



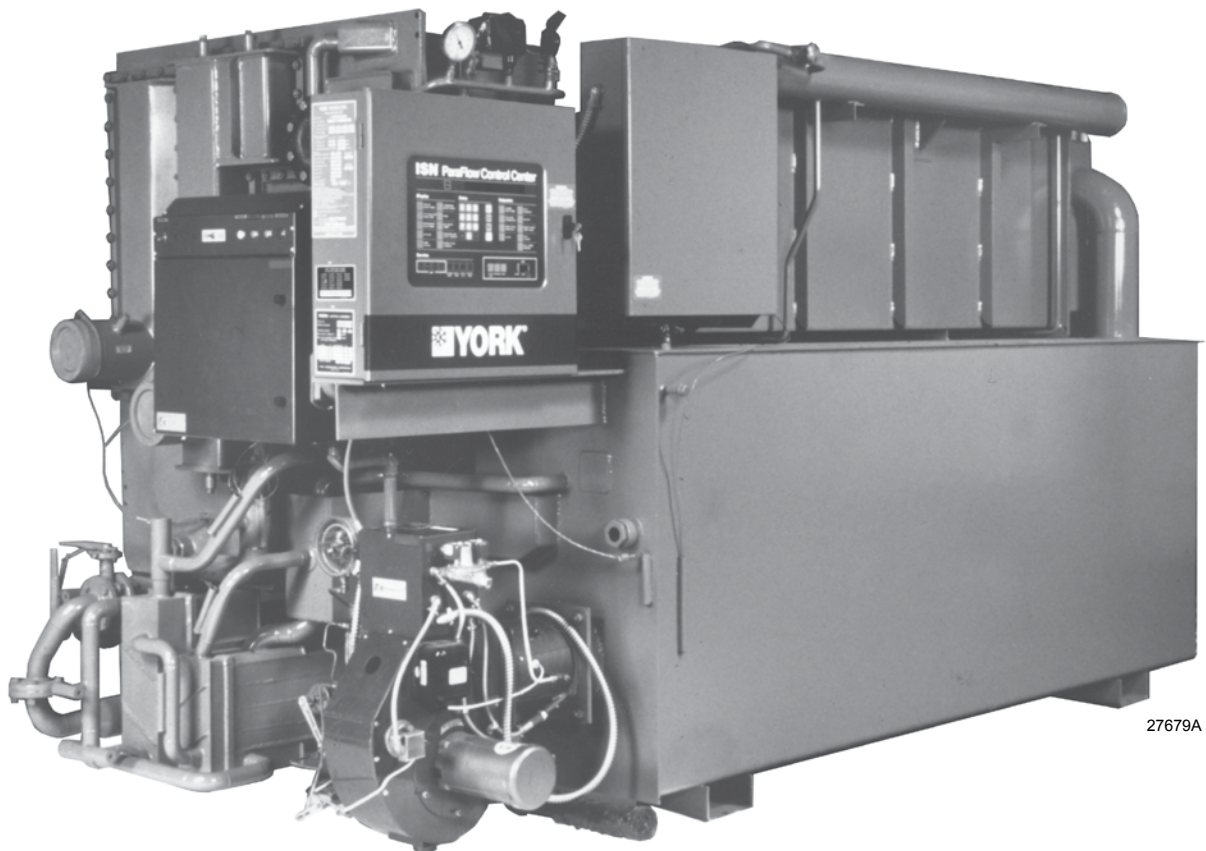
**YPC TWO-STAGE  
DIRECT-FIRED AND STEAM-FIRED  
ABSORPTION CHILLER-HEATERS**

**RENEWAL PARTS**

Supersedes: 155.17-RP3 (1107)

Form 155.17-RP3 (113)

**MODELS  
DIRECT-FIRED  
YPC-FA-12SC THRU YPC-FZ-19S  
STEAM-FIRED  
YPC-ST-14SC THRU YPC-ST-19S**



27679A

(DIRECT-FIRED UNIT SHOWN)

Issue Date:  
January 31, 2013



# IMPORTANT!

## READ BEFORE PROCEEDING!

### GENERAL SAFETY GUIDELINES

This equipment is a relatively complicated apparatus. During installation, operation maintenance or service, individuals may be exposed to certain components or conditions including, but not limited to: refrigerants, materials under pressure, rotating components, and both high and low voltage. Each of these items has the potential, if misused or handled improperly, to cause bodily injury or death. It is the obligation and responsibility of operating/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 operating/service personnel. It is expected that these individuals possess independent training that will enable them to perform their assigned tasks properly and safely. It is essential that, prior to performing any task on this equipment, this individual shall have read and understood this document and any referenced materials. This individual shall also be familiar with and comply with all applicable governmental standards and regulations pertaining to the task in question.

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### SAFETY SYMBOLS

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



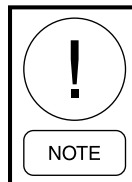
*Indicates a possible hazardous situation which will result in death or serious injury if proper care is not taken.*



*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.*



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



*Highlights additional information useful to the technician in completing the work being performed properly.*



*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 owner. Updated manuals, if applicable, can be obtained by contacting the nearest Johnson Controls Service office.

Operating/service personnel maintain responsibility for the applicability of these documents to the equipment. If there is any question regarding the applicability of

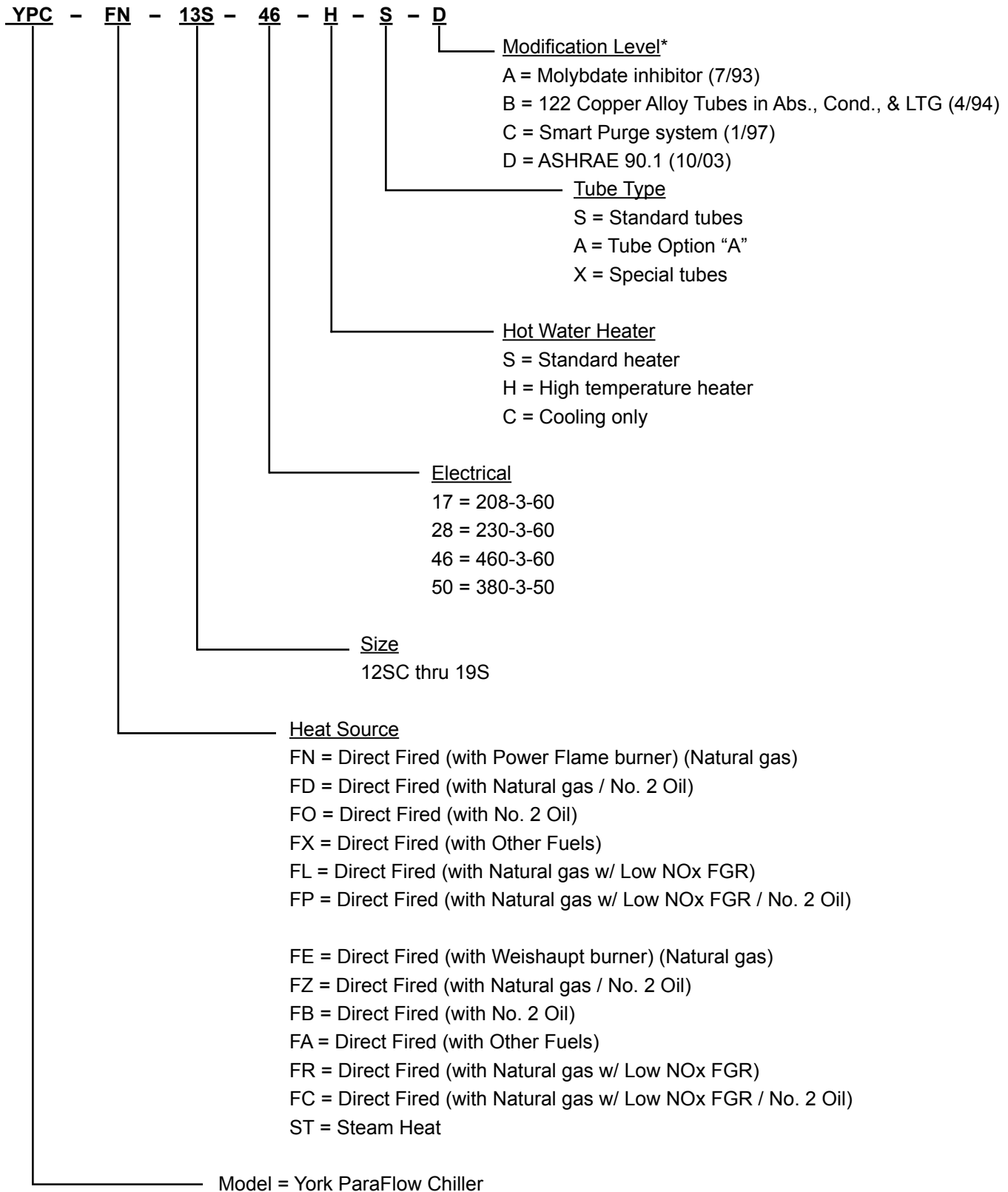
these documents, the technician should verify whether the equipment has been modified and if current literature is available from the owner of the equipment prior to performing any work on the chiller.

### CHANGE BARS

Revisions made to this document are indicated with a line along the left or right hand column in the area the revision was made. These revisions are to technical information and any other changes in spelling, grammar or formatting are not included.

## NOMENCLATURE

The model number denotes the following characteristics of the unit:



\* Modification "B" contains Modification "A"  
 Modification "C" contains Modifications "A" and "B"

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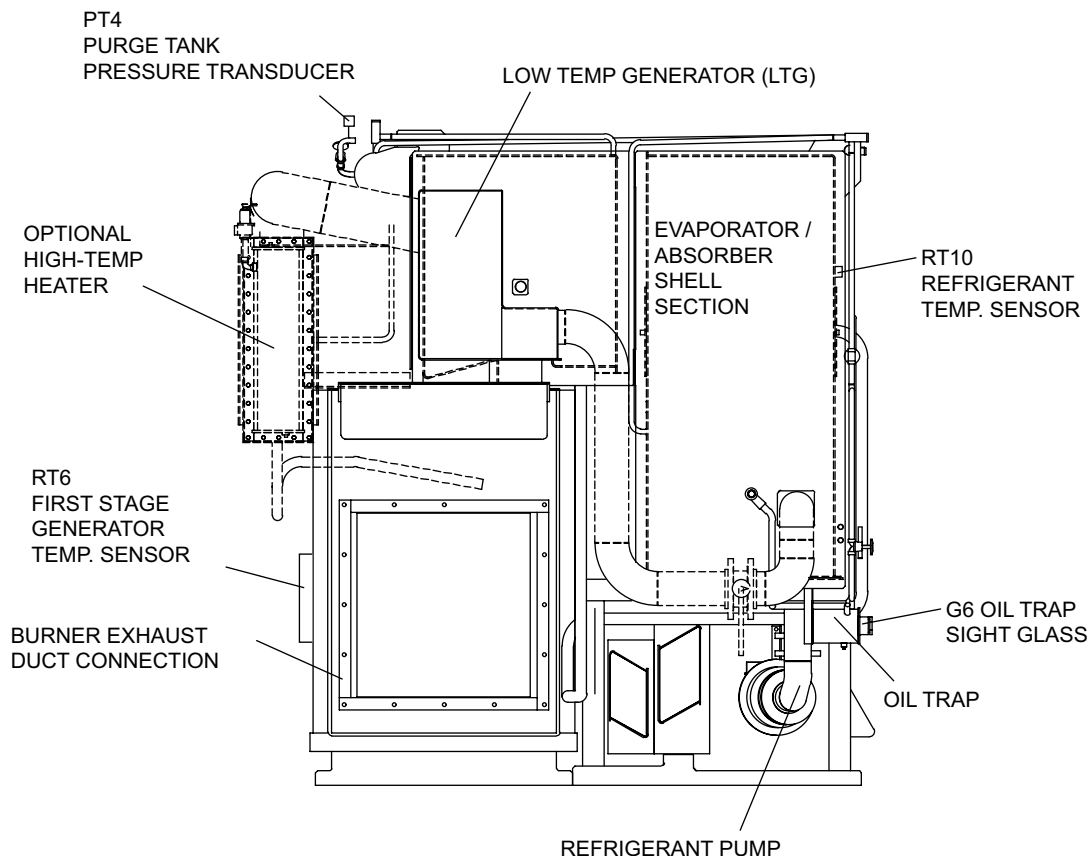
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## MAJOR AND SYSTEM CONTROL COMPONENT LOCATION FOR DIRECT-FIRED UNITS



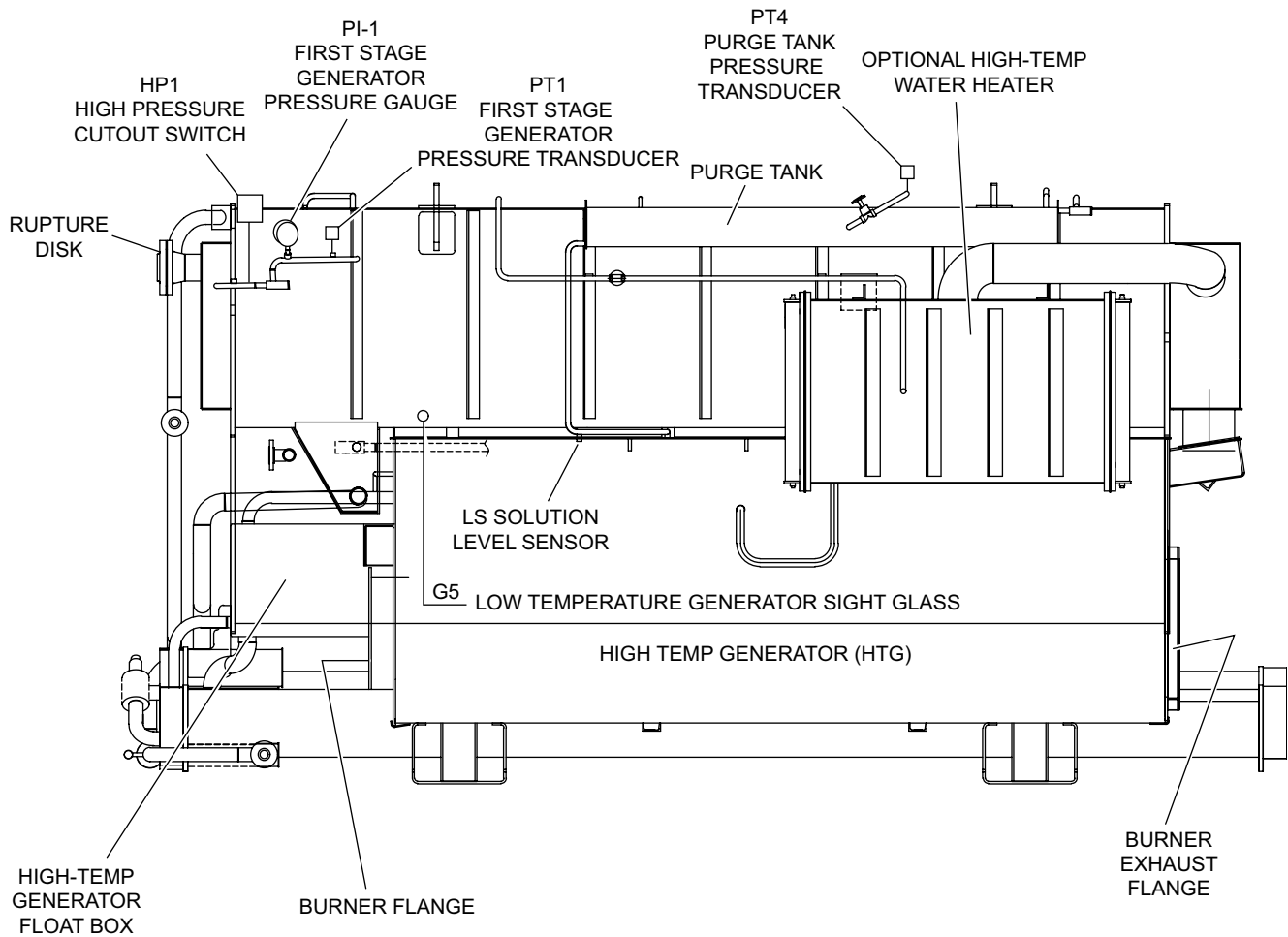
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### EXHAUST END

#### NOTES FOR ALL DIRECT-FIRED DIAGRAMS:

1. Not all system components are shown on any one diagram.
2. The following system controls are located on the side of the unit Power Panel:
  - LS – Low Solution Level Cutout Switch
  - HT1 – First-Stage Generator High Temperature Cutout Control
3. The following sensors are located on unit waterbox nozzles and are not shown:
  - RT1 – Leaving Chilled Water Temperature Sensor
  - RT2 – Leaving Hot Water Temp. Sensor (only on units with optional Hi-Temp Heater)
  - RT3 – Entering Hot Water Temp. Sensor (only on units with optional Hi-Temp Heater)
  - RT4 – Leaving Condenser Water Temperature Sensor
  - RT5 – Entering Absorber Water Temp. Sensor
  - RT9 – Entering Chilled Water Temp. Sensor

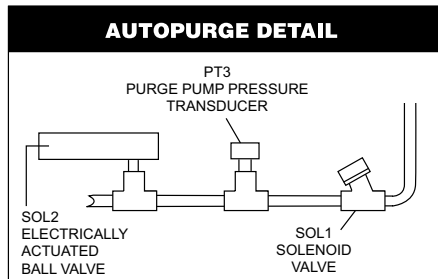
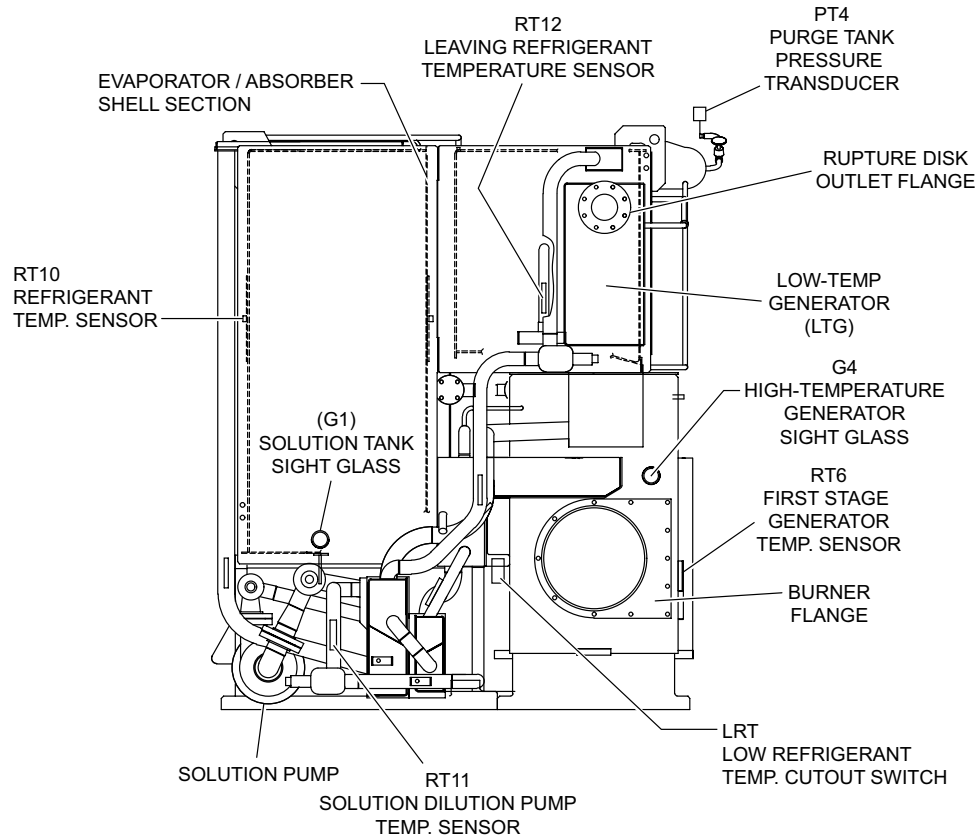
**FIGURE 1 - MAJOR AND SYSTEM CONTROL COMPONENT LOCATION FOR DIRECT-FIRED UNITS (EXHAUST END)**



