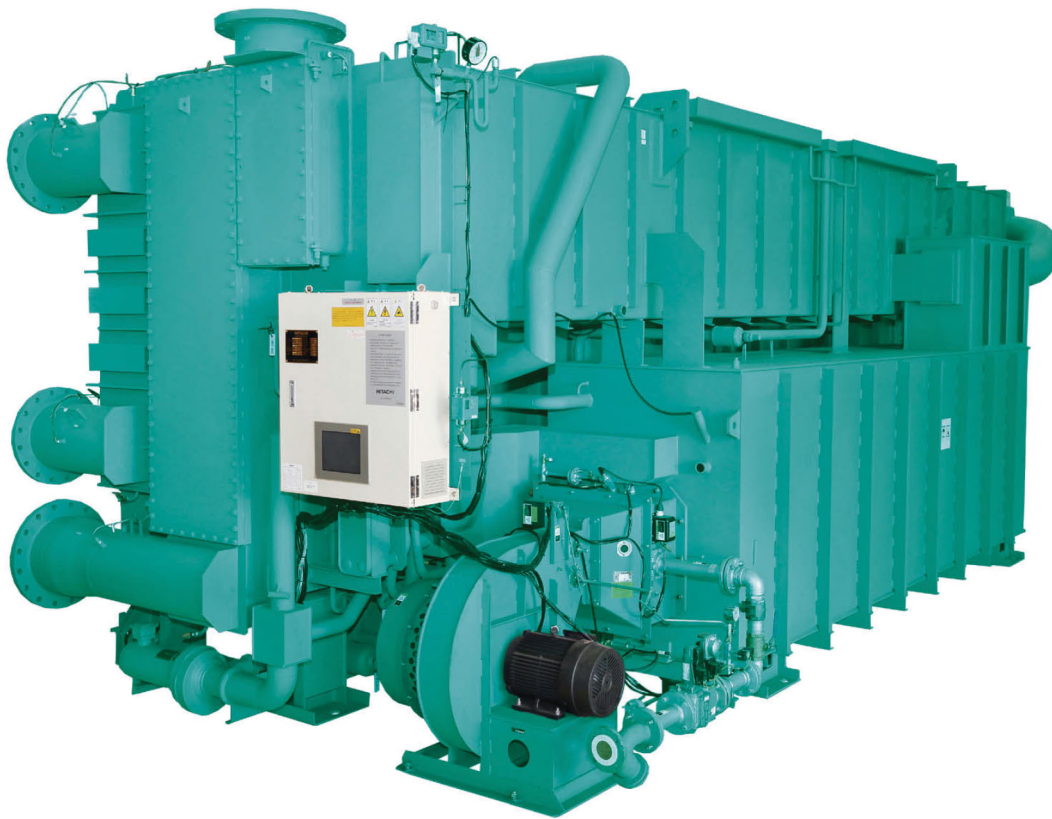




YHAU-CGN/H Double Effect Direct Fired Absorption Chiller Mod A

120 ton to 1600 ton, 422 kW to 5626 kW



Parts Manual

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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 properly.

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 UPG 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.

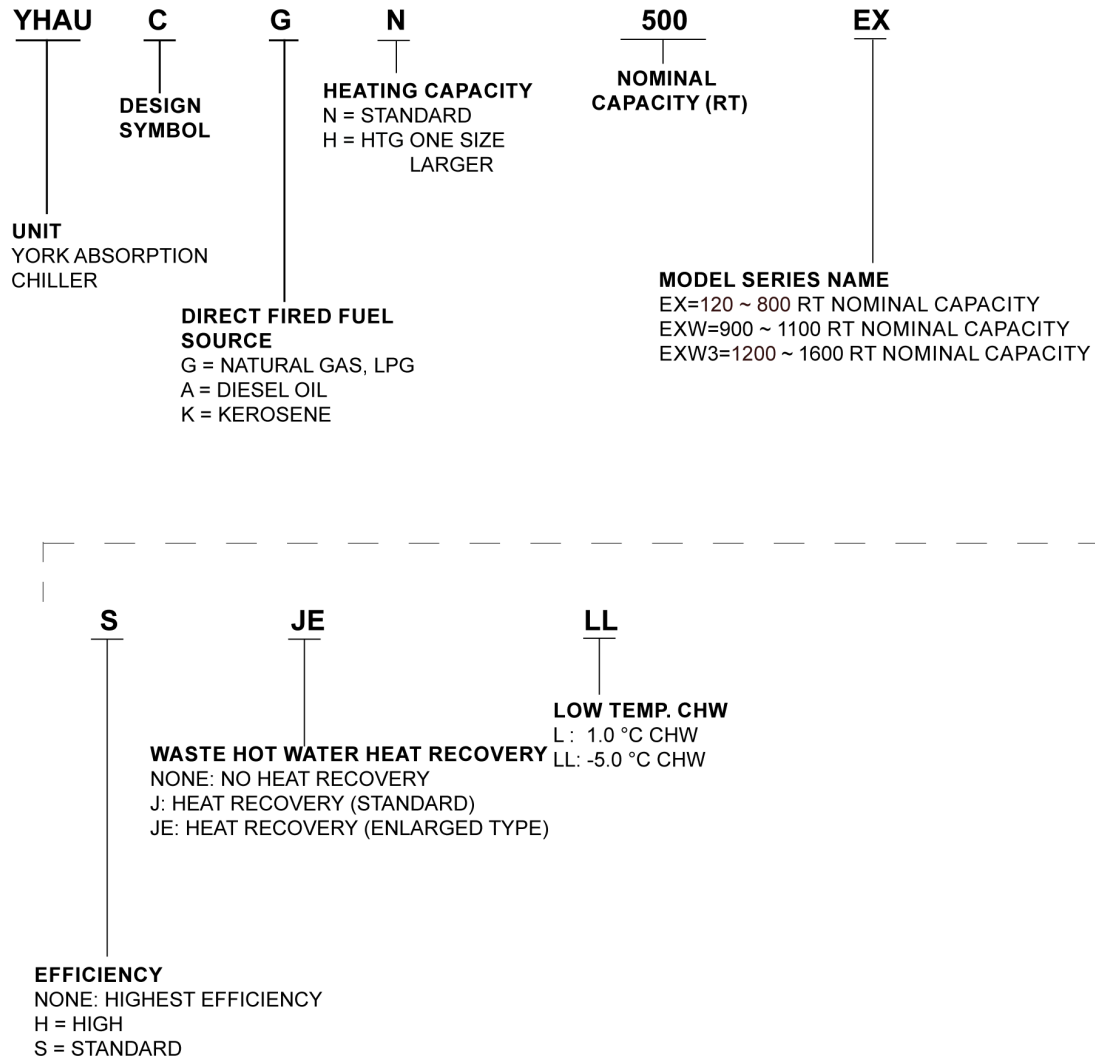
Table 1: Contact details for replacement parts

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.

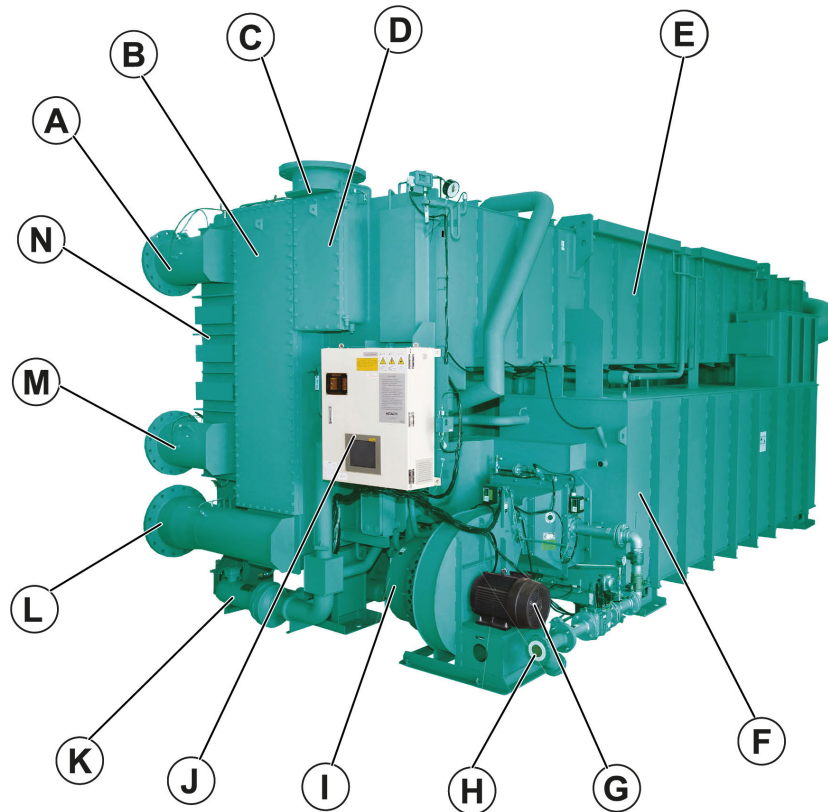
Nomenclature

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



YHAU-CGN/H components overview

Figure 2: Components overview

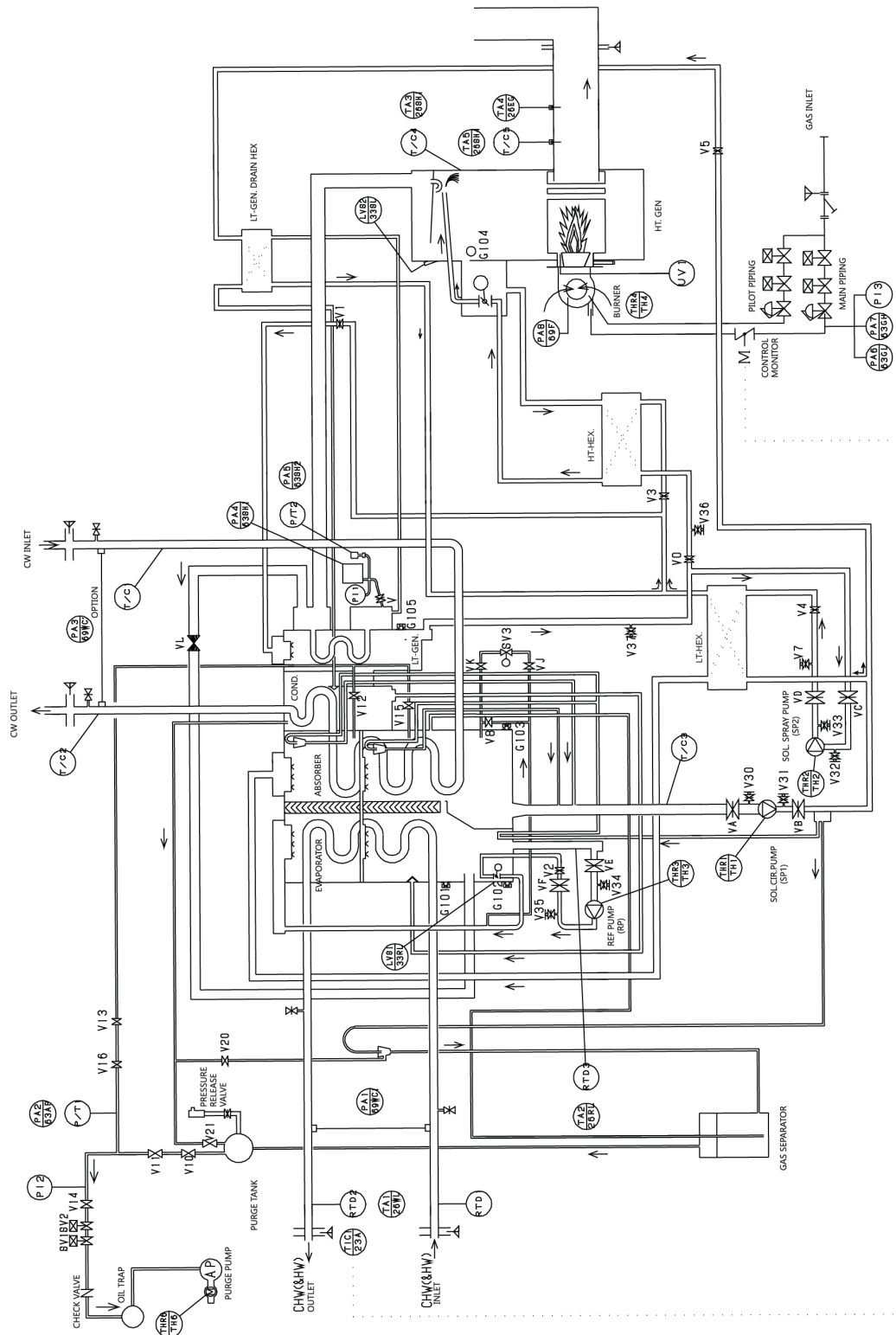


LD20142

Callout	Component
A	Chilled or hot water outlet
B	Absorber
C	Cooling water outlet
D	Condenser
E	Low temperature generator
F	High temperature generator
G	Burner fan motor
H	Natural gas inlet
I	Burner fan
J	Control panel
K	Solution pump
L	Cooling water inlet
M	Chilled or hot water inlet
N	Evaporator

Process and instrumentation diagram

Figure 3: Process and instrumentation diagram



LD31371

Table 2: Symbol list of process and instrumentation diagram

Symbol	Name	Use
VA	Shut off valve	Shut off valve for solution pump
VB	Shut off valve	Shut off valve for solution pump
VC	Shut off valve	Shut off valve for solution spray pump
VD	Shut off valve	Shut off valve for solution spray pump
VE	Shut off valve	Shut off valve for refrigerant pump
VF	Shut off valve	Shut off valve for refrigerant pump
VH	Shut off valve	Shut off valve for generator press. gauge
VI	Shut off valve	Shut off valve for press. release valve
VJ	Shut off valve	Shut off valve for ref. blow solenoid valve
VK	Shut off valve	Shut off valve for ref. blow solenoid valve
VL	C/H changeover valve	Changeover valve for cooling or heating
V0	Flow adjusting valve	For HTG solution flow adjusting
V1	Flow adjusting valve	For LTG solution flow adjusting
V2	Flow adjusting valve	For refrigerant flow adjusting
V3	Flow adjusting valve	For HTG solution flow adjusting
V4	Flow adjusting valve	For absorber solution flow adjusting
V5	Flow adjusting valve	For LTG refrigerant hex solution flow adjusting
V8	Blow valve (C/H changeover or refrigerant blow)	For refrigerant blow or cooling or heating changeover
V10	Purge valve	Shut off valve for purge tank
V11	Purge valve (diaphragm)	Shut off valve for purge tank
V12	Purge valve	Upper absorber direct purge valve
V13	Purge valve	Abso. direct purge valve
V14	Purge valve (diaphragm)	Purge shut off valve
V15	Purge valve	Lower absorber direct purge valve
V16	Purge valve (diaphragm)	Abso. direct purge valve
V20	Purge valve	Cond. direct purge valve
V21	Purge valve (diaphragm)	Cond. direct purge valve
V30	Sampling valve	For solution sampling
V31	Sampling valve	For solution sampling
V32	Sampling valve	For solution sampling
V33	Sampling valve	For solution sampling
V34	Sampling valve	For refrigerant sampling
V35	Sampling valve	For refrigerant sampling
V36	Sampling valve	For HTG solution sampling
V37	Sampling valve	For LTG solution sampling
SV1	Solenoid valve	Purge solenoid valve
SV2	Solenoid valve	Purge solenoid valve
SV3	Solenoid valve	Refrigerant blow solenoid valve
G101	Sight glass	Sight glass for ref. overflow
G102	Sight glass	Sight glass for eva. tank
G103	Sight glass	Sight glass for abs. tank
G104	Sight glass	Sight glass for HTG level
G105	Sight glass	Sight glass for LTG level

Table 3: Tag list of process and instrumentation diagram

Tag	Symbol	Item
RTD1		Chilled or hot water inlet temperature
RTD2		Chilled or hot 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
T/C5		Exhaust gas outlet temperature
TIC1	23A	Chilled or hot water outlet temperature controller
P/T1		Purge tank pressure
P/T2		HTG Pressure
TA1	26WL	Chilled water temperature switch
TA2	26RL	Refrigerant temperature switch
TA3	26SH1	HTG solution temperature switch
TA4	26EG	Exhaust gas temperature switch
TA5	26SH3	Exhaust gas temperature switch
THR1	TH1	Solution circulation pump thermal relay
THR2	TH2	Solution spray pump thermal relay
THR3	TH3	Refrigerant pump thermal relay
THR3	TH4	Burner fan thermal relay
THR6	TH6	Purge pump thermal relay
PA1	69WC1	Chilled water pressure differential switch
PA2	69AP	Purge tank pressure switch
PA3	69WC2	Cooling water pressure differential switch
PA4	63SH1	HTG Pressure switch
PA5	63SH2	HTG Pressure switch
PA6	63GL	Low pressure switch
PA7	63GH	High pressure switch
PA8	69F	Air pressure switch
LVS1	33RL	Level switch for evaporator tank
LVS2	33SL	Level switch for HTG
UV1		Flame detector
PI1		Generator pressure gauge
PI2		Purge tank pressure gauge
PI3		Gas pressure gauge

① **Note:** The process and instrumentation diagram is for reference only and is different depending on the order and burner.

Unit components

Water box gasket

Table 4: Chilled-hot water box gasket

Description		Unit																			
Part name	Part number		120EX(H/S)	150EX(H/S)	180EX(H/S)	240EX(H/S)	300EX(H/S)	360/400EX(H/S)	450EX(H/S)	500EX(H/S)	560EX(H/S)	600EX(H/S)	700EX(H/S)	800EX(H/S)	900EXW(H/S)	1000EXW(H/S)	1100EXW(H/S)	1200EXW3(H/S)	1300EXW3(H/S)	1400EXW3(H/S)	1500EXW3(H/S)
Rope gasket A for chilled water box 1 set = 10 m	028W17640-013	Set	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Rope gasket B for chilled water box	028W03242-000	m	12	12	12	12	12	12	14	14	14	14	14	14	14	14	15	15	15	15	15



Note:

1. The standard water pressure of the chilled water box is 10 bar and uses the compact water box. Use rope gasket A.
2. Option pressure of chilled water box is 20 bar, use the marine type water box, or Option marine type chilled water box for 10 bar. If the chiller order date is after May 2019, use the rope gasket B. The previous chiller for marine type water box uses the sheet type gasket. Check with engineering team on a case by case basis.
3. Rope gasket A is also used for the partition gasket in the chilled water box.

