	1	1	1	1
	025W48207-038	TA25DU-5.0M(3.5-5.0)			1						
	025W48016-127	TTA25DU-6.5M(4.5-6.5)				1	1	1	1		
	025W48207-039	TA25DU-8.5M(6.0-8.5)	1	1	1					1	1
	024W33860-067	TA25DU-11M(7.5-11)									
	024W33860-061	TA25DU-14M(10-14)				1	1	1	1	1	1
	024W33860-077	TA25DU-19M(13-19)	1	1	1						
	024W33860-066	TA25DU-25M(18-25)				1	1	1	1		
	024W33860-059	TA25DU-32M(24-32)								1	1
Thermal relay (TH1, TH2, TH3, TH4) 400-3-50	025W48016-064	TA25DU-1.8M(1.3-1.8)	1	1							
	025W44341-346	TA25DU-2.4M(1.7-2.4)	1	1	1	1	1	1	1	1	1
	025W48207-038	TA25DU-5.0M(3.5-5.0)			1	1	1				
	025W48016-127	TTA25DU-6.5M(4.5-6.5)	1	1				1	1		
	025W48207-039	TA25DU-8.5M(6.0-8.5)			1					1	1
	024W33860-067	TA25DU-11M(7.5-11)									
	024W33860-061	TA25DU-14M(10-14)				1	1	1	1	1	1

Table 5: Control panel components

Description			496EX(L)-B	579EX(L)-B	661EX(L)-B	744EX(L)-B	827EX(L)-B	992EX(L)-B	1157EX(L)-B	1323EX(L)-B	1488EX(L)-B
Part name	Part number	Model									
Thermal relay (TH1, TH2, TH3, TH4) 400-3-50	024W33860-077	TA25DU-19M(13-19)	1	1	1						
	024W33860-066	TA25DU-25M(18-25)				1	1	1	1		
	024W33860-059	TA25DU-32M(24-32)								1	1
Thermal relay (TH1, TH2, TH3, TH4) 460-3-60	025W48016-064	TA25DU-1.8M(1.3-1.8)	2	2	1	1	1	1	1	1	1
	025W48016-128	TA25DU-4.0M(2.8-4.0)			1						
	025W48207-038	TA25DU-5.0M(3.5-5.0)				1	1	1	1		
	025W48016-127	TTA25DU-6.5M(4.5-6.5)	1	1	1					1	1
	024W33860-067	TA25DU-11M(7.5-11)				1	1	1	1	1	1
	024W33860-061	TA25DU-14M(10-14)	1	1	1						
	024W33860-077	TA25DU-19M(13-19)				1	1	1	1		
	024W33860-066	TA25DU-25M(18-25)								1	1
Noise filter (NF1)	025W48016-038	RSAN-2006D	1	1	1	1	1	1	1	1	1
56-Pin connector 1 for CN2	025W48016-068	FCN-360C056-8	1	1	1	1	1	1	1	1	1
56-Pin connector 2 for CN2	025W48016-069	FCN-361J056-AU	1	1	1	1	1	1	1	1	1
Buzzer (BZ)	025W48016-071	CB1-620B	1	1	1	1	1	1	1	1	1
Fan (FAN) GB/CE	025W48016-056	4656Z 8317068444	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
Fan-filter	025W48016-136	FU-9803A	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
Battery for main touch panel	025W51226-000	PFXZCBBT1	1	1	1	1	1	1	1	1	1

Note: The control panel is for IP42.

Figure 12: Control panel cover



Callout	Component
A	Brake handle
B	10.4 in. color touch panel

Figure 13: Interior of control panel for CE

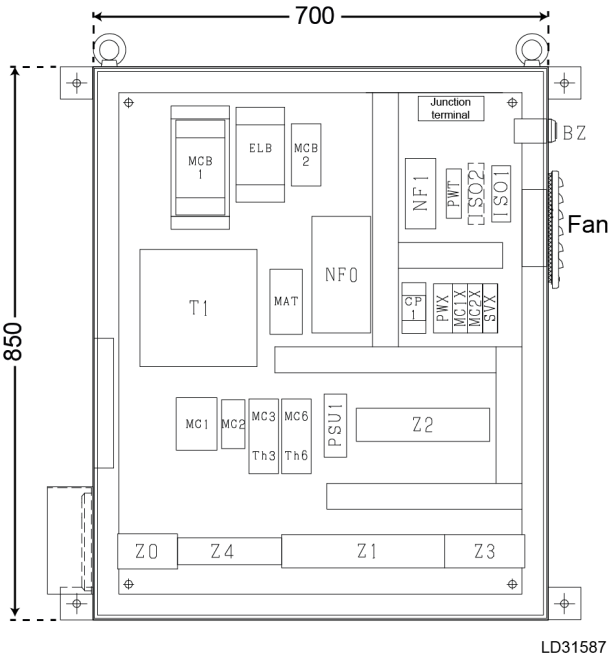


Figure 14: Interior of control panel for GB

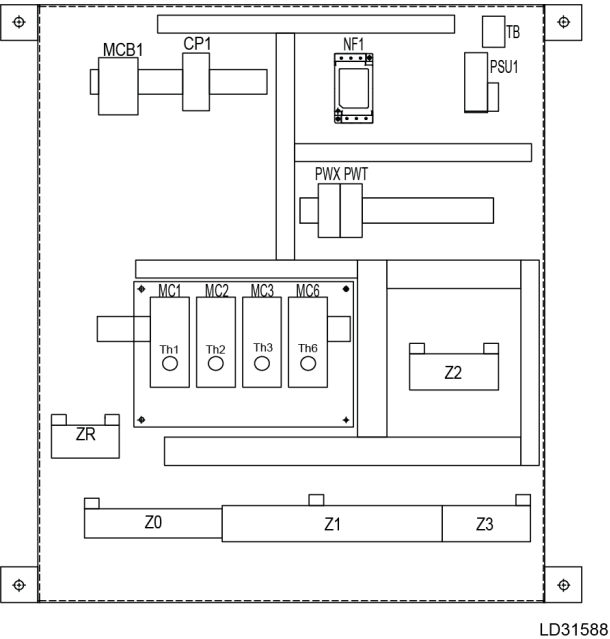


Figure 15: Reference layout of internal control panel

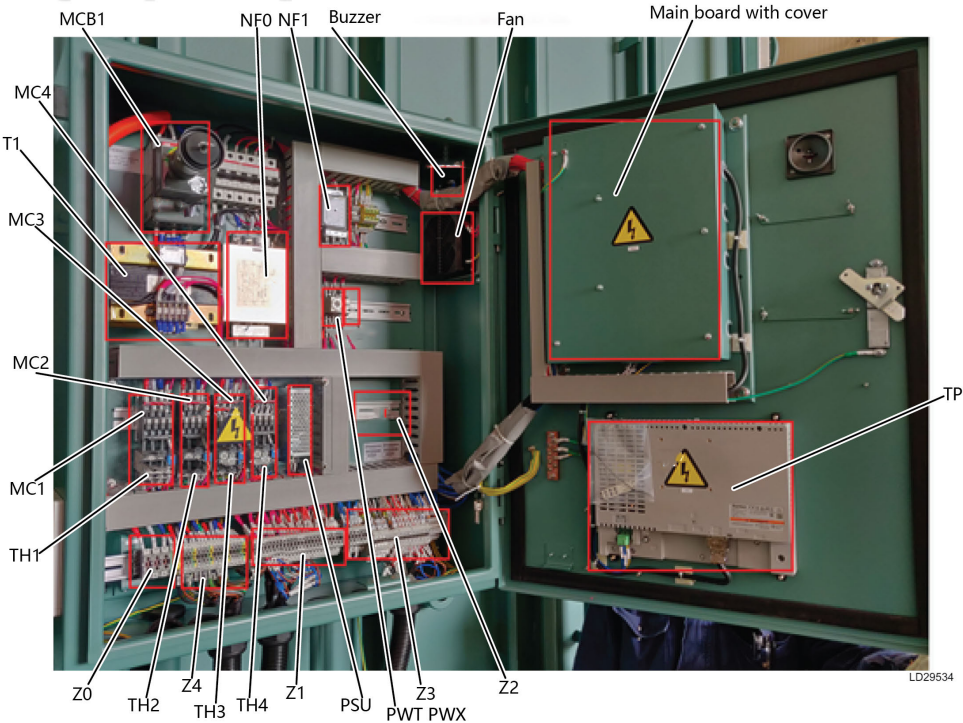
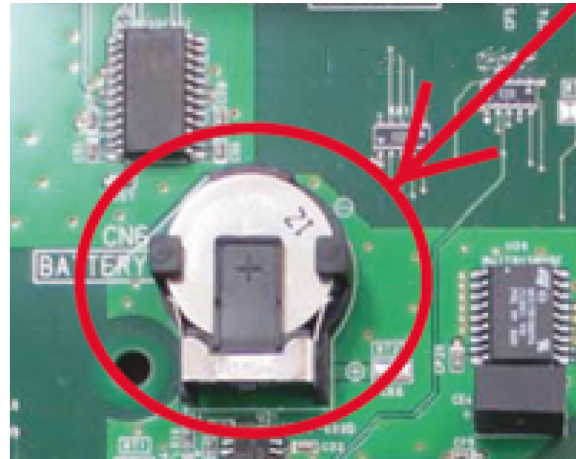