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**PANEL SIDE**  
(NOTE: PANELS NOT SHOWN)

**FIGURE 2 - MAJOR AND SYSTEM CONTROL COMPONENT LOCATION FOR DIRECT-FIRED UNITS (PANEL SIDE)**

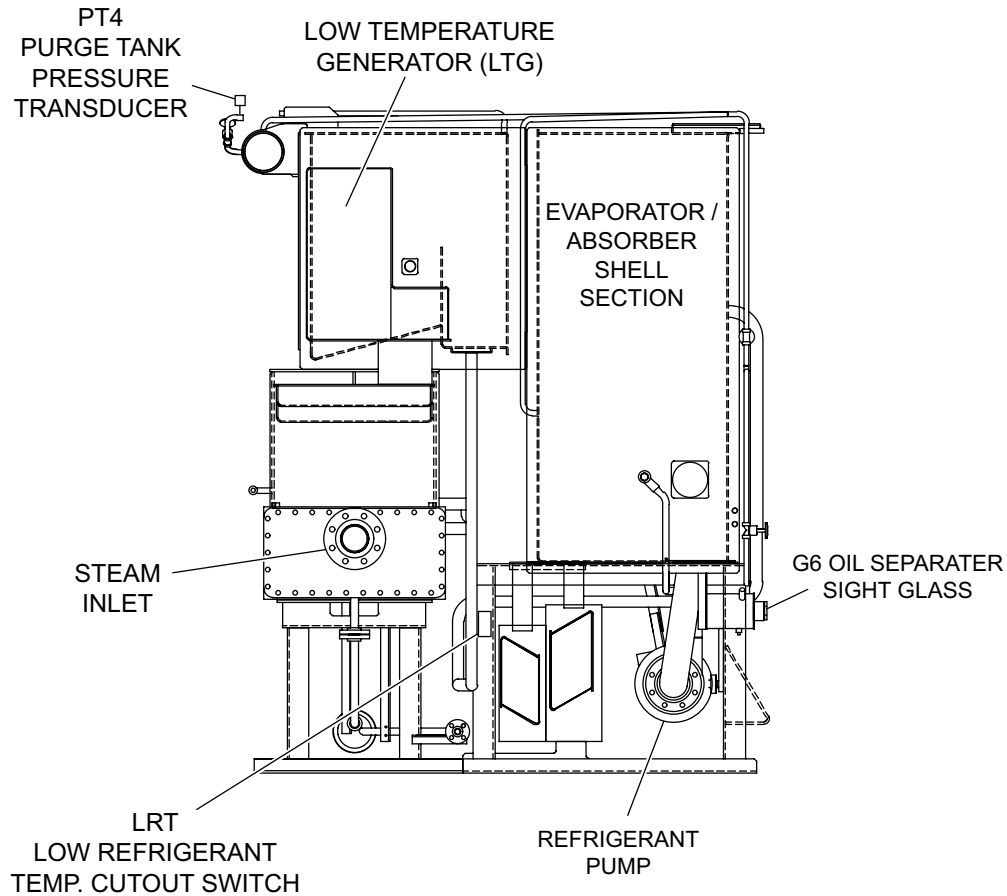


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**BURNER END**

**FIGURE 3 - MAJOR AND SYSTEM CONTROL COMPONENT LOCATION FOR DIRECT-FIRED UNITS (BURNER END)**

## MAJOR AND SYSTEM CONTROL COMPONENT LOCATION FOR STEAM-FIRED UNITS



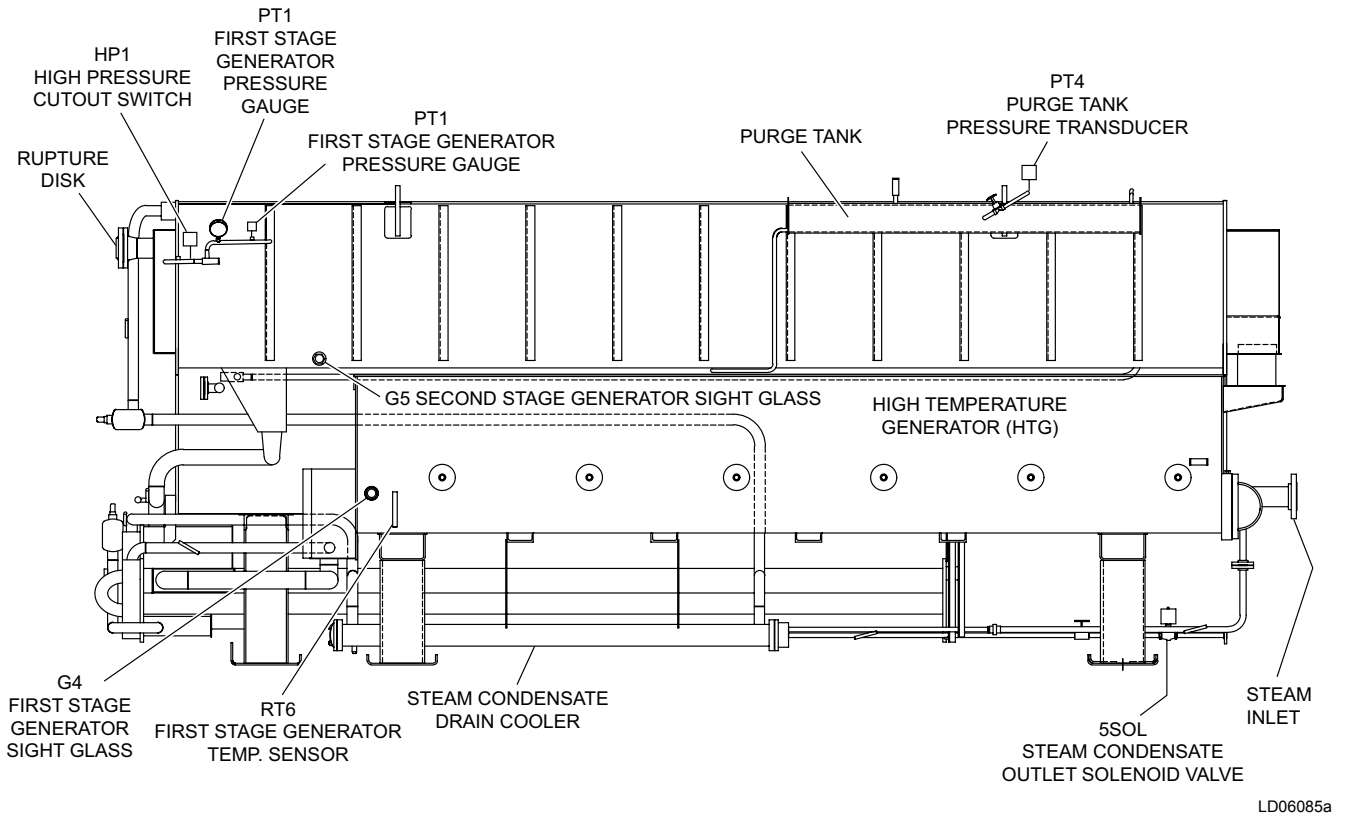
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### STEAM INLET END

#### NOTES FOR ALL STEAM-FIRED UNITS:

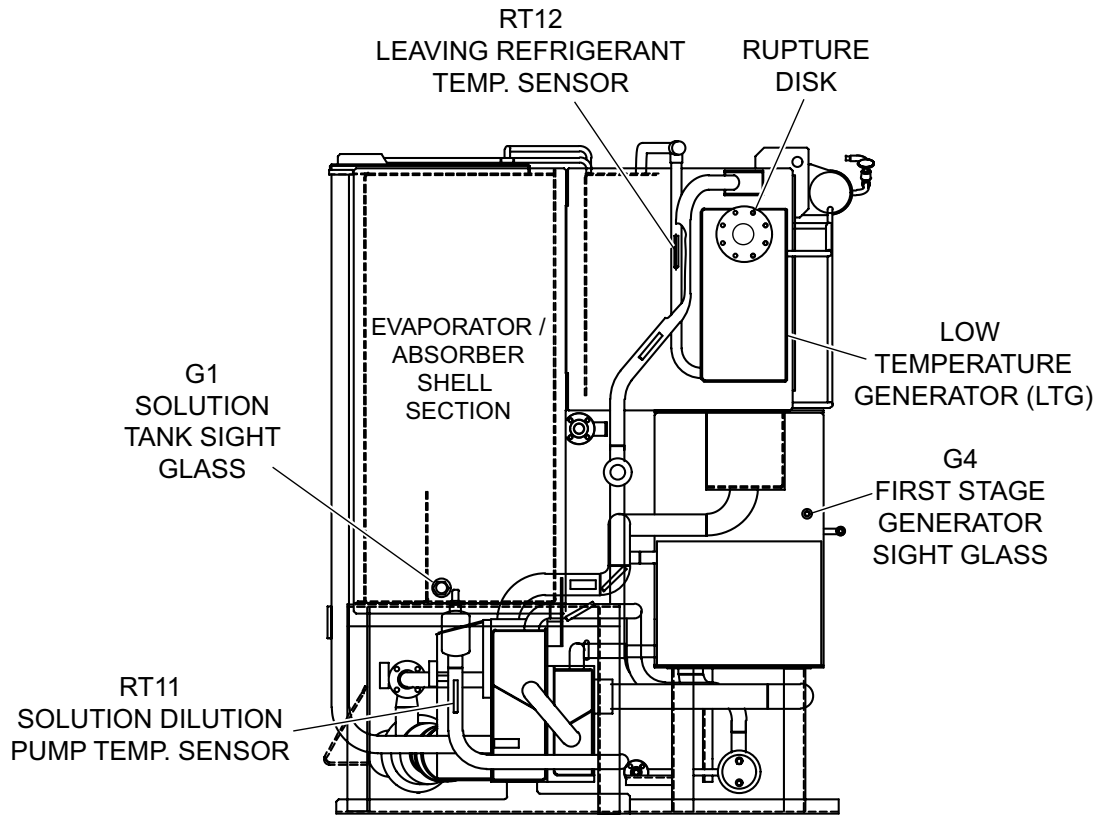
1. Not all system components are shown on any one diagram.
2. The following system control is located on the side of the unit Power Panel:  
HT1 – First-Stage Generator High Temperature Cutout Control
3. The following sensors are located on unit waterbox nozzles and are not shown:  
RT1 – Leaving Chilled Water Temperature Sensor  
RT4 – Leaving Condenser Water Temperature Sensor  
RT5 – Entering Absorber Water Temp. Sensor  
RT9 – Entering Chilled Water Temp. Sensor

**FIGURE 4 - MAJOR AND SYSTEM CONTROL COMPONENT LOCATION FOR STEAM-FIRED UNITS  
(STEAM INLET END)**



**PANEL SIDE**  
(NOTE: PANELS NOT SHOWN)

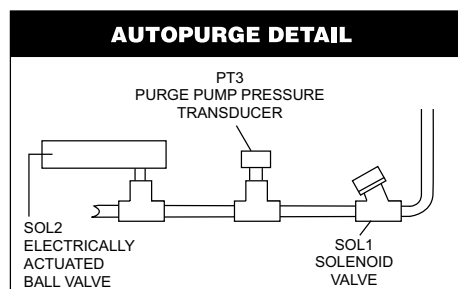
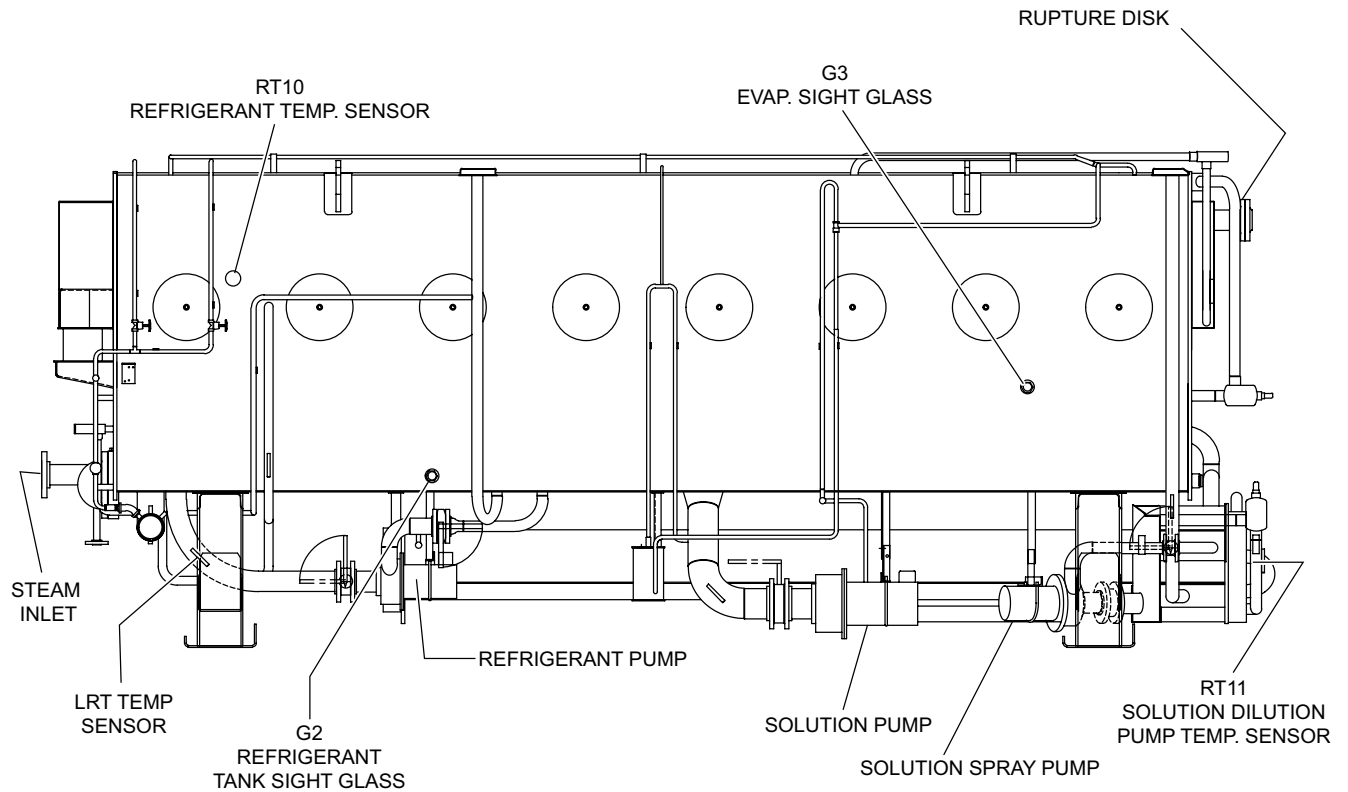
**FIGURE 5 - MAJOR AND SYSTEM CONTROL COMPONENT LOCATION FOR STEAM-FIRED UNITS (PANEL SIDE)**



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**OPPOSITE END**

**FIGURE 6 - MAJOR AND SYSTEM CONTROL COMPONENT LOCATION FOR STEAM-FIRED UNITS (OPPOSITE END)**



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**OPPOSITE PANEL SIDE**

**FIGURE 7 - MAJOR AND SYSTEM CONTROL COMPONENT LOCATION FOR STEAM-FIRED UNITS (OPPOSITE PANEL SIDE)**

## MAIN CONTROL PANEL

**TABLE 1 - MAIN CONTROL PANEL**

ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
1	Micro Panel Enclosure and Door	371-01288-301	1	1, 2, 3
4	Relay (1R)	024-23962-000	1	1
5	Transformer (1T)	025-27911-000	1	1
6	Fuse, 7 AMP (1FU)	025-29905-000	1	1
9	Control, I/O Expansion Board	031-01301-001	1	2
10	Control, Power Supply Board	031-01080-000	1	2
12	Cable, Ribbon - I/O Expansion Board J9 & J10	031-01322-000	2	2
13	Fastener, Pawl, Adjustable	021-17252-000	1	3
14	Clamp, Ribbon Wire	025-29103-000	1	1
15	Strap, Cable	025-11098-000	2	1
16	Strap, Cable	025-09607-000	1	2
17	Display, Panel	031-03277-000	1	3
18	Switch, Rocker	024-23143-000	1	3
19	Clamp, Ribbon Wire	025-25156-000	11	1
20	Mount, Cable Strap	025-25155-000	5	3
22	Label, Identification	035-07878-000	1	3
23	Label, Caution	035-03908-000	1	3
24	Label, Caution	035-05548-000	1	3
25	Label, Notice	035-05973-000	1	3
26	Label, Caution	035-07425-000	1	3
27	Strip, Marker	025-29933-000	1	2
28	Strip, Marker	025-29911-000	1	2
29	Cable, Ribbon - Relay Board J3	031-01323-000	1	1, 2
30	Cable, Ribbon - Keypad	031-00950-000	1	1, 2, 3
31	Cable, Ribbon - Relay Board J1	031-00951-000	1	1, 2
32	Cable, Ribbon - Display	031-00952-000	1	1, 2, 3
33	Cable, Ribbon - Digital Input Board J1	031-00953-000	1	1
34	Cable, Ribbon - Micro Board J2	031-01321-000	1	2
35	Nameplate, Patent	029-20119-000	1	3
37	Terminal Block	025-20944-000	17	2
38	Terminal Block	025-20945-000	14	2
39	Terminal Block End	025-20946-000	2	2
40	Spacer, #8-32 x 3-3/4 long	021-17256-000	4	1, 2
42	Spacer, #6-32 x 3/4 long	021-17259-000	4	3
43	Nut, Expansion	021-14661-000	30	1, 2
50	Screw, #6-32 x 3/4 long	021-03739-000	4	3
51	Spacer, RAF 1127-6-N-O	021-17776-000	4	3
52	Spacer, Cable	025-18167-000	10	1, 2, 3
53	Washer, Cup	021-14191-000	16	2
54	Screw, Tap, Type F Hex Head, #10-32 x 3/8 long	021-17608-000	17	2
56	Screw, Machine #10-24 x 3/8 long	021-03745-000	6	2, 3
57	Screw, Tap Type B Pan Head, #10 x 1/2 long	021-13789-000	18	1, 2
58	Screw, Tap, Type B Pan Head, #8 x 1-1/4 long	021-14667-000	30	2
60	Screw, Tap Type B Pan Head, #8 x 3/8 long	021-13783-000	16	1, 2
61	Screw, Tap Cut Type F, #6 x 1/2 long	021-13721-000	6	2