Table 5: Cooling water box gasket

Description		Unit	120EX(H/S)	150EX(H/S)	180EX(H/S)	240EX(H/S)	300EX(H/S)	360/400EX(H/S)	450EX(H/S)	500EX(H/S)	560EX(H/S)	600EX(H/S)	700EX(H/S)	800EX(H/S)	900EXW(H/S)	1000EXW(H/S)	1100EXW(H/S)	1200EXW3(H/S)	1300EXW3(H/S)	1400EXW3(H/S)	1500EXW3(H/S)	1600EXW3(H/S)
Part name	Part number																					
Sheet gasket for cooling water	028W17740-002 (for absorber)	Pcs							2	2	2	2	2	2								
	028W17739-002 (for condenser)	Pcs							2	2	2	2	2	2								
	028W17716-002 (for absorber)	Pcs													2	2	2					
	028W18192-000 (for condenser)	Pcs													2	2	2					
	028W17784-000 (for absorber)	Pcs																2	2	2	2	2
	028W17785-000 (for condenser)	Pcs																	2	2	2	2
Rope gasket A for cooling water box 1 set = 10 m	028W17640-013	Set	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3
Rope gasket B for cooling water box	028W03242-000	m	16	16	16	16	16	20	20	20	22	22	22	22	22	22	23	23	23	23	23	23

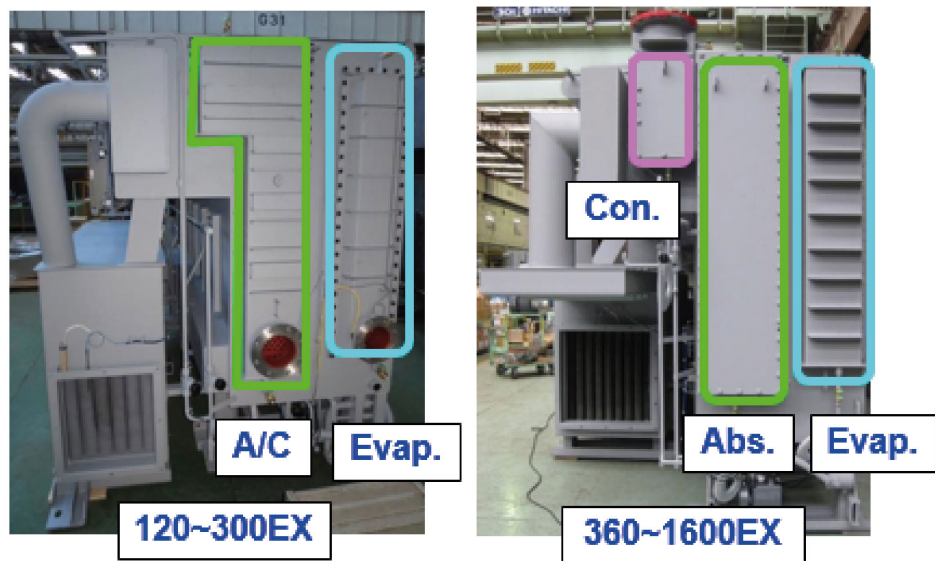


Note:

1. The standard water pressure of the cooling water box is 10 bar. Use the compact water box for 300EX (H/S) and rope gasket A.
2. For chiller models including or below 360EX/400 (H/S) with 10 bar water pressure, use the marine type water box. For chillers ordered after May 2019, or have the optional marine type water box including or below 300EX(H/S), use rope gasket B. For chillers purchased before May 2019, use the sheet type gasket according to the list.

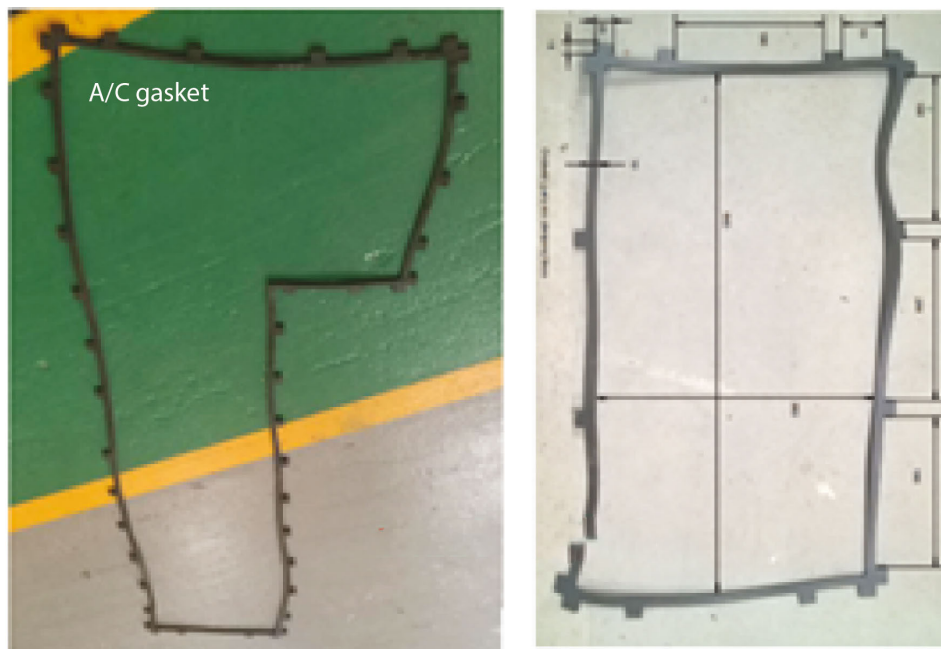
3. The optional pressure of the cooling water box for all chiller models is 20 bar and uses the marine type water box. If the chiller was purchased after May 2019, use rope gasket B. If the chiller was purchased before May 2019 use the sheet type gasket. Check with engineering team on a case by case basis.
4. Rope gasket A is also used for the partition gasket in the cooling water box.

Figure 4: Water box layout



LD29287

Figure 5: Sheet gasket



LD29288

Figure 6: Rope gasket A

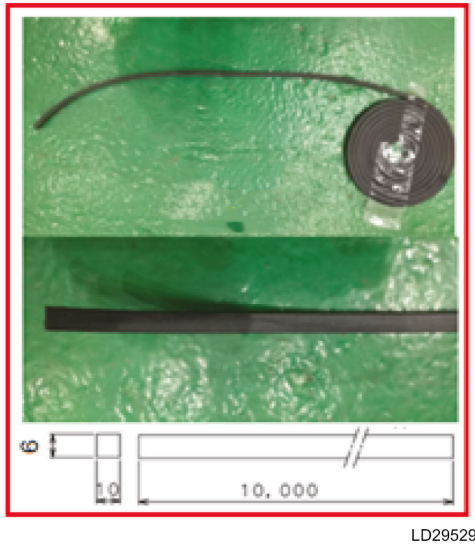


Figure 7: Marine type water box and compact type water box

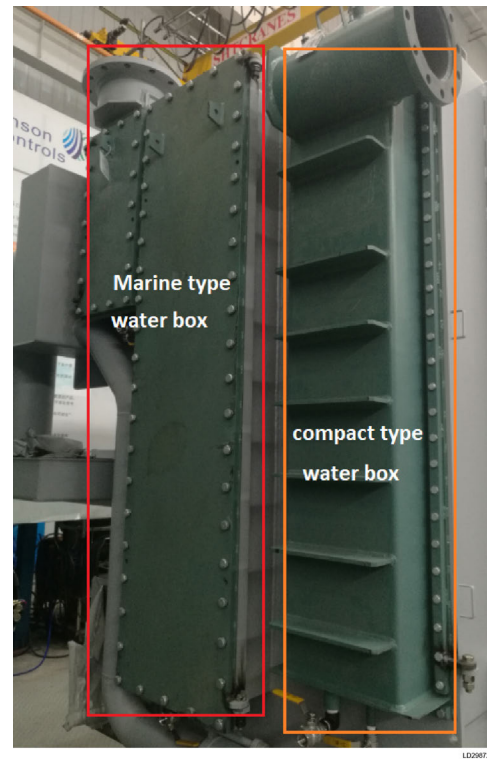
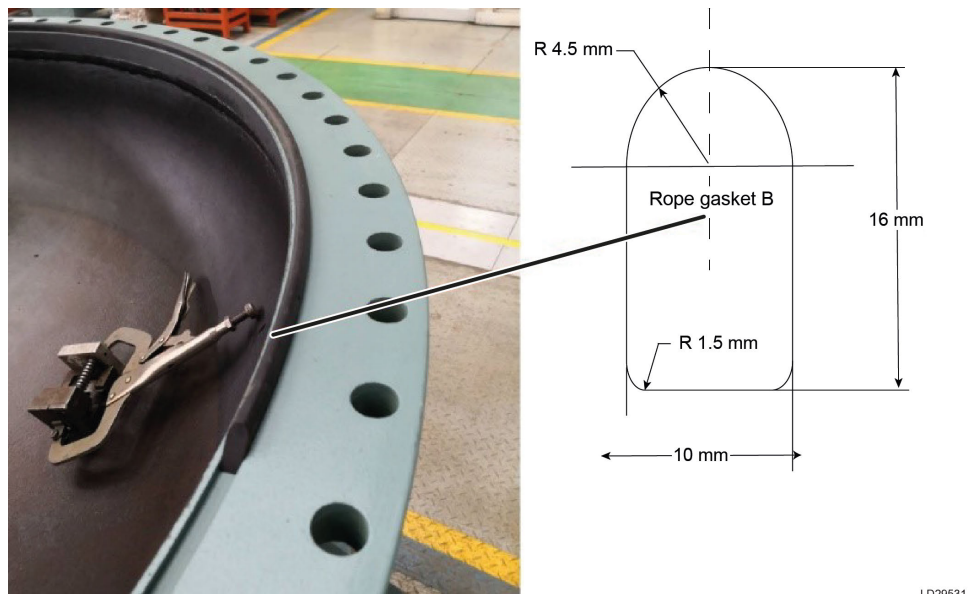


Figure 8: Rope gasket B



Control panel components

Table 6: Control panel components

Description			120EX(H/S)	150EX(H/S)	180EX(H/S)	240EX(H/S)	300EX(H/S)	360/400EX(H/S)	450EX(H/S)	500EX(H/S)	560EX(H/S)	600EX(H/S)	700EX(H/S)	800EX(H/S)	900EX(H/S)	1000EX(H/S)	1100EX(H/S)	1200EX(H/S)	1300EX(H/S)	1400EX(H/S)	1500EX(H/S)	1600EX(H/S)
Part name	Part number	Model																				
Main circuit board (PLC)	025W48016-039	TC5-17A	1	1	1	1	1	1	1	1	1	1	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	1	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	1	1	1	1	1	1	1	1	1	1	1
Auxiliary relay (PWX) for UL	024W33874-140	MY4N-GS 100/110Vac	1	1	1	1	1	1	1	1	1	1	1	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	1	1	1	1	1	1	1	1	1	1	1
Timer (PWT) for UL	024W33874-131	H3Y-2-C 110Vac																				
Power supply (24 VDC) (PSU1)	025W48016-037	RS-75-24	1	1	1	1	1	1	1	1	1	1	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	1	1	1	1	1	1	1	1	1	1
Circuit breaker (MCB1) for GB CGN	025W48016-150	XT1 N 160 TMD25	1	1	1																	
	025W48016-121	XT1 N 160 TMD32				1	1															
	025W48016-122	XT1 N 160 TMD40						1	1	1	1											
	025W48016-151	XT1 N 160 TMD50										1	1	1	1							
	025W48016-123	XT1 N 160 TMD63														1	1	1	1	1		
	025W48016-152	XT1 N 160 TMD80																			1	1
Circuit breaker (MCB1) for CE CGN	TBD																					
	TBD																					
Circuit breaker 208Vac-3PH-60Hz (MCCB) UL with (power flame gas burner) YHAU-CGN-EXS/H	024W33919-768	XT1N 125 TMF 40-500	1	1																		
	024W33919-769	XT1N 125 TMF 45-500			1																	
	024W33919-793	XT1N 125 TMF 60-600				1																
	024W33919-794	XT1N 125 TMF 70-700					1															
	024W33919-795	XT1N 125 TMF 90-900						1	1	1	1											
	024W33919-762	XT1N 125 TMF 100-1000										1	1		1							
	024W33919-796	XT1N 125 TMF 110-1100												1		1						
	024W33919-797	XT1N 125 TMF 125-1250															1	1				
	024W33919-798	XT3N 225 TMF 150-1500																	1	1	1	1
Circuit breaker 208Vac-3PH-60Hz (MCCB) UL with (power flame gas burner) YHAU-CGH-EXS/H	024W33919-766	XT1N 125 TMF 90-900	1	1	1																	
	024W33919-793	XT1N 125 TMF 60-600				1																
	024W33919-794	XT1N 125 TMF 70-700					1															
	024W33919-795	XT1N 125 TMF 90-900						1	1	1	1	1	1		1							
	024W33919-762	XT1N 125 TMF 100-1000											1									
	024W33919-797	XT1N 125 TMF 125-1250														1						
	024W33919-798	XT3N 225 TMF 150-1500															1	1				
	024W33919-799	XT3N 225 TMF 175-1750																	1	1	1	1
Circuit breaker 208Vac-3PH-60Hz (MCCB) UL with (power flame dual fuel) YHAU-CGN-EXS/H	024W33919-769	XT1N 125 TMF 45-500	1	1	1																	
	024W33919-793	XT1N 125 TMF 60-600				1																
	024W33919-794	XT1N 125 TMF 70-700					1															
	024W33919-795	XT1N 125 TMF 90-900						1	1	1	1											
	024W33919-762	XT1N 125 TMF 100-1000										1	1		1							
Circuit breaker 208Vac-3PH-60Hz (MCCB) UL with (power flame dual fuel) YHAU-CGN-EXS/H	024W33919-796	XT1N 125 TMF 110-1100												1								
	024W33919-797	XT1N 125 TMF 125-1250														1						
	024W33919-798	XT3N 225 TMF 150-1500															1	1				
	024W33919-799	XT3N 225 TMF 175-1750																	1	1	1	1
Circuit breaker 208Vac-3PH-60Hz (MCCB) UL with (power flame dual fuel) YHAU-CGH-EXS/H	024W33919-795	XT1N 125 TMF 90-900							1													
	024W33919-762	XT1N 125 TMF 100-1000							1	1												
	024W33919-796	XT1N 125 TMF 110-1100									1	1	1	1								

Table 6: Control panel components

Description			120EX(H/S)	150EX(H/S)	180EX(H/S)	240EX(H/S)	300EX(H/S)	360/400EX(H/S)	450EX(H/S)	500EX(H/S)	560EX(H/S)	600EX(H/S)	700EX(H/S)	800EX(H/S)	900EXW(H/S)	1000EXW(H/S)	1100EXW(H/S)	1200EXW3(H/S)	1300EXW3(H/S)	1400EXW3(H/S)	1500EXW3(H/S)	1600EXW3(H/S)
Part name	Part number	Model																				
Circuit breaker 208Vac-3PH-60Hz (MCCB) UL with (power flame dual fuel) YHAU-CGH-EXS/H	024W33919-797	XT1N 125 TMF 125-1250														1						
	024W33919-799	XT3N 225 TMF 175-1750															1	1	1	1	1	1
Circuit breaker 460Vac-3PH-60Hz (MCCB) UL with (power flame gas burner) YHAU-CGN-EXS/H	024W33919-790	XT1N 125 TMF 20-500	1	1	1																	
	024W33919-774	XT1N 125 TMF 30-500				1	1															
	024W33919-768	XT1N 125 TMF 40-500						1	1	1	1	1	1		1							
	024W33919-769	XT1N 125 TMF 45-500												1								
	024W33919-792	XT1N 125 TMF 50-500														1	1	1				
	024W33919-793	XT1N 125 TMF 60-600																	1	1	1	1
Circuit breaker 460Vac-3PH-60Hz (MCCB) UL with (power flame gas burner) YHAU-CGH-EXS/H	024W33919-773	XT1N 125 TMF 35-500												1								
	024W33919-768	XT1N 125 TMF 40-500						1	1	1					1							
	024W33919-769	XT1N 125 TMF 45-500									1	1										
	024W33919-792	XT1N 125 TMF 50-500														1						
	024W33919-793	XT1N 125 TMF 60-600															1	1	1	1	1	1
Circuit breaker 460Vac-3PH-60Hz (MCCB) UL with (power flame dual fuel) YHAU-CGN-EXS/H	024W33919-790	XT1N 125 TMF 20-500	1	1	1																	
	024W33919-774	XT1N 125 TMF 30-500				1																
	024W33919-773	XT1N 125 TMF 35-500					1															
	024W33919-769	XT1N 125 TMF 45-500						1	1	1	1											
	024W33919-792	XT1N 125 TMF 50-500										1	1									
	024W33919-793	XT1N 125 TMF 60-600													1	1	1					
	024W33919-766	XT1N 125 TMF 80-800															1	1				
	024W33919-795	XT1N 125 TMF 90-900																	1	1	1	1
Circuit breaker 460Vac-3PH-60Hz (MCCB) UL with (power flame dual fuel) YHAU-CGH-EXS/H	024W33919-768	XT1N 125 TMF 40-500						1														
	024W33919-769	XT1N 125 TMF 45-500							1	1				1								
	024W33919-792	XT1N 125 TMF 50-500										1	1		1							
	024W33919-793	XT1N 125 TMF 60-600														1						
	024W33919-766	XT1N 125 TMF 80-800															1	1	1	1	1	1
Circuit breaker handle	025W48016-125	1SDA066481R1	1	1	1	1	1	1	1	1	1	1	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	1	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	1	1	1	1	1	1	1	1	1	1	1
Transformer (T1) for UL	025W43823-870	50031-120	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Transformer (T2) for UL	025W43823-871	50120-1224	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Magnet switch (MC1, MC2, MC3, MC4, MC6) for GB YHAU- CGN	024W33857-353	AX09-30-10-80	5	5	5	5	5	4	4	4	4	3	3	3	3	3	2	2	2	2	2	2
	024W33857-354	AX12-30-10-80										1	1	1			1	1	1	1	1	1
	024W33857-355	AX18-30-10-80						1	1	1	1	1	1	1	2	1	1	1	1	1		
	024W33857-356	AX25-30-10-80														1	1	1	1	1	2	2
Magnet switch (MC1, MC2, MC3, MC6) for CE YHAU-CGN	TBD																					
	TBD																					
	TBD																					
Magnet switch, (MC1, MC2, MC3, MC6) UL CGN 208v-3-60Hz	024W33857-451	AF09-30-10-13	3	3	3	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1
	024W33857-450	AF12-30-10-13														1	1	1	1	1	1	1
	024W33857-453	AF16-30-10-13	1	1	1	2	2	1	1	1	1	1	1	1	1							
	024W33857-454	AF26-30-00-13															1	1	1	1	1	1
	024W33857-452	AF30-30-00-13						1	1	1	1	1	1	1	1							
	024W33857-457	AF52-30-00-13														1	1	1	1	1	1	1