Figure 16: Battery for touch screen



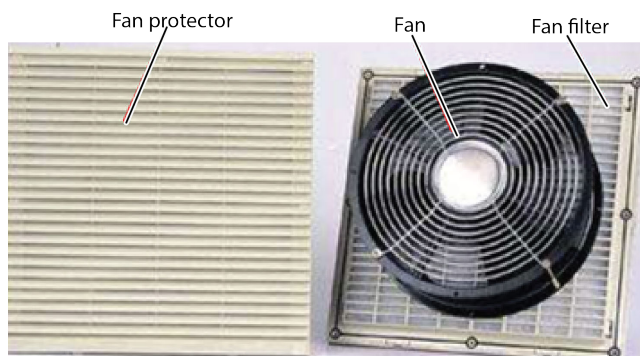
LD29537

Figure 17: Main board battery



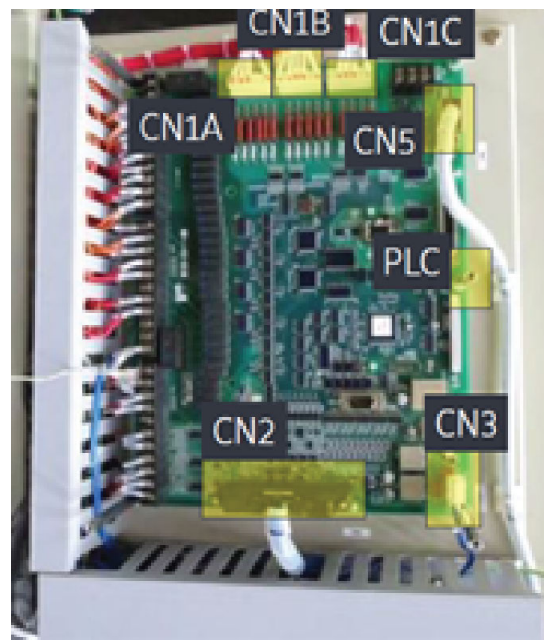
LD29538

Figure 18: Fan, fan protector, and fan filter



LD29535

Figure 19: PLC board TC5-17A



LD29536

Pump and maintenance kits

Table 6: Pump and maintenance kits

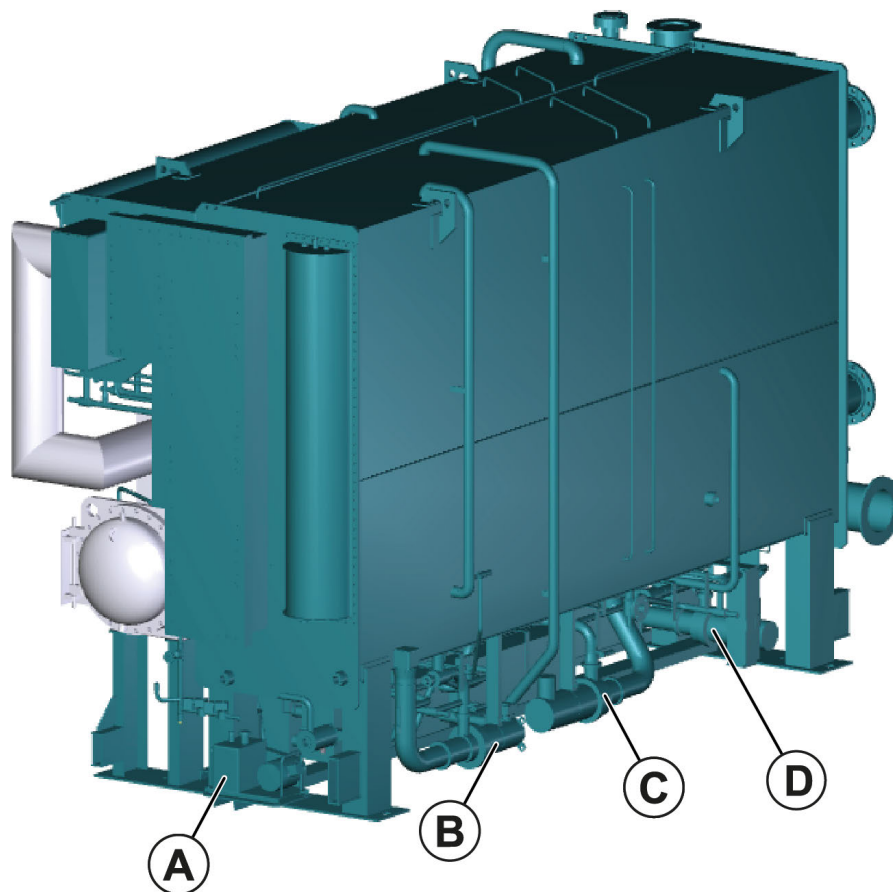
Description			496EX(L)-B	579EX(L)-B	661EX(L)-B	744EX(L)-B	827EX(L)-B	992EX(L)-B	1157EX(L)-B	1323EX(L)-B	1488EX(L)-B
Part name	Part number	Model									
Solution circulation pump (AC380-400/50 Hz)	026W50365-001	NP100-60C/312H4-F-6	1	1	1						
	026W51260-125	NP125-80E/421H4-F-3				1	1	1	1		
	026W51260-046	NP150-100F/521H4-F-2								1	1
Solution circulation pump (AC380-400 V/60 Hz)	026W50365-004	NP100-60C/312H4-E-6	1	1	1						
	026W51260-126	NP125-80E/421H4-E-3				1	1	1	1		
	026W51260-047	NP150-100F/521H4-E-2								1	1
Solution circulation pump (AC460 V/60 Hz)	026W51230-000	NP100-60C/312H4-E-6	1	1	1						
	026W51260-128	NP125-80E/421H2-E-3				1	1	1	1		
	026W51260-049	NP150-100F/521H2-E-2								1	1
Solution spray pump (AC380-400 V/50 Hz)	026W50364-001	NP100-50B/212H4-F-5	1	1	1						
	026W51260-176	NP100-50D/322H4-F-2				1	1				
	026W51260-071	NP125-80D/322H4-F-3						1	1	1	1
Solution spray pump (AC380-400 V/60 Hz)	026W51260-060	NP100-50B/212H4-E-5	1	1	1						
	026W51260-177	NP100-50D/322H4-E-3				1	1				
	026W51260-072	NP125-80D/322H4-E-3						1	1	1	1
Solution spray pump (AC460 V/60 Hz)	026W50672-000	NP100-50B/212H4-E-5	1	1	1						
	026W51260-179	NP100-50D/322H4-E-3				1	1				
	026W51260-074	NP125-80D/322H4-E-3						1	1	1	1
Refrigerant pump (AC380-400 V/50 Hz)	026W50344-001	NP65-40C/122H4-B-9	1	1							
	026W50370-000	NP100-50A/115H4-B-1			1						
	026W51260-104	NP100-50C/222H4-F-5				1	1				
	026W51260-137	NP100-50D/321H4-F-4						1	1		
	026W51260-143	NP100-50D/321H4-F-5								1	1
Refrigerant pump (AC380-400 V/60 Hz)	026W51260-097	NP65-40C/122H4-A-9	1	1							
	026W51260-099	NP100-50A/115H4-A-1			1						
	026W51260-105	NP100-50C/222H4-E-5				1	1				
	026W51260-138	NP100-50D/321H4-E-4						1	1		
	026W51260-144	NP100-50D/321H4-E-5								1	1
Refrigerant pump (AC460 V/60 Hz)	026W50671-000	NP65-40C/122H4-A-9	1	1							
	026W51260-101	NP100-50A/115H4-A-1			1						
	026W51260-107	NP100-50C/222H4-E5				1	1				
	026W51260-140	NP100-50D/321H4-E-4						1	1		
	026W51260-146	NP100-50D/321H4-E-5								1	1
Maintenance parts kit for solution circulation pump	026W51221-004	NP100-60C/312	1	1	1						
	026W51221-005	NP125-80E/421				1	1	1	1		
	026W51221-006	NP150-100F/521								1	1
Maintenance parts kit for solution spray pump	026W51222-003	NP100-50B/212	1	1	1						
	026W51222-007	NP100-50D/322				1	1				
	026W51222-005	NP125-80D/322						1	1	1	1
Maintenance parts for refrigerant pump	026W51223-003	NP65-40C/122	1	1							
	026W51223-004	NP100-50A/115			1						
	026W51223-005	NP100-50C/222				1	1				
	026W51222-004	NP100-50D/321						1	1	1	1
Solution circulation pump gasket	093W76652-002	For NP100-60C/312	1	1	1						
	093W76652-004	For NP125-80E/421				1	1	1	1		