**TABLE 1 - MAIN CONTROL PANEL (CONT'D)**

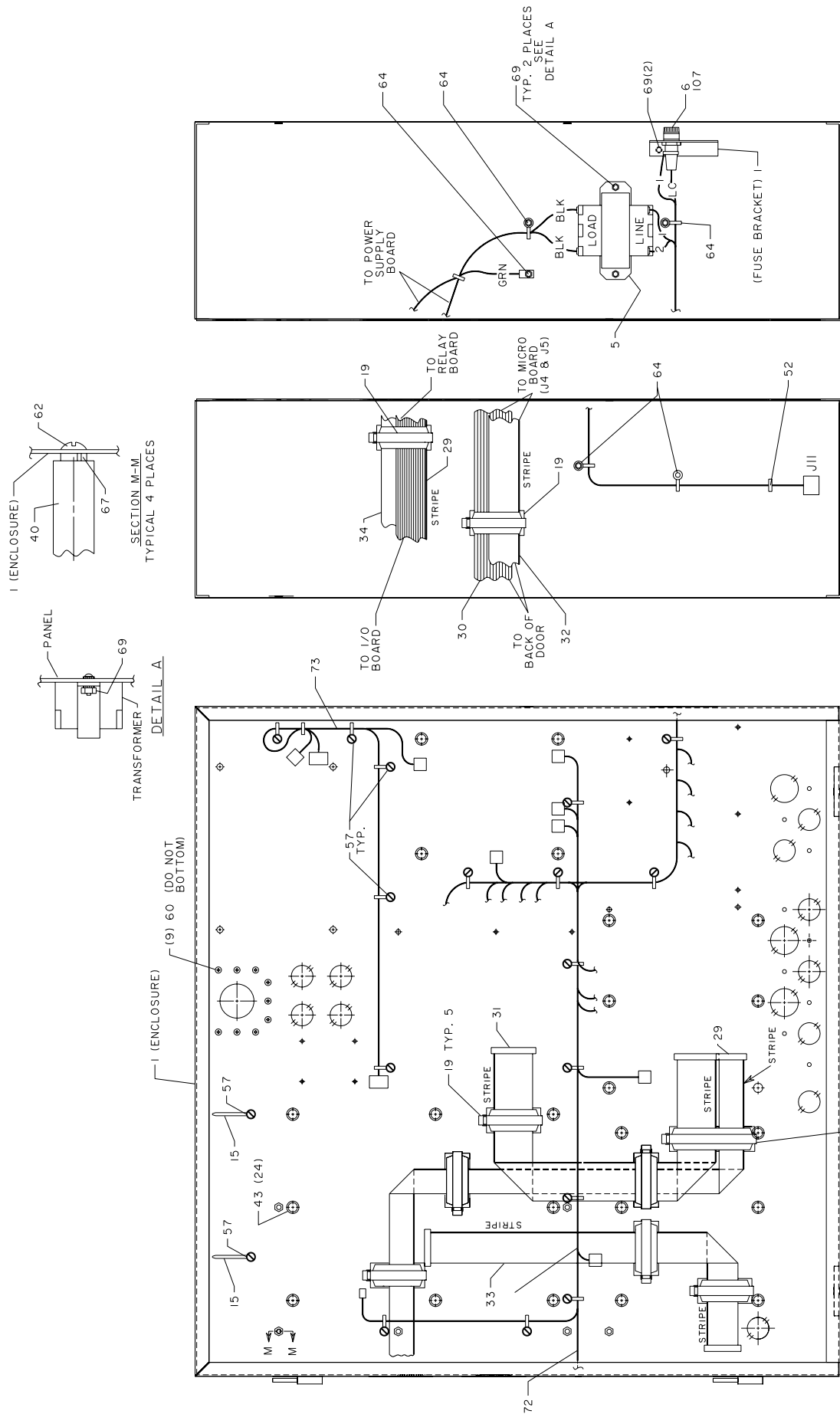
ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
62	Screw, Mach. Head, #8-32 x 1/2 long	021-01722-000	4	1
63	Screw, Mach. Head, #6-32 x 3/8 long	021-01692-000	4	3
64	Nut/Washer (KEPS), #10-24	021-18024-000	11	1, 2, 3
65	Lockwasher, Internal Tooth, #6	021-01132-000	8	3
66	Lockwasher, #10	021-01137-000	2	3
67	Lockwasher, #8	021-01133-000	4	1
68	Washer, Plain, #6	021-11641-000	2	2
69	Nut/Washer (KEPS) #8-32	021-17664-000	4	1
72	Wiring Harness, Main	571-01288-201	1	1
73	Wiring Harness, Card Cage	571-01111-001	1	1
75	Wiring Harness, Door	571-01288-211	1	3
77	Screw/Washer (SEMS)	021-17268-000	4	2
78	Suppressor (Note 1)	031-00808-000	1	2
80	Insulator, Display	071-01113-000	1	3
82	Screw, Recessed Pan Head, 1/4-20 x 3/4 long	021-03748-000	1	2
83	Nut Hex, 1/4-20	021-00451-000	1	2
84	Lockwasher, Internal Lock Tooth, 1/4	021-01148-000	1	2
85	Control Micro Board, 2meg (NOTE 2)	031-01065-002	1	2
104	Control Relay Board	031-01199-000	1	2
105	Label, Fuse	025-29931-000	1	2
107	Fuse Holder	025-13991-000	1	1
108	Screw, Serrated Head, #10 x 1/2 long	021-14786-000	4	2
151	Eprom, Programmed, 2 meg (NOTE 4)	See Chart, Note 4	1	2
152	Keypad	024-25570-000	1	3
154	Control, Digital Input Board (standard)	031-01621-001	1	2
154	Control, Digital Input Board (VDE)	031-01621-002	1	2
155	Jumper, Terminal Block	025-13984-000	3	2
156	IC, Real Time Clock - U16	031-00955-000	1	—
157	Control, Remote Reset (Customer Option)	031-00814-000	note 3	—
158	Card File (Customer Option)	031-00827-000	1	—
159	MOV 115 Volts Applications	331-00485-000	NOTE 5	—
160	RS-485, U43 Chip	025-40528-000	1	—

**NOTES:**

- In addition to this suppressor, not shown are six additional suppressors of the same part number, shipped loose for field use to place across the coil of any relay or contactor connected to the control panel or its 115 VAC power supply, including the application of:  
Alarm Circuit Relays  
Pump Starter (contactor)  
Flow Switch Inputs  
BAS Inputs
- Replacement Micro Boards are supplied without Eprom. Remove Eprom from defective board and use in replacement board. See item #151 if Eprom must also be replaced.
- If it is desired to remotely reset both the leaving water temperature setpoint (gas/oil or steam) and the load limit setpoint (steam units only), 2 each remote reset boards are required. Otherwise, only 1 each is required.
- Older units (built prior to April 1997) use a 1 MEG Micro Board, P/N 031-01065-000 or -001. This Micro Board is compatible with only a 1 MEG EPROM (Version A.01F.12.133.00), YORK P/N 031-01669-002.

IF MICROPANEL CONTAINS MICROBOARD P/N	USE EPROM P/N	EPROM VERSION	MEGS
031-01065-000 or 001	<b>031-01669-002</b>	A.01F.12.133.00	1
031-01065-002	<b>031-02069-001</b>	A.01F.13 or Later	2

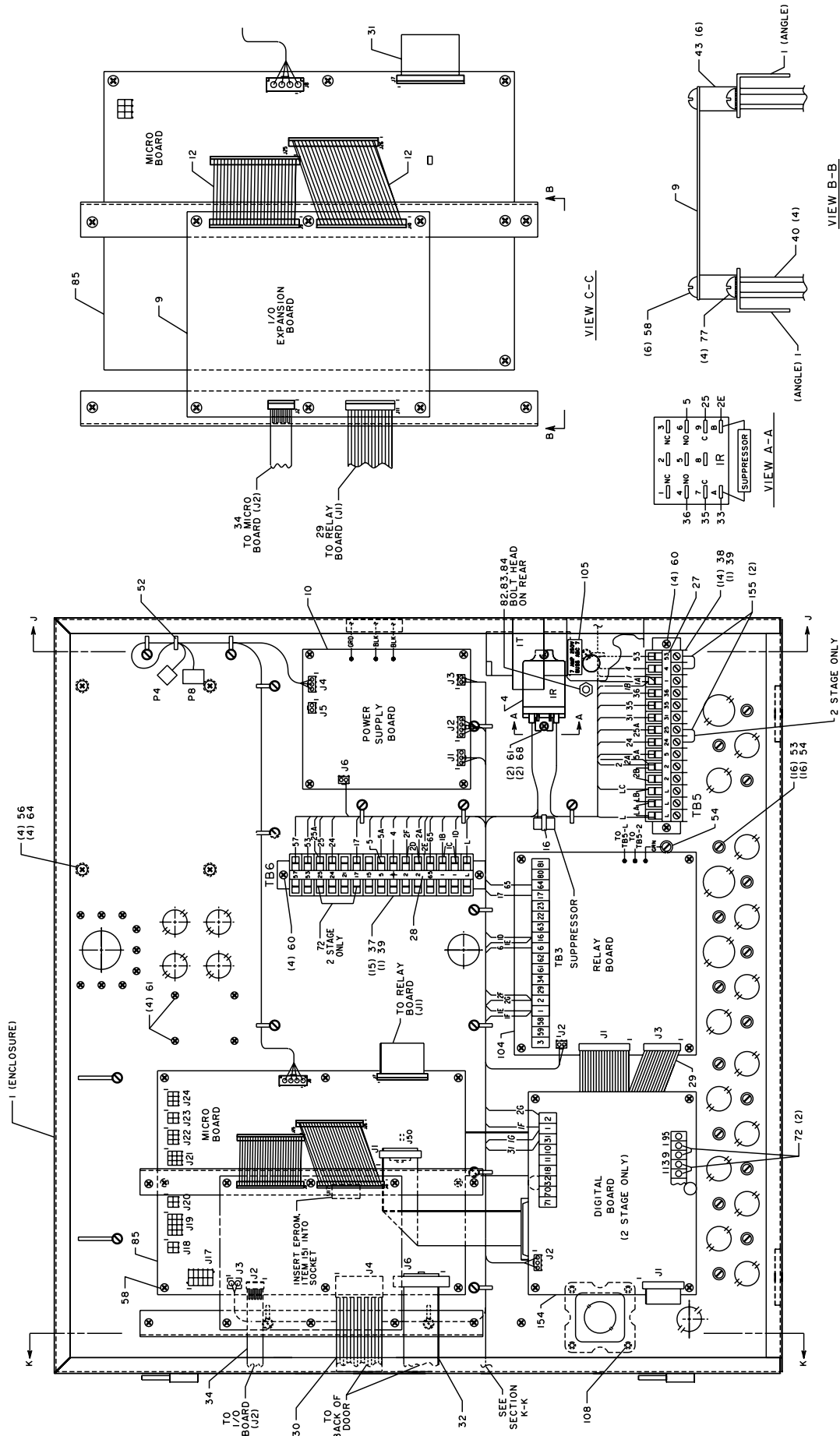
- Part no. consists of: 1-(031-00266-000) MOV and 2-(025-11190-000) straight - Push on spade terminals.



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**FIGURE 8 - MAIN CONTROL PANEL COMPONENTS 1**

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1	NC	3
2	NC	6
4	NO	5
7	NC	25
8	C	2E
36	IR	
35	IR	
33	SUPPRESSOR	

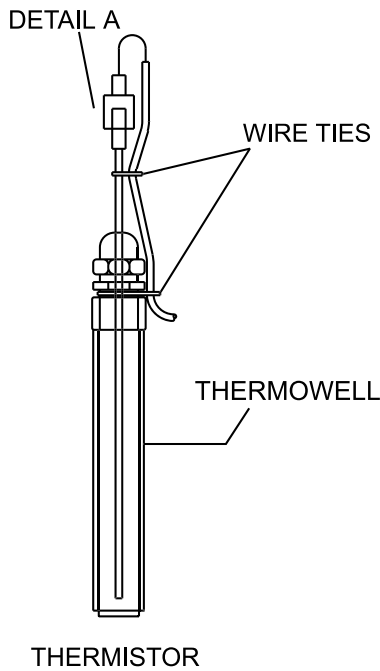
FIGURE 9 - MAIN CONTROL PANEL COMPONENTS 2



**TABLE 2 - MAIN CONTROL PANEL ELECTRICAL CONNECTIONS**

APPLICATION	POSITION	PINS	PLUG PART NO.	PIN PART NO.
MicroBoard	J3	2	025-21136-000	025-19674-000
MicroBoard	J8	4	025-21138-000	025-19674-000
MicroBoard	J17	15	025-28385-000	025-28386-000
MicroBoard	J19	12	025-28384-000	025-28386-000
MicroBoard	J21	9	025-28383-000	025-28386-000
MicroBoard	J22	6	025-28382-000	025-28386-000
I/O Expansion Board	J1	2	025-29130-000	025-28386-000
I/O Expansion Board	J3	2	025-29130-000	025-28386-000
I/O Expansion Board	J4	6	025-28382-000	025-28386-000
I/O Expansion Board	J5	4	025-28959-000	025-28386-000
I/O Expansion Board	J6	3	025-29185-000	025-28386-000
I/O Expansion Board	J7	2	025-21136-000	025-19674-000
I/O Expansion Board	J8	6	025-28382-000	025-28386-000
Power Supply Board	J1	3	025-21137-000	025-32506-000
Power Supply Board	J2	4	025-21138-000	025-19674-000
Power Supply Board	J3	2	025-21136-000	025-32506-000
Power Supply Board	J4	3	025-21137-000	025-19674-000
Power Supply Board	J6	2	025-29130-000	025-28386-000
Digital Board	J2	3	025-21137-000	025-19674-000
Relay Board	J2	2	025-21136-000	025-19674-000
<b>DANGLING CONNECTER (Connects Door Harness With Main Panel Harness)</b>				
Application	Position	Pins	Description	Part No.
MicroPanel	Door	9	Connector	025-21192-000
MicroPanel	Door	9	Pin	025-22214-000
MicroPanel	Door	9	Mate	025-21191-000
MicroPanel	Door	9	Socket	025-22215-000
Insulated Spring Spade Terminal for Shielded Cable Drain Wire Connection to Panel				025-19407-000
Un-Insulated, Straight Push-On Connection Terminal with Insulation Support Clamp				025-06874-000

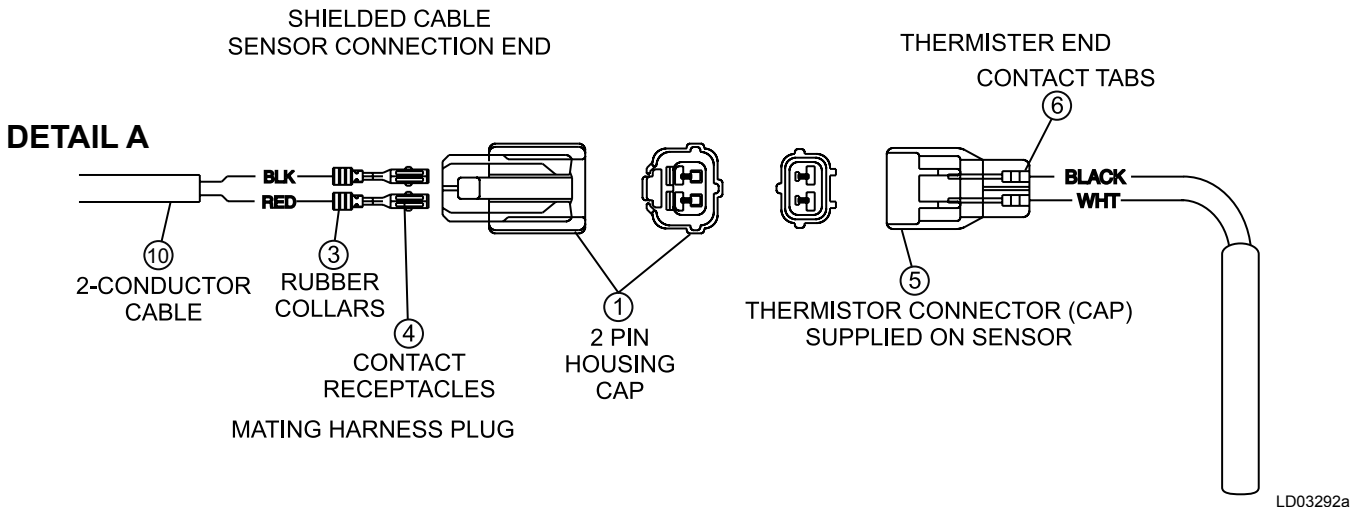
## THERMISTOR CONNECTIONS



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**TABLE 3 - UNIT THERMISTORS CONNECTIONS**

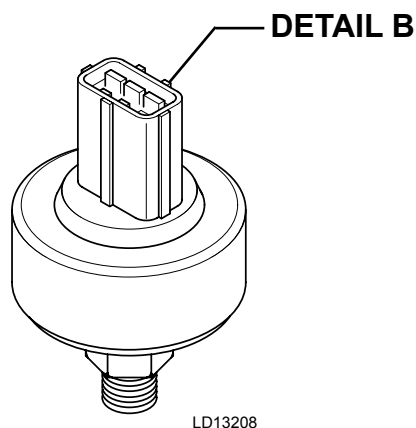
APPLICATION	ITEM	DESCRIPTION	PART NO.
Shielded Cable, Sensor End	1	Two-Pin Housing (plug) (for Thermistor Connection)	025-28951-000
Shielded Cable, Sensor End	3	Rubber Collars to fit over wire insulation	025-28950-000
Shielded Cable, Sensor End	4	Contact Female Receptacles (metal female terminals)	025-28952-000
Thermistor (Pig-Tail)	5	Two-Pin Housing (cap) for sensor end (supplied with Thermistor)	025-28948-000
Thermistor (Pig-Tail)	3	Rubber Collars to fit over wire insulation (supplied with Thermistor)	025-28950-000
Thermistor (Pig-Tail)	6	Contact (male) Tabs (metal terminals) (supplied with Thermistor)	025-28949-000
Unit Wiring	10	Cable, 2-Conductor Cable with Foil Shield & Drain Wire 20AWG (for Thermistor)	025-28701-002