Table 6: Control panel components

Description																						
Part name	Part number	Model	120EX(H/S)	150EX(H/S)	180EX(H/S)	240EX(H/S)	300EX(H/S)	360/400EX(H/S)	450EX(H/S)	500EX(H/S)	560EX(H/S)	600EX(H/S)	700EX(H/S)	800EX(H/S)	900EX(H/S)	1000EX(H/S)	1100EX(H/S)	1200EX(H/S)	1300EX(H/S)	1400EX(H/S)	1500EX(H/S)	1600EX(H/S)
Magnet switch, (MC1, MC2, MC3, MC6) UL CGN 460v-3-60Hz	024W33857-451	AF09-30-10-13	4	4	4	4	4	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2
	024W33857-450	AF12-30-10-13															1	1	1	1	1	1
	024W33857-453	AF16-30-10-13						1	1	1	1	1	1	1	1							
	024W33857-454	AF26-30-00-13														1	1	1	1	1	1	1
Magnet switch, (MC1, MC2, MC3, MC6) UL CGH 208v-3-60Hz	024W33857-451	AF09-30-10-13							2	2	2	2	2	2	2	1	1	1	1	1	1	1
	024W33857-450	AF12-30-10-13														1	1	1	1	1	1	1
	024W33857-453	AF16-30-10-13							1	1	1	1	1	1	1	1						
	024W33857-454	AF26-30-00-13															1	1	1	1	1	1
	024W33857-452	AF30-30-00-13							1	1	1	1	1	1	1	1						
	024W33857-457	AF52-30-00-13														1	1	1	1	1	1	1
Magnet switch,(MC1, MC2, MC3, MC6) UL CGH 460v-3-60Hz	024W33857-451	AF09-30-10-13							3	3	3	3	3	3	3	3	2	2	2	2	2	2
	024W33857-450	AF12-30-10-13															1	1	1	1	1	1
	024W33857-453	AF16-30-10-13							1	1	1	1	1	1	1							
	024W33857-454	AF26-30-00-13														1	1	1	1	1	1	1
Thermal relay (TH1, TH2, TH3, TH4, TH6) for GB YHAU-CGN	025W48016-065	TA25DU-1.4M(1.0-1.4)	1	1																		
	025W48016-064	TA25DU-1.8M(1.3-1.8)			1	1	1	1	1	1	1	1	1	1								
	025W48207-037	TA25DU-2.4M(1.7-2.4)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	025W48016-128	TA25DU-4.0M(2.8-4.0)	2	2	2																	
	025W48207-038	TA25DU-5.0M(3.5-5.0)				1									1	1	1	1	1	1	1	1
	025W48207-039	TA25DU-8.5M(6.0-8.5)	1	1	1	2	3	2	2	2	2	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	1	1	1	2	1	1	1	1	1		
	024W33860-066	TA25DU-25M (18-25)														1	1	1	1	1	2	2
Thermal relay (TH1, TH2, TH3, TH6) for CE YHAU-CGN	TBD		TBD																			
	TBD																					
	TBD																					
MMS1, MMS2, MMS3, MMS6 UL CGN 208V-3-60Hz	024W33919-750	MS132-2.5-HKF1-11	2	2	1																	
	024W33919-760	MS132-4.0-HKF1-11	1	1	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1
	024W33919-802	MS132-10-HKF1-11	1	1	1	2	2	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1
	024W33919-747	MS132-12-HKF1-11															1	1	1	1	1	1
	024W33919-803	MS132-20-HKF1-11						1	1	1	1	1	1	1	1							
	024W33919-767	MS132-25-HKF1-11														1	1	1	1	1	1	1
MMS1, MMS2,MMS3, MMS6 UL CGN 460V-3-60Hz	024W33919-749	MS132-1.6-HKF1-11	2	2	2	1	1	1	1	1	1	1	1	1								
	024W33919-750	MS132-2.5-HKF1-11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1
	024W33919-760	MS132-4.0-HKF1-11				1	1								1	1	2	2	2	2	2	2
	024W33919-802	MS132-10-HKF1-11						1	1	1	1	1	1	1	1							
	024W33919-747	MS132-12-HKF1-11														1	1	1	1	1	1	1
MMS1, MMS2, MMS3, MMS6 UL CGH 208V-3-60Hz	024W33919-760	MS132-4.0-HKF1-11							2	2	2	2	2	2	1	1	1	1	1	1	1	1
	024W33919-802	MS132-10-HKF1-11							1	1	1	1	1	1	2	2	1	1	1	1	1	1
	024W33919-747	MS132-12-HKF1-11															1	1	1	1	1	1
	024W33919-803	MS132-20-HKF1-11							1	1	1	1	1	1	1							
	024W33919-767	MS132-25-HKF1-11														1	1	1	1	1	1	1
MMS1, MMS2, MMS3, MMS6 UL CGH 460V-3-60Hz	024W33919-749	MS132-1.6-HKF1-11							1	1	1	1	1	1								
	024W33919-750	MS132-2.5-HKF1-11							2	2	2	2	2	2	2	2	1	1	1	1	1	1
	024W33919-760	MS132-4.0-HKF1-11													1	1	2	2	2	2	2	2
	024W33919-802	MS132-10-HKF1-11							1	1	1	1	1	1	1							

Table 6: Control panel components

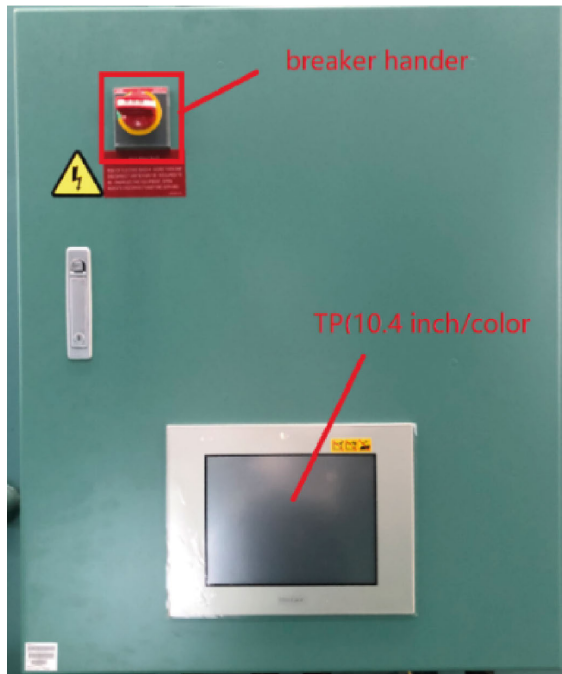
Description			120EX(H/S)	150EX(H/S)	180EX(H/S)	240EX(H/S)	300EX(H/S)	360/400EX(H/S)	450EX(H/S)	500EX(H/S)	560EX(H/S)	600EX(H/S)	700EX(H/S)	800EX(H/S)	900EXW(H/S)	1000EXW(H/S)	1100EXW(H/S)	1200EXW3(H/S)	1300EXW3(H/S)	1400EXW3(H/S)	1500EXW3(H/S)	1600EXW3(H/S)
Part name	Part number	Model																				
	024W33919-747	MS132-12-HKF1-11														1	1	1	1	1	1	1
MMS7 UL Power flame gas burner CGN 208V-3-60Hz	024W33919-748	MS132-6.3-HKF1-11	1	1																		
	024W33919-802	MS132-10-HKF1-11			1																	
	024W33919-747	MS132-12-HKF1-11				1																
	024W33919-746	MS132-16-HKF1-11					1								1	1						
	024W33919-767	MS132-25-HKF1-11						1	1	1	1						1	1				
	024W33919-759	MS132-32-HKF1-11										1	1									
	024W33919-804	MS165-42-HKF1-11												1					1	1	1	1
MMS7 UL Power flame gas burner CGN 460V-3-60Hz	024W33919-750	MS132-2.5-HKF1-11	1	1																		
	024W33919-760	MS132-4.0-HKF1-11			1	1																
	024W33919-748	MS132-6.3-HKF1-11					1								1	1						
	024W33919-802	MS132-10-HKF1-11						1	1	1	1						1	1				
	024W33919-747	MS132-12-HKF1-11										1	1									
	024W33919-746	MS132-16-HKF1-11												1					1	1	1	1
MMS7 UL Power flame gas burner CGH 208V-3-60Hz	024W33919-746	MS132-16-HKF1-11												1								
	024W33919-767	MS132-25-HKF1-11						1						1	1							
	024W33919-759	MS132-32-HKF1-11							1	1												
	024W33919-804	MS165-42-HKF1-11										1	1				1	1	1	1	1	1
MMS7 UL Power flame gas burner CGH 460V-3-60Hz	024W33919-748	MS132-6.3-HKF1-11												1								
	024W33919-802	MS132-10-HKF1-11						1							1	1						
	024W33919-747	MS132-12-HKF1-11							1	1												
	024W33919-746	MS132-16-HKF1-11										1	1				1	1	1	1	1	1
MMS7 UL Power flame dual fuel CGN 208V-3-60Hz	024W33919-748	MS132-6.3-HKF1-11	1	1																		
	024W33919-802	MS132-10-HKF1-11			1																	
	024W33919-747	MS132-12-HKF1-11				1																
	024W33919-803	MS132-20-HKF1-11					1															
	024W33919-767	MS132-25-HKF1-11						1	1	1	1											
	024W33919-759	MS132-32-HKF1-11										1	1		1	1						
	024W33919-804	MS165-42-HKF1-11												1			1	1				
	024W33919-805	MS165-54-HKF1-11																	1	1	1	1
MMS7 UL Power flame dual fuel CGN 460V-3-60Hz	024W33919-760	MS132-4.0-HKF1-11	1	1																		
	024W33919-748	MS132-6.3-HKF1-11			1	1																
	024W33919-802	MS132-10-HKF1-11					1															
MMS7 UL Power flame dual fuel CGN 460V-3-60Hz	024W33919-747	MS132-12-HKF1-11						1	1	1	1											
	024W33919-746	MS132-16-HKF1-11										1	1		1	1						
	024W33919-803	MS132-20-HKF1-11												1			1	1				
	024W33919-767	MS132-25-HKF1-11																	1	1	1	1
MMS7 UL Power flame dual fuel CGH 208V-3-60Hz	024W33919-767	MS132-25-HKF1-11						1														
	024W33919-759	MS132-32-HKF1-11							1	1				1								
	024W33919-804	MS165-42-HKF1-11										1	1		1	1						
	024W33919-805	MS165-54-HKF1-11															1	1	1	1	1	1
MMS7 UL Power flame dual fuel CGH 460V-3-60Hz	024W33919-747	MS132-12-HKF1-11						1						1								
	024W33919-746	MS132-16-HKF1-11							1	1												
	024W33919-803	MS132-20-HKF1-11										1	1		1							
	024W33919-767	MS132-25-HKF1-11															1	1	1	1	1	1
Noise filter (NF0) for CE	025W48016-055	CW7N-60A-R	1	1	1	1	1	1	1	1	1	1	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	1	1	1	1	1	1	1	1	1	1

Table 6: Control panel components

Description																						
Part name	Part number	Model	120EX(H/S)	150EX(H/S)	180EX(H/S)	240EX(H/S)	300EX(H/S)	360/400EX(H/S)	450EX(H/S)	500EX(H/S)	560EX(H/S)	600EX(H/S)	700EX(H/S)	800EX(H/S)	900EX(H/S)	1000EX(H/S)	1100EX(H/S)	1200EX(H/S)	1300EX(H/S)	1400EX(H/S)	1500EX(H/S)	1600EX(H/S)
56-Pin Connector 1 for CN2	025W48016-068	FCN-360C056-8	1	1	1	1	1	1	1	1	1	1	1	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	1	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	1	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	1	1	1	1	1	1	1	1	1	1	1
Fan (FAN) UL	025W48016-057	ACI 4400 HH-504 115Vac	1	1	1	1	1	1	1	1	1	1	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	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	2	2	2	2	2	2	2	2	2	2
Level relay for HTG (GB/CE) 200V (61F)	025W48016-034	61F-GP-N 200VAC	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Level relay for HTG (UL) 110V (61F)	025W43826-105	61F-GP-N 110Vac	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
SDC controller for domestic hot water (option)	025W48016-162	C35TC0UA1200 AZBIL																				
Battery for main circuit board	025W51225-000	CR2032	1	1	1	1	1	1	1	1	1	1	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	1	1	1	1	1	1	1	1	1	1
Signal converter for VSD (ISO1)	025W43790-600	W2VS-AAA-R/UL																				
Signal converter for Weishaupt burner (ISO2)	025W43785-010	M2VS-AA-R/UL																				

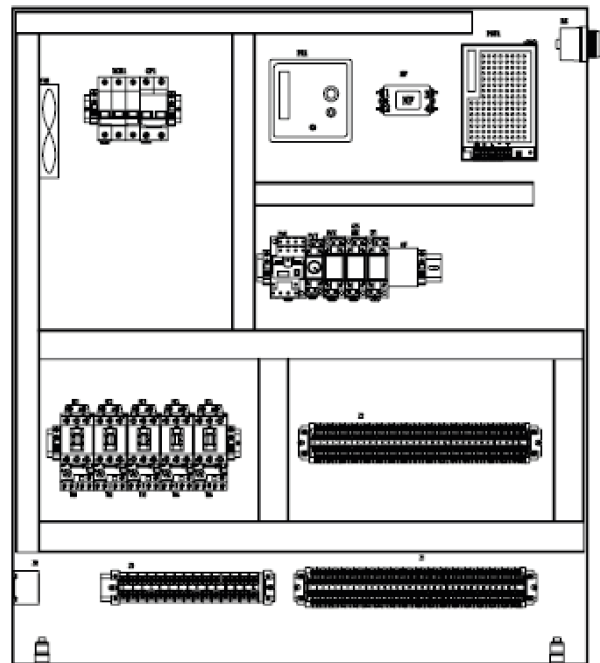
Note: The control panel is for IP42.

Figure 9: Control panel cover



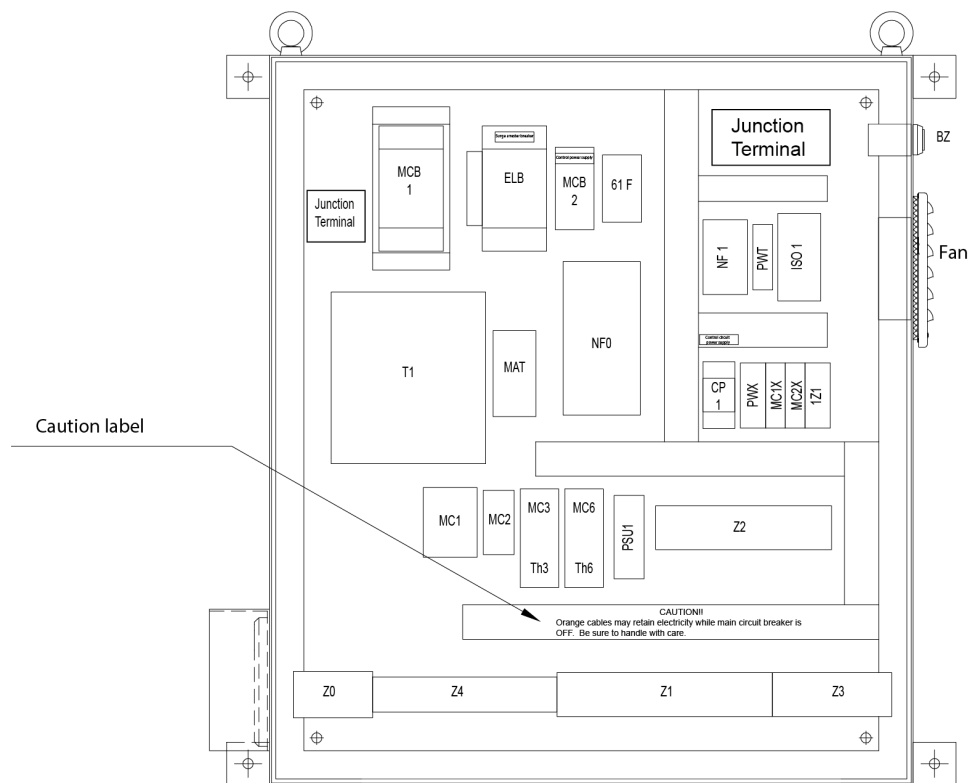
LD29533a

Figure 10: Interior of control panel for GB



LD29533

Figure 11: Interior of control panel for CE



LD27458a

Figure 12: Interior of control panel for UL

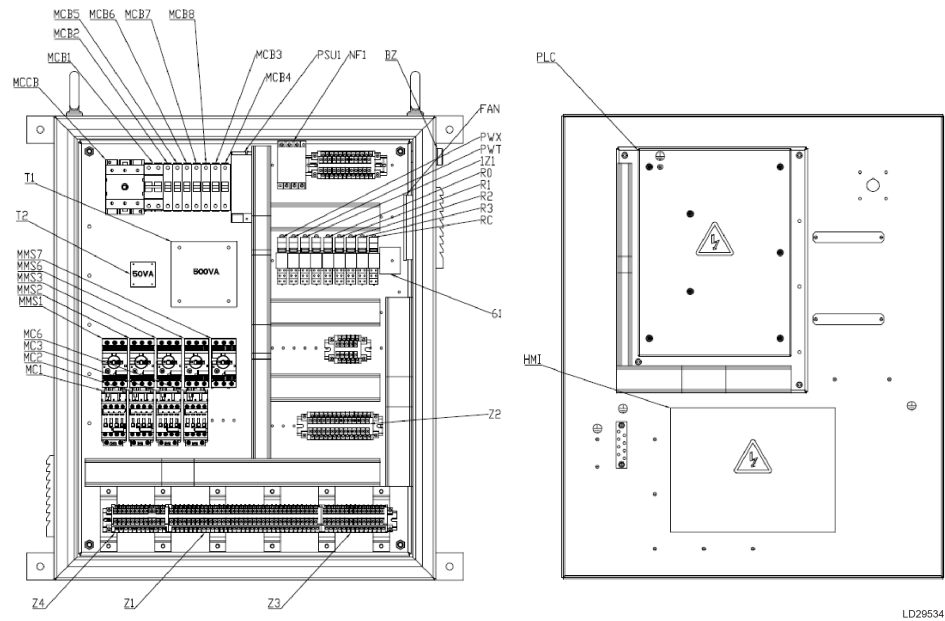


Figure 13: Reference layout of internal control panel

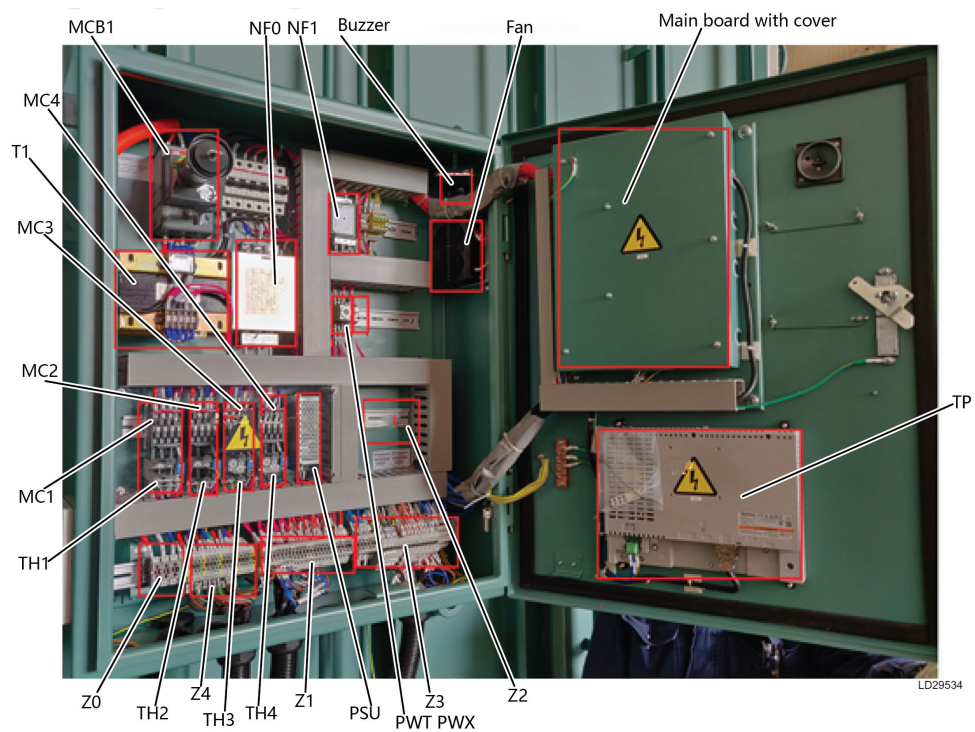
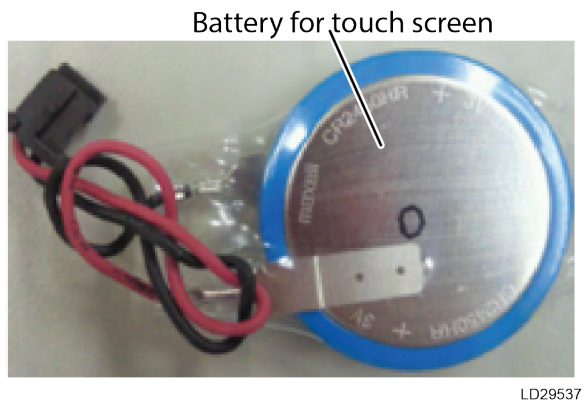
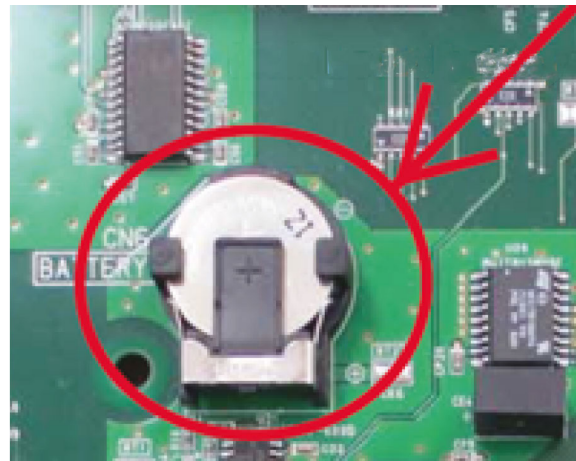