Table 6: Pump and maintenance kits

Description			496EX(L)-B	579EX(L)-B	661EX(L)-B	744EX(L)-B	827EX(L)-B	992EX(L)-B	1157EX(L)-B	1323EX(L)-B	1488EX(L)-B
Part name	Part number	Model									
	093W76652-005	For NP150-100F/521								1	1
Solution spray pump gasket	093W76652-002	For NP100-50B/212	1	1	1						
	093W76652-006	For NP100-50D/322				1	1				
	093W76652-006	For NP125-80D/322						1	1	1	1
Refrigerant pump gasket	093W76652-008	For NP65-40C/122	1	1							
	093W76652-009	For NP100-50A/115			1						
	093W76652-010	For NP100-50C/222				1	1				
	093W76652-006	For NP100-50D/321						1	1	1	1
Vacuum pump (AC380-415 V/50 Hz 400-460 V/60 Hz) indoor IP44	026W49989-000	PVD-N360-1									
Vacuum pump (AC380-415 V/50 Hz 400-460 V/60 Hz) outdoor IP55	026W50423-002	PVD-N360-1									
Maintenance parts kit for vacuum pump	026W50889-000	For PVD-N360-1									
Vacuum pump V-belt	026W50890-000	For PVD-N360-1									

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.

Figure 20: Refrigerant, solution circulation, and solution spray pumps



LD31576

Callout	Component
A	Vacuum pump
B	Refrigerant pump
C	Solution circulation pump
D	Solution spray pump

Figure 21: Vacuum pump



LD29541

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

Table 7: 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

Note: Parts are different depending on the pump model. The adjust washer is not currently available.

Table 8: 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 9: Valves

Description			496EX(L)-B	579EX(L)-B	661EX(L)-B	744EX(L)-B	827EX(L)-B	992EX(L)-B	1157EX(L)-B	1323EX(L)-B	1488EX(L)-B
Part name	Part number	Model									
Diaphragm valve (15A) Haimen	022W13807-001	DIAP-15A	1	1	1	1	1	1	1	1	1
Diaphragm for diaphragm valve Haimen (15A)	022W13807-101	For DIAP-15A	1	1	1	1	1	1	1	1	1
V17: Purge valve for purge tank											
Solenoid valve for purge line and refrigerant or LiBr blowing line (AC200)	025W48003-002	AB41-04-8-D-3M (AC220V)	3	3	3	3	3	3	3	3	3
Solenoid valve for purge line and refrigerant or LiBr blowing line (AC110)	025W48003-001	AB41-04-8-D-3M (AC110V)	3	3	3	3	3	3	3	3	3
SV1: Purge solenoid valve											
SV2: Purge solenoid valve											
SV4: Refrigerant blowing solenoid valve											
Sampling valve	022W13372-000	SAMPLING-V/10A	5	5	5	5	5	5	5	5	5
O-ring for sampling valve P21	028W18176-000		5	5	5	5	5	5	5	5	5
O-ring for adjusting and sampling valve P16	028W18177-000		27	29	29	29	28	28	28	28	28

Table 9: Valves

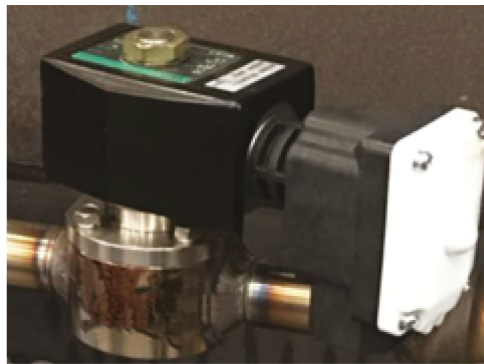
Description			496EX(L)-B	579EX(L)-B	661EX(L)-B	744EX(L)-B	827EX(L)-B	992EX(L)-B	1157EX(L)-B	1323EX(L)-B	1488EX(L)-B
Part name	Part number	Model									
V1 option: Solution sampling valve from P1 pump suction			V5 option: Solution sampling valve from P2 pump suction								
V2: Solution sampling valve from P1 pump discharge			V6: Solution sampling valve from P2 pump discharge								
V3: Solution sampling valve after HT heat exchanger			V7 option: Refrigerant sampling valve from P3 pump suction								
V4: Solution sampling valve after LTG			V8: Refrigerant sampling valve from P3 pump discharge								
Pressure release valve for GB	322W13373-001	SAFTY-V/10A 0.8bar	1	1	1	1	1	1	1	1	1
Pressure release valve for CE	022W14372-000	SAFTY-V/10A 0.48bar									
Huali rupture disk (DN80) 7 psig	026W50860-101	YF80-0.043-121A									
Huali rupture disk kits (DN80) 7 psig	393W73906-000										
Huali rupture disk (DN80) 12 psig	026W50861-101	YF80-0.083-121A									
Huali rupture disk kits (DN80) 12 psig	326W50681-102										
Huali rupture disk (DN50) 12 psig	026W50861-201	YF50-0.083-121A									
Huali rupture disk kits (DN50) 12 psig	326W50681-202										
BS&B rupture disk (DN50) 0.4 barg	026W51936-000	AVV 2 in.									
Note: - The pressure release valve is located on the purging tank as standard. The rupture disk kit is an option. - The rupture disk assessor is located on the tube side of LTG waterbox. - Use the 12 psi rupture disk standard for GB regions. Use the 7 psig rupture disk for CE regions. - The BS&B 0.4 barg rupture disk is used for custom projects only.											
Air vent valve for waterbox option	022W13246-002	BALL-V/10A	2	2	2	2	2	2	2	2	2
Drain valve for waterbox option	022W13246-004	BALL-V/20A	2	2	2	2	2	2	2	2	2
Note: - The air vent is located on the top of the waterbox. - The drain valve is located on the bottom of the waterbox.											
Float valve for refrigerant tank	322W13927-000	REF-FLOAT/50A	1	1	1	1	1				
	322W14343-000	REF-FLOAT/65A						1	1	1	1
Note: The float valve is located in the refrigerant tank.											
Float ball valve for HTG solution tank	322W13897-000	HTG-FLOAT/32A	1								
	022W13385-000	HTG-FLOAT/40A		1	1						
	322W13805-000	HTG-FLOAT/50A				1	1	1	1	1	1
Note: The float ball valve is located in the HTG float ball valve tank											
Needle valve	022W13368-003	NPT3/8(10A)	Y	Y	Y	Y					
	022W13368-004	NPT1/2(15A)	Y	Y	Y	Y	Y				
	022W13368-005	NPT3/4(20A)	Y	Y	Y	Y	Y	Y	Y		
	022W13368-006	NPT1(25A)					Y	Y	Y	1	1
Note: The needle valve is located on the steam drain pipe. Select the valve size according to the rating sheet. The various sizes have different steam pressures. The Y indicates that the valve can be used on different models.											
Steam drain solenoid valve 200-50/60Hz	025W48101-003	PVS-25A-210	1	1	1	1	1				
	022W13323-004	PVS-32A-210-4M						1	1	1	1
Steam drain solenoid valve 100-50/60Hz	025W51242-802	AP11-25A-C4M	1	1	1	1	1				
	025W51242-001	AP21-32F-C4M						1	1	1	1
Steam drain strainer 80 mesh	022W13806-106	UY 40A 80 mesh	1	1	1	1	1				
	022W13806-107	UY 50A 80 mesh						1	1	1	1
Note: The steam drain solenoid valve is located on the steam drain line.											