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**FIGURE 11 - ELECTRICAL CONNECTIONS (THERMISTOR)**

## TRANSDUCER CONNECTIONS



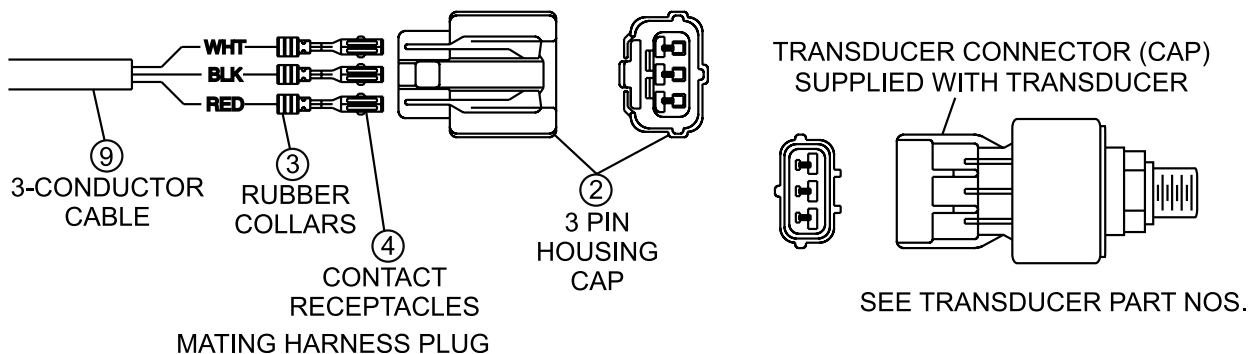
**TABLE 4 - PRESSURE TRANSDUCER CONNECTIONS**

APPLICATION	ITEM NUMBER	DESCRIPTION	PART NUMBER
Shielded Cable, Sensor End	2	Three-Pin Housing (plug) (for Transducer Connection)	025-28951-000
Shielded Cable, Sensor End	3	Rubber Collars to fit over wire insulation	025-28950-000
Shielded Cable, Sensor End	4	Contact Female Receptacles (metal female terminals)	025-28952-000
Transducer (Pig-Tail)	7*	Three-Pin Housing (cap) for Transducer (supplied with Transducer)	025-28953-000
Transducer (Pig-Tail)	3	Rubber collars to fit over wire insulation (supplied with Transducer)	025-28950-000
Transducer (Pig-Tail)	8*	Contact (male) Tabs (metal terminals) (supplied with Transducer) (Old Style)	025-28949-000
Unit Wiring	9	Cable, 3-Conductor Cable with Foil Shield & Drain Wire 20AWG (for Pressure Transducers)	025-28701-003

**NOTE:**

\* For OLD style Transducers, NOT shown.

**DETAIL B**



**FIGURE 12 - ELECTRICAL CONNECTIONS (TRANSDUCER)**

LD03292a

**TABLE 5 - CHINESE LANGUAGE DISPLAY RETROFIT KITS**

DESCRIPTION	PART NUMBER	QUANTITY.
Eprom, Simplified Chinese, location U13	031-01768-001	1
Eprom, Simplified Chinese, location U14	031-01768-002	1
Eprom, Traditional Chinese, location U13	031-01768-003	1
Eprom, Traditional Chinese, location U14	031-01768-004	1
Printed Circuit Board, Chinese language display	031-01616-000	1
Display, LCD graphic, Chinese language	031-01653-000	1
Transformer, 115VAC/24VAC, Chinese display	025-27911-000	1
Cable, ribbon-micro board J6 to Chinese display PC board J1	031-01647-000	1
Cable, ribbon, Chinese display PC board J2 to vacuum fluorescent display J2	031-01646-000	1
Cable, ribbon, Chinese display PC board J3 to Chinese LCD display	031-01645-000	1
Keypad, English & Simplified Chinese labeling	024-27808-000	1
Keypad, English & Traditional Chinese labeling	024-27807-000	1
Kit, Retrofit, Simplified Chinese language display	371-02401-002*	1
Kit, Retrofit, Traditional Chinese language display	371-02401-003*	1

**NOTES:**

\* Chinese Language Display Retrofit Kits consist of the following components mounted on a Control Panel door:

1. Kit, Retrofit, Simplified Chinese Language display 371-02401-002 contains 024-27808-000 Keypad.  
 Kit, Retrofit, Traditional Chinese Language display 371-02401-003 contains 024-27807-000.
2. Switch, Rocker 024-23143-000.
3. Fastener, pawl adjust 021-17252-000.
4. Ribbon Cables; 031-00950-000, 031-01647-000, 031-01646-000, and 031-01645-000.
5. All door decals.
6. Display, vacuum florescent 031-00775-001.
7. Display, Chinese Language LCD (031-01653-000) mounted on a printed circuit board (031-01616-000) that is equipped with either Simplified Chinese translation Eproms 031-01768-001 (U13) and 031-01768-002 (U14) supplied in kit 371-02401-002; or Traditional Chinese translation Eproms 031-01768-003 (U13) and 031-01768-004 (U14) supplied in kit 371-02401-003.
8. Transformer, 115 VAC/ 24 VAC 025-27911-000.
9. Installation instructions.

## POWER PANEL COMPONENTS

**TABLE 6 - POWER PANEL COMPONENTS CONTACTORS AND OVERLOADS FOR PURGE PUMP MOTOR**

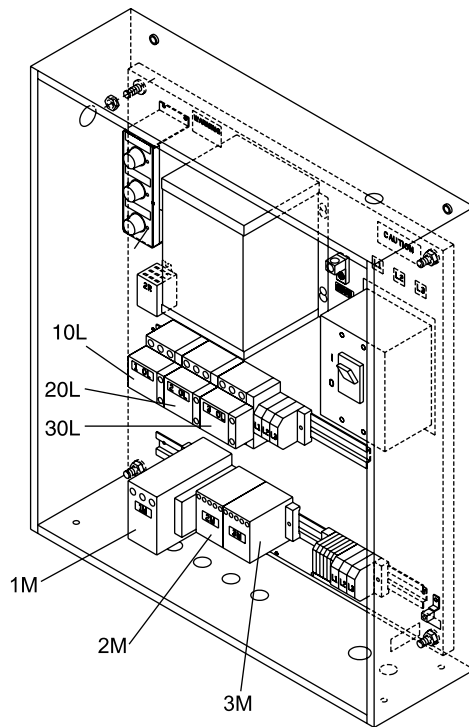
DESCRIPTION	VOLT CODE	CONTACTOR / OVERLOAD	MODEL UNITS		
			DIRECT FIRED UNITS		STEAM UNITS
			ALL MODELS	14SC AND 15S	16SL THRU 19S
Purge Pump Motor Contactor (3M)	ALL	Contactor	024-25522-000	024-25522-000	024-25522-000
Purge Pump Motor Overload (3OL)	17	Overload	024-25576-000	024-25576-000	024-25576-000
	28	Overload	024-25576-000	024-27278-000	024-25576-000
	46	Overload	024-26186-000	024-27277-000	024-26186-000
	50	Overload	024-26186-000	024-27278-000	024-26186-000

**TABLE 7 - CONTACTORS AND OVERLOADS FOR LIQUID PUMP ON TWO PUMP UNITS**

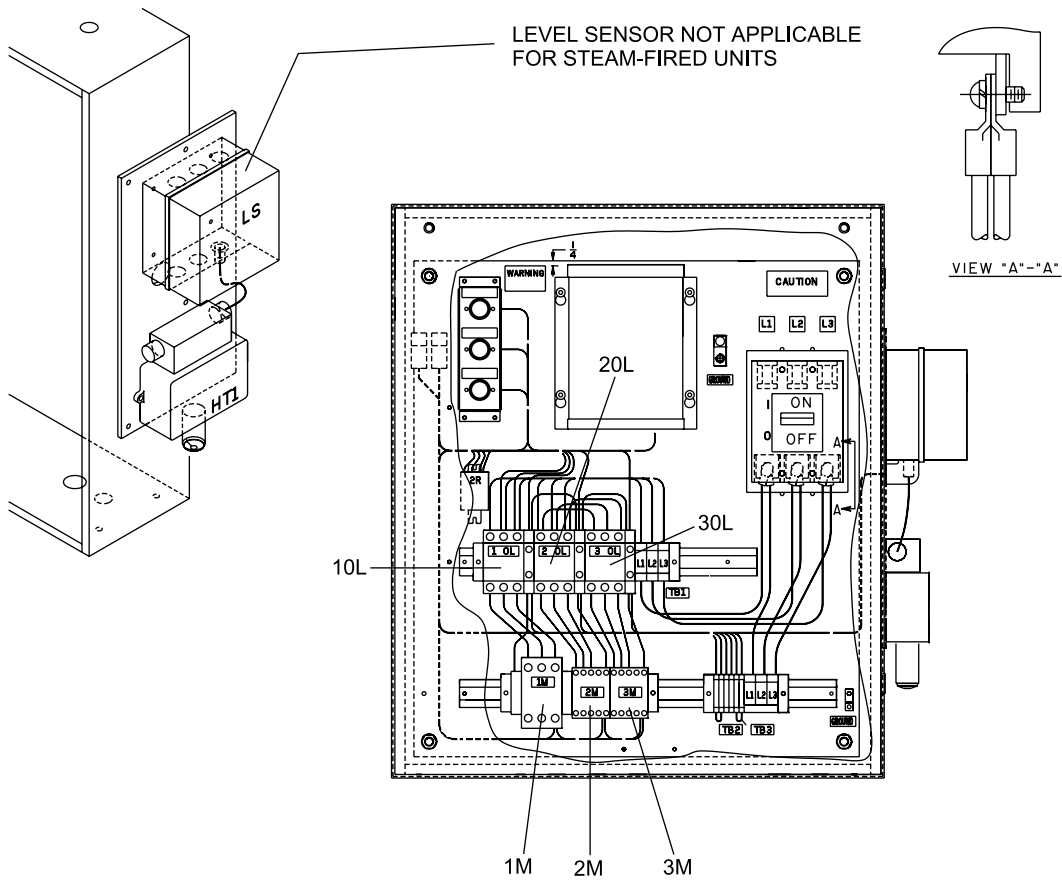
DESCRIPTION	VOLT CODE	CONTACTOR / OVERLOAD	UNIT MODELS				
			DIRECT-FIRED				STEAM
			12SC AND 13S	13SC AND 14S	14SC AND 15S	15SL AND 16S	14SC AND 15S
Solution Pump Motor Contactor (1M) and Overload (1OL)	17	Contactor	024-25584-000	024-25584-000	024-25584-000	024-25584-000	024-25584-000
		Overload	024-26187-000	024-26187-000	024-26187-000	024-25581-000	024-26187-000
	28	Contactor	024-25584-000	024-25584-000	024-25584-000	024-25584-000	024-25584-000
		Overload	024-26187-000	024-26187-000	024-26187-000	024-25581-000	024-27284-000
	46	Contactor	024-25584-000	024-25584-000	024-25584-000	024-25526-000	024-25584-000
		Overload	024-25587-000	024-25587-000	024-25587-000	024-25587-000	024-27268-000
50	Contactor	024-25584-000	024-25584-000	024-25584-000	024-25584-000	024-25584-000	
	Overload	024-25587-000	024-25587-000	024-25587-000	024-25587-000	024-27282-000	
Refrigerant Pump Motor Contactor (2M) and Overload (2OL)	17	Contactor	024-25521-000	024-25521-000	024-25521-000	024-25526-000	024-25521-000
		Overload	024-25578-000	024-25578-000	024-25578-000	024-25587-000	024-25579-000
	28	Contactor	024-25521-000	024-25521-000	024-25521-000	024-25526-000	024-25521-000
		Overload	024-25578-000	024-25578-000	024-25578-000	024-25578-000	024-25579-000
	46	Contactor	024-25521-000	024-25521-000	024-25521-000	024-25521-000	024-25521-000
		Overload	024-25577-000	024-25577-000	024-25577-000	024-25578-000	024-27280-000
50	Contactor	024-25521-000	024-25521-000	024-25521-000	024-25521-000	024-25521-000	
	Overload	024-25576-000	024-25576-000	024-25576-000	024-25579-000	024-27280-000	

**NOTE:** Contactors include suppressors.

**SEE FIGURES 13 AND 14**



VIEW SHOWN MINUS DOOR & WIRING & SIDE BOXES



**FIGURE 13 - 2 PUMP UNITS**

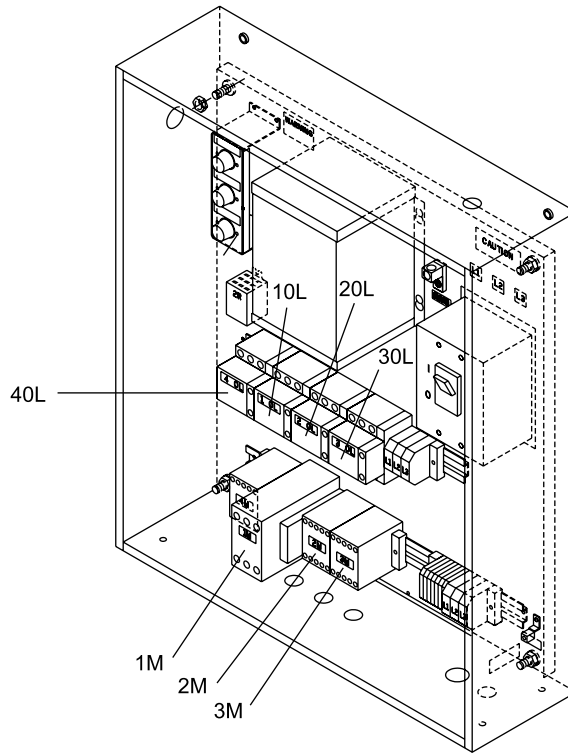
LD06090

**TABLE 8 - POWER PANEL COMPONENTS CONTACTORS AND OVERLOADS FOR LIQUID PUMPS ON THREE PUMP, DIRECT-FIRED UNITS**

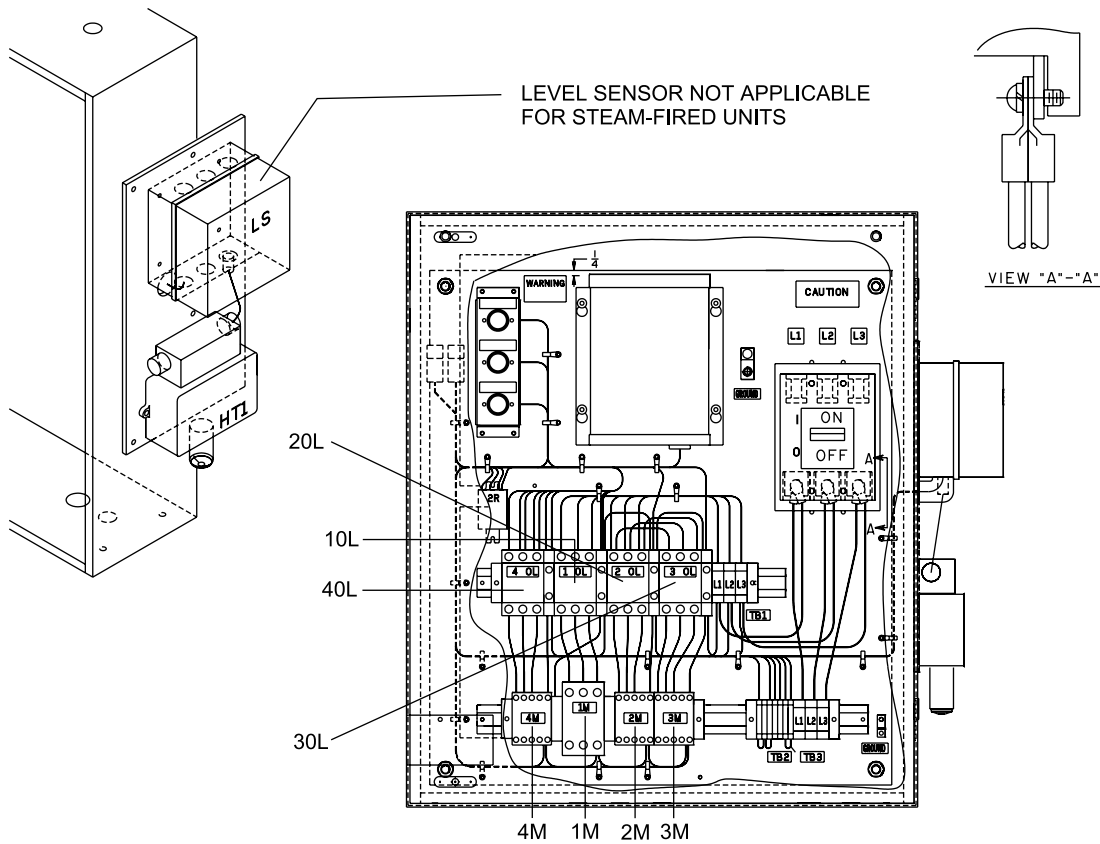
DESCRIPTION	VOLT CODE	CONTACTOR/ OVERLOAD	UNIT MODELS			
			16SL	17S	18S	19S
Solution Pump Motor Contactor (1M) and Overload (1OL)	17	Contactor	024-25585-000	024-25585-000	024-25585-000	024-25585-000
		Overload	024-25582-000	024-25581-000	024-25581-000	024-25581-000
	28	Contactor	024-25585-000	024-25585-000	024-25585-000	024-25585-000
		Overload	024-27287-000	024-25581-000	024-25581-000	024-25581-000
	46	Contactor	024-25584-000	024-25584-000	024-25584-000	024-25584-000
		Overload	024-26187-000	024-25580-000	024-25580-000	024-25580-000
50	Contactor	024-25584-000	024-25584-000	024-25584-000	024-25584-000	
	Overload	024-26187-000	024-25580-000	024-25580-000	024-25580-000	
Refrigerant Pump Motor Contactor (2M) and Overload (2OL)	17	Contactor	024-25526-000	024-25526-000	024-25526-000	024-25526-000
		Overload	024-25587-000	024-25587-000	024-25587-000	024-25587-000
	28	Contactor	024-25526-000	024-25526-000	024-25526-000	024-25526-000
		Overload	024-25587-000	024-25587-000	024-25587-000	024-25587-000
	46	Contactor	024-25521-000	024-25521-000	024-25521-000	024-25521-000
		Overload	024-25578-000	024-25578-000	024-25578-000	024-25578-000
50	Contactor	024-25526-000	024-25526-000	024-25526-000	024-25526-000	
	Overload	024-25579-000	024-25579-000	024-25579-000	024-25579-000	
Solution Spray Pump Motor Contactor (4M) and Overload (4OL)	17	Contactor	024-25526-000	024-25526-000	024-25526-000	024-25585-000
		Overload	024-25587-000	024-25587-000	024-25587-000	024-25581-000
	28	Contactor	024-25526-000	024-25526-000	024-25526-000	024-25585-000
		Overload	024-25587-000	024-25587-000	024-25587-000	024-25581-000
	46	Contactor	024-25521-000	024-25521-000	024-25521-000	024-25584-000
		Overload	024-25578-000	024-25578-000	024-25578-000	024-25587-000
50	Contactor	024-25521-000	024-25521-000	024-25521-000	024-25584-000	
	Overload	024-25579-000	024-25579-000	024-25579-000	024-25580-000	