Figure 14: Battery for touch screen



LD29537

Figure 15: Main board battery



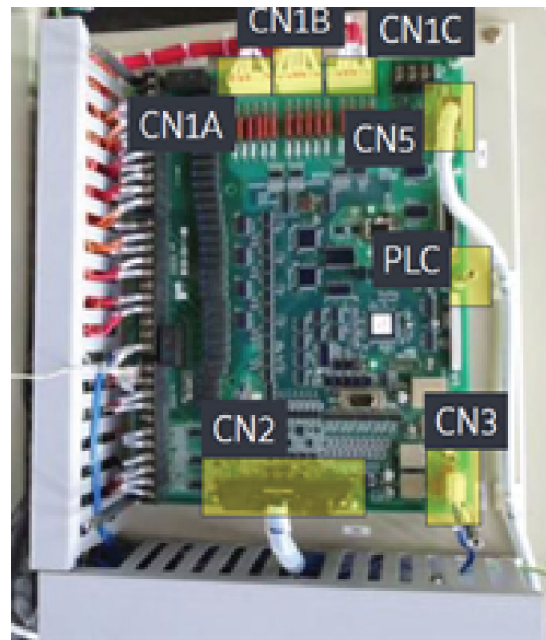
LD29538

Figure 16: HTG level relay (61F)



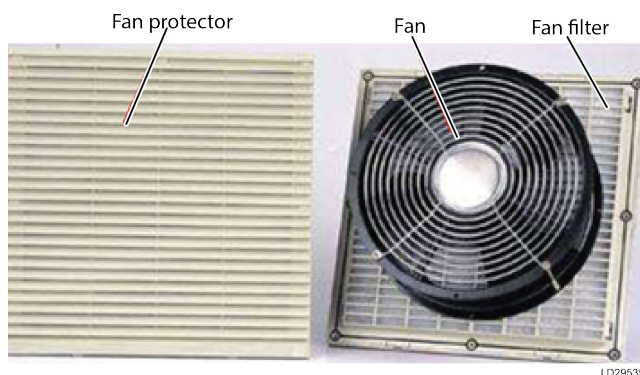
LD29539

Figure 17: PLC board TC5-17A



LD29536

Figure 18: Fan, fan protector, and fan filter



LD29535

Pump and maintenance kits

Table 7: Pump and maintenance kits

Description			120EX(H/S)	150EX(H/S)	180EX(H/S)	240EX(H/S)	300EX(H/S)	360/400EX(H/S)	450EX(H/S)	500EX(H/S)	560EX(H/S)	600EX(H/S)	700EX(H/S)	800EX(H/S)	900EX(H/S)	1000EX(H/S)	1100EX(H/S)	1200EX(H/S)	1300EX(H/S)	1400EX(H/S)	1500EX(H/S)	1600EX(H/S)
Part name	Part number	Model																				
Solution circulation pump (AC380-415/50Hz)	026W51260-115	NP80-40B/212H4-F-5	1	1	1																	
	026W50448-000	NP80-40C/213H4-F-4				1	1															
	026W50365-001	NP100-60C/312H4-F-6						1	1	1	1	1	1	1	1							
	026W51260-035	NP125-80E/421H4-F-2														1	1	1	1	1	1	1
Solution circulation pump (AC380-400V/60Hz)	026W51260-116	NP80-40B/212H4-E-5	1	1	1																	
	026W51260-017	NP80-40C/213H4-E-4				1	1															
	026W50365-004	NP100-60C/312H4-E-6						1	1	1	1	1	1	1	1							
	026W51260-036	NP125-80E/421H4-E-2														1	1	1	1	1	1	1
Solution circulation pump (AC200/208/220V/60Hz)	026W51260-114	NP80-40B/212H2-E-5	1	1	1																	
	026W50718-003	NP80-40C/213H2-E-4				1	1															
	026W51260-026	NP100-60C/312H2-E-6						1	1	1	1	1	1	1	1							
	026W51234-003	NP125-80E/421H2-E-2														1	1	1	1	1	1	1
Solution circulation pump (AC460V/60Hz)	026W51260-118	NP80-40B/212H4-E-5	1	1	1																	
	026W51260-017	NP80-40C/213H4-E-4				1	1															
	026W50365-004	NP100-60C/312H4-E-6						1	1	1	1	1	1	1	1							
	026W51260-036	NP125-80E/421H4-E-2														1	1	1	1	1	1	1
Solution spray pump (AC380-415V/50Hz)	026W50008-001	NP50-30B2/115H4-B-4	1	1	1																	
	092W70626-000	NP100-50A/2121H4-B-3				1	1															
	026W50364-001	NP100-50B/212H4-F-5						1	1	1	1	1	1									
	026W50369-000	NP100-50D/321H4-F-3												1	1	1						
	026W51260-071	NP125-80D/322H4-F-3															1	1	1	1	1	1
Solution spray pump (AC200/208/220V/60Hz)	026W51260-051	NP50-30B2/115H2-A-4	1	1	1																	
	026W50719-003	NP100-50A/212H2-A-3				1	1															
	026W50740-000	NP100-50B/212H2-E-5						1	1	1	1	1	1									
	026W51235-003	NP100-50D/321H2-E-3												1	1	1						
	026W51260-070	NP125-80D/322H2-E-3															1	1	1	1	1	1
Solution spray pump (AC380-400V/60Hz)	026W51260-052	NP50-30B2/115H4-A-4	1	1	1																	
	026W51260-056	NP100-50A/2121H4-A-3				1	1															
	026W51260-060	NP100-50B/212H4-E-5						1	1	1	1	1	1									
	026W51260-066	NP100-50D/321H4-E-3												1	1	1						
	026W51260-072	NP125-80D/322H4-E-3															1	1	1	1	1	1
Solution spray pump (AC460V/60Hz)	026W51260-054	NP50-30B2/115H4-A-4	1	1	1																	
	026W51260-058	NP100-50A/212H4-A-3				1	1															
	026W50672-000	NP100-50B/212H4-E-5						1	1	1	1	1	1									
	026W51260-068	NP100-50D/321H4-E-3												1	1	1						
	026W51260-074	NP125-80D/322H4-E-3															1	1	1	1	1	1
Refrigerant pump (AC380-415V/50Hz)	026W50006-001	NP40-20A2/121H 4-B-6	1	1																		
	026W50449-000	NP50-30C2/122H4-B-6			1	1	1															
	026W50344-001	NP65-40C/122H4-B-9						1	1	1	1	1	1	1								
	026W50370-000	NP100-50A/115H4-B-1													1	1						
	026W51260-104	NP100-50C/222H4-F-5															1	1	1	1	1	1
Refrigerant pump (AC200/208/220V/60Hz)	026W51260-084	NP40-20A2/121H2-A-6	1	1																		
	026W51260-093	NP50-30C2/122H2-A-6			1	1	1															
	026W50739-000	NP65-40C/122H2-A-9						1	1	1	1	1	1	1								

Table 7: Pump and maintenance kits

Description			120EX(H/S)	150EX(H/S)	180EX(H/S)	240EX(H/S)	300EX(H/S)	360/400EX(H/S)	450EX(H/S)	500EX(H/S)	560EX(H/S)	600EX(H/S)	700EX(H/S)	800EX(H/S)	900EXW(H/S)	1000EXW(H/S)	1100EXW(H/S)	1200EXW3(H/S)	1300EXW3(H/S)	1400EXW3(H/S)	1500EXW3(H/S)	1600EXW3(H/S)
Part name	Part number	Model																				
Refrigerant pump (AC380-400V/60Hz)	026W51236-003	NP100-50A/115H2-A-1													1	1						
	026W51260-103	NP100-50C/222H2-E-5															1	1	1	1	1	1
	026W51260-085	NP40-20A2/121H 4-A-6	1	1																		
	026W51260-094	NP50-30C2/122H4-A-6			1	1	1															
	026W51260-097	NP65-40C/122H4-A-9						1	1	1	1	1	1	1								
	026W51260-099	NP100-50A/115H4-A-1													1	1						
Refrigerant pump (AC460V/60Hz)	026W51260-105	NP100-50C/222H4-F-5															1	1	1	1	1	1
	026W51260-087	NP40-20A2/121H 4-A-6	1	1																		
	026W51260-096	NP50-30C2/122H4-A-6			1	1	1															
	026W50671-000	NP65-40C/122H4-A-9						1	1	1	1	1	1	1								
	026W51260-101	NP100-50A/115H4-A-1													1	1						
Maintenance parts kit for solution circulation pump	026W51221-002	NP80-40B/212	1	1	1																	
	026W51221-007	NP80-40C/213				1	1															
	026W51221-004	NP100-60C/312						1	1	1	1	1	1	1	1							
	026W51221-005	NP125-80E/421														1	1	1	1	1	1	1
Maintenance parts kit for solution spray pump	026W51222-001	NP50-30B2/115	1	1	1																	
	026W51222-002	NP100-50A/212				1	1															
	026W51222-003	NP100-50B/212						1	1	1	1	1	1									
	026W51222-004	NP100-50D/321												1	1	1						
	026W51222-005	NP125-80D/322															1	1	1	1	1	1
Maintenance parts for refrigerant pump	N/A	NP40-20A2/121**	Need to buy the whole pump																			
	026W51223-002	NP50-30C2/122			1	1	1															
	026W51223-003	NP65-40C/122						1	1	1	1	1	1	1								
	026W51223-004	NP100-50A/115													1	1						
	026W51223-005	NP100-50C/222															1	1	1	1	1	1
Solution circulation pump gasket	093W76652-002	For NP80-40B/212	1	1	1																	
	093W76652-002	For NP80-40C/213				1	1															
	093W76652-003	For NP100-60C/312						1	1	1	1	1	1	1	1							
	093W76652-004	For NP125-80E/421														1	1	1	1	1	1	1
Solution spray pump gasket	093W76652-001	For NP50-30B2/115	1	1	1																	
	093W76652-002	For NP100-50A/212				1	1															
	093W76652-002	For NP100-50B/212						1	1	1	1	1	1									
	093W76652-006	For NP100-50D/321												1	1	1						
	093W76652-006	For NP125-80D/322															1	1	1	1	1	1
Refrigerant pump gasket	093W76652-001	For NP40-20A2/121**	1	1																		
	093W76652-007	For NP50-30C2/122			1	1	1															
	093W76652-008	For NP65-40C/122						1	1	1	1	1	1	1								
	093W76652-009	For NP100-50A/115													1	1						
	093W76652-010	For NP100-50C/222															1	1	1	1	1	1
Vacuum pump (AC380~415V/50Hz 400~460V/60Hz) indoor	026W49989-000	PVD-N360-1																				
Vacuum pump (AC380~415V/50Hz 400~460V/60Hz) outdoor	026W50423-002	PVD-N360-1																				

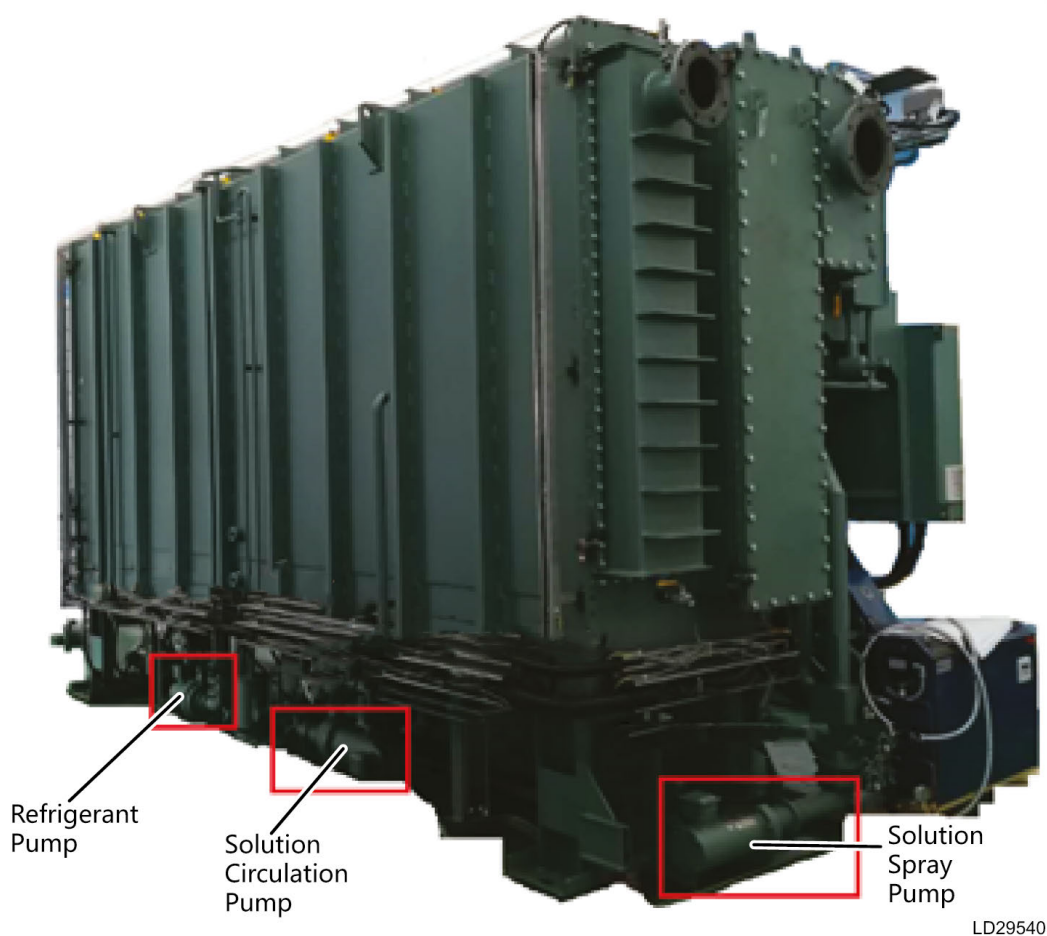
Table 7: Pump and maintenance kits

Description			120EX(H/S)	150EX(H/S)	180EX(H/S)	240EX(H/S)	300EX(H/S)	360/400EX(H/S)	450EX(H/S)	500EX(H/S)	560EX(H/S)	600EX(H/S)	700EX(H/S)	800EX(H/S)	900EXW(H/S)	1000EXW(H/S)	1100EXW(H/S)	1200EXW3(H/S)	1300EXW3(H/S)	1400EXW3(H/S)	1500EXW3(H/S)	1600EXW3(H/S)
Part name	Part number	Model																				
Vacuum pump (AC200/220)	026W50677-001	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:

1. The maintenance parts kit is suitable for various power supply pumps. The vacuum pump maintenance parts kit is for indoor and outdoor vacuum pumps.
2. **The pump maintenance kit is not available for the NP40 pump model. It is only available when you buy the whole pump.