Table 9: Valves

Description			496EX(L)-B	579EX(L)-B	661EX(L)-B	744EX(L)-B	827EX(L)-B	992EX(L)-B	1157EX(L)-B	1323EX(L)-B	1488EX(L)-B
Part name	Part number	Model									
Globe valve	022W13370-101	V/40A 20#	1	1	2	2	2	1	1	1	1
	022W13370-102	V/50A 20#	2	2				1		1	1
	022W13370-103	V/65A 20#	2	2	3	3	3	1	3	2	2
	022W13370-104	V/80A 20#						2	2	1	1
	022W13370-105	V/100A 20#	2	2	3	3	3	1	1	3	3
	022W13901-001	C/H AV125A						2	2	1	1
	022W13901-002	C/H AV 150A								1	1
Adjusting valve	022W13371-001	V/15A SUS304	6	6	6	6	6	6	6	6	6
	022W13371-002	V/25A SUS304	5	5	5	4	4	5	5	5	5
	022W13371-003	V/40A SUS304	3	3	2	3	3	2	2	1	1
VA option: Shut-off valve for solution pump VB option: Shut-off valve for solution pump VC option: Shut-off valve for solution spray pump VD: Shut-off valve for solution spray pump VE option: Shut-off valve for refrigerant pump VF option: Shut-off valve for refrigerant pump VG: Shut-off valve for refrigerant blow solenoid valve VH: Shut-off valve for refrigerant blow solenoid valve VJ: Shut-off valve for pressure release valve			VK: Shut-off valve for vacuum manufacture process VP: Shut-off valve for de-crystallization V10: Adjust flow for HTG solution outlet V11: Adjust flow for LTG solution inlet V12: Adjust flow for HTG solution inlet V13 Shut-off valve for refrigerant manual blow valve V28: Adjust flow for refrigerant of solution cooler V29 Adjust flow for solution of solution cooler								

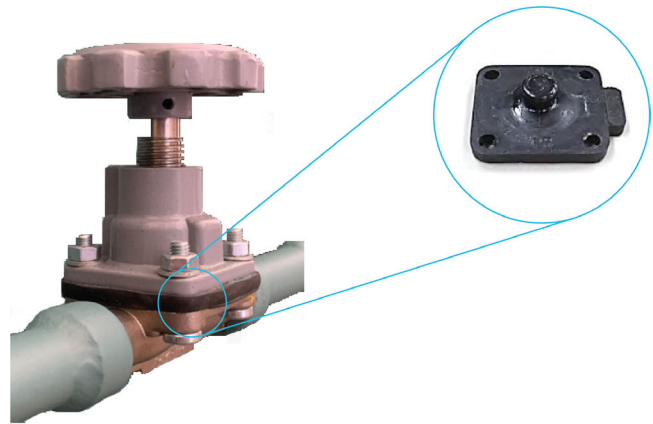
Note: The quantity of globe valves and adjusting valves vary depending on the chiller order. When placing the order, measure the size of these valves.

Figure 22: Solenoid valve for purge and blow pump



LD29544

Figure 23: Diaphragm valve and gasket



LD31554

Figure 24: Sampling valve

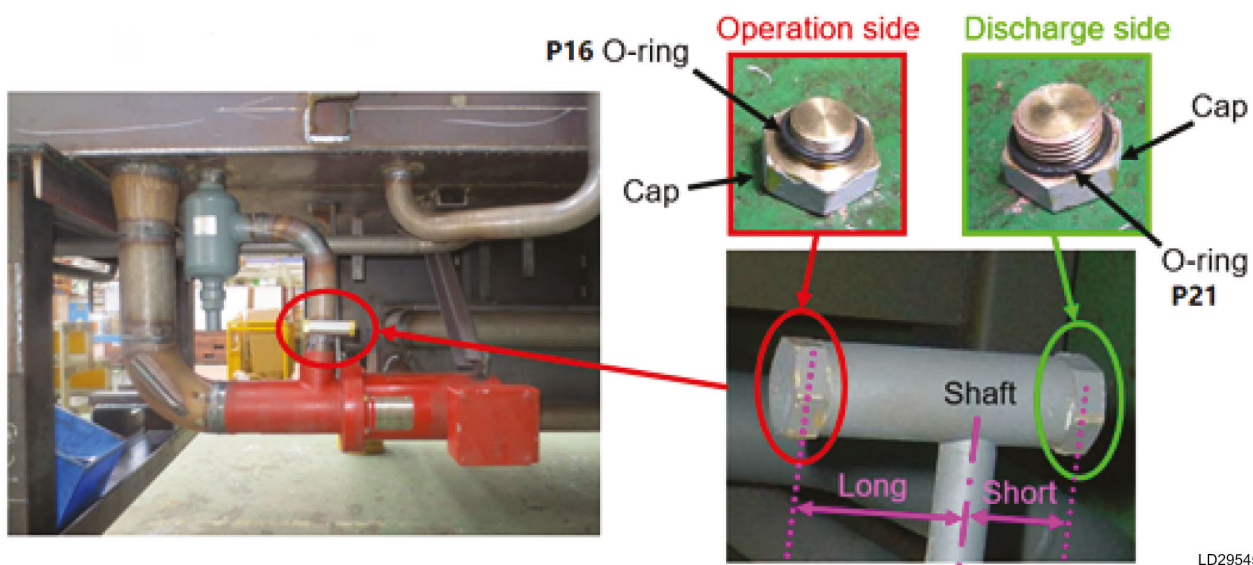


Figure 25: HTG solution float ball valve



Figure 26: Refrigerant water float ball valve



Figure 27: Huali rupture disk kit

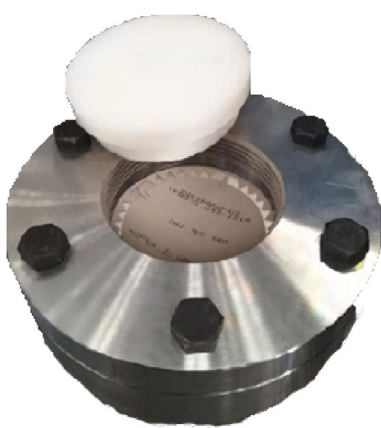


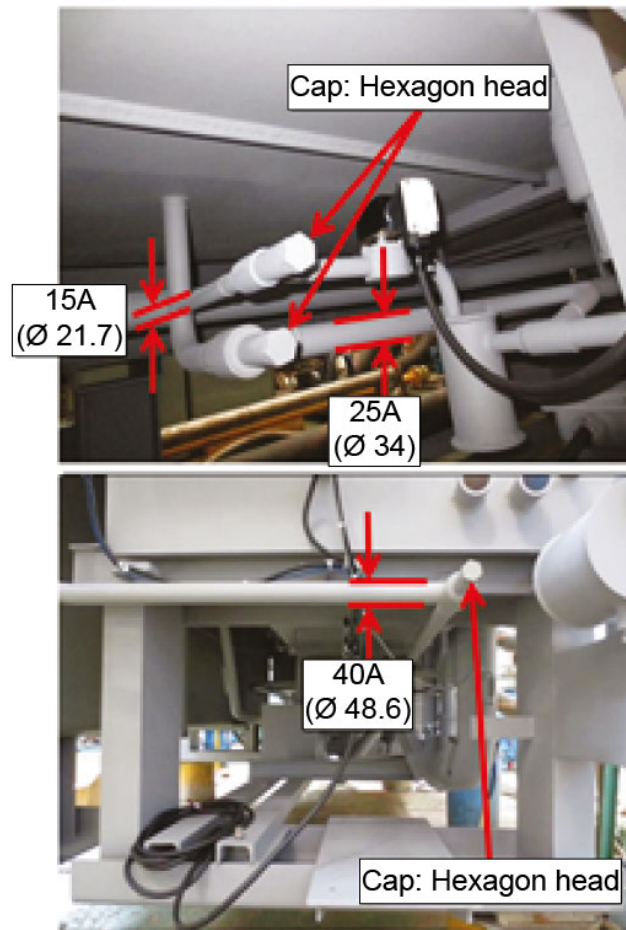
Figure 28: Huali rupture disk



Table 10: Valve sizes

Size code	15A	25A	40A	50A	65A	80A	100A	125A	150A
Diameter, mm	21.7	34.0	48.6	60	76	89	114	140	165