**NOTE:** Contactors include suppressors.

**SEE FIGURE 14 ON FOLLOWING PAGE**



VIEW SHOWN MINUS DOOR & WIRING & SIDE BOXES



LD03442

FIGURE 14 - 3 PUMP UNITS

**TABLE 9 - POWER PANEL COMPONENTS CONTACTORS AND OVERLOADS FOR LIQUID PUMPS ON THREE PUMP, STEAM-FIRED UNITS**

DESCRIPTION	VOLT CODE	CONTACTOR/ OVERLOAD	UNIT MODELS			
			16SL	17S	18S	19S
Solution Pump Motor Contactor (1M) and Overload (1OL)	17	Contactor	024-25585-000	024-25585-000	024-25585-000	024-25585-000
		Overload	024-25581-000	024-25581-000	024-25581-000	024-25581-000
	28	Contactor	024-25585-000	024-25585-000	024-25585-000	024-25585-000
		Overload	024-25581-000	024-25581-000	024-25581-000	024-25581-000
	46	Contactor	024-25584-000	024-25584-000	024-25584-000	024-25584-000
		Overload	024-25580-000	024-25580-000	024-25580-000	024-25580-000
50	Contactor	024-25584-000	024-25584-000	024-25584-000	024-25584-000	
	Overload	024-25580-000	024-25580-000	024-25580-000	024-25580-000	
Refrigerant Pump Motor Contactor (2M) and Overload (2OL)	17	Contactor	024-25526-000	024-25526-000	024-25526-000	024-25526-000
		Overload	024-25587-000	024-25587-000	024-25587-000	024-25587-000
	28	Contactor	024-25526-000	024-25526-000	024-25526-000	024-25526-000
		Overload	024-25587-000	024-25587-000	024-25587-000	024-25587-000
	46	Contactor	024-25521-000	024-25521-000	024-25521-000	024-25521-000
		Overload	024-25579-000	024-25579-000	024-25579-000	024-25578-000
50	Contactor	024-25521-000	024-25521-000	024-25521-000	024-25521-000	
	Overload	024-25579-000	024-25579-000	024-25579-000	024-25579-000	
Solution Spray Pump Motor Contactor (4M) and Overload (4OL)	17	Contactor	024-25526-000	024-25526-000	024-25526-000	024-25585-000
		Overload	024-25587-000	024-25587-000	024-25587-000	024-25581-000
	28	Contactor	024-25526-000	024-25526-000	024-25526-000	024-25585-000
		Overload	024-25587-000	024-25587-000	024-25587-000	024-25581-000
	46	Contactor	024-25521-000	024-25521-000	024-25521-000	024-25584-000
		Overload	024-25579-000	024-25579-000	024-25579-000	024-25587-000
50	Contactor	024-25521-000	024-25521-000	024-25521-000	024-25584-000	
	Overload	024-25579-000	024-25579-000	024-25579-000	024-25580-000	

**NOTE:** Contactors include suppressors.

**SEE FIGURE 14**

**TABLE 10 - POWER PANEL COMPONENTS NON-FUSED DISCONNECT SWITCHES**

DESCRIPTION	VOLT CODE	DIRECT FIRED UNIT MODELS				
		12SC AND 13S	13SC AND 14S	14SC AND 15S	15SL	16S
Non-Fused Disconnect Switch	ALL	024-25575-000	024-25575-000	024-25575-000	024-25575-000	024-25575-000

DESCRIPTION	VOLT CODE	DIRECT FIRED UNIT MODELS			
		16SL	17S	18S	19S
Non-Fused Disconnect Switch	17	024-25565-000	024-25565-000	024-25565-000	024-25565-000
	28	024-25565-000	024-25565-000	024-25565-000	024-25565-000
	46	024-25575-000	024-25575-000	024-25575-000	024-25575-000
	50	024-25575-000	024-25575-000	024-25575-000	024-25575-000

DESCRIPTION	VOLT CODE	DIRECT FIRED UNIT MODELS			
		16SL	17S	18S	19S
Non-Fused Disconnect Switch	ALL	024-25575-000	024-25575-000	024-25575-000	024-25575-000

**TABLE 11 - POWER PANEL COMPONENTS CONTROL COMPONENTS**

ITEM	DESCRIPTION	VOLT. CODE	QUANTITY	PART NUMBER
1	Control Transformer	17	1	025-28664-001
		28	1	025-28664-002
		46	1	025-28664-002
		50	1	025-28664-003
2	Primary Fuse (1 FU, 2 FU)	17	2	025-27972-000
		28	2	025-27971-000
		46	2	025-27922-000
		50	2	025-27922-000
3	Primary Fuse (3 FU)	ALL	1	025-27971-000
	Fuseholder	All	3	025-17407-000
4	Relay Control (2R)	ALL	1	024-23962-000
	Suppressor (NOT SHOWN) (used with item 4)	ALL	1	031-00808-000
5	First Stage Generator High Temp. Control (HT1)	ALL	1	025-29995-000
6	Low Solution Level Control (LS) (direct-fired units only)	ALL		225-29922-000
	Kit Contains:			
	1) Level Controller		1	025-29922-000
	2) Electrode (Probe)			024-25572-000
	3) Wiring Kit			575-06503-451
7	Housing Plug, Universal (9 pin) (J2)	all	1	025-21192-000
8	Housing Plug, Universal (12 pin) (J1)	all	1	025-21196-000
9	Socket, Universal Female	all	-	025-19673-000
	Mating Pins for Item 9 (Pin or male)	All	-	025-20533-000

**REFER TO FIGURE ON FOLLOWING PAGE FOR COMPONENT LOCATIONS**

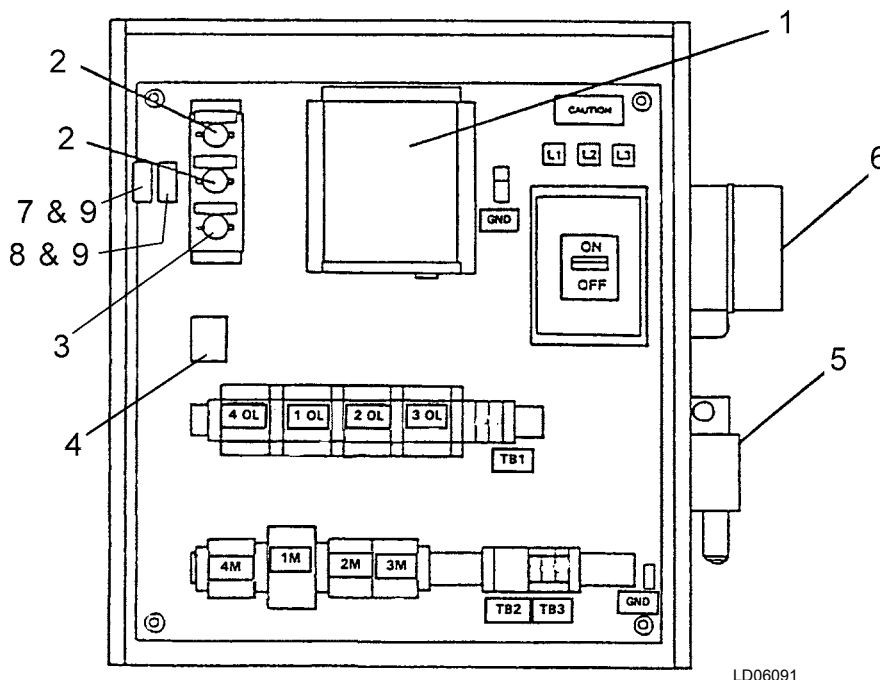
## SYSTEM CONTROL COMPONENTS

**TABLE 12 - SYSTEM CONTROL COMPONENTS LOCATED ON UNIT**

DESCRIPTION	VOLT. CODE	QUANTITY	PART NUMBER	
			DIRECT-FIRED	STEAM
Temperature Sensor (50,000 Ohms) RT6 & RT11 (First Stage Generator & Solution/Dilution)	ALL	2	025-29924-000	025-29924-000
Temperature Sensor (3,000 Ohms) (Low temperature areas of unit) (includes RT12)	ALL	6	025-29964-000	025-29964-000
Temperature Sensor (3,000 Ohms) (Hi-temp aux. Heating, Direct-Fired Units only)	ALL	8	025-29964-000	—
Varistor, Metal Oxide (used with Honeywell Steam Valve Actuator)	ALL	2	—	031-01349-000
Suppressor (used with Steam Solenoid Valve, 5SOL)	ALL	1	—	031-00808-000
Current Switch (used only on 16SL and 17S units)	ALL	8	—	025-30974-000
Low Refrigerant Temp. Control (LRT)	ALL	1	225-30494-000	225-30494-000
Pressure Transducer (PT1)	ALL	1	025-29907-001	025-29907-001
Pressure Transducer (PT3, PT4) for Auto-Purge	ALL	2	025-29907-002	025-29907-002
Isolator (vilter steady mount) (for use with PT1)	ALL	1	026-30229-000	026-30229-000
First stage generator High Pressure Control (HP1) (calibrated to 710 mm Hg) UEDA	ALL	1	224-25525-058	224-25525-058
High Pressure Cutout (HPI) UE	ALL	-	024R00132-000	
Cable, 2-conductor gray cable with foil shield and drain wire 20 AWG - for thermistors	ALL	—	025-28701-002	025-28701-002
Cable, 3-conductor gray cable with foil shield and drain wire 20 AWG - for pressure transducers	ALL	—	025-28701-003	025-28701-003
MOV 155 Volts Applications (See Note 2)	ALL	—	331-00485-000	331-00485-000

**NOTES:**

1. See major component location drawings in this document for system control locations on unit.
2. Part no. consists of: 1-(031-0266-000) MOV and 2-(025-11190) straight - Push on spade terminals.



LD06091

**REFER TO TABLE ON PREVIOUS PAGE FOR COMPONENT DESCRIPTION**

## VALVES

**TABLE 13 - VALVES**

TYPE	DESCRIPTION	PART NUMBER	ILLUSTRATION
LUG TYPE BUTTERFLY VALVES (PUMP ISOLATION)	2 Inch	022-10033-000	 <p style="text-align: right;">00402VIP</p>
	2-1/2 Inch	022-10034-000	
	3 Inch	022-10035-000	
	4 Inch	022-10036-000	
	5 Inch	022-10037-000	
	6 Inch	022-10038-000	
CHECK	1/2 Inch Flapper (Swing type)	022-09517-000	 <p style="text-align: right;">28733A</p>
DIAPHRAGM	1/2" Complete (Style A) Ss Socket Weld Valve Replacement Diaphragm For Above Valve Replacement Bonnet Assembly For Above Valve	022-10618-000	 <p style="text-align: center;">28731A      29471A</p> <p style="text-align: center;"><b>STYLE B</b>      <b>STYLE A</b></p>
		022-10057-000	
		022-10058-000	
	1/2" Complete (Style B) Ss Socket Weld Valve Replacement Diaphragm For Above Valve Replacement Bonnet Assembly For Above Valve	022-08869-052	
		022-09126-000	
		022-09125-000	
	3/4" Complete (Style A) Ss Socket Weld Valve Replacement Diaphragm For Above Valve Replacement Bonnet Assembly For Above Valve	022-10633-000	
		022-05125-000	
		022-10634-000	
	3/4" Complete (Style B) Ss Socket Weld Valve Replacement Diaphragm For Above Valve Replacement Bonnet Assembly For Above Valve	022-02457-000	
022-10635-000			
022-10636-000			
1/2" Complete (Npti Connections) Valve	022-02046-000		
SAMPLE	1/2 Inch Spindle Type Spindle Repair Kit (2 Outer And 2 Inner O-Rings) (No Caps)	022-08869-001	 <p style="text-align: right;">00405VIP</p>
		028-12271-001	
FLOW SETTING	1/2 Inch Spindle Type Spindle Repair Kit (2 Inner & 1 Outer O-Ring)	022-08869-002	 <p style="text-align: right;">27089A</p>
		028-12271-002	
	1 Inch Spindle Type Spindle Repair Kit (2 Inner & 1 Outer O-Ring)	022-08869-003	
		028-12271-003	
1-1/2 Inch Spindle Type Spindle Repair Kit (2 Inner & 1 Outer O-Ring)	022-08869-004		
	028-12271-004		
GLOBE	1/2 Inch Angle Valve	022-08869-050	 <p style="text-align: right;">27087A</p>
	3/4 Inch Angle Valve	022-08869-053	
	1 Inch Angle Valve	022-08869-051	
	1-1/2 Inch Angle Valve Cap Gasket For 1-1/2 Inch Valve	022-08869-028	
		022-08869-031	
	2 Inch Angle Valve Cap Gasket For 2 Inch Valve	022-08869-030	
		028-12271-025	
	2-1/2 Inch Angle Valve Cap Gasket For 2-1/2 Inch Valve	022-08869-031	
		028-12271-026	
	3 Inch Angle Valve Cap Gasket For 3 Inch Valve	022-08869-032	
028-12271-027			
4 Inch Angle Valve Cap Gasket For 4 Inch Valve	022-08869-033		
	028-12271-028		

**TABLE 13 - VALVES (CONT'D)**

TYPE	DESCRIPTION	PART NUMBER	ILLUSTRATION
NEEDLE	3/4 Inch NPTI	022-08891-000	
	1 Inch NPTI	022-08892-000	
RELIEF HIGH-TEMP (AUX. HEATER)	3/4 Inch NPTI x 1 (RATED 150 psi)	022-08879-000	
	3/4" x 1-1/4" (RATED 300 PSI)	022-10041-000	
SOLENOID	1/2 Inch NPTI Purge Tank (1SOL) Valve	022-09563-000	
	3/4 Inch Steam condensate drain (5SOL) Valve	025-29538-002	
	1" Steam Condensate Drain Valve (5SOL)	025-29538-003	
	1-1/4" Steam Condensate Drain Valve (5SOL)	025-29538-004	
-	Solenoid Valve DIN Plug w/ Suppressor	025-37876-000	
-	Solenoid Valve DIN Plug w/o Suppressor	025-34047-000	
ELECTRICALLY ACTUATED PURGE BALL VALVE (2 SOL)	1/2" Siemens Actuator W/ Swagelok Ball Valve	022-10042-000	
	1/2" Swagelok Ball Valve Only	022-10059-000	
	Seal Kit For Above Ball Valve	022-10061-000	
	Replacement Actuator Only For Above Ball Valve	022-10060-000	
NEW STYLE GLOBE VALVES	1/2" With Cap	022R00181-000	
	1" With Cap	022R00180-000	
	1-1/2" With Cap	022-10097-000	
	Spare Parts Kit <sup>1</sup>	022-10602-000	
	Complete Repair Kit <sup>2</sup>	022-10603-000	
	Cap Seal Only	022-10620-000	
	2" With Cap	022-10098-000	
	Spare Parts Kit <sup>1</sup>	022-10604-000	
	Complete Repair Kit <sup>2</sup>	022-10605-000	
	Cap Seal Only	022-10621-000	
	2-1/2" With Cap	022-10099-000	
	Spare Parts Kit <sup>1</sup>	022-10606-000	
	Complete Repair Kit <sup>2</sup>	022-10607-000	
	Cap Seal Only	022-10622-000	

<sup>1</sup> Used when valve is leaking externally. Contains: gasket for valve cap (1), and O-ring (2) for valve bonnet

<sup>2</sup> Used when valve is leaking internally. Contains: cone (5), set screw (3), steel balls (4), O-ring (2), packing gland assembly (not shown) and gasket for valve cap (1).

## FLOAT VALVES


**TABLE 14 - FLOAT VALVES**

UNIT SIZE	HIGH TEMP. GENERATOR FLOAT	REFRIGERANT FLOAT
<b>DIRECT-FIRED UNITS</b>		
<b>12SC THRU 15S</b>	075-12170-000	075-12036-000
<b>15SL THRU 19S</b>	075-04398-000	075-16391-000
<b>STEAM-FIRED UNITS</b>		
<b>12SC THRU 15S</b>	075-24332-000	075-12036-000
<b>15SL THRU 19S</b>	075-16836-000	075-16391-000

**NOTES:** All float valves are an assembly of: flapper valve, arm, stopper (when applicable), and float ball.

## STEAM CONTROL VALVES AND ACTUATORS

**TABLE 15 - STEAM CONTROL VALVES AND ACTUATORS**

TYPE	DESCRIPTION	SIZE	RATING	COMPLETE VALVE PART NUMBER	REPLACEMENT ACTUATOR P/N	ILLUSTRATION	
GLOBE 2-WAY	Cast Iron Body - 50Hz	2"	125#	022-10008-000	022-10070-000		
	Cast Iron Body - 60Hz			022-10000-000	022-10069-000		
	Steel Body - 50Hz		150#	022-10012-000	022-10070-000		
	Steel Body - 60Hz			022-10004-000	022-10069-000		
	Cast Iron Body - 50Hz	2-1/2"	125#	022-10009-000	022-10088-000		
	Cast Iron Body - 60Hz			022-10001-000	022-10086-000		
	Steel Body - 50Hz		150#	022-10013-000	022-10088-000		
	Steel Body - 60Hz			022-10005-000	022-10086-000		
	Cast Iron Body - 50Hz		3"	125#	022-10010-000		022-10089-000
	Cast Iron Body - 60Hz				022-10002-000		022-10087-000
	Steel Body - 50Hz	150#		022-10014-000	022-10089-000		
	Steel Body - 60Hz			022-10006-000	022-10087-000		
	Cast Iron Body - 50Hz	4"	125#	022-10011-000	022-10089-000		
	Cast Iron Body - 60Hz			022-10003-000	022-10087-000		
	Steel Body - 50Hz		150#	022-10015-000	022-10089-000		
	Steel Body - 60Hz			022-10007-000	022-10087-000		

**NOTES:**  
 MOV (Metal Oxide Varistor) for Actuator: 031-01349-000.  
 Harness connector for Globe 2-way Valves: 025-09020-000.