Figure 19: Refrigerant, solution circulation, and solution spray pumps



LD29540

Figure 20: Vacuum pump



LD29541

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

Table 8: 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 9: 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 10: Valves

Description			120EX(H/S)	150EX(H/S)	180EX(H/S)	240EX(H/S)	300EX(H/S)	360/400EX(H/S)	450EX(H/S)	500EX(H/S)	560EX(H/S)	600EX(H/S)	700EX(H/S)	800EX(H/S)	900EX(H/S)	1000EX(H/S)	1100EX(H/S)	1200EX(H/S)	1300EX(H/S)	1400EX(H/S)	1500EX(H/S)	1600EX(H/S)
Part name	Part number	Model																				
Diaphragm valve (15A)	022W13281-001	407NB-CR-15/100	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4
Diaphragm for diaphragm valve (15A)	028W18178-000		3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4
Diaphragm valve (15A) Haimen	022W13807-001		3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4
Diaphragm for diaphragm valve Haimen (15A)	022W13807-101		3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4
V11: Purge valve from purging tank V14: Main purge valve V16: Purge valve from absorber V21: Purge valve from condenser (direct purge) ① Note: For orders after December 2019, the original diaphragm valve and diaphragm gasket are not available. Use a Haimen diaphragm valve for replacements instead.																						
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	3	3	3	3	3	3	3	3	3	3
Solenoid valve for purge line and ref. blowing line (AC110) for UL	025W48003-001	AB41-04-8-D-3M (AC110V)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Check valve for purge line	022W13235-000	OC1511AF	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Check valve for purge line China	022W13235-101																					
SV1: Vacuum purging solenoid valve SV2: Vacuum purging solenoid valve SV3: Refrigerant blowing solenoid valve ① Note: Standard direct fired chillers do not have check valves for purge lines. For chillers ordered before November 2020 that have a check valve, use 022W13235-000 and for chillers ordered after November 2020, use 022W13235-101.																						
Sampling valve	022W13372-000	SAMPLING-V/10A	6	7	6	6	6	6	6	6	5	7	7	7	7	9	9	8	8	8	8	8
O-Ring for sampling valve P21	028W18176-000		6	7	6	6	6	6	6	6	5	7	7	7	7	9	9	8	8	8	8	8
O-Ring for adjusting and sampling valve P16	028W18177-000		24	25	24	24	24	24	20	20	17	21	21	21	21	19	19	18	18	18	23	21
V30: Solution sampling valve on the inlet side of solution circulation pump V31: Solution sampling valve on the outlet side of solution circulation pump V32: Solution sampling valve on the inlet side of solution spray pump V33: Solution sampling valve on the outlet side of solution spray pump V34: Refrigerant sampling valve on the inlet side of the refrigerant pump V35: Refrigerant sampling valve on the outlet side of the refrigerant pump V36: HTG solution sampling valve V37: LTG solution sampling valve																						
Pressure release valve for GB	322W13373-001	SAFTY-V/10A 0.8bar	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Pressure release valve for CE	022W14372-000	SAFTY-V/10A 0.48 bar																				
Oseco rupture disk for UL (1.5 in.) 12 psig	026W51293-000	PL15-124-A	1	1	1	1	1	1														
Oseco rupture disk for UL (2 in.) 12 psig	026W51295-000	PL02-125-A							1	1	1	1	1	1	1	1	1	1	1	1		
Oseco rupture disk for UL (3 in.) 12 psig	026W51297-000	PLR03-126-A																				1

Table 10: Valves

Description			120EX(H/S)	150EX(H/S)	180EX(H/S)	240EX(H/S)	300EX(H/S)	360/400EX(H/S)	450EX(H/S)	500EX(H/S)	560EX(H/S)	600EX(H/S)	700EX(H/S)	800EX(H/S)	900EXW(H/S)	1000EXW(H/S)	1100EXW(H/S)	1200EXW3(H/S)	1300EXW3(H/S)	1400EXW3(H/S)	1500EXW3(H/S)	1600EXW3(H/S)
Part name	Part number	Model																				
Huali rupture disk (DN80) 7 psig CE	026W50860-101	HYF80-0.043-121A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Huali rupture disk (DN80) 12 psig GB UL	026W50861-101	YF80-0.083-121A							1	1	1	1	1	1	1	1	1	1	1	1	1	1
Huali rupture disk (DN50) 12 psig GB UL	026W50861-201	YF50-0.083-121A	1	1	1	1	1	1														
BS&B rupture disc (DN50) 0.4 barg	026W51936-000	AVV 2"																				
- The pressure release valve is located on the purging tank standard for GB and CE. - The rupture disc assessor is located on the tube side of the LTG water box. Use the 12 psi rupture disc instead of 7 psig for chillers in UL standard regions purchased after August of 2019. - From October 2020, the Oseco rupture disc kit is replaced by the Huali rupture disc kit. If the Oseco rupture disc needs to be replaced, the disc kit also needs to be replaced. - The BS&B 0.4 barg rupture disc is used for special projects only.																						
Air vent valve for water box	022W13246-002	BALL-V/10A	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Position: on top of the front and back water box																						
Drain valve for water box	022W13246-004	BALL-V/20A	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Position: on the bottom of front and back water box																						
Float valve for refrigerant tank	322W13803-000	REF-FLOAT/32A	1	1	1	1	1	1	1	1	1											
	022W13382-000	REF-FLOAT/50A										1	1	1	1							
	322W13896-000	REF-FLOAT/65A													1	1	1	1	1	1	1	1
	322W13898-000 *	REF-FLOAT/65A													1	1	1	1	1	1	1	1
Position: in the refrigerant tank.* used for Module 2 unit of twin type chiller or the chiller is the similar layout as Module 2																						
Float ball valve for HTG solution tank	322W13897-000	HTG-FLOAT/32A	1	1	1	1	1	1	1	1												
	022W13385-000	HTG-FLOAT/40A									1	1	1									
	322W13805-000	HTG-FLOAT/50A												1	1	1	1	1	1	1	1	1
	022W13808-000*	HTG-FLOAT/50A												1	1	1	1	1	1	1	1	1
Position: in the HTG float ball valve tank. *used for Module 2 unit of twin type chiller or the chiller is the similar layout as Module 2																						
Cooling/Heating changeover valve for evaporator heating	022W13363-101	C/H BV 50A	1	1																		
	022W13364-101	C/H BV 65A			1	1																
	022W13364-102	C/H BV 80A					1	1	1													
	022W13364-103	C/H BV 100A								1	1	1	1									
	022W13901-001	C/H AV125A												1	1	1	1	1	1	1		
	022W13901-002	C/H AV 150A																			1	1
Globe valve	022W13370-001	V/40A 20#											1	2	1		1	2	2	2	1	1
	022W13370-002	V/50A 20#													1	2	2	1	1		1	1
	022W13370-003	V/65A 20#															1	1	2	1	1	
	022W13370-004	V/80A 20#																			1	1
V0: For HTG solution flow adjusting V1: For LTG solution flow adjusting V2: For refrigerant flow adjusting V3: For HTG solution flow adjusting V4: For absorber solution flow adjusting V5: For LTG refrigerant hex solution flow adjusting  Note: If you select pump isolation, the globe valve is used for the following: VA, VB, VC, VD, VE, and VF depending on the design.																						
Copper packing for globe valve (40A)	021W35469-001	40A-2 T2	1	2	2	2	2	2	6	6	7	7	4	4	3	2	2	2	2	2		
Copper packing for globe valve (65A)	021W35469-002	65A-2 T2											1	1	2	3	3	3	3	3	3	2

Table 10: Valves

Description																							
Part name	Part number	Model	120EX(H/S)	150EX(H/S)	180EX(H/S)	240EX(H/S)	300EX(H/S)	360/400EX(H/S)	450EX(H/S)	500EX(H/S)	560EX(H/S)	600EX(H/S)	700EX(H/S)	800EX(H/S)	900EXW(H/S)	1000EXW(H/S)	1100EXW(H/S)	1200EXW3(H/S)	1300EXW3(H/S)	1400EXW3(H/S)	1500EXW3(H/S)	1600EXW3(H/S)	
Adjusting valve	022W13371-001	V/15A SUS304	11	11	11	11	11	11	11	11	11	13	13	13	13	4	4	4	4	4	8	6	
	022W13371-002	V/25A SUS304	7	7	7	7	7	7	7	3	3	1	1	1	1	6	6	6	6	6	7	7	
	022W13371-003	V/40A SUS304	1	2	2	2	2	2	6	6	7	7	4	4	3	2	2	2	2	2			
VH: Shut off valve for generator pressure gauge			V4: For absorber solution flow adjusting											V13: Absorber purge valve									
VI: Shut off valve for pressure release valve			V5: For ejector solution flow adjusting											V15: Lower absorber direct purge valve									
VJ: Shut off valve for ref. blowing solenoid valve			V6: For ejector solution flow adjusting											V15: Lower absorber direct purge valve									
VK: Shut off valve for ref. blowing solenoid valve			V8: For refrigerant blow											V18: Condenser direct purge valve									
V1: For generator solution flow adjusting			V10: Shut off valve for purge tank											V19: Condenser purge valve									
V2: For refrigerant flow adjusting			V12: Upper absorber direct purge valve											V20: Condenser purge valve									
Butterfly valve (option)	022W13280-010	700G-1T(50A)	3	3	3	3	2	2	1	1	2	2	3	3	3	1	1	1	1	1			
	022W13280-011	700G-1T(65A)					1	1	1	1						3	1				1	1	
	022W13280-012	700G-1T(80A)							1	1	2	2	1	1	1	2	2	2	2				
	022W13280-013	700G-1T(100A)											1	1	1	2	2	3	3	3	3	3	
	022W13280-015	700G-1T(125A)																			2	2	
VA: Butterfly valve on the inlet side of solution circulation pump																							
VB: Butterfly valve on the outlet side of solution circulation pump																							
VC: Butterfly valve on the inlet side of solution spray pump																							
VD: Butterfly valve on the outlet side of solution spray pump																							
VE: Butterfly valve on the inlet side of refrigerant pump																							
VF: Butterfly valve on the outlet side of refrigerant pump																							

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

Figure 21: Diaphragm valve and gasket

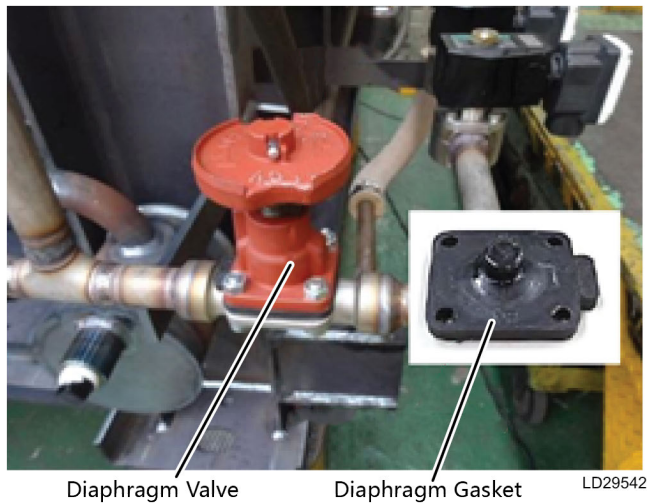


Figure 22: Solenoid valve for purge and blow pump

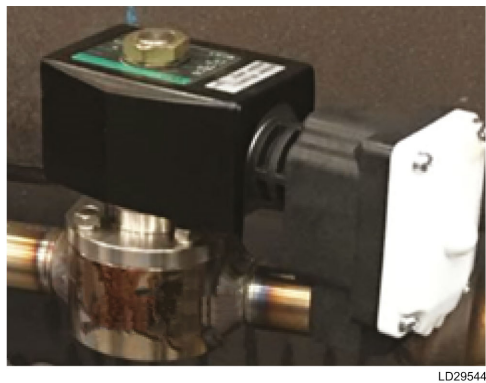


Figure 23: Check valve



Figure 24: Sampling valve

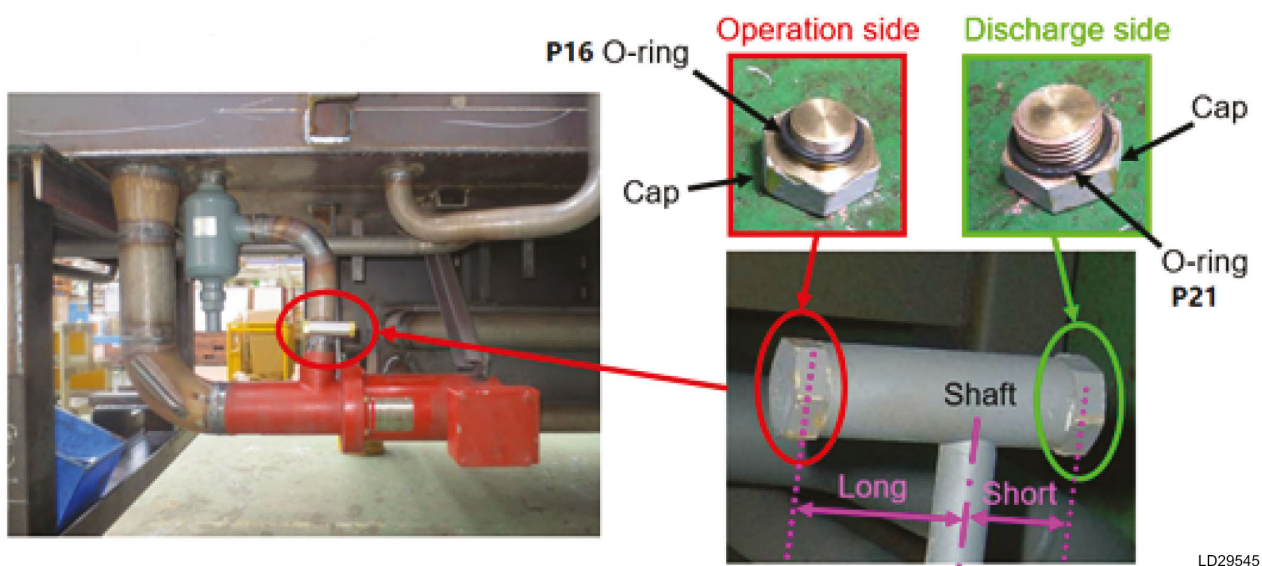


Figure 25: HTG solution float ball valve



LD29546

Figure 26: Oseco rupture disc kit and rupture disc



LD29547

Figure 27: Huali rupture disc kit and Huali rupture disc



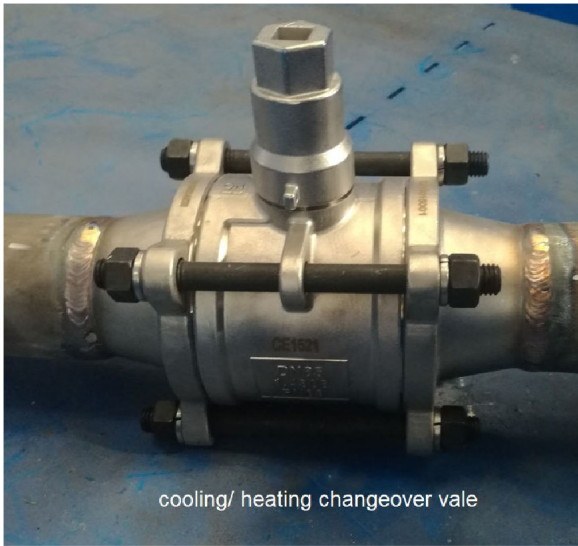
Huali Rupture disc kit



Huali Rpture disc

LD31291

Figure 28: Cooling/heating changeover valve



cooling/ heating changeover vale

LD31292

Figure 29: Refrigerant water float ball valve



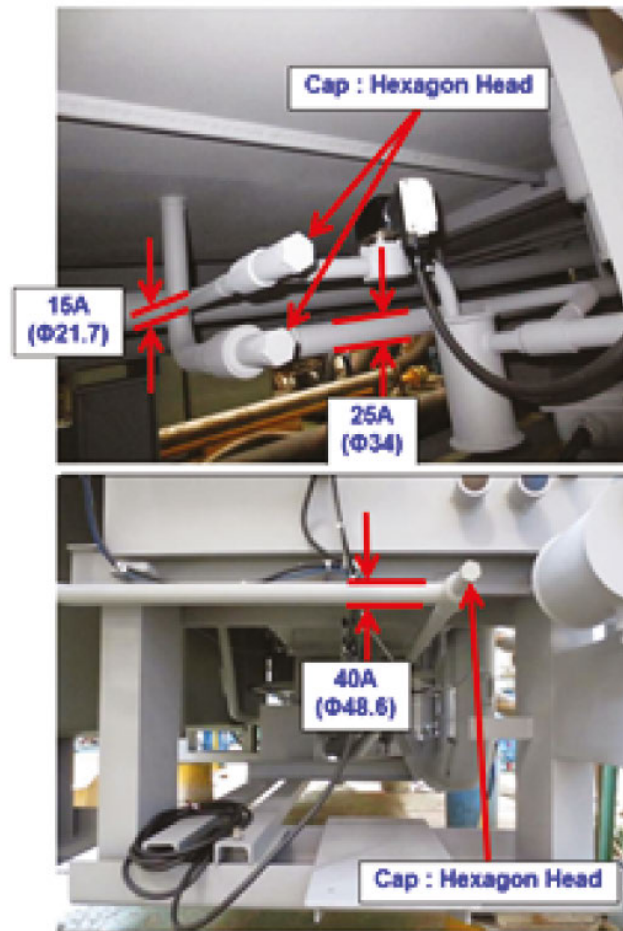
LD29548

Valve names, part number and model

Table 11: 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

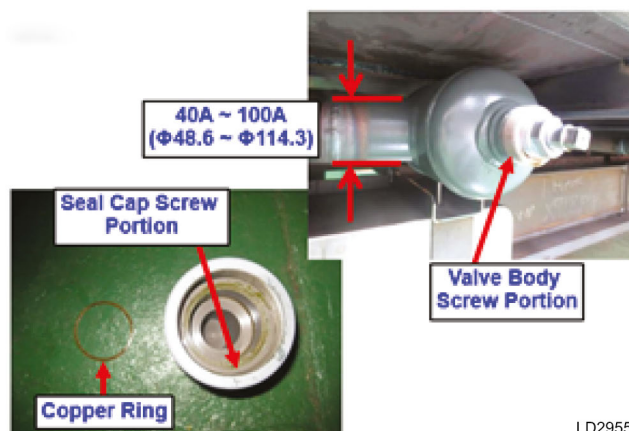
Figure 30: Adjusting valve



LD29549

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

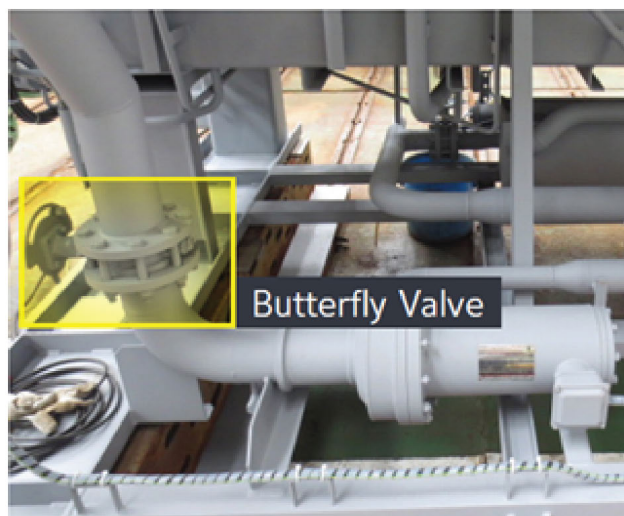
Figure 31: Globe valve



LD29550

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 32: Butterfly valve



LD29551

Valve name	Part number	Valve model
Butterfly valve (option)	022W13280-010	V-50A
	022W13280-011	V-65A
	022W13280-012	V-80A
	022W13280-013	V-100A
	022W13280-015	V-150A