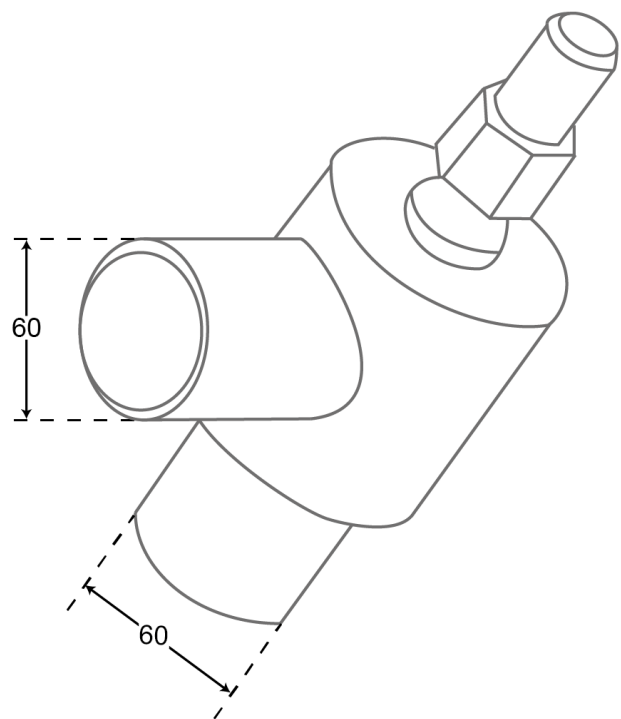
Figure 29: Adjusting valve



LD29549

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

Figure 30: Globe valve dimensions, mm



LD31524

Valve name	Part number	Valve model
Globe valve	022W13370-101	V-40A
	022W13370-102	V-50A
	022W13370-103	V-65A
	022W13370-104	V-80A
	022W13370-105	V-100A

Figure 31: Steam drain strainer



LD31590

Figure 32: Needle valve



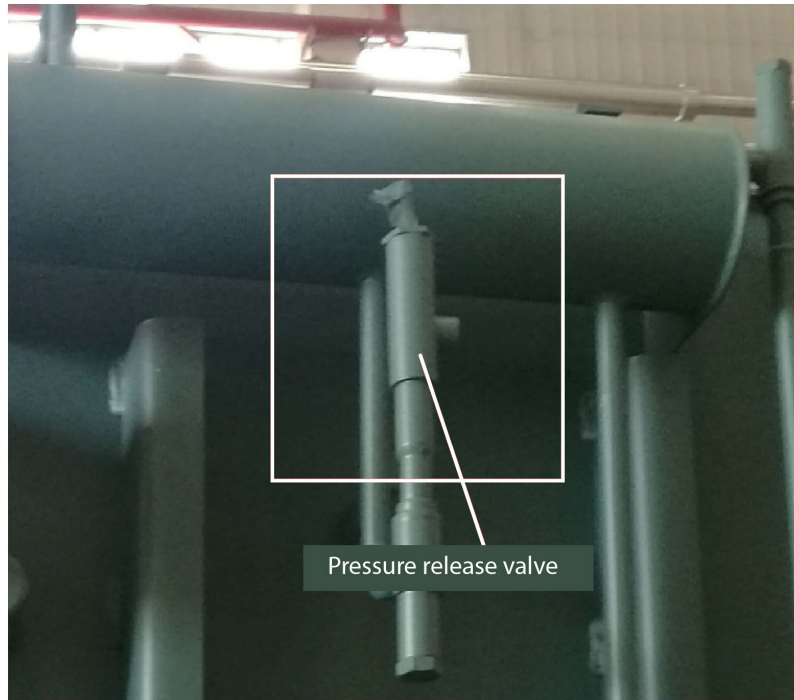
LD31591

Figure 33: Steam drain solenoid valve



LD31589

Figure 34: Pressure release valve



LD29803

Sensor and control switch

Table 11: Sensor and control switch

Description			496EX(L)-B	579EX(L)-B	661EX(L)-B	744EX(L)-B	827EX(L)-B	992EX(L)-B	1157EX(L)-B	1323EX(L)-B	1488EX(L)-B
Part name	Part number	Model									
First resistance temperature sensor with connector, well and cable (RTD-1,RTD-2)	025W51243-001	FST600-103X (short) (12 m)	2	2	1						
	025W51243-003	FST600-103X (long) (12 m)									
	025W51243-002	FST600-103X (short) (20 m)									
	025W51243-004	FST600-103X (long) (20 m)			1	2	2	2	2	2	2
First resistance temperature sensor with connector and cable (RTD-3)	025W51244-002	FST600-103A (short) (20 m)	1	1	1	1	1	1	1	1	1
First resistance temperature sensor with connector	025W51243-010	FST600-103X (short)	1	1	1						
	025W51243-011	FST600-103X (long)				1	1	1	1	1	1
First thermocouple with connector, well, and cable (T/C1, T/C2)	025W51245-001	FST600-102K (short) (12 m)	2	2							
	025W51245-003	FST600-102K (long) (12 m)			1	1	1				
	025W51245-002	FST600-102K (short) (20 m)									
	025W51245-004	FST600-102K (long) (20 m)			1	1	1	2	2	2	2
First thermocouple with connector and cable (T/C3, T/C4)	025W51246-002	FST600-102X (20 m)	2	2	2	2	2	2	2	2	2
First thermocouple with connector (T/C1, T/C2)	025W51245-011	FST600-102K (short)									
	025W51245-012	FST600-102K (long)									
First thermocouple with connector (T/C3,T/C4)	025W51246-011	FST600-102X									
First thermocouple with connector and cable (T/C5)	025W51247-001	FST600-102B (12 m)	1	1	1	1	1	1	1	1	1

Table 11: Sensor and control switch

Description			496EX(L)-B	579EX(L)-B	661EX(L)-B	744EX(L)-B	827EX(L)-B	992EX(L)-B	1157EX(L)-B	1323EX(L)-B	1488EX(L)-B
Part name	Part number	Model									
First thermocouple with connector (T/C5)	025W51247-006	FST600-102B	1	1	1	1	1	1	1	1	1
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 temperature 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									
First pressure sensor (PT1, PT2)	025W51239-002	FST800-501A	2	2	2	2	2	2	2	2	2
Cable with connector for first pressure sensor	025W51209-001	4 m cable with connector									
Level switch (33RL)	024W39631-000	KS3-1S-10593	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
Pressure switch	024W39636-003	VM-160S-S	1	1	1	1	1	1	1	1	1
Density meter for EXL-B	025W51047-002	Proline Promass I 300									