## PUMPS

**TABLE 16 - PUMPS, COMPLETE ASSEMBLIES**

UNIT MODEL	VOLTAGE	REFRIGERANT PUMP	SOLUTION PUMP	SOLUTION SPRAY PUMP
<b>NEW STYLE PUMPS</b>				
12SC, 13S <sup>1</sup>	208/230/460-3-60	026-33600-001	026-33601-001	N/A
	380 / 3 / 50	026-33821-001	026-33822-001	N/A
13SC, 14S <sup>1</sup>	208/230/460-3-60	026-33600-001	026-33601-001	N/A
	380 / 3 / 50	026-33821-001	026-33822-001	N/A
14SC, 15S <sup>1</sup>	208/230/460-3-60	026-33600-001	026-33601-001	N/A
	380 / 3 / 50	026-33821-001	026-33822-001	N/A
15SL <sup>1</sup>	208/230/460-3-60	026-33600-003	026-33601-002	N/A
	380-3-50	026-33821-003	026-33822-002	N/A
16S <sup>1</sup>	208/230/460-3-60	026-33600-003	026-33601-002	N/A
	380-3-50	026-33821-003	026-33822-002	N/A
16SL	208/230/460-3-60	026-33600-004	026-33874-001	026-33874-004
	380-3-50	026-33821-004	026-33875-001	026-33875-004
17S	208/230/460-3-60	026-33600-004	026-33874-001	026-33874-004
	380-3-50	026-33821-004	026-33875-001	026-33875-004
18S	208/230/460-3-60	026-33600-004	026-33874-002	026-33874-005
	380-3-50	026-33821-004	026-33875-002	026-33875-005
19S	208/230/460-3-60	026-33600-004	026-33874-002	026-33874-006
	380-3-50	026-33821-004	026-33875-003	026-33875-006

**NOTE:**

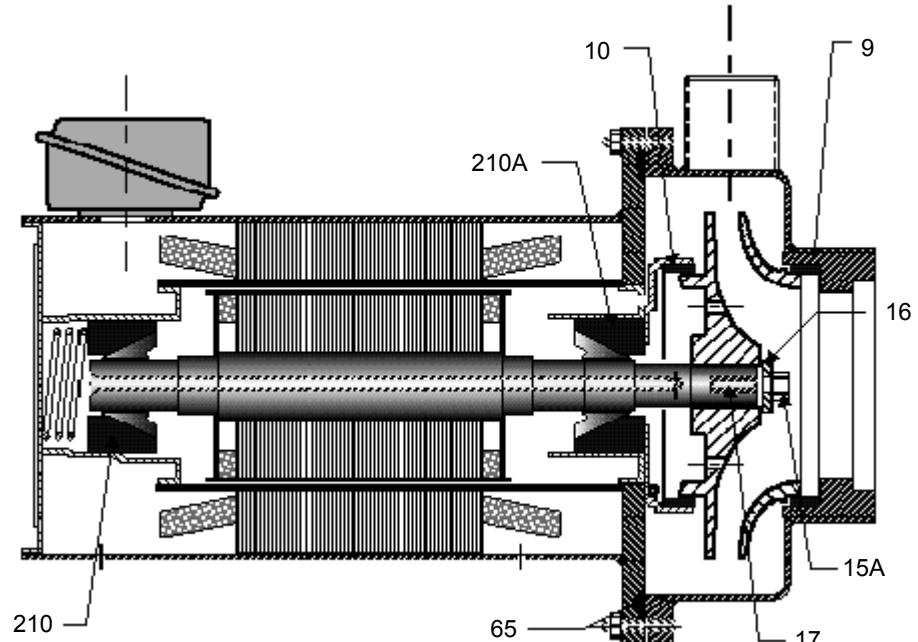
1. These units have double ended pumps (Solution and Strong Solution pumps operate off of a common motor).

**TABLE 17 - PUMP REPAIR KIT CONTENTS**

PUMP REPAIR KIT		MOTOR BEARING REPAIR		NEW MOTOR WITH PUMP REPAIR KIT		CASING GASKETS	
ITEM	PART	ITEM	PART	ITEM	PART	ITEM	PART
9	Casing Wear Ring	9	Casing Wear Ring	9	Casing Wear Ring	65	Casing Gasket
10	Motor Side Wearing ring	10	Motor Side Wearing ring	10	Motor Side Wearing ring		
15A	Impeller	15A	Impeller	15A	Impeller		
	Locking Screw		Locking Screw		Locking Screw		
16	Impeller	16	Impeller	16	Impeller		
	Locking Washer		Locking Washer		Locking Washer		
17	Feather Key, Impeller	17	Feather Key, Impeller	17	Feather Key, Impeller		
65	Casing Gasket	65	Casing Gasket	65	Casing Gasket		
		210A	Bearing	201	Multi Voltage Motor		
		210	Bearing (Front End)				

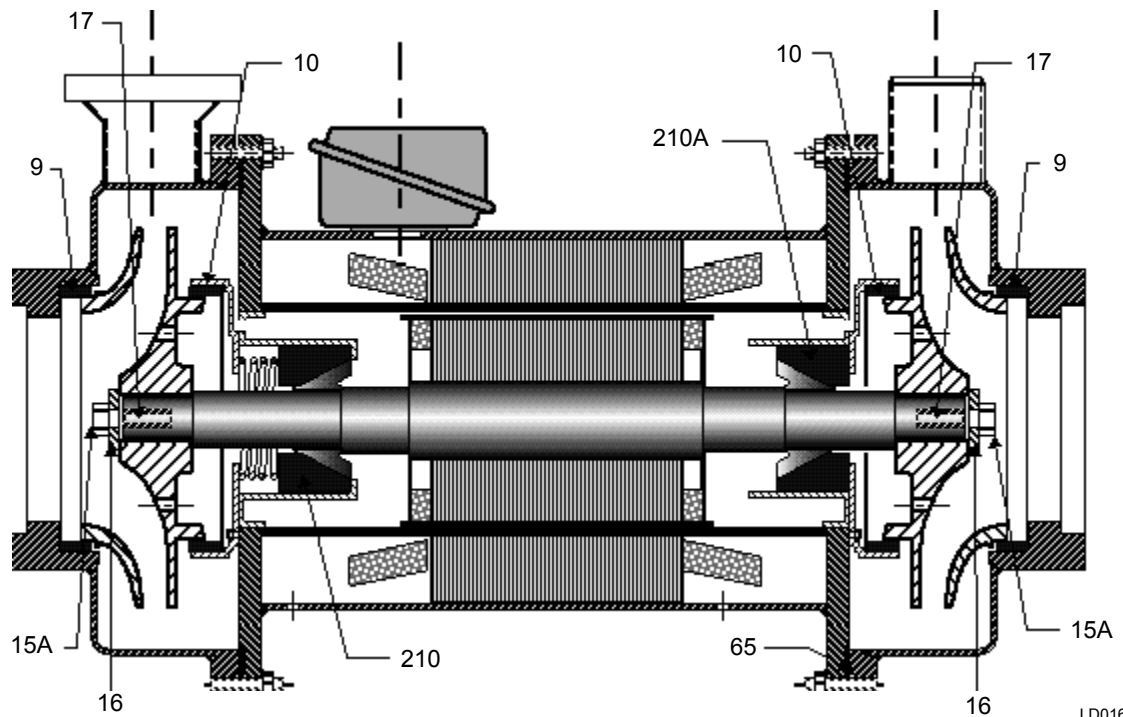
**NOTE:**  
 Casing Gasket is O-ring type elastomer.

**(SEE ILLUSTRATIONS ON FOLLOWING PAGES FOR COMPONENT LOCATION)**



LD01656

**FIGURE 15 - SINGLE-ENDED PUMP**



LD01657

**FIGURE 16 - DOUBLE-ENDED PUMP**

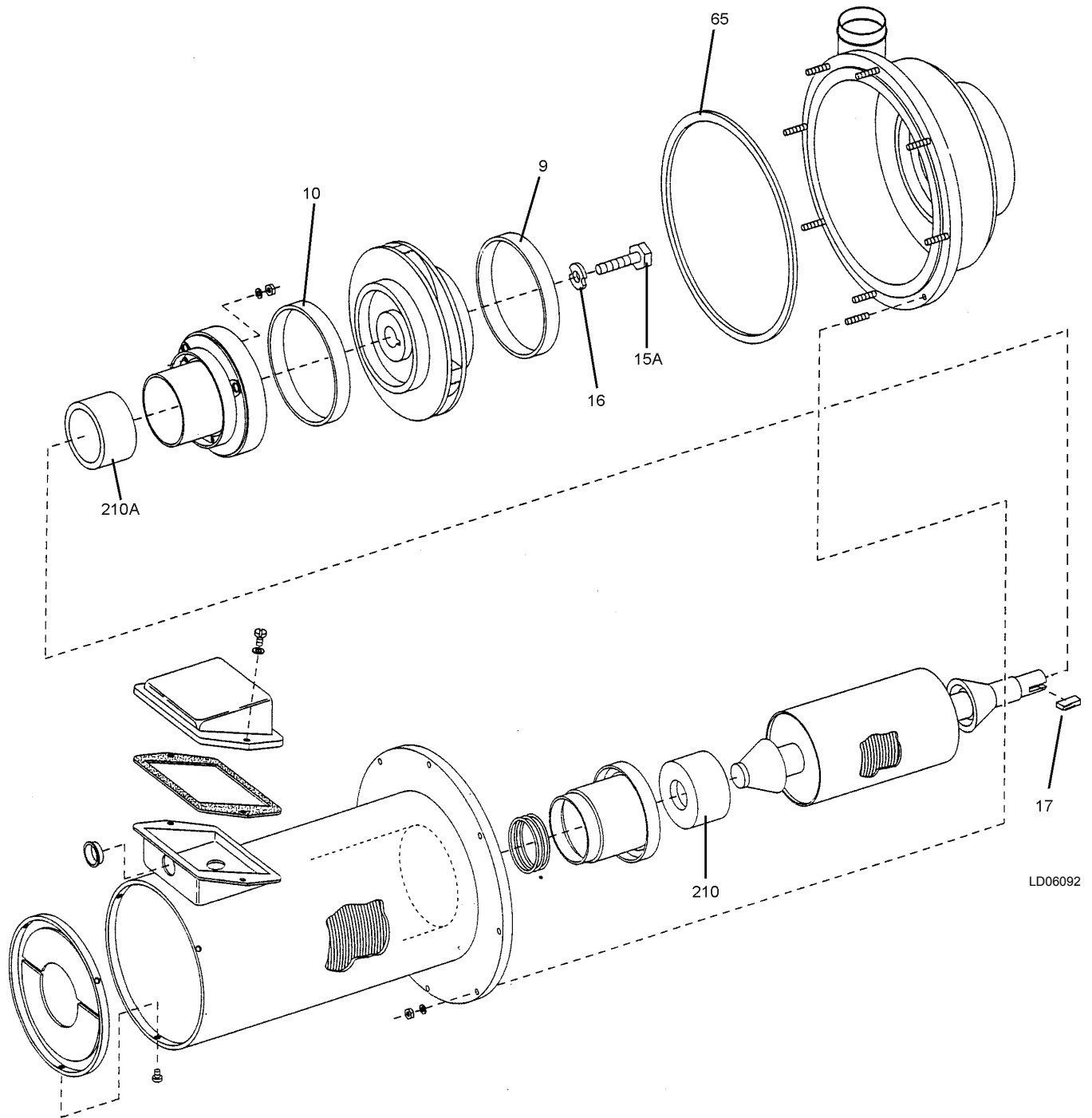
**TABLE 18 - PUMP REPAIR KITS NEW STYLE PUMPS**

YORK PART NUMBER	(MOTOR-PUMP) MODEL NUMBER	PUMP REPAIR KIT	MOTOR BEARING REPAIR KIT	NEW MOTOR WITH PUMP REPAIR	CASING GASKET
<b>60 HZ PUMPS</b>					
026-33600-001	P8 - 106	026-33828-000	026-33826-000	024-26938-000	028-12913-000
026-33600-003	66M - 709	026-32389-000	026-32391-000	024-26934-000	028-12700-000
026-33600-004	66M - 709	026-32389-000	026-32391-000	024-26934-000	028-12700-000
026-33601-001	66R - 709/609	026-33829-000 <sup>1</sup>	026-33827-000 <sup>2</sup>	024-26939-000	028-12914-000 <sup>3</sup>
026-33601-002	66V - 709/609	026-33829-000 <sup>1</sup>	026-33827-000 <sup>2</sup>	024-27206-000	028-12914-000 <sup>3</sup>
026-33874-001	215ZB - 8011	026-32390-000	026-32392-000	024-26937-000	028-12599-000
026-33874-002	215ZB - 8011	026-32390-000	026-32392-000	024-26937-000	028-12599-000
026-33874-003	215ZB - 8011	026-32390-000	026-32392-000	024-26937-000	028-12599-000
026-33874-004	66M - 709	026-32389-000	026-32391-000	024-26934-000	028-12700-000
026-33874-005	66M - 709	026-32389-000	026-32391-000	024-26934-000	028-12700-000
026-33874-006	215R - 8011	026-32390-000	026-32392-000	024-26936-000	028-12599-000
<b>50 HZ PUMPS</b>					
026-33821-001	P8 - 106	026-33828-000	026-33826-000	026-33845-000	028-12913-000
026-33821-002	P8 - 106	026-33828-000	026-33826-000	026-33845-000	028-12913-000
026-33821-003	66R - 709	026-32389-000	026-32391-000	026-34458-000	028-12700-000
026-33821-004	66R - 709	026-32389-000	026-32391-000	026-34458-000	028-12700-000
026-33822-001	66R - 709/609	026-33829-000 <sup>1</sup>	026-33827-000 <sup>2</sup>	026-33846-000	028-12914-000 <sup>3</sup>
026-33822-002	66V - 709/609	026-33829-000 <sup>1</sup>	026-33827-000 <sup>2</sup>	026-33847-000	028-12914-000 <sup>3</sup>
026-33875-001	215ZB - 8011	026-32390-000	026-32392-000	026-34459-000	028-12599-000
026-33875-002	215ZB - 8011	026-32390-000	026-32392-000	026-34459-000	028-12599-000
026-33875-003	215ZB - 8011	026-32390-000	026-32392-000	026-34459-000	028-12599-000
026-33875-004	66R - 709	026-32389-000	026-32391-000	026-34458-000	028-12700-000
026-33875-005	66R - 709	026-32389-000	026-32391-000	026-34458-000	028-12700-000
026-33875-006	215R - 8011	026-32340-000	026-32392-000	026-34460-000	028-12599-000

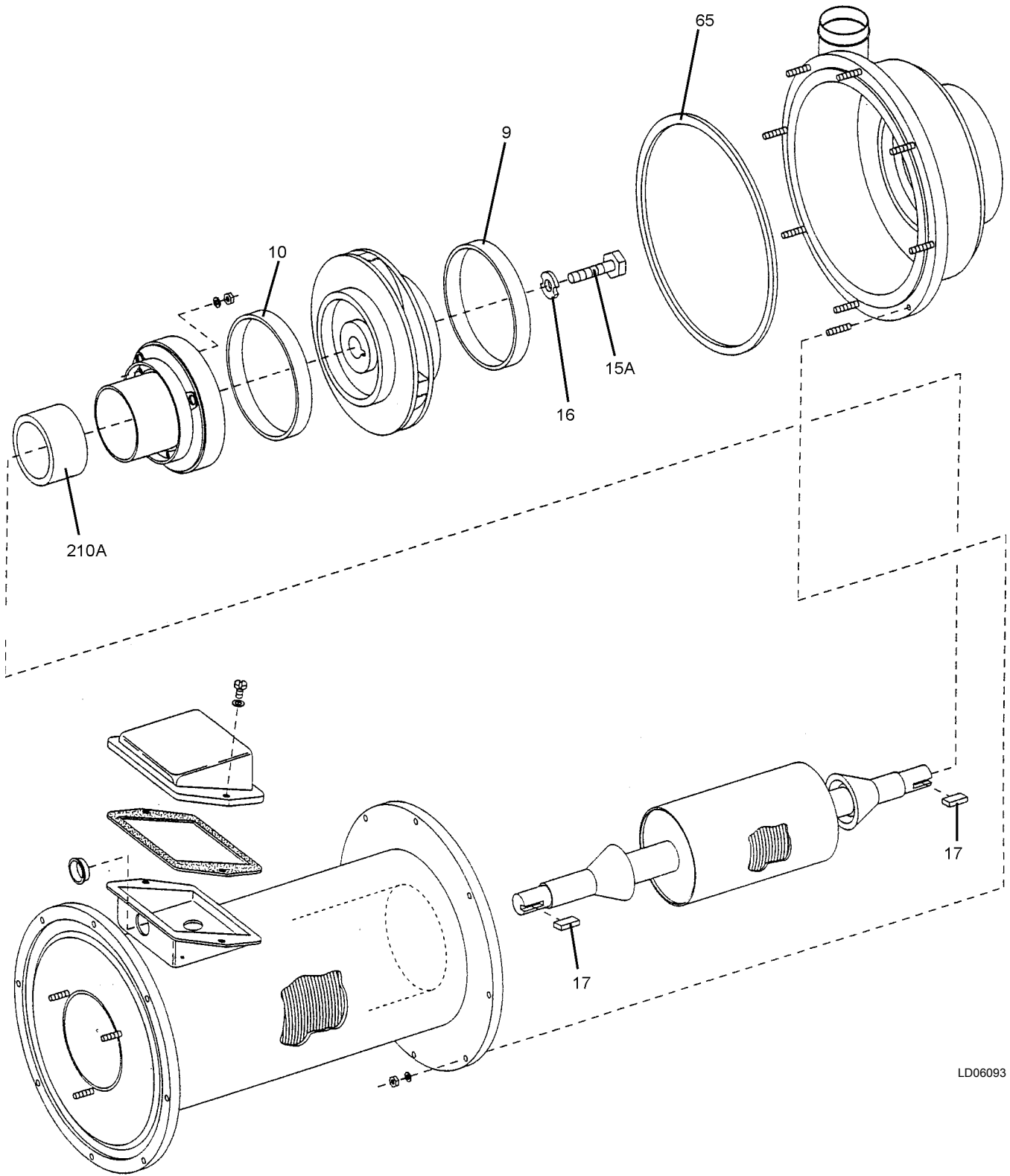
**NOTES FOR DOUBLE ENDED PUMPS:**

- Quantity of two for all parts in this kit.
- Quantity of two for all parts except for motor bearing in which one set will be included.
- Kit includes two O-ring type gaskets.
- New Style pump inlet and outlet sizes are as follows:
- Pumps require one motor bearing kit and one pump repair kit per pump every 50,000 operating hours.