Figure 33: Air vent and water drain valve

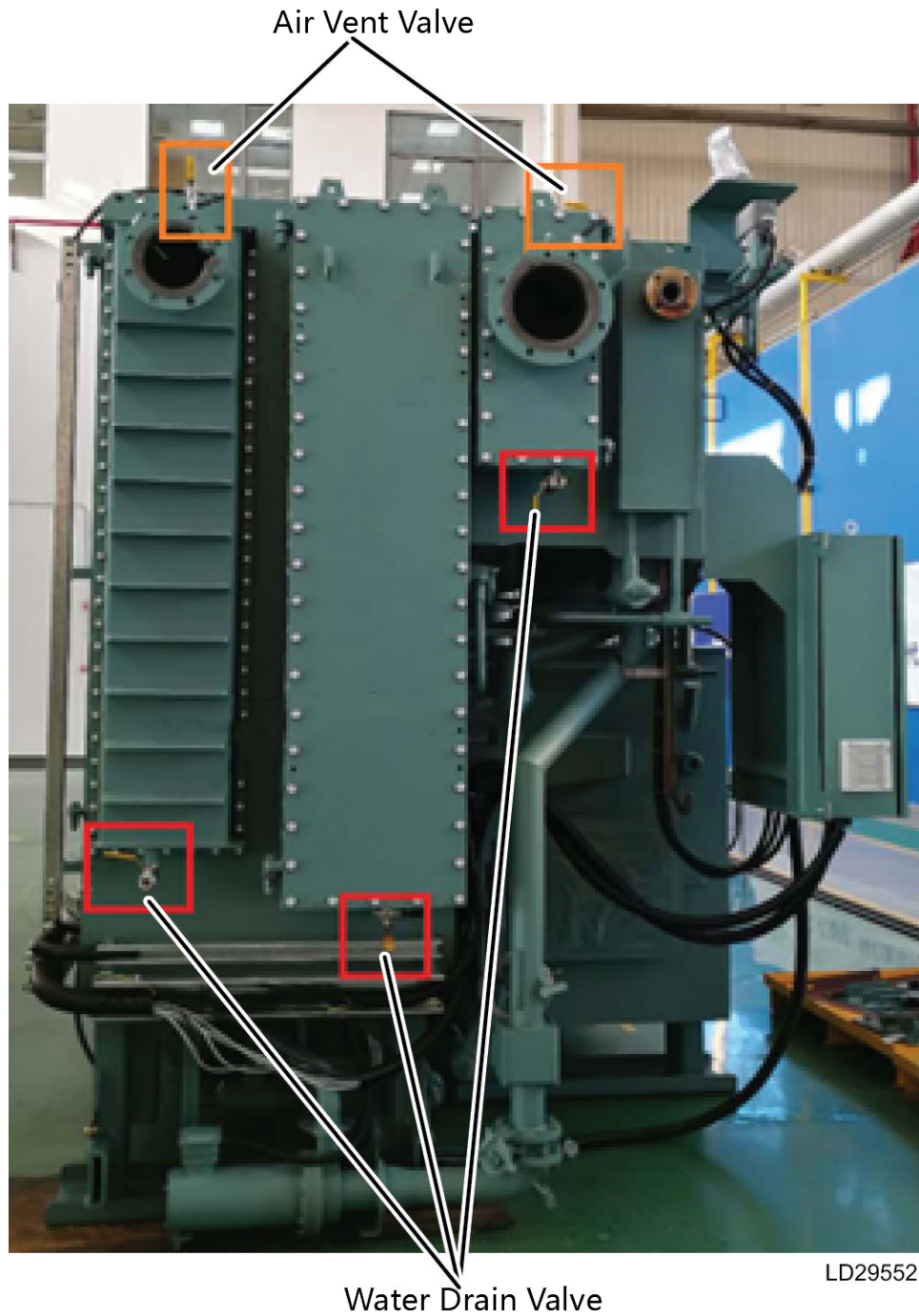


Figure 34: Pressure release valve



Pressure Release Valve

LD29553

Sensor and control switch

Table 12: Sensor and control switch

Description			120EX(H/S)	150EX(H/S)	180EX(H/S)	240EX(H/S)	300EX(H/S)	360/400EX(H/S)	450EX(H/S)	500EX(H/S)	560EX(H/S)	600EX(H/S)	700EX(H/S)	800EX(H/S)	900EXW(H/S)	1000EXW(H/S)	1100EXW(H/S)	1200EXW3(H/S)	1300EXW3(H/S)	1400EXW3(H/S)	1500EXW3(H/S)	1600EXW3(H/S)
Part name	Part number	Model																				
Resistance temp. sensor (RTD-1,RTD-2)	025W47992-001	WZPKT-2906A (10m)	1	1	1	1																
	025W47992-004	WZPKT-2906A (10m)	1	1	1	1																
	025W48061-001	WZPKT-2906A (10m)					1	1	1	1	1	1										
	025W48061-002	WZPKT-2906A (15m)											1	1	1	1	1	1	1	1	1	1
	025W48061-005	WZPKT-2906A (12m)					1	1	1	1	1											
	025W48061-006	WZPKT-2906A (17m)										1	1	1	1	1	1	1	1	1	1	1
Resistance temp. sensor (RTD-3)	025W47994-001	WZPKT-1906 (7m)	1	1	1	1	1	1	1	1	1	1										
	025W47994-003	WZPKT-1906 (15m)											1	1	1	1	1	1	1	1	1	1
Thermocouple (T/C1, T/C2, T/C5)	025W47997-008	WRNT-106A (7m)	3	3	3	3	3															
	025W47997-001	WRNT-106A (10m)						3														
	025W48063-002	WRNT-106A (12m)							3	3	3	3	2	2	1							
	025W48063-007	WRNT-106A (17m)											1	1	2	3	3	3	3	3	3	3
Thermocouple (T/C3, T/C4)	025W47999-009	WRNT-106A (12m)											1	1	1	1	1	1	1	1	1	1
	025W47999-008	WRNT-106A (7m)	1	1	1	1	1	1	1	1	1	1										
	025W47999-011	WRNT-106A (10m)	1	1	1	1	1	1	1	1	1	1										
	025W47999-013	WRNT-106A (17m)											1	1	1	1	1	1	1	1	1	1
First resistance temp. sensor with connector, well and cable *	025W51243-001	FST600-103X (short) (12m)	2	2	2	2	2	2	2	2	2	1										
	025W51243-003	FST600-103X (long) (12m)																				
	025W51243-002	FST600-103X (short) (20m)																				
	025W51243-004	FST600-103X (long) (20m)										1	2	2	2	2	2	2	2	2	2	2
First resistance temp. sensor with connector and cable (RTD-3) *	025W51244-002	FST600-103A (short) (20m)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
First resistance temp. sensor with connector *	025W51243-010	FST600-103X (short)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y										
	025W51243-011	FST600-103X (long)											Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
First thermocouple with connector, well and cable* (T/C1, T/C2)	025W51245-001	FST600-102K (short) (12m)	2	2	2	2	2	2	2	2	2	2										
	025W51245-003	FST600-102K (long) (12m)											1	1	1							
	025W51245-002	FST600-102K (short) (20m)																				
	025W51245-004	FST600-102K (long) (20m)											1	1	1	2	2	2	2	2	2	2
First thermocouple with connector and cable* (T/C3, T/C4)	025W51246-002	FST600-102X (20m)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
First thermocouple with connector * (T/C1, T/C2, T/C3, T/C4)	025W51245-011	FST600-102K (short)																				
	025W51245-012	FST600-102K (long)																				
First thermocouple with connector and cable* (T/C5)	025W51247-001	FST600-102B (12m)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
First thermocouple with connector * (T/C5)	025W51247-006	FST600-102B																				
Note:																						
1. * The First brand temperature sensor has a wire connector and can be used to replace the damaged temperature sensor. If you are using the First brand temperature sensor to replace a damaged sensor, replace the temperature sensor only. There is no need to replace the wiring. Use 025W51243-010 or 025W51243-011 for resistance temperature sensor, and 025W51245-011 or 025W51245-012 for thermocouple.																						
2. The two types of sensors are the long and short type sensor (RTD-1,RTD-2, T/C1 and T/C2). The type of sensor depends on the size of the chilled water pipe and cooling water pipe. Check the specification for more information.																						
3. If you are using the First brand of temperature sensor to replace the original temperature sensor, replace the sensor with a cable the first time. For future replacements, use the sensor with connector.																						

Table 12: Sensor and control switch

Description			120EX(H/S)	150EX(H/S)	180EX(H/S)	240EX(H/S)	300EX(H/S)	360/400EX(H/S)	450EX(H/S)	500EX(H/S)	560EX(H/S)	600EX(H/S)	700EX(H/S)	800EX(H/S)	900EXW(H/S)	1000EXW(H/S)	1100EXW(H/S)	1200EXW3(H/S)	1300EXW3(H/S)	1400EXW3(H/S)	1500EXW3(H/S)	1600EXW3(H/S)
Part name	Part number	Model																				
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: - Armored type thermocouples and resistance temperature sensors are for the IP65 and SQ projects only. - Choosing the correct sensor length depends on the pipe size and design. Confirm the model when purchasing.																						
Exhaust gas temp. switch (26EG)	024W39633-003	EX-3/350	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
① Note: The exhaust gas temperature switch is for Mod A direct fired chiller-heater chillers only.																						
Pressure sensor (PT1,PT2)	025W47983-000	PA-838-102A-10-064	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
First pressure sensor* (PT1,PT2)	025W51239-002	FST800-501A	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Cable with connector for First pressure sensor	025W51209-001	4 m cable with connector																				
① Note: * The First pressure sensor that has the connector replaces the original pressure sensor. When replacing the damaged sensor, there is no need for rewiring. Use the connector to connect to the existing wire. - When the original sensor needs to be replaced for the first time, buy the 025W51239-002 sensor and the 025W51209-001 cable with connector. Connect the cable with the existing cable and use a connector to connect to the pressure sensor directly.																						
Level switch (33RL)	024W39631-000	KS3-1S-10593	1	1	1	1	1	1	1	1	1	1	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	1	1	1	1	1	1	1	1	1	1
HTG pressure switch (63SH1)	024W39636-003	VM-160S-S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
HTG level sensor *	392W60475-000		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
① Note: * The HTG level sensor includes the electrode and stick. The stick length needs to be cut according to the level sensor that is being replaced.																						

Figure 35: Sensors and switches on B side

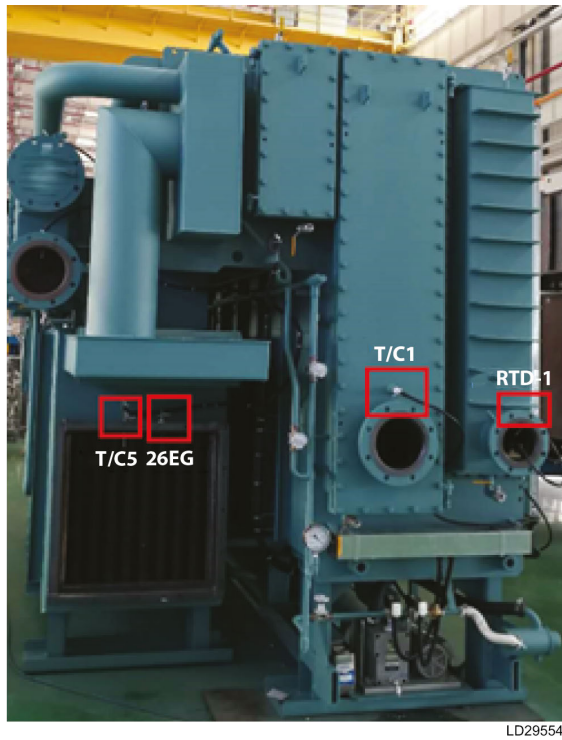


Figure 36: Sensors and switches on front side

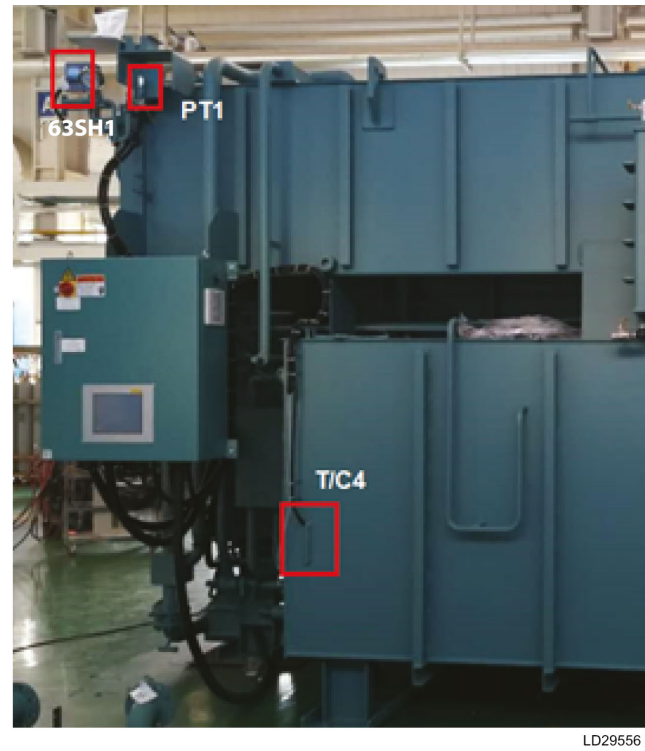


Figure 37: Sensors and switches on A side



Figure 38: Sensors and switches under the evaporator

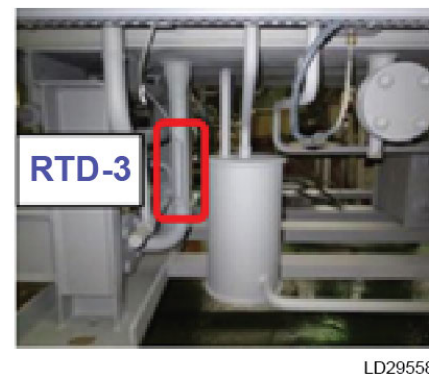
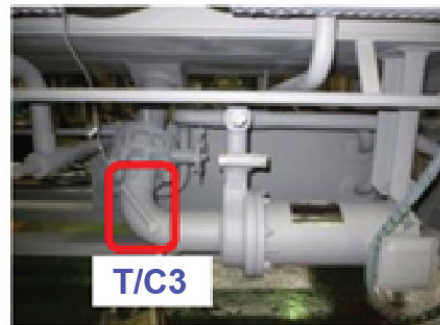
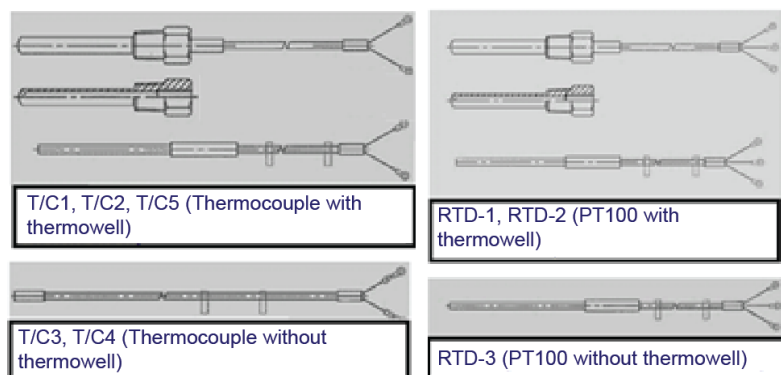


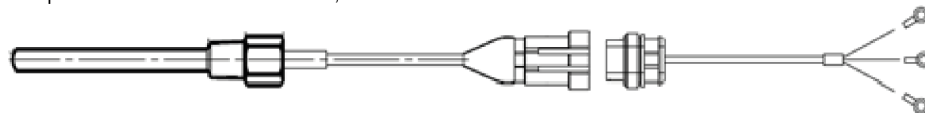
Figure 39: Original thermocouple and resistance temperature sensor



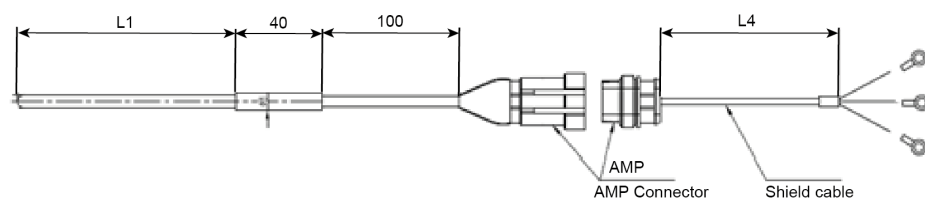
LD29557

Figure 40: First resistance temperature sensor

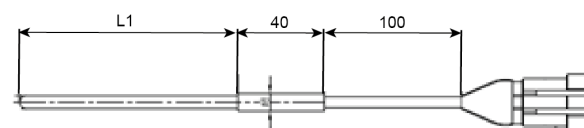
Temperature sensor with connector, well and cable for RTD-1 RTD-2



Temperature sensor with connector and cable for RTD-3



Temperature sensor with connector



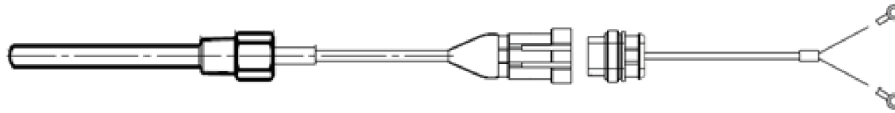
LD31294

① Note:

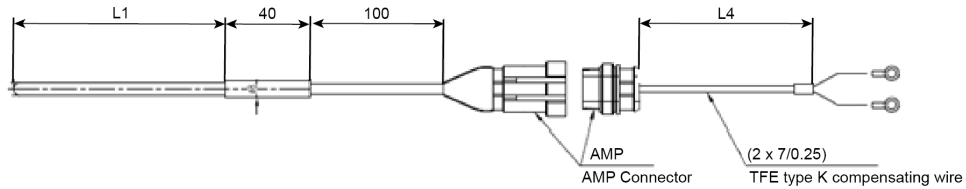
- L1 = 80 mm (short)
L1 = 180 mm (long)
- L4 = 12 m or 20 m depending on the type

Figure 41: First thermocouple

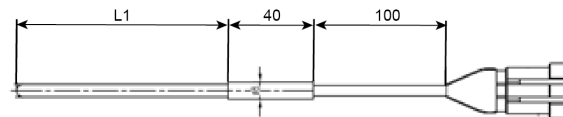
Thermocouple with connector, well and cable for T/C1, T/C2



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



Thermocouple with connector



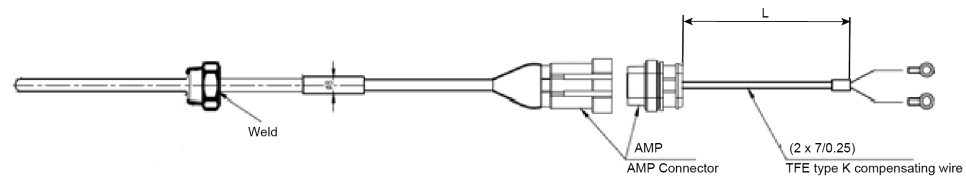
LD31295

Note:

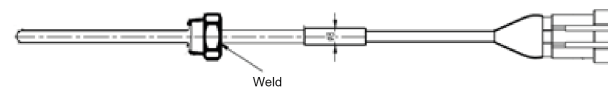
- L1 = 80 mm (short)
L1 = 180 mm (long)
- L4 = 12 m or 20 m depending on the type