Figure 35: Sensors and switches on B side



Figure 36: Sensors and switches on front side

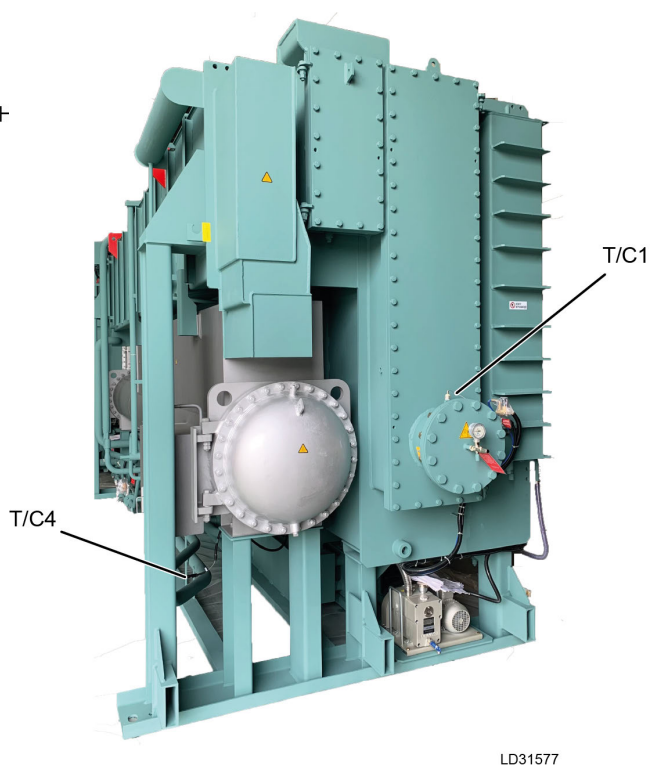
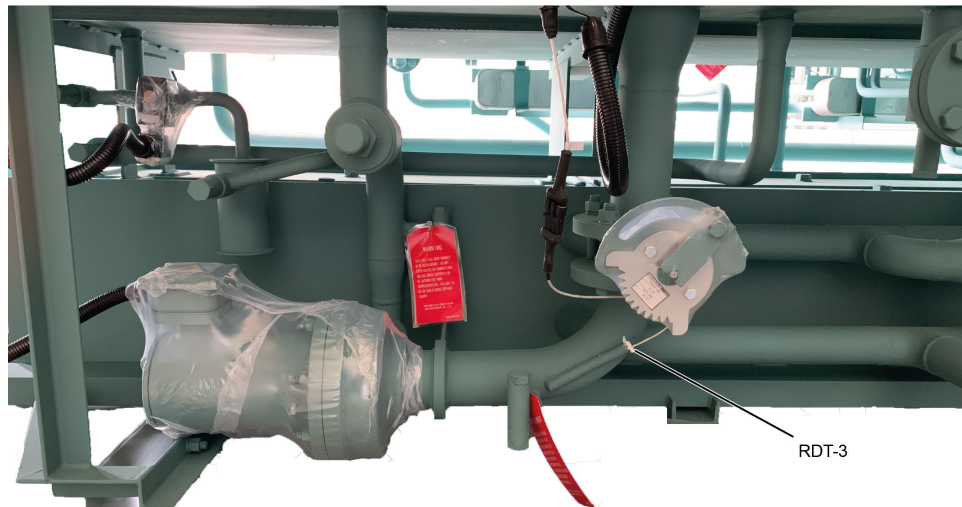
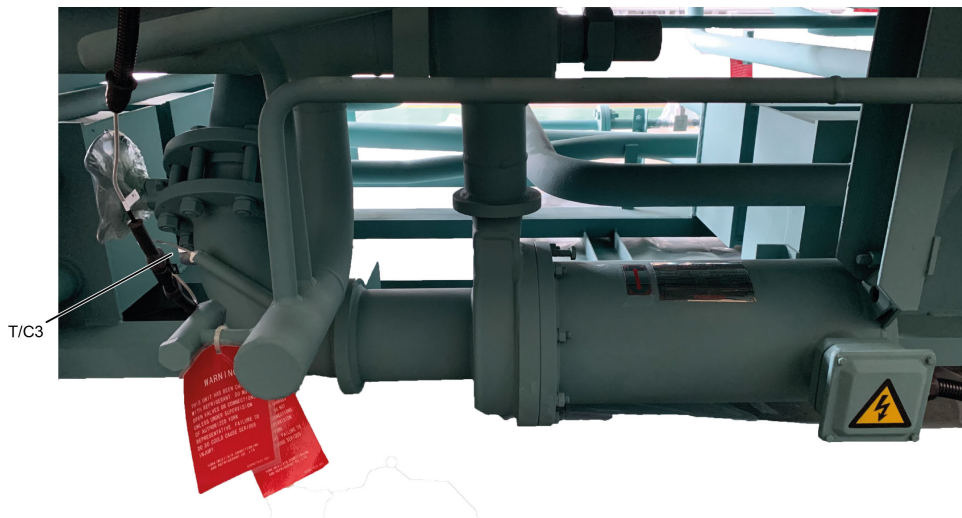


Figure 37: Refrigerant water temperature sensor



LD31579

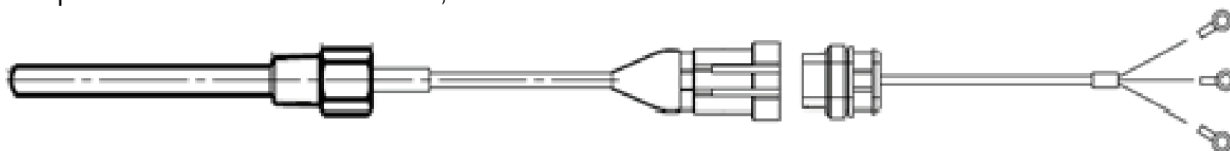
Figure 38: Absorber solution temperature sensor



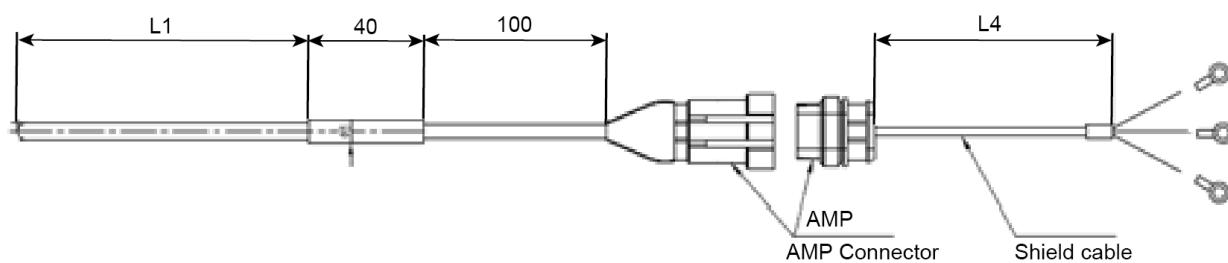
LD31580

Figure 39: First resistance temperature sensor, mm

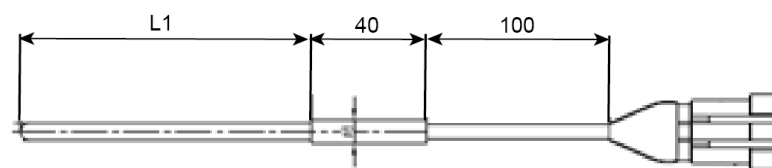
Temperature sensor with connector, well and cable for RTD-1 RTD-2



Temperature sensor with connector and cable for RTD-3



Temperature sensor with connector



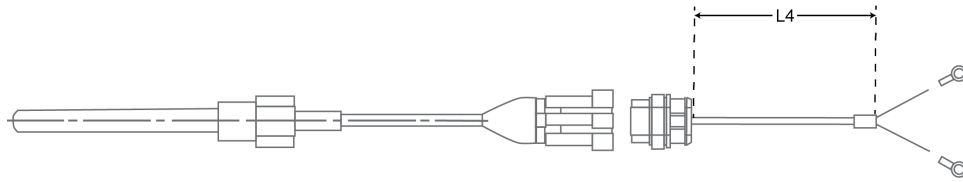
LD31294

① Note:

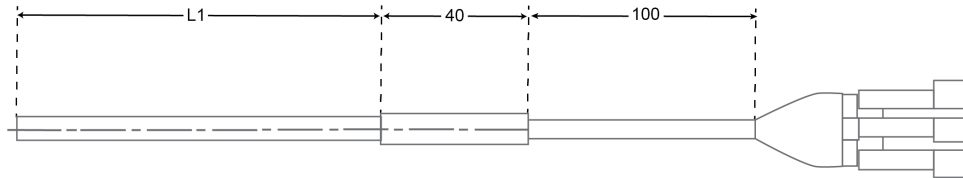
- L1 = 80 mm (short)
L1 = 180 mm (long)
- L4 = 12 m or 20 m, depending on the type

Figure 40: First thermocouple with connector for T/C1 and T/C2, mm

Thermocouple with connector, well, and cable for T/C1 and T/C2



Thermocouple with connector for T/C1 and T/C2



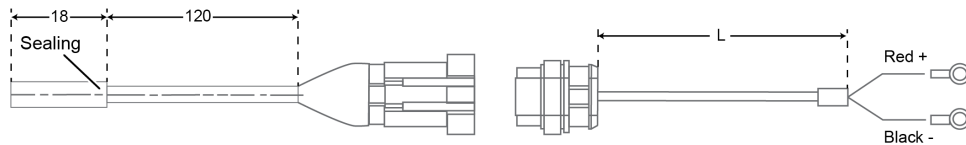
LD31295

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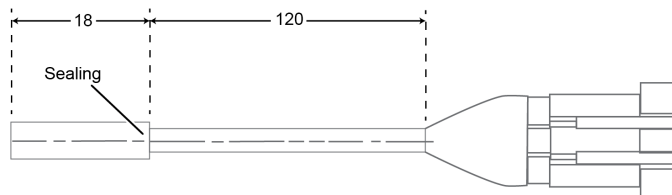
- L1 = 80 mm (short)
L1 = 180 mm (long)
- L4 = 12 m or 20 m depending on the type

Figure 41: First thermocouple with connector for T/C3 and T/C4, mm

First thermocouple with connector and cable for T/C3 and T/C4



First thermocouple with connector for T/C3 and T/C4

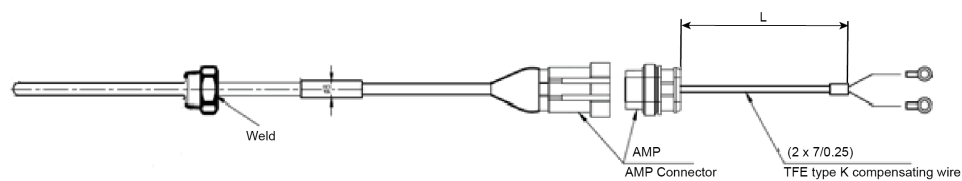


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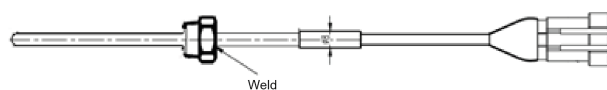
Note: L = 20 m