MODEL	INLET (IN.)	OUTLET (IN.)
106	3	2
709	4	3
609	4	3
8011	6	4

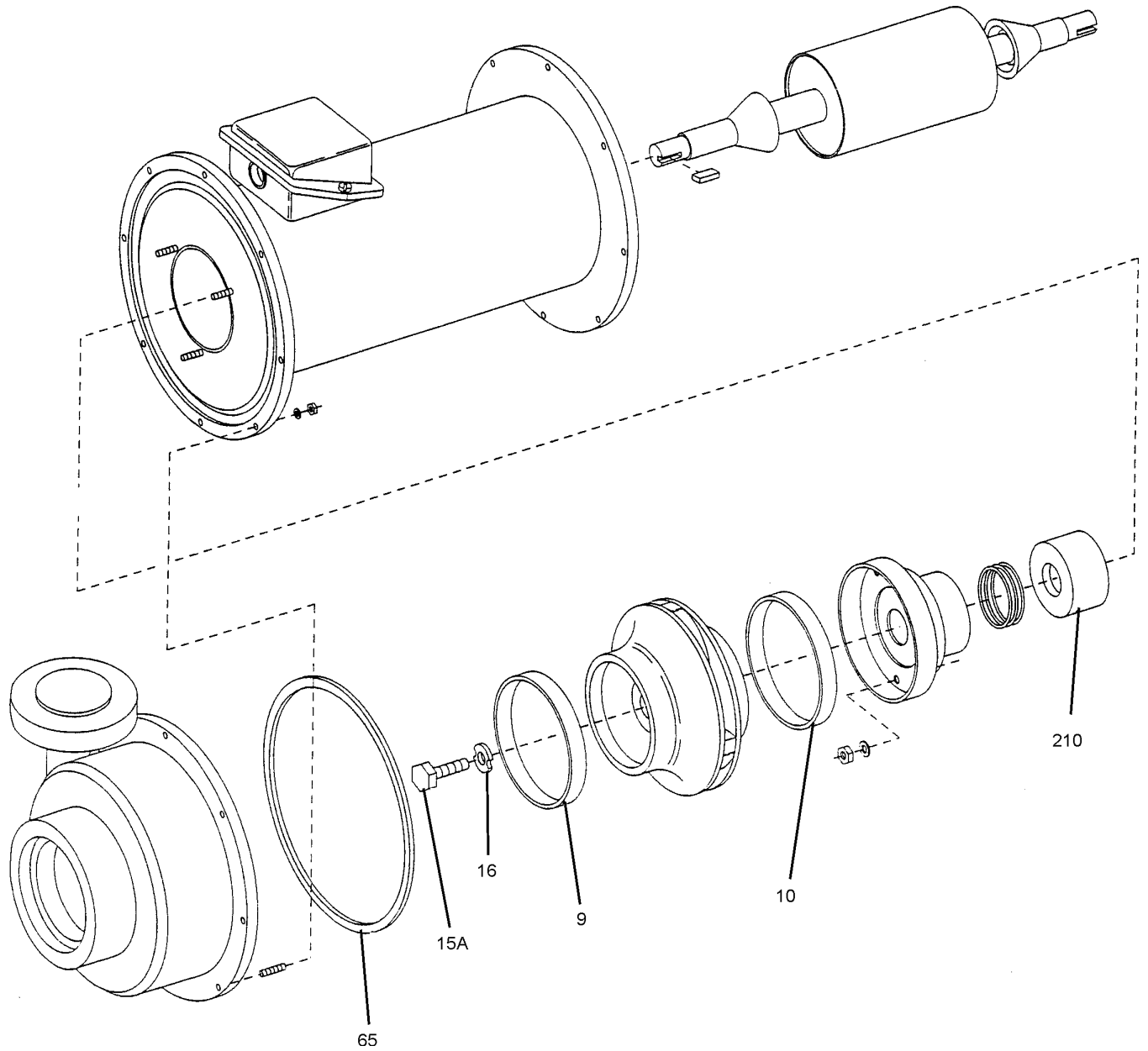


**FIGURE 17 - PUMP, SINGLE-ENDED EXPLODED VIEW**



LD06093

FIGURE 18 - PUMP, DOUBLE-ENDED EXPLODED VIEW 1



LD06094

**FIGURE 19 - PUMP, DOUBLE-ENDED EXPLODED VIEW 2**

**TABLE 19 - PURGE VACUUM PUMPS AND PARTS**

UNIT MODEL	VOLTAGE	APPLICATION	YORK P/N
<b>COMPLETE YORK MODEL 1400 VACUUM PUMP (0.9 CFM)</b>			
S-Models	208/230/460-3-60	Standard	026-33637-000
	380-3-50	Standard	026-33832-000
<b>COMPLETE YORK MODEL 1402 VACUUM PUMP (5.6 CFM)</b>			
G-Models	208/230/460-3-60	Standard	026-32305-000
	575-3-50	Standard	026R00250-000
	380-3-50	Standard	026-32377-000
	208/230/460-3-60	TEFC	026-32842-000

**YORK Vacuum Pump Gasket and Seal Kit (for YORK Vacuum Pump Model 1402 only)  
 YORK part number 026-32388-000 (order Major Repair Manual before doing any repairs)**

DESCRIPTION	QUANTITY	PART NUMBER
Seal Kit	Qty. 1	1-98-4029
Pump Oil	1 gallon	1401D
Gaskets	1 each	41-0234 & 41-0403
Aluminum Washer	Qty. 1	41-0491
Steel Case Oil Seal	Qty. 1	41-0578
O-ring Tension Washer	Qty. 2	41-1266
Rubber Washer	Qty. 2	41-1267
Seal Cover Gasket	Qty. 1	41-2291

**TABLE 20 - PURGE VACUUM PUMPS AND PARTS MISCELLANEOUS YORK VACUUM PUMP PARTS**

DESCRIPTION	YORK P/N	WELCH P/N	COMMENTS
<b>YORK PUMP MODEL NO. 1400</b>			
V-belt	028-14422-000	1400A	For use with p/n 026-33637-000
V-belt	028-14423-000	1399A	For use with p/n 026-33832-000
Motor Pulley		41-0551	For use with p/n 026-33637-000
Motor Pulley		41-2377	For use with p/n 026-33832-000
Pump Pulley		41-2191	
Belt-Guard Replacement kit		1471H	
Base		41-2115	
Motor		61-8504A	For use with p/n 026-33637-000
Motor		61-8717	For use with p/n 026-33832-000
Pump Oil	011-00524-004	1407K-15	1 gallon of DUOSEAL Oil
Owners Manual		67-0696	Models 1400 and 1402
Discharge Port Adaptor Fitting		61-8503A	3/4"-20 male machine thds. X 1/2"- NPTE
Discharge Pipe Dust Cap		41-1345	3/4"-20 machine thds.
<b>YORK PUMP MODEL NO. 1402</b>			
V-belt	028-14424-000	1405A	For use with p/n's 026-32305-000, 026R00249-000 & 026-32842-000
V-belt	028-14425-000	41-0713	For use with p/n 026-32377-000
Motor Pulley		41-0668	For use with p/n's 026-32305-000 and 026R00249-000
Pump Pulley		41-2074	For use with p/n's 026-32305-000 and 026R00249-000
Belt-Guard Replacement Kit		1471G-01	For use with p/n's 026-32305-000 and 026R00249-000
Base		61-8717	For use with p/n's 026-32305-000 and 026R00249-000
Motor		61-8715	For use with p/n 026-33637-000
Motor		41-1904	For use with p/n 026-32305-000
Pump Oil	011-00524-004	1407K-15	1 gallon of DUOSEAL Oil
Owners Manual		67-0696	Models 1400 and 1402
Discharge Port Adaptor Fitting		61-8492A	1"-20 male machine thds. X 3/4" NPTE X 2-1/4" long
Discharge Pipe Dust Cap		41-0612	1"-20 machine thds.

## TUBES

**TABLE 21 - ABSORPTION CHILLER TUBES**

CHILLER MODEL / TUBE OPTION	LENGTH (IN.)	NOM O.D. (IN.)	WALL NOM. THK. (IN.)	ABSORBER TUBES			EVAPORATOR TUBES		
				QTY.	TYPE	PART NO.	QTY.	TYPE	PART NO.
<b>TUBES FOR UNITS WITH 3/4 INCH THICK TUBESHEETS</b>									
12SC & 13S Standard	126-1/8	5/8	0.025	405	Bare	007-08446-000	486	40 fpi <sup>3</sup>	007-08445-000
12SC & 13S Option A	126-1/8	5/8	0.025	405	19 fpi	007-08447-000	—	—	—
13SC & 14S	126-1/8	5/8	0.025	405	40 fpi	007-08445-000	486	40 fpi <sup>3</sup>	007-08445-000
14SC & 15S	157-5/8	5/8	0.025	405	40 fpi	007-07899-000	486	40 fpi <sup>4</sup>	007-07899-000
15SL	157-5/8	3/4	0.028	525	Bare <sup>2</sup>	007-08449-000	366	19 fpi	007-08448-000
16S	157-5/8	3/4	0.028	525	Bare <sup>2</sup>	007-08449-000	408	19 fpi	007-08448-000
16SL	197	3/4	0.028	525	Bare <sup>2</sup>	007-08474-000	366	19 fpi	007-08472-000
17S	197	3/4	0.028	525	Bare <sup>2</sup>	007-08474-000	408	19 fpi	007-08472-000
18S	236-3/8	3/4	0.028	525	Bare <sup>2</sup>	007-08428-000	408	19 fpi	007-08473-000
19S	275-3/4	3/4	0.028	525	Bare <sup>2</sup>	007-08479-000	408	19 fpi	007-08478-000
<b>TUBES FOR UNITS WITH 1 INCH THICK TUBESHEETS</b>									
12SC & 13S Standard	126-5/8	5/8	0.025	405	Bare	007-08877-000	486	40 fpi <sup>3</sup>	007-08866-000
12SC & 13S Option A	126-5/8	5/8	0.025	405	19 fpi	007-08863-000	—	—	—
13SC & 14S	126-5/8	5/8	0.025	405	40 fpi	007-08866-000	486	40 fpi <sup>3</sup>	007-08866-000
14SC & 15S	158-1/8	5/8	0.025	405	40 fpi	007-08865-000	486	40 fpi <sup>4</sup>	007-08865-000
15SL	158-1/8	3/4	0.028	525	Bare <sup>2</sup>	007-08880-000	366	19 fpi	007-08868-000
16S	158-1/8	3/4	0.028	525	Bare <sup>2</sup>	007-08880-000	408	19 fpi	007-08868-000
16SL	197-1/2	3/4	0.028	525	Bare <sup>2</sup>	007-08881-000	366	19 fpi	007-08869-000
17S	197-1/2	3/4	0.028	525	Bare <sup>2</sup>	007-08881-000	408	19 fpi	007-08869-000
18S	236-7/8	3/4	0.028	525	Bare <sup>2</sup>	007-08882-000	408	19 fpi	007-08870-000
19S	276-1/4	3/4	0.028	525	Bare <sup>2</sup>	007-08883-000	408	19 fpi	007-08871-000

**NOTES:**

1. All tube material is C-122 copper except as noted.
2. On 15SL thru 19S units, the column of absorber tubes adjacent to the evaporator are Bare, 90/10 CuNi, quantity 25.
  - Units with 3/4" thick tube sheets:**
    - a. 15SL thru 16S units; 90/10 CuNi tube p/n 007-08823-000.
    - b. 16SL thru 17S units; 90/10 CuNi tube p/n 007-08808-000.
    - c. 18S units; 90/10 CuNi tube p/n 007-08824-000.
    - d. 19S units; 90/10 CuNi tube p/n 007-08825-000.
  - Units with 1" thick tube sheets:**
    - a. 15SL thru 16S units; 90/10 CuNi tube p/n 007-08887-000.
    - b. 16SL thru 17S units; 90/10 CuNi tube p/n 007-08888-000.
    - c. 18S units; 90/10 CuNi tube p/n 007-08889-000.
    - d. 19S units; 90/10 CuNi tube p/n 007-08890-000.
3. 12SC through 14S units; top 2 rows of evaporator tubes are Bare copper.
  - a. Units with 3/4" thick tube sheets, p/n 007-08446-00, qty 16.
  - b. Units with 1" thick tube sheets, p/n 007-08877-000, qty 16.
4. 14SC and 15S units; top 2 rows of evaporator tubes are Bare copper.
  - a. Units with 3/4" thick tube sheets, p/n 007-08426-000, qty 16.
  - b. Units with 1" thick tube sheets, p/n 007-08878-000, qty 16.

CONDENSER TUBES			LOW TEMP. GENERATOR TUBES			HIGH-TEMPERATURE HOT WATER HEATERS				
QTY.	TYPE	PART NO.	QTY.	TYPE	PART NO.	QTY.	TYPE	LENGTH	O.D.	PART NO.
<b>TUBES FOR UNITS WITH 3/4 INCH THICK TUBESHEETS</b>						<b>7/8" THICK TUBESHEETS</b>				
140	Bare	007-08446-000	313	Bare	007-08446-000	132	Bare	51-1/8"	5/8"	007-08024-000
—	—	—	—	—	—	—	—	—	—	—
140	Bare	007-08446-000	313	Bare	007-08446-000	160	Bare	51-1/8"	5/8"	007-08024-000
140	Bare	007-08426-000	313	Bare	007-08426-000	198	Bare	51-1/8"	5/8"	007-08024-000
160	Bare	007-08449-000	300	Bare	007-08449-000	280	Bare	51-1/8"	5/8"	007-08024-000
160	Bare	007-08449-000	333	Bare	007-08449-000	280	Bare	51-1/8"	5/8"	007-08024-000
160	Bare	007-08474-000	300	Bare	007-08474-000	235	Bare	78-1/8"	5/8"	007-08485-000
160	Bare	007-08474-000	333	Bare	007-08474-000	235	Bare	78-1/8"	5/8"	007-08485-000
160	Bare	007-08428-000	333	Bare	007-08428-000	305	Bare	78-1/8"	5/8"	007-08485-000
160	Bare	007-08479-000	333	Bare	007-08479-000	305	Bare	78-1/8"	5/8"	007-08485-000
<b>TUBES FOR UNITS WITH 1 INCH THICK TUBESHEETS</b>						<b>ALL .035" WALL THICKNESS</b>				
140	Bare	007-08877-000	313	Bare	007-08877-000	132	Bare	51-1/8"	5/8"	007-08024-000
—	—	—	—	—	—	—	—	—	—	—
140	Bare	007-08877-000	313	Bare	007-08877-000	160	Bare	51-1/8"	5/8"	007-08024-000
140	Bare	007-08878-000	313	Bare	007-08878-000	198	Bare	51-1/8"	5/8"	007-08024-000
160	Bare	007-08880-000	300	Bare	007-08880-000	280	Bare	51-1/8"	5/8"	007-08024-000
160	Bare	007-08880-000	333	Bare	007-08880-000	280	Bare	51-1/8"	5/8"	007-08024-000
160	Bare	007-08881-000	300	Bare	007-08881-000	235	Bare	78-1/8"	5/8"	007-08485-000
160	Bare	007-08881-000	333	Bare	007-08881-000	235	Bare	78-1/8"	5/8"	007-08485-000
160	Bare	007-08882-000	333	Bare	007-08882-000	305	Bare	78-1/8"	5/8"	007-08485-000
160	Bare	007-08883-000	333	Bare	007-08883-000	305	Bare	78-1/8"	5/8"	007-08485-000

## CONDENSATE DRAIN COOLERS

TABLE 22 - CONDENSATE DRAIN COOLERS

UNIT MODEL NUMBER	OVERALL LENGTH	PART NUMBER
14SC, 16SL, 17S	74.8 INCHES	375-49014-001
18S & 19S	98.42 INCHES	375-49014-002
14SC, 16SL, 17S	74.80 INCHES	375-49014-003
18S & 19S	98.42 INCHES	375-49014-004

**NOTES:**

1. All drain coolers are ASME "U" code stamped, tubes are 5/8" OD, spirally fluted, 90/10 CuNi.

## CHEMICALS AND COMPOUNDS

**TABLE 23 - CHEMICALS AND COMPOUNDS**

ITEM DESCRIPTION	PART NUMBER
ADVAguard 750A SOLUTION, 1/2 gallon bottle	011-00931-000
ADVAguard 750A SOLUTION, 1 gallon bottle	011-00932-000
ADVAguard 750B POWDER, 50 gram container <sup>2</sup>	011-00933-000
ADVAguard 750B POWDER, 100 gram container <sup>2</sup>	011-00934-000
ADVAguard 750B POWDER, 500 gram container <sup>2</sup>	011-00935-000
REFRIGERANT, de-ionized water, 55 gallon drum	011-00548-000
LITHIUM BROMIDE SOLUTION, ADVAGuard 750 Inhibited, 30 gallon drum	011-00903-000
LITHIUM BROMIDE SOLUTION, Molybdate Inhibited, in 30 gallon drum	011-00556-000
LITHIUM BROMIDE SOLUTION, Un-inhibited, 30 gallon drum <sup>1</sup>	011-00940-000
LITHIUM MOLYBDATE INHIBITOR, powder, 1lb. bottle	011-00557-000
LITHIUM MOLYBDATE INHIBITOR, Liquid, 1 pint bottle (equals 0.4 lb of Molybdate powder)	011-00905-000
LITHIUM NITRATE INHIBITOR, powder, 1 lb. bottle	011-00524-002
LITHIUM HYDROXIDE MONOHYDRATE, powder, 5 lbs.	044-02985-000
ALCOHOL, (2-Ethyl-1-Hexanol), 5 gallon pail	011-00524-003
ADHESIVE, GASKET, 5 oz. tube (for Water Box Gaskets)	013-00995-000
CLEANER, Loctite 7070	013-02899-000
PRIMER (Loctite Primer "N" 7649), 1.76 oz. bottle	013-01753-000
SEALER, Loctite grade AVV 086 (for studs in tubesheets)	013-01671-000
SEALER, Loctite grade AV087 (rolling tubes in Absorber, Evap. Cond. and Low Temp Generator)	013-01046-000
SEALER, Loctite grade AA089 (for rolling tubes in first stage generator)	013-02998-000
SEALER, Loctite grade 620 (carbon wear rings on new style pumps)	013-03026-000
THREAD SEALANT, Carbon Steel Threads (Loctite 565) 250 mL Tube	013-02023-000
THREAD SEALANT, Loctite 567, (for stainless steel threads) 8.45 oz. tube	013-02280-000
VACUUM SEALANT, 4 oz. can	013-02882-003
VACUUM GREASE, Dow Corning high vacuum , 5.3 oz. tube	011-00901-000
HEAT CONDUCTIVE COMPOUND, 16 oz. can high temp. areas of unit	013-03398-000
HEAT CONDUCTIVE COMPOUND, 4 oz. can (for thermowells in low temp. areas of unit)	013-00898-000
ANTI-SEIZE COMPOUND, (Loctite C5-A), 2-1/2 lb. can	013-01690-000
VACUUM PUMP OIL, 1 gallon bottle	011-00524-004
PAINT, Caribbean Blue touch-up, 16 oz. Aerosol can	013-01835-000
PAINT, Caribbean Blue, 1 Gallon Enamel, Air Dry	013-01842-000
PAINT, Caribbean Blue, 5 Gallon Enamel, Air Dry	013-02510-000
GLUE, INSULATION	013-02293-000

**NOTES:**

1. Uninhibited solution requires inhibitors, please order appropriate inhibitor.
2. Purchase only what is required to make the chemical corrections. Once the container is open, there is no shelf life.