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

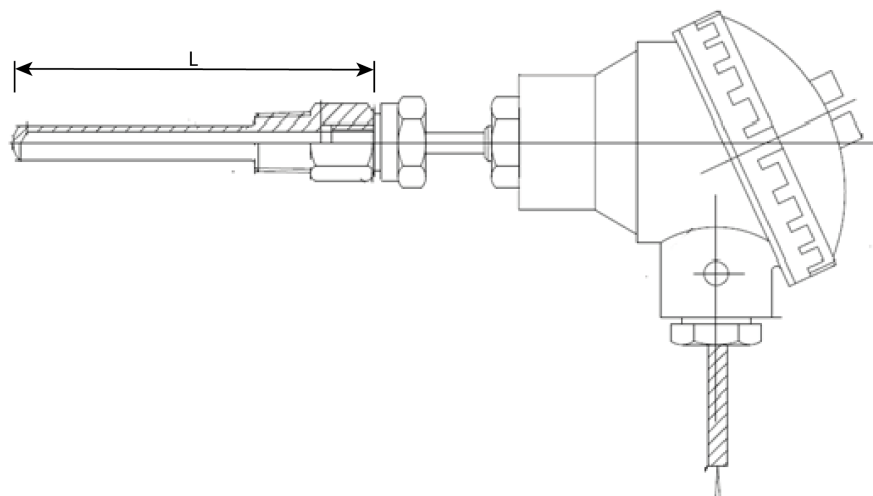


Table 13: Part numbers and sizes of Armored type thermocouples

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

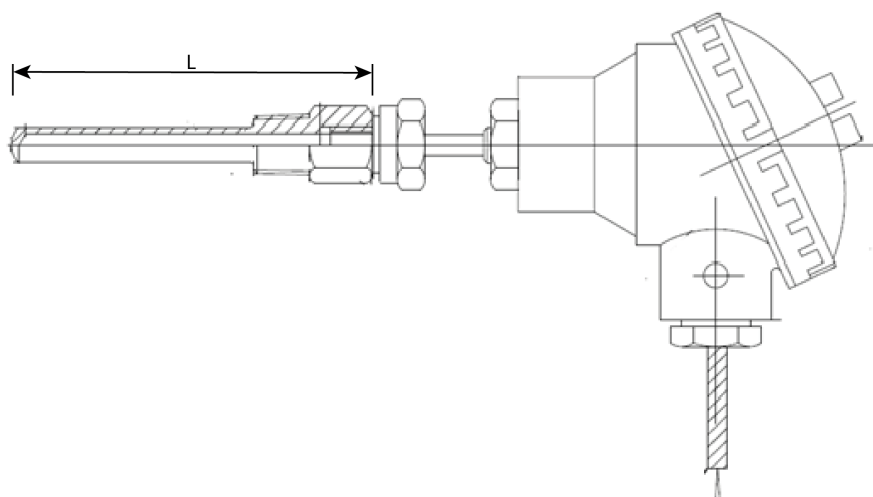


Table 14: Part numbers and sizes of Armored type resistance temperature sensors

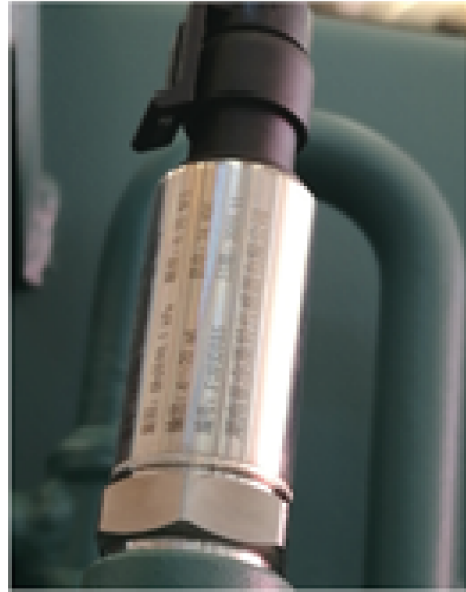
Part number	Length (mm)	Pipe size
025W50986-001	100	DN65-80
025W50986-002	120	DN100-125
025W50986-003	150	DN150-200
025W50986-004	200	DN250-300
025W50986-005	250	DN350-450

Figure 45: Pressure sensor



LD29559

Figure 46: First pressure sensor



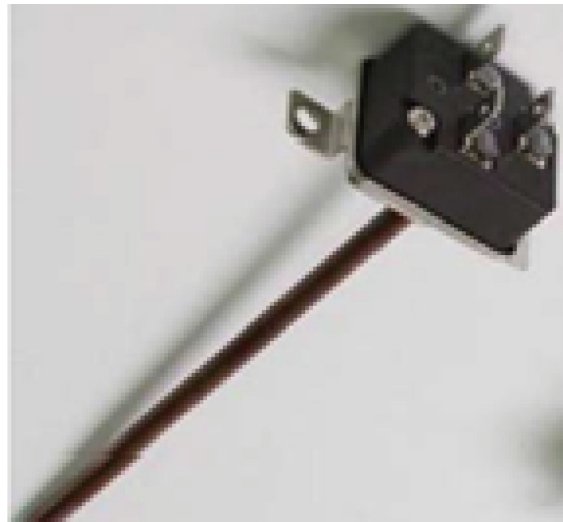
LD31299

Figure 47: Pressure differential switch



LD29561

Figure 48: Exhaust temp. gas switch (26EG)



LD29563

Figure 49: Level switch



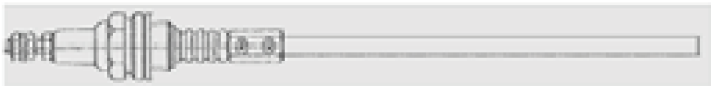
LD29581

Figure 50: Pressure switch



LD29560

Figure 51: HG solution level sensor (33SL)



LD29562

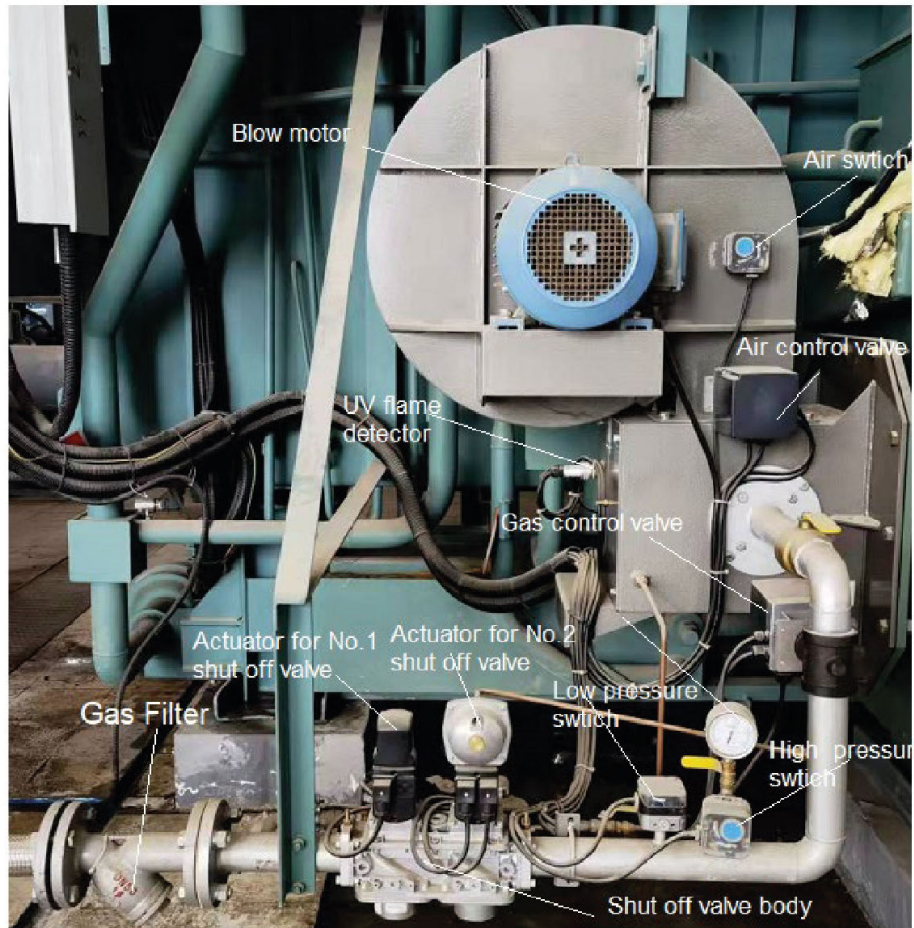
Burners

Table 15: Olympia burner for GB standard region

Description			120EX(H/S)	150EX(H/S)	180EX(H/S)	240EX(H/S)	300EX(H/S)	360/400EX(H/S)	450EX(H/S)	500EX(H/S)	560EX(H/S)	600EX(H/S)	700EX(H/S)	800EX(H/S)	900EXW(H/S)	1000EXW(H/S)	1100EXW(H/S)	1200EXW3(H/S)	1300EXW3(H/S)	1400EXW3(H/S)	1500EXW3(H/S)	1600EXW3(H/S)
Part name	Part number	Model																				
Burner controller	025W48016-153	DBC2000E1018/AC220V	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
SDC35 controller for GB	025W48016-156	C35TR1UA2100 AZBIL	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gas shut off valve	093W76634-001	MB-DLE415B01S50	1	1	1		1															
	093W76634-002	MB-DLE420B01S50				1		1	1	1	1											
Gas shut off valve body	093W76634-003	VGD20.503										1	1									
	093W76634-004	VGD40.065												1	1	1						
	093W76634-005	VGD40.080															1	1	1	1	1	1
Position switch for dungs gas shut off valve	093W76649-001	KO1	1	1	1	1	1	1	1	1	1											
NO 1 shut off valve actuator	093W76635-001	SPK15.000E2 with the position switch										1	1	1	1	1	1	1	1	1	1	1
NO 2 shut off valve actuator with governor	093W76636-001	SPK25.001E2										1	1	1	1	1	1	1	1	1	1	1
Gas filter	093W76636-002	GB-1.0MPa 40A				1																
	093W76637-001	GB-1.0MPa 50A	1	1	1		1	1	1			1	1									
	093W76637-003	GB-1.0MPa 65A												1	1	1						
	093W76637-004	GB-1.0MPa 80A								1	1						1	1	1	1		
	093W76637-005	GB-1.0MPa 100A																			1	1
Pilot solenoid valve	093W76641-001	BB41037C10A.200V	2	2	2					2	2	2	2	2	2	2	2	2	2	2	2	2
	093W76641-002	BB41037H 10A.200V				2	2	2	2													
Pilot pressure regulator	093W76642-001	SGX-15N	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Servo motor (air or gas)	093W76643-001	SQM10.16502-PM	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Potentiometer for servo motor	093W76644-001	AZS50.5	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Gas pressure gauge	093W76638-002	0-10KPa 10A			1	1	1	1	1	1	1	1	1	1	1	1	1	1				
	093W76638-001	0-30KPa 10A	1	1															1	1	1	1
Ignition transformer	093W76646-001	TRS818PC/4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ignition rod	093W76647-001	SDL-YC	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Flame detector	093W76645-001	C7035A1064J	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gas pressure switch (Upper/low limit) /Air pressure switch	093W76639-001	LGW50A4	2	2	2	3	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1
	093W76639-002	LGW150A4	1	1	1		2	2	2	1	1	2	2	2	2	2	2	2	2	2	2	2
Motor for blower	093W76648-002	M2QA 1.5KW 380V 50HZ(3.28A)	1	1	1																	
	093W76648-003	M2QA90L2A 2.2KW 380V 50HZ(4.61A)				1	1															
	093W76648-005	M2QA112M 4KW 380V 50HZ(7.89A)						1	1	1	1											
	093W76648-007	M2QA 5KW 380V 50HZ(10.7A)										1	1									
	093W76648-008	FCKA 7.5KW 380V 50HZ(14.7A)												1	1	1						
	093W76648-009	FCKA 11KW 380V 50HZ(22A)															1	1	1	1		
	093W76648-010	FCKA 15KW 380V 50HZ(29.6A)																			1	1
	093W76648-011	FCKA 22KW 380V 50HZ(40.2A)																			1	1

Note: Burner parts are different depending on the burner model.

Figure 52: Olympia burner



LD31300

Figure 53: SDC35 controller



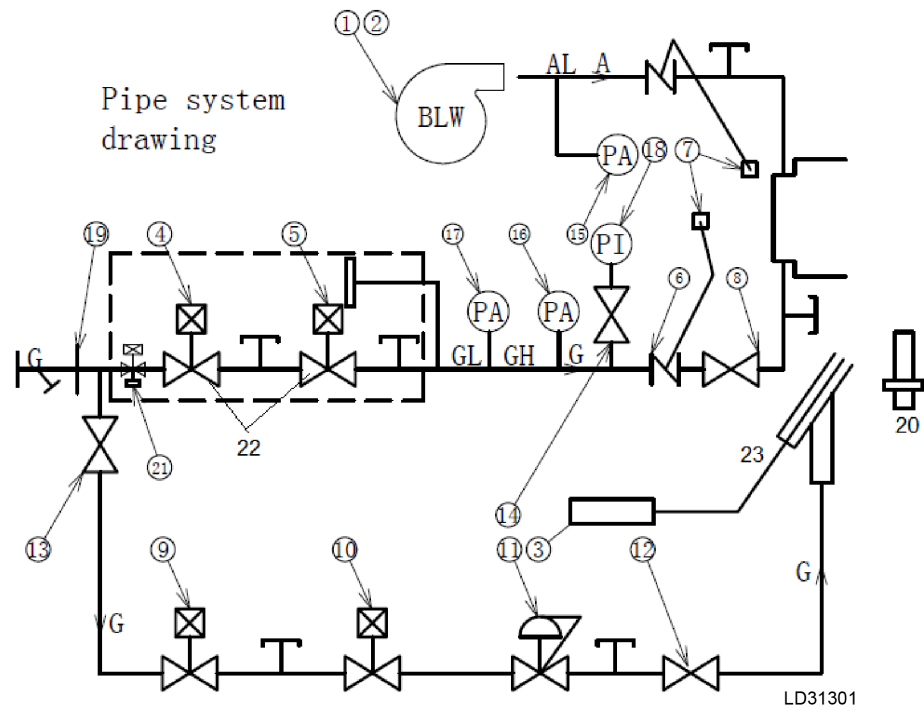
LD29585

Figure 54: Olympia gas burner controller



LD29565

Figure 55: Olympia burner part in gas system



Callout	Part name	Callout	Part name
1	Motor for blower	15	Air pressure switch
3	Ignition transformer	16	High pressure switch
4	NO 1 shut off valve actuator	17	Low pressure switch
5	NO 2 main shut off valve actuator with governor	18	Gas pressure gauge
6	Servo motor (air or gas)	19	Gas filter
7	Potentiometer for servo motor	20	Flame detector
9,10	Pilot solenoid valve	21	Position switch for dungs gas shut off valve
11	Pilot pressure regulator	22	Gas shut off valve body
		23	Ignition rod

Note: Callout numbers not included in the table are not factory scope.

Table 16: Weishaupt burner for CE standard region

Part name	Part number	Part model	Weishaupt part order number
Main gas shut off valve	093W27057-001	W-MF SE 507	605320
	093W27057-002	W-MF SE 512	605321
	093W27057-003	W-MF 507	625001
	093W27057-004	W-MF 512	625003
	093W27057-005	DMV 525/12	625040
	093W27057-006	DMV 5065/12	625007
	093W27057-007	DMV 5080/12	625009
Gas filter	093W27058-001	WF 510/1	15122340140
	093W27058-002	WF 515/1	15122340150
	093W27058-003	WF 520/1	15122340160
	093W27058-004	WF 3065/1	15132726512
	093W27058-005	WF 3080/1	15132926922
Gas regulator	093W27059-001	FRS510	15133026872
	093W27059-002	FRS515	15133026882
	093W27059-003	FRS520	15133026892
	093W27059-004	FRS5065	15132926722
	093W27059-005	FRS5080	15132926732
Gas switch (for low pressure, high pressure, or leak detection)	093W27060-001	GW50A5/1	691378
	093W27060-002	GW150 A5/1 5-150 mbar	691379
Air switch	093W27061-001	LGW 10 A2 1 - 10 mbar	691 370
	093W27061-002	LGW 50 A2P 2,5 - 50 mbar	691 373
Actuator for gas control valve	093W27062-001	STE4.5 B0.36/6-01L GAS	651101
	093W27062-002	STE 50 1,2 Nm Gas (W-FM 50)	651 484
	093W27062-003	SQM 45.291 B9 WH 3 Nm	651 501
	093W27062-004	SQM 45.291 A9 WH 3Nm	651 470
Actuator for air control valve	093W27063-001	STE4.5 B0.36/6-01L LUFT	651103
	093W27063-002	STE 50 1,2Nm, W-FM 50	651 483
	093W27063-003	STE 50 3 Nm (W-FM 50)	651 477
	093W27063-004	SQM 48.697 B9 WH 35 Nm	651 503
	093W27063-005	SQM 45.291 A9 WH 3 Nm	651 470
	093W27063-006	SQM48.497 A9 WH 20Nm	651 503
Ion rod	093W27064-001	For burner model WG5-40 LN	23210014207
	093W27064-002	For burner WM-G10-50	15124314137
	093W27064-003	For burner WM-G10/2, 20/4 PLN	21710414547
	093W27064-004	For burner WM-G10/4,20/2,20/3 PLN	25010414597
	093W27064-005	For burner WM-G30/2 PLN	21710614057
	093W27064-006	For burner WM-G50/1 PLN	21731614217
Ignition transformer	093W27065-001	W-ZG01/V	603221
	093W27065-002	W-ZG 02/V	21770411032
Ignition rod	093W27066-001	For burner model WG5-40 LN, G10/2-4	23220014217
	093W27066-002	for burner WM-G20-50	21720414247
	093W27066-003	For burner WM-G10/2, 20/4 PLN	21710414547
	093W27066-004	For burner WM-G10/4, 20/2-4 PLN	25010414607
	093W27066-005	For burner WM-G30/2, 50/1 PLN	21830514062
Blower motor	093W27067-001	ECK03/H-2/1 230V 50Hz	652113
	093W27067-002	ECK04/A-2 230V 50Hz	652084
	093W27067-003	ECK05/A-2 230V 50Hz	24031007032
	093W27067-004	WM-D90/90-2/1K0	21510407010
	093W27067-005	WM-D90/110-2/1K5 220-240/380-415V	21510507010
	093W27067-006	WM-D112/140-2/3K0 WM-G20/2	21520307010
	093W27067-007	WM-D112/140-2/3K5 WM-G20/3	21520407010
	093W27067-008	WM-D132/170-2/7K5 380-415V 50 Hz	21531307010
	093W27067-009	WM-D132/210-2/10K0 380-415V 50Hz	21531507010
	093W27067-010	WM-D132/210-2/14K0 380-415V 50Hz	21531607010
	093W27067-011	WM-D132/210-2/15 K5 380-415V 50Hz 30/4	21531707010
	093W27067-012	WM-D160/240-2/14K5 380-415V 50Hz	21551307010
	093W27067-013	WM-D90/110-2/1K9 380-415V 50Hz with VSD	21510607010
	093W27067-014	WM-D112/140-2/3K0 380-415V 50Hz	21520307010
	093W27067-015	WM-D112/170-2/4K5 380-415V 50Hz	21520507010
	093W27067-016	WM-D112/170-2/4K5 380-415V 50Hz with VSD	21520607010
	093W27067-017	WM-D132/210-2/14K0 380-415V 50Hz	21531607010
	093W27067-018	WM-D160/240-2/16K5 380-415V 50Hz	21551407010