Figure 42: First thermocouple for T/C5 exhaust gas temperature

Thermocouple with connector and cable for T/C5

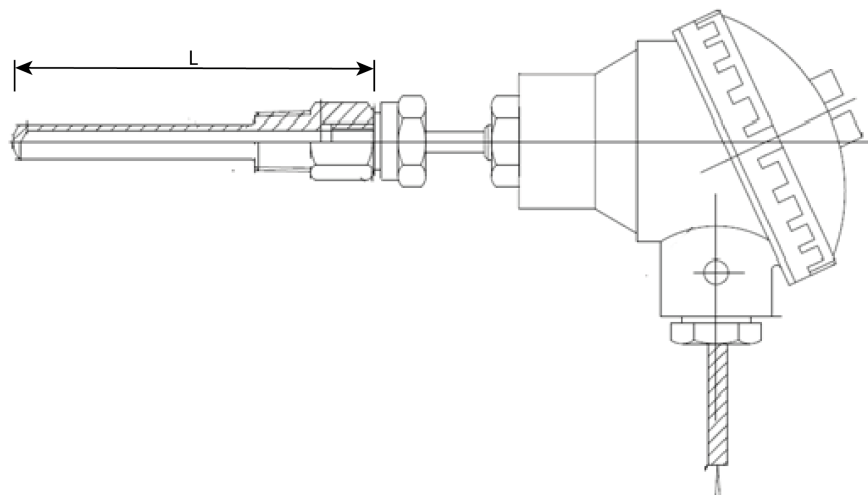


Thermocouple with connector



LD31296

Figure 43: Armored type thermocouple IP65



LD31297

Table 12: 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

Figure 44: Armored type resistance temperature sensor IP65

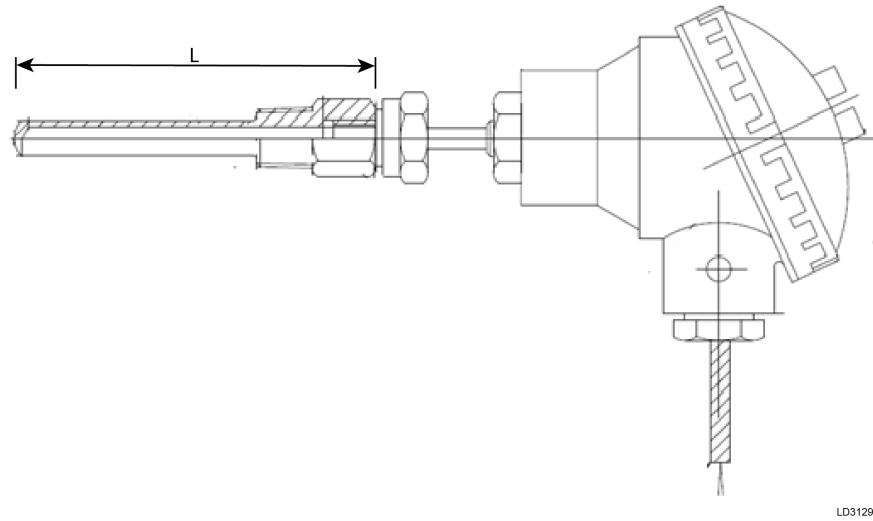


Table 13: Part numbers and sizes of armored type resistance temperature sensors

Part number	Length (mm)	Pipe size
025W50986-001	100	DN65-80
025W50986-002	120	DN100-125
025W50986-003	150	DN150-200
025W50986-004	200	DN250-300
025W50986-005	250	DN350-450

Figure 45: Pressure differential switch



LD29561

Figure 46: Level switch



LD29561

Figure 47: Pressure switch



LD29560

Figure 48: Density meter



LD31570

Other parts

Table 14: Other parts

Description		496EX(L)-B	579EX(L)-B	661EX(L)-B	744EX(L)-B	827EX(L)-B	992EX(L)-B	1157EX(L)-B	1323EX(L)-B	1488EX(L)-B
Part name	Part number									
Compound gauge for generator -0.1 MPa to 0.2 MPa	022W13350-002	1	1	1	1	1	1	1	1	1
Vacuum gauge for purge line -0.1 MPa to 0.15 MPa option	022W13350-005	1	1	1	1	1	1	1	1	1
Combined type sight glass DN70	392W71221-000	4	4	4	4	4	4	4	4	4
Single type sight glass DN52.5	026W50407-000									
Note: Both types of sight glass require welding. The single type sight glass is used for the generator only. Confirm which type you need before replacing.										
Rubber hose for purge line	022W13899-001									
Paint for waterbox A	013W03660-002									
Paint for waterbox B	013W03660-004									
Waterbox paint thinner	013W03481-000									
Surface paint (base)	013W04022-000									
Surface paint (cure)	013W04023-000									
Vacuum pump oil	028W17656-000									
LiBr solution 320 kg/barrel	011W01075-000									
LiBr solution 100 kg/barrel	011W01083-001									
Lithium molybdate solution	011W01077-000									
Lithium nitrate solution	011W01076-000									
Octyl alcohol	011W01070-000									

Note:

- The surface paint is Munsell 4.65G 4.50/2.85 and does not have the standard RAL color code. The Wuxi factory can send the color standard panel and the paint company can adjust the paint color to match the color standard panel.
- The following items cannot be exported from China: vacuum pump oil, lithium molybdate, lithium nitrate, and octyl. To purchase any of these, contact the JCH part center.

Figure 49: Vacuum gauge



LD31560

Figure 50: Compound gauge



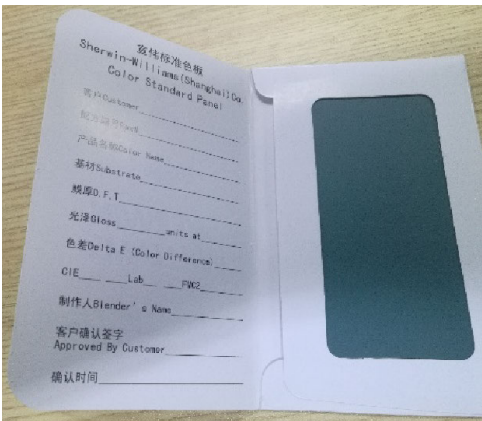
LD31561

Figure 51: Rubber hose for purge line



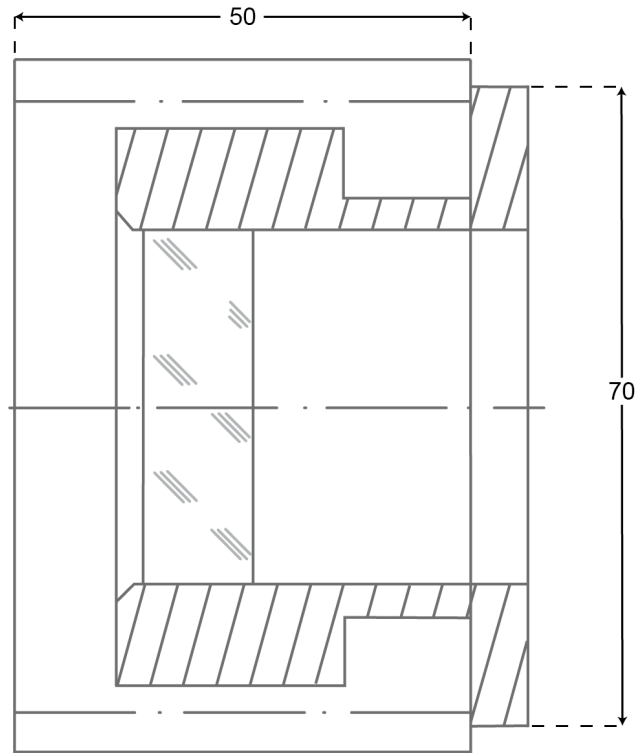
LD29569

Figure 52: Color standard panel



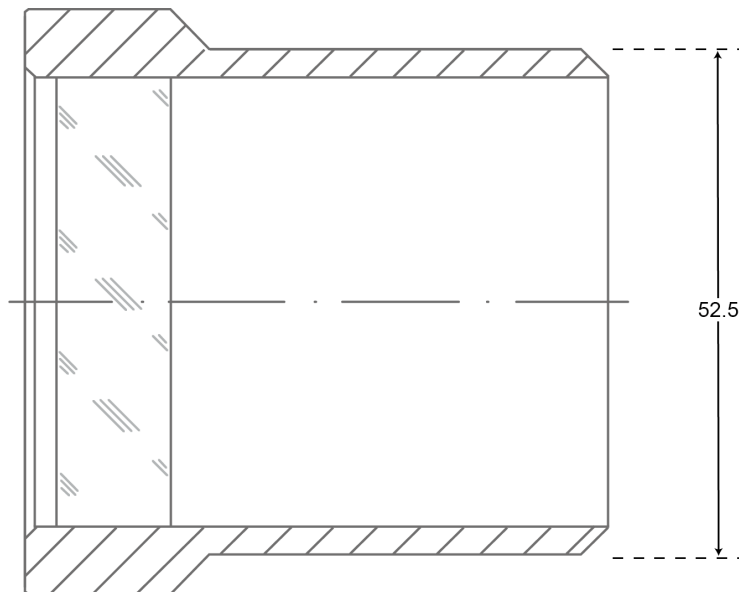
LD31318

Figure 53: Combined sight glass, mm



LD31562

Figure 54: Single type sight glass, mm



LD31563

Standard parts kit and tools kit

Table 15: Tools kit

Name	Part number	Part list	Model	Unit	Quantity
Tools kit	393W21036-000	PP measuring cylinder	(B class) -250 ml 650941	Pcs	2
		Glass thermometer	H441 range 5°C to 135°C (41°F to 275°F)	Pcs	2
		Glass thermometer	E520R 0°C to 80°C (32°F to 176°F)	Pcs	2
		Density meter	14 pcs package	set	1
		Allen-key	8 mm, 20	Pcs	1
		Spanner	8#	Pcs	1
		Sampler	250 ml	Pcs	1
		Sampling joint for sampling valve		Pcs	1
		Sampling joint for purge line		Pcs	1
		Sampling hose	ID = 8 mm, OD = 18 mm L = 1,500 mm	Pcs	2
		Suitcase for tools kit		Pcs	1

Figure 55: Tools kit



LD31319

Table 16: Parts kit

Name	Part number	Part list	Part model	Unit	Qt.
Parts kit	393W21037-000	Thermocouple	FST600-102K with thermo-well, joint and 12 m cable	Pcs	1
		Resistance temperature sensor	FST600-103X with thermo-well, 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 adjusting 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

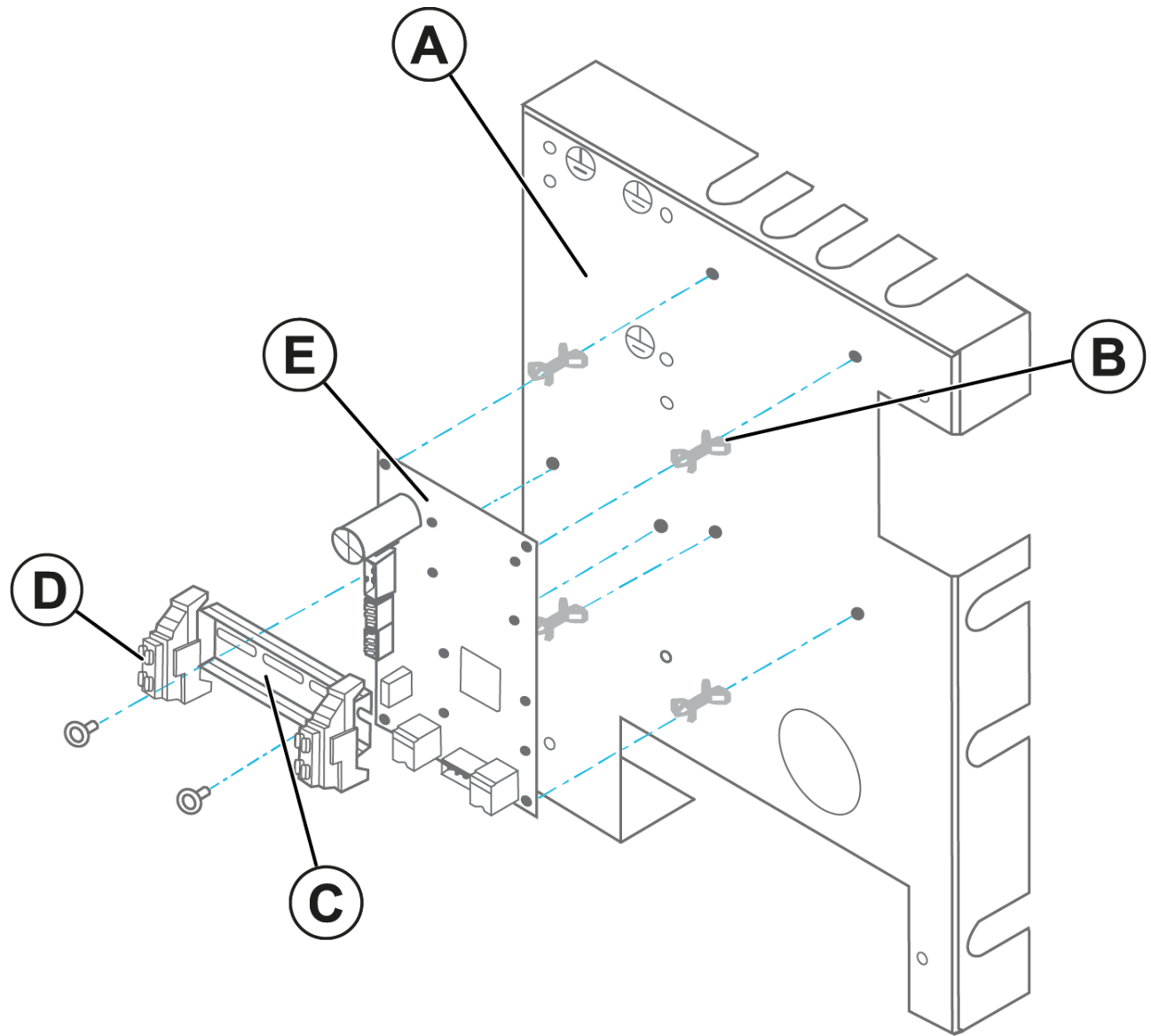
Figure 56: Parts kit



LD31320

SC-EQ board installation kit

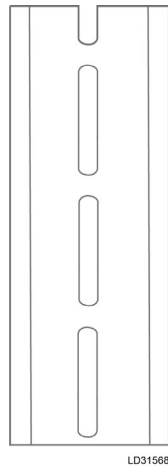
Figure 57: SC-EQ installation kits



LD31581

Callout	Component part number	Component part name
A	—	PLC cover
B	025W43782-023	PCB support
C	025W43770-915	Rail
D	025W42501-040	End stop
E	031-03610-000	SC-EQ board

Figure 58: Rail



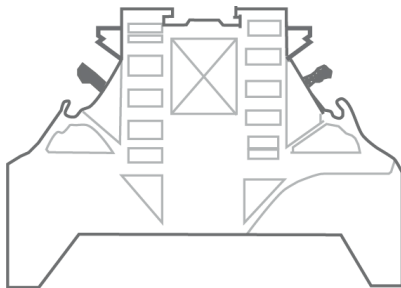
LD31568

Figure 59: PCB support



LD31569

Figure 60: End stop



LD31583

Figure 61: Screw



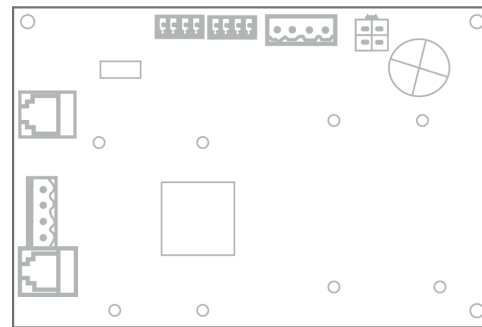
LD31584

Figure 62: Harness SC-EQ



LD31585

Figure 63: SC-EQ board



LD31586

Table 17: Part numbers for components of SC-EQ installation kit

Name	Part number	Part list	Part model	Part number	Qt.
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=9.5 mm	021W33846-007	2
		SC-EQ board		031-03610-000	1
		Harness SC-EQ		393W34586-801	1