Table 16: Weishaupt burner for CE standard region

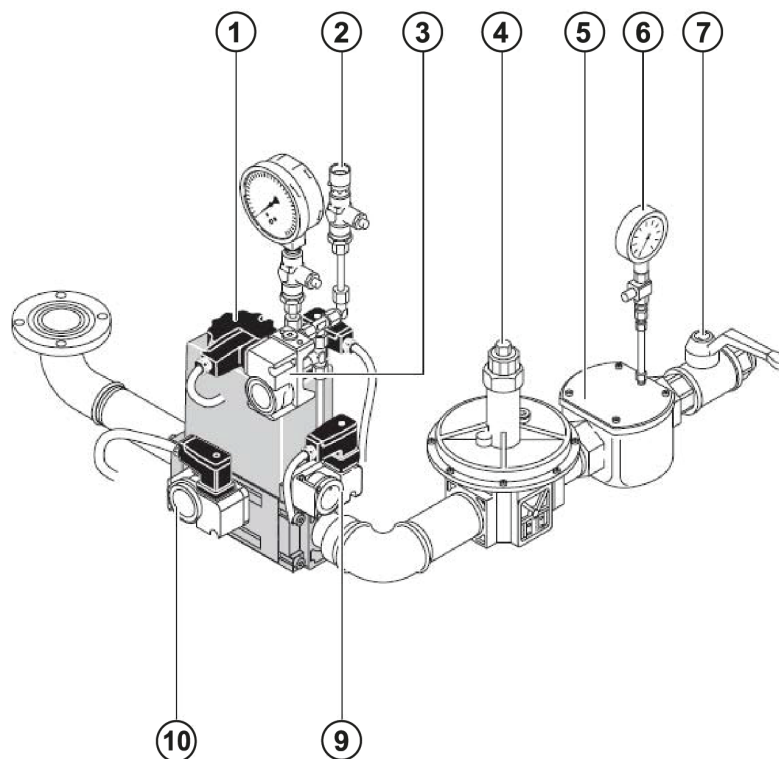
Part name	Part number	Part model	Weishaupt part order number
Combustion controller	093W27068-001	W-FM25	23030100440
	093W27068-002	W-FM50	600410
	093W27068-003	W-FM100	600461
	093W27068-004	W-FM200 with FGR	600465
Display of burner controller	093W27069-001	AM25 V1.0	600481
	093W27069-002	ABE for W-FM50/54	600408
	093W27069-003	ABE for W-FM100/200	600442
4 mA to 20 mA module for W-FM25	093W27070-001	EM 3/3	660350

Figure 56: Weishaupt burner



LD29566

Figure 57: Weishaupt burner parts in gas system



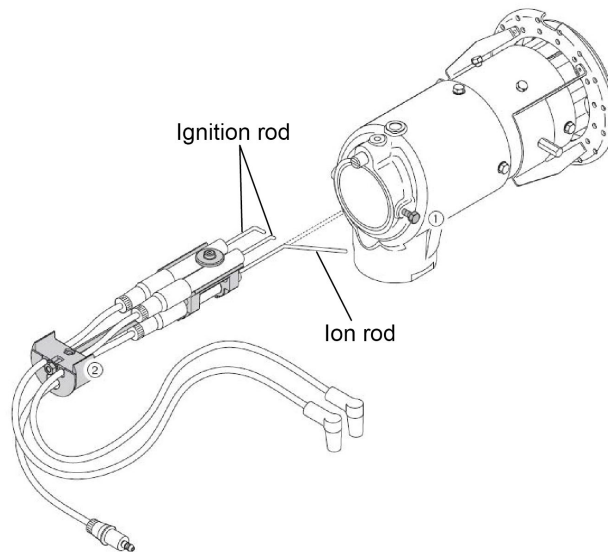
LD31302

Table 17: Weishaupt burner parts in gas system

Callout	Part name	Callout	Part name
1	Main gas shut off valve	5	Gas filter
3	Gas switch for high pressure	9	Gas switch for low pressure
4	Gas regulator	10	Gas switch for leakage detect

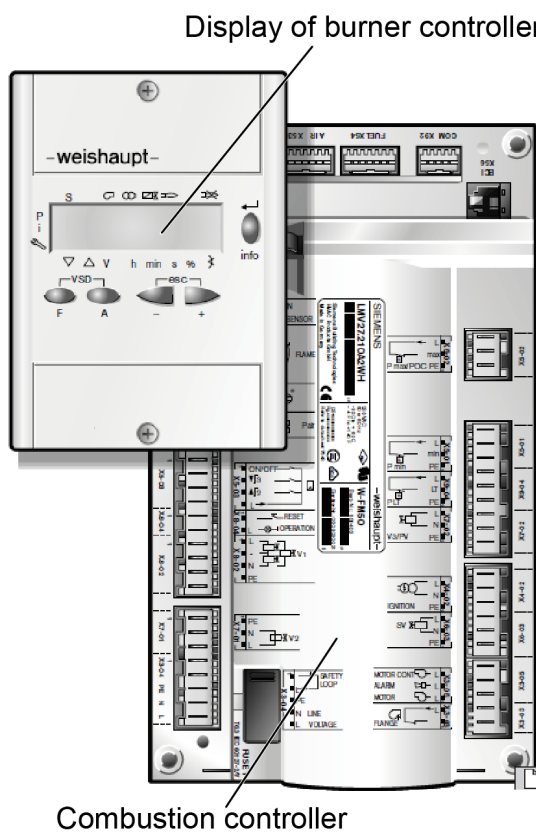
① **Note:** Callout numbers not included in the table are not factory scope.

Figure 58: Ignition rod and ion rod



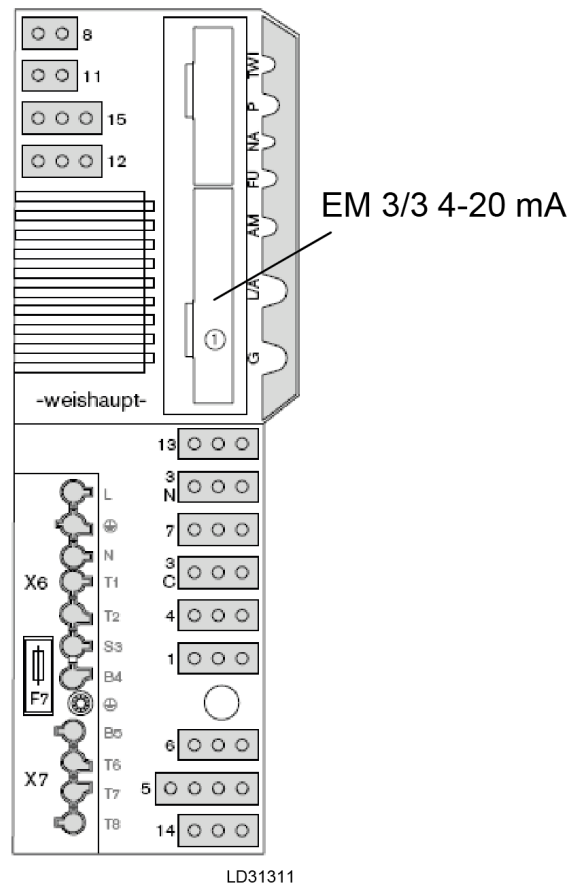
LD31303

Figure 59: Display of burner controller and combustion controller



LD31310

Figure 60: Combustion controller W-FM25



LD31311

Table 18: Power flame burner for UL standard region

Part name	Part number	Part model	Part order number of power flame
Combustion controller (Pr1)	093W76617-001	LMV37.420A1	061120
	093W76617-002	LMV36.520A1	061119
	093W76617-003	LMV51.100C2	060944
	093W76617-004	AGM60.4A9	502565
AZL display of burner control	093W76618-001	AZL23.00A9	061121
	093W76618-002	AZL52.40B1	060941
Noise suppressor	093W76619-001	PMR210ME6100M100	500520
Power supply	093W76620-001	SVL 1-24-100	557045
	093W76620-002	6EP13311SH03 115-240V/24 VDC	500571
	093W76620-003	Agg5.220	60982
Fuse	093W76621-001	1 Pole CC Fuse Block Kit	611880
	093W76622-001	2 Pole CC Fuse Block Kit	611881
	093W76623-001	3 Pole 60 Amp J Fuse Block Kit	611886
Buzzer for burner	093W76624-001	SC110N-R or MC-09-201-SR	633400
	093W76624-002	MC-09-301-SR 220/50	633402
Universal converter	093W76625-001	RMCL55BD	502292
UV flame detector	093W76613-001	QRA4.U	061122
	093W76613-002	QRI2A2.B180B	060935
Actuator for gas/Oil control valve	093W76611-001	SQM33.550A9	061123
	093W76611-002	SQM48.497B9	060967
	093W76612-002	SQM45.295B9	060966
Low gas pressure switch	093W76606-001	LGP-G 1-20	161000
	093W76606-002	LGP-H 1-7	163410
	093W76606-003	QPL25.150 2.00-60.25 in. W.C., 0.5-15.0 kPa	162006
High gas pressure switch	093W76604-001	HGP-G 2-20	161100
	093W76604-002	QPL25.050 5-50 mBar	162005
Gas pressure switch for leakage	093W76605-001	C6097A-1053	161660
	093W76605-002	C6097A-1004	161610
	093W76605-003	RLGP-A	163539
	093W76605-004	QPH31.090A00	162002
	093W76605-005	QPL25.150 2.00-60.25 in. W.C., 0.5-15.0 kPa	162006
Air pressure switch	093W76607-001	AFS 0.05-12 in. WC	170000
	093W76607-002	LGW50-A2P 2.5-50 mBar	171185
Gas shut off valve actuator 1	093W27091-001	SKP15.011U1	195810
	093W27091-002	SKP15.001E2 for CE	195813
Gas shut off valve actuator 2	093W27092-001	SKP25.013U1	195802
	093W27092-002	SKP25.003E2 for CE	195813
Gas shut off valve body	093W27093-001	VGD20.503U	195510
	093W27093-002	VGD20.323U	195552
	093W27093-003	VGD20.403U	195550
	093W27093-004	VGD40.040 DIN 40 for CE	195515
Pressure gauge	093W76651-001	0-15 US Gauge or PLP16201	463000
	093W76651-002	0-20 oz. Winters Gauge PLP301 or 161972A Ametek US Gauge	463100
	093W76651-003	0-15 in. 0-307 kPa PLP300-R8-R2 Winters Gauge	463008
Gas pilot governor	093W76609-001	325-3 3/8 in.	302800
Gas pilot solenoid valve	093W76608-001	8040H007 1/4 in. 120 V 50/60 Hz. or U-28-45-21-18	202450
	093W76608-002	13747000 E6G-S8 3/8 in.	285011
Ignition rod	093W76615-001	X04210	F20020-X04210
	093W76615-002	90L252C C7/8	C30414-X04222
Ignition transformer	093W76614-001	1092-PF-G 6000V 50/60 Hz	320001
	093W76614-002	TCD1FAV 230V 50/60 Hz.	332195
Motor for blower	093W76616-001	7-1/2 HP 3450 RPM 208/230/460/3 ODP 184TC VEM3219T	050430
	093W76616-002	3/4 HP 1725 RPM 208/230/460/3 ODP 56C Frame, CAT.	050163
	093W76616-003	3 HP 3450 RPM 208/230/460/3 ODP 56C FR. 5K48TN2182	054630
	093W76616-004	10 HP 3450 RPM 190/220/380/415/3 50 Hz. ODP 213TC	059181
Oil pump	093W76626-001	37B-R (SG-0570X)	101160
	093W76626-002	B2TA-8930B	100810
	093W76626-003	22R623D-5AA14	102700
Oil filter	093W76631-001	70101-300	985400
Oil adjust valve	093W76633-001	S-3-7 NO. 42573	262260

Table 18: Power flame burner for UL standard region

Part name	Part number	Part model	Part order number of power flame
Oil solenoid valve	093W76627-001	SV401AO2V9BF7	202490
	093W76627-002	8262H011V	213031
Oil gauge	093W76632-001	BR101D-254I Gauge	465200
Oil nozzle	093W76630-001	33769-92 24 GPH 80°	532530
Oil pressure switch	093W76629-001	SB424V XG6 400 psi	151600

Figure 61: Power flame burner



LD29567

Figure 62: Combustion controller



LD31312

Figure 63: AZL display of burner control



LD31313

Figure 64: UV flame detector



LD31314

Figure 65: Power flame burner part in the gas system (reference)

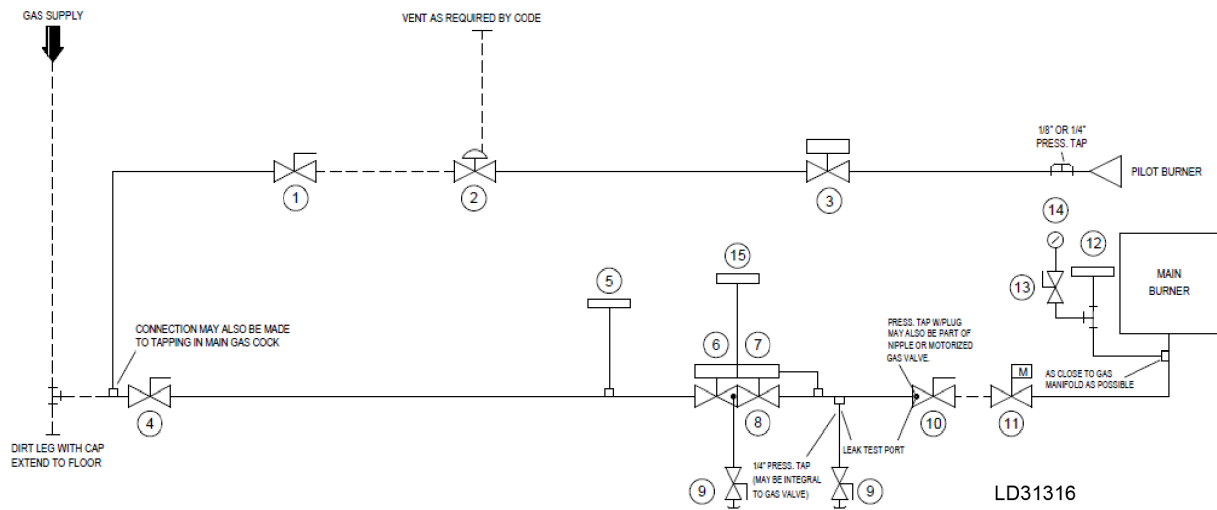


Table 19: Power flame burner part in the gas system (reference)

Callout	Part name	Callout	Part name
2	Gas pilot governor	8	Gas shut off valve body
3	Gas pilot solenoid valve	11	Actuator for gas/oil control valve
5	Low gas pressure switch	12	High gas pressure switch
6	Gas shut off valve actuator 1	14	Pressure gauge
7	Gas shut off valve actuator 2	15	Gas pressure switch for leakage

① **Note:** Callout numbers not included in the table are not factory scope.

Figure 66: Power flame burner part in the oil system

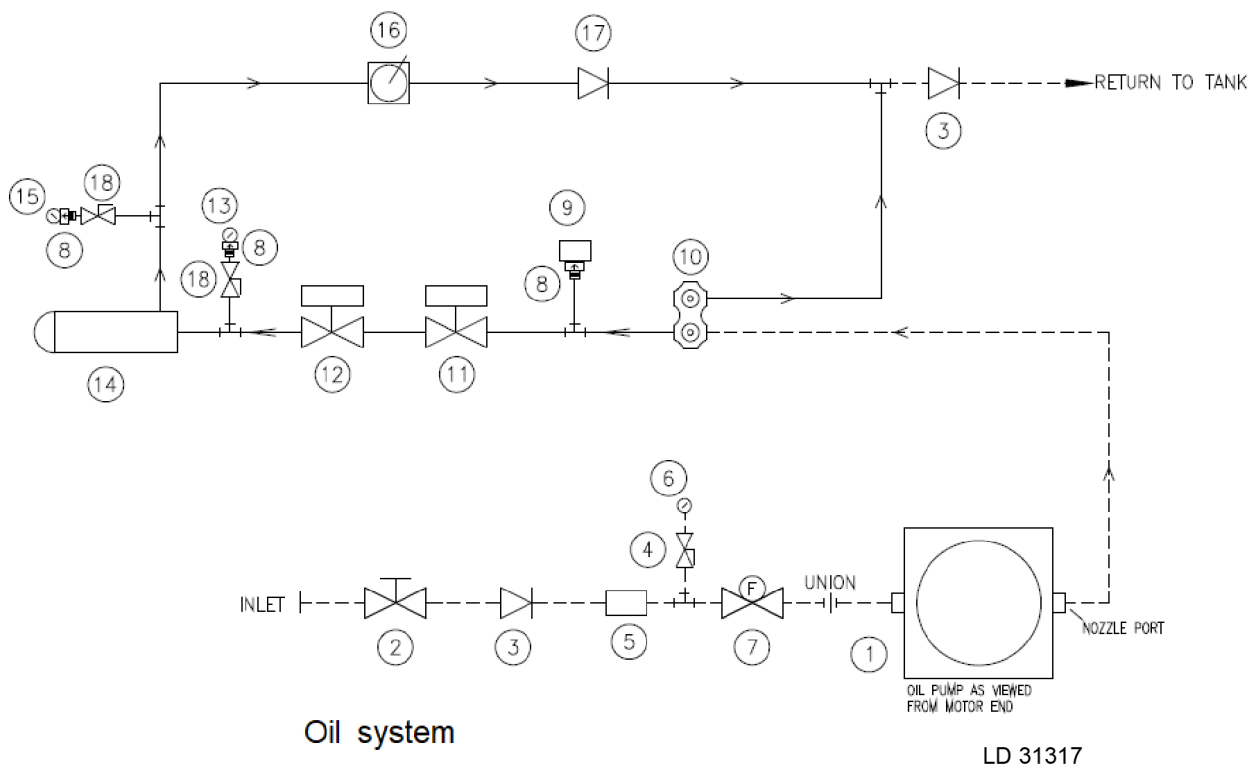


Table 20: Power flame burner part in the oil system (reference)

Callout	Part name	Callout	Part name
1	Oil pump	14	Oil nozzle
5	Oil filter	13,15	Oil gauge
9	Oil pressure switch	16	Oil adjust valve
11,12	Oil solenoid valve		

Note: Callout numbers not included in the table are not factory scope.

Other parts

Table 21: Other parts

Description																					
Part name	Part number	120EX(H/S)	150EX(H/S)	180EX(H/S)	240EX(H/S)	300EX(H/S)	360/400EX(H/S)	450EX(H/S)	500EX(H/S)	560EX(H/S)	600EX(H/S)	700EX(H/S)	800EX(H/S)	900EXW(H/S)	1000EXW(H/S)	1100EXW(H/S)	1200EXW3(H/S)	1300EXW3(H/S)	1400EXW3(H/S)	1500EXW3(H/S)	1600EXW3(H/S)
Compound gauge for generator	022W13350-002	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Vacuum gauge for purge line	022W13350-003	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
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																				
Paint for surface	013W03775-000																				
Surface paint thinner	013W03776-000																				
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:

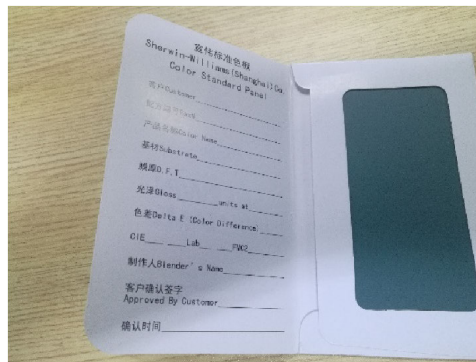
- The surface paint is Munsell 4.65G 4.50/2.85 and does not have the standard RAL color code. The Wuxi factory can send the color standard panel and the paint company can adjust the paint color to match the color standard panel.
- The following items cannot be exported from China: vacuum pump oil, lithium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

Figure 67: Compound gauge



LD29568

Figure 68: Color standard panel



LD31318

Figure 69: Rubber hose for purge line



LD29569

Standard parts kit and tools kit

Table 22: Tools kit

Name	Part number	Part list	Model	Unit	Qt.
Tools kit	393W21036-000	PP measuring cylinder	(B class) -250ML 650941	Pcs	2
		Glass thermometer	H441 range 5-135°C/40-280°F	Pcs	2
		Glass thermometer	E520R 0-80°C/20-180°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 70: Tools kit



LD31319

Table 23: 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 71: Parts kit



LD31320