INHIBITOR	CONC.
NITRATE	53%
MOLYBDATE	55%
ADVAguard	53%

## YORK SERVICE TOOLS AND APPARATUS

**TABLE 24 - YORK SERVICE TOOLS AND APPARATUS**

ITEM DESCRIPTION	PART NUMBER
500 mL Polypropylene Hydrometer Flask	044-02982-000
Refrigerant Removal Tank, Includes Hose (5/8" ID x 1.024" OD) and Clamps	026-32007-002
Allen Wrench, 22mm (for 1-1/2" spindle valves)	029-20981-000
Tubing, Vacuum Pump, Clear Reinforced , 3/4" ID x 1.024" OD	028-13535-000
Tubing, Vacuum Sample Flask, Clear, 1/4" ID x 5/8" OD	028-12514-000
Tubing, Bubble Leak Check, Clear, 1/4" ID x 3/8" OD (not for vacuum purposes)	028-10605-000
Ammonia and Alkaline Solution Test Kit (see notes for contents)	026-32824-000
Thermometer 0-230°F, 12 inch (sprit filled)	026-32364-000
Thermometer 0-500°F, 15 inch (sprit filled)	026-32365-000
Hydrometer Kit, Case and Set of 8 Hydrometers (contains 1-8 below)	026-32366-000
1. Hydrometer, .700 to .810 Specific Gravity	026-32366-001
2. Hydrometer, .800 to .910 Specific Gravity	026-32366-002
3. Hydrometer, .900 to 1.010 Specific Gravity	026-32366-003
4. Hydrometer 1.000 to 1.220 Specific Gravity	026-32366-004
5. Hydrometer 1.200 to 1.420 Specific Gravity	026-32366-005
6. Hydrometer 1.400 to 1.620 Specific Gravity	026-32366-006
7. Hydrometer 1.600 to 1.820 Specific Gravity	026-32366-007
8. Hydrometer 1.800 to 2.000 Specific Gravity	026-32366-008
Spindle Valve Adapter	922-08869-001
Solution Sample Kit (Lithium Bromide)	028-15065-000

**NOTES:**

Contents of 026-32824-000 Ammonia & Alkaline Solution Test Kit

- 1 - Plastic carrying case with handle & insert
- 1 - Instruction sheet with MSDS's
- 1 - Deionized water, 16 oz.
- 1 - Hydrochloric acid, 2 oz.
- 1 - Phenolphthalein, 1%, 2 oz.
- 2 - Vial with cap, 0-50 ml
- 1 - Filter paper #610, 12.5 cm
- 1 - Flask, 125 ml
- 1 - Funnel, plastic, 75 mm
- 1 - Piper, calibrated, 1 ml
- 1 - Syringe, 1.0 cc
- 1 - Squirt bottle for DI water
- 1 - Ammonia Nitrogen Color Block
- 1 - Ammonia Nitrogen Reagent #1, 1 oz.
- 1 - Ammonia Nitrogen Reagent #2, 1 oz.
- 2 - Color comparator tube with cap

## NON-YORK SERVICE TOOLS

In addition to the above, some additional non-YORK service tools are required to be purchased independently.

- High intensity flashlight, such as the AA Mini Maglite.
- 10 mm and 3/8" Allen wrench
- 17 mm and 5/8" Allen wrench
- Vacuum flask: order a qty. of one from either of the below companies:  
 Cole-Parmer, Catalog No. E-06110-10. Phone 1-800-323-4340  
 BEL ART Products, Catalog No. 19953-0000. Phone (201) 694-0500
- Hydrometer Flask, **Optional purchase**, this flask is only 250 mL in size and is convenient to use with the BEL ART Vacuum Flask. Order Cole-Parmer, Cat. No. P-06652-00 (Gas Washing Bottle).
- Infrared Thermometer, such as the Exergen Microscanner D501. Phone 1-800-422-3006.
- Small utility pump (such as the TEEL 1/2 HP portable, self-priming pump, Grainger Cat. No. 2P110A, or TEEL IP5Y9F, 1/10 HP Self-Priming Marine Utility Pump [fits in hand])
- Barbed fittings 1/4" NPT to 1/4" hose
- Plastic buckets 2-1/2 gallon size
- Plastic garbage cans approx. 30 gallon size
- Combustion Analysis tools: Water Manometer and Combustion Analyzer.
- Accurate digital Multimeter such as the Fluke 87
- Mixed bed de-Ionizer (can be rented through local water treatment company)
- Rubber gloves
- Apron
- Safety glasses
- Solution Sample Kits (can be purchased through Rocky Research, phone (702) 293-0851.
- Motor Rotation detector, Bell & Gossett No. S12908
- Solution Filter, model no. 6FM01A-21P ([www.Pall.com](http://www.Pall.com))
- Solution Filter, order Filterite Poly-Fine ARD cartridges w/EPDM gaskets.

**NOTE:**

YORK recommends a High-Temperature Epoxy for installing insulation or insulation pins to the first stage generator. There is no part number for this product; it can be obtained via the McMaster-Carr catalog. product no. 7563A24, for a one pint can or 7563A26 for a one gallon can.

**TABLE 25 - GLOBE VALVE TEFLON CAP O-RINGS MCMASTER-CARR**

YORK GLOBE VALVE PART NUMBER	VALVE SIZE	O-RING I.D.	O-RING O.D.	MCMASTER-CARR	
				DASH NO.	CAT. NUMBER
022-08869-051	1"	1-5/16"	1-1/2"	219	9559K41
022-08869-028	1-1/2"	1-5/16"	1-1/2"	219	9559K41
022-08869-030	2"	1-3/8"	1-5/8"	220	9559K42
022-08869-031	2-1/2"	1-9/16"	1-3/4"	222	9559K44
022-08869-032	3"	1-3/4"	2"	225	9559K1-225
022-08869-033	4"	2-1/16"	2-1/16"	225	9559K1-225

## GASKETS

**TABLE 26 - SYSTEM GASKETS**

ITEM DESCRIPTION	PART NUMBER	
	DIRECT-FIRED UNITS	STEAM UNITS
Gasket, Buffalo Solution Spray End Pump 2-Inch Suction (12SC through 15S Units)	075-24300-000	075-24300-000
Gasket, Buffalo Solution Spray End Pump 3-Inch Discharge (12SC through 15S Units)	075-24092-000	075-24092-000
Gasket, Buffalo Solution Pump Suction and Discharge (15SI and 16S)	075-24300-000	075-24300-000
Gasket, VP7 Flange (Black Neoprene)	075-24091-000	075-24091-000
Gasket, Purge Flange (Black Neoprene)	075-23414-000	075-23414-000
Steam Condensate Drain Line Flange Gasket 3/4" Line (14Sc through 17S Units)	N/A	028-10386-002
Steam Condensate Drain Line Flange Gasket 1" Line (18S through 19S Units)	N/A	028-10386-003
Gasket, Buffalo Pump Model P8-106 Casing (50 and 60 Hz Pumps)	028-12913-000	028-12913-000
Gasket, Buffalo Pump Models 66M-709 and 66R-709 Casing (50 & 60 Hz Pumps)	028-12700-000	028-12700-000
Gasket, Buffalo Pump Models 66R-709/609 & 66V-709/609 Casing (50 & 60 Hz Pumps) (Includes One "O"-Ring Type and One Flat Type Gasket) (Use Appropriate Type Gasket as Found in Pump Casing)	028-12914-000	028-12914-000
Gasket, Buffalo Pump Models 215Zb-8011 & 215R-8011 (50 & 60 Hz Pumps)	028-12599-000	028-12599-000
Gasket for Old Style 4" Carbon Disk (P/N Includes Two Gaskets)	026-33818-000	026-33818-000
Gasket for Old Style 6" Carbon Disk (P/N Includes Two Gaskets)	026-33819-000	026-33819-000

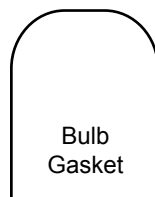
CROSS OVER LINE PIPING GASKETS (IF YORK SUPPLIED CROSSOVER LINE)	
CROSSOVER LINE SIZE	YORK PART NUMBER
8"	028-10386-013
10"	028-10386-014
12"	028-10386-015
BY-PASS LINE PIPING GASKETS (FITS 150 LB. COMPACT AND MARINE WATER BOXES)	
BY-PASS LINE SIZE	YORK PART NUMBER
3"	028-10386-008
4"	028-10386-010
5"	028-10386-011
6"	028-10386-012
CONDERSATE DRAIN HEAT EXCHANGER GASKET	
IN / OUT Head	028R00973-000
Return Head	028R00974-000

**TABLE 27 - GASKETS UNIT WATER BOXES FOR STEAM AND DIRECT-FIRED UNITS**

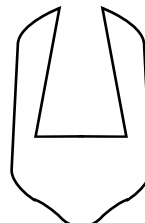
UNIT MODEL	PASS	EVAPORATOR BUNDLE					
		COMPACT WATER BOXES		MARINE WATER BOXES			
				FRONT BOX (BOX W/ NOZZLES)		RETURN BOX <sup>1</sup> (BOX W/O NOZZLES)	
		PART NUMBER	QTY. (FT.)	PART NUMBER	QTY. (FT.)	PART NUMBER	QTY. (FT.)
12SC, 13SC	1	—	—	—	—	—	—
	2	028-03242-000	16.5	028-03242-000	26	075-15448-000	1
	3	028-03242-000	16.5	028-03242-000	36	—	—
	4	028-03242-000	16.5	028-03242-000	26	075-15448-000	1
14SC	1	—	—	—	—	—	—
	2	028-03242-000	16.5	028-03242-000	26	075-15448-000	1
	3	028-03242-000	16.5	028-03242-000	36	—	—
	4	028-03242-000	16.5	028-03242-000	26	075-15448-000	1
15SL, 16S	1	—	—	—	—	—	—
	2	028-03242-000	22	028-03242-000	30	075-16563-000	1
	3	028-03242-000	22	028-03242-000	40	—	—
	4	028-03242-000	22	028-03242-000	30	075-16563-000	1
16SL, 17S, 18S	1	—	—	—	—	—	—
	2	028-03242-000	22	028-03242-000	30	075-16563-000	1
	3	028-03242-000	22	028-03242-000	40	—	—
	4	028-03242-000	22	028-03242-000	30	075-16563-000	1
19S	1	—	—	—	—	—	—
	2	028-03242-000	22	028-03242-000	30	075-16563-000	1
	3	028-03242-000	22	028-03242-000	40	—	—
	4	028-03242-000	22	028-03242-000	30	075-16563-000	1

**TABLE 28 - GASKETS MISCELLANEOUS WATER BOX GASKETS**

UNIT MODEL	ITEM DESCRIPTION	PART NUMBER
ALL	Gasket, Pass Baffle, (fits all water box pass baffles in all bundles)	028-15842-000
ALL STEAM UNITS	Gasket, First-Stage Generator Head (Gore-Tex Joint Sealant, 1/4" wide x 1/8" thick, 50 foot Roll)	028-12908-000



028-03242-000  
fits into groove



028-15842-000  
fits over baffle plate

ABSORBER/CONDENSER BUNDLE							HOT WATER HEATER	
COMPACT WATER BOXES		MARINE WATER BOXES					HEATER WATER BOX (HI-TEMP DIRECT-FIRED UNITS ONLY)	
		FRONT BOX (BOX W/ NOZZLES)		RETURN BOX <sup>1</sup> (BOX W/O NOZZLES)				
PART NUMBER	QTY. (FT.)	PART NUMBER	QTY. (FT.)	PART NUMBER			PART NUMBER	QTY.
				ABSORBER	CONDENSER	QTY.		
028-03242-000	28	028-03242-000	32	075-15614-000	—	1	—	—
028-03242-000	28	028-03242-000	53	—	—	—	075-17433-000	2
028-03242-000	28	028-03242-000	32	075-15614-000	—	1	075-17433-000	2
—	—	—	—	—	—	—	075-17433-000	2
028-03242-000	28	028-03242-000	32	075-15614-000	—	1	—	—
028-03242-000	28	028-03242-000	53	—	—	—	075-17433-000	2
028-03242-000	28	028-03242-000	32	075-15614-000	—	1	075-17433-000	2
—	—	—	—	—	—	—	075-17433-000	2
—	—	—	—	—	—	—	—	—
028-03242-000	32	028-03242-000	54.5	075-16307-000	075-16177-000	1 ea.	075-17465-000	2
028-03242-000	32	028-03242-000	65.5	—	—	—	075-17465-000	2
—	—	—	—	—	—	—	075-17465-000	2
—	—	—	—	—	—	—	075-17465-000	2
028-03242-000	32	028-03242-000	54.5	075-16307-000	075-16177-000	1 ea.	075-17465-000	2
028-03242-000	32	028-03242-000	65.5	—	—	—	075-17465-000	2
—	—	—	—	—	—	—	—	—
028-03242-000	32	028-03242-000	65.5	—	—	—	075-17465-000	2
028-03242-000	32	028-03242-000	54.5	075-16307-000	075-16177-000	1 ea.	075-17465-000	2
028-03242-000	32	028-03242-000	65.5	—	—	—	075-17465-000	2
—	—	—	—	—	—	—	—	—

**NOTES:**

1. Only order these gaskets if unit was built prior to April 1999. For units built after April 1999, order the 028-03242-000 bulb gasket at the specified quantity.

## RUPTURE DISKS AND HOLDERS

**TABLE 29 - RUPTURE DISKS AND HOLDERS**

UNIT MODEL	SIZE	BURST RATING	DESCRIPTION	PART NUMBER
12SC-17S	1-1/2"	7 psig, +/- 2 psi	Rupture disk, metallic 316 stainless steel, armored, ASME certified.	026-37940-000
		N/A	Flange assembly, carbon steel, 150# ANSI rated. 1-1/2" butt weld connection on process side, 1-1/2" NPTI on relief side. Includes nuts and bolts.	026-37941-000 Teflon Gasket (Optional) 028R00987-000
18S & 19S	2"	7 psig, +/- 2 psi	Rupture disk, metallic 316 stainless steel, armored, ASME certified.	026-37942-000
		N/A	Flange assembly, carbon steel, 150# ANSI rated. 2" butt weld connection on process side, 2" NPTI on relief side. Includes nuts and bolts.	026-37943-000 Teflon Gasket (Optional) 028R00988-000
All S-Model units built between May 1996 and March 2002	4"	12 psig, +/- 2 psi	Rupture disk, metallic 316 stainless steel, armored, ASME certified. Includes safety wire and tamperproof tabs.	026-36157-000
		N/A	Flange assembly, carbon steel, 150# ANSI rated. 4" butt weld connection on process side, 4" NPTI on relief side. Includes cap screws.	026-36158-000
All S-model units built before May 1996	4"	7 psig, +/- 0.75 psi	Rupture disk, carbon. PTFE coated on process side; FEP liner on relief side. Disk comes with EPDM gaskets attached on both sides. Mounts between standard 150# rated ANSI flanges - obtain locally.	026-32007-015
All G-model units built after May 1996	6"	12 psig, +/- 2 psi	Rupture disk, metallic 316 stainless steel, armored, ASME certified. Includes safety wire and tamperproof tabs	026-36159-000
		N/A	Flange assembly, carbon steel, 150# ANSI rated. 6" butt weld connection on process side, 6" NPTI on relief side. Includes cap screws.	026-36160-000
All G-model units built before May 1996	6"	7 psig, +/- 0.75 psi	Rupture disk, carbon. PTFE coated on process side; FEP liner on relief side. Disk comes with EPDM gaskets attached on both sides. Mounts between standard 150# rated ANSI flanges - obtain locally.	026-32007-016

**NOTES:**

- The 4 & 6 inch metallic rupture disks may be used as an upgrade for the 2 respective carbon disks when upgrading. Also order the flange assembly.  
 For upgrading, the original standard unit flanges will need to be removed and replaced by the flange assembly and metallic rupture disk.
- See System Gaskets for old style rupture disk gaskets.

## MISCELLANEOUS COMPONENTS

**TABLE 30 - MISCELLANEOUS COMPONENTS**

ITEM DESCRIPTION	PART NUMBER
Smart Purge Field Retrofit Kit <sup>1</sup>	325-32967-000
Flow Switch, for use with 150# DWP Water Boxes <sup>2</sup>	024-26116-000
Flow Switch, for 150#DWP Water Boxes NEMA 4 and 4x	024-15793-000
Flow Switch for use with 300# DWP Water Boxes (Good for NEMA 4 and 4x)	024-12144-000
Control, Differential Pressure Switch	025-30919-000
Sight Glass, 2 inch Threaded	026-18004-000
Absolute Pressure Gauge, Dial Type (Non-Mercury), Gauge Range 0 to 40Mm (Torr)	026-45534-000
Gauge, Compound, 4" Dial, Gauge Range -760Mm Hg to 15Psig (Pi-1)	026-34443-000
Gauge, Compound, 3-1/2 Inch Dial, Gauge Range 30" Vacuum to 300# Psig (Steam Pressure, Steam Units Only)	026-03952-000
Siphon (Used in Conjunction with Above Steam Pressure Gauge)	026-28384-000
Tee, 1/2 Inch Threaded, Carbon Steel	023-11329-000
Tee, 3/4 Inch Threaded, Carbon Steel	023-11331-000
Micro Panel Heat Shield	075-17162-000
Power Panel Heat Shield	075-17163-000
Thermowell for Absorber, Evaporator & Condenser ( <b>Not</b> Generator)	026-32328-000
Pipe, CPVC 4" Sch 80 X 6-3/8" Long 4 - 8 NPTE One End	028-12904-000
2" Half Coupling	068-00088-000
1/2-13 Studs, 2-3/4" Long (Waterbox)	021-12730-000
1/2-13 Studs, 3" Long	021-12731-000
1/2-13 Nuts (Waterbox)	021-11154-000

**NOTES:**

1. SmartPurge Retrofit Kit includes:

- \* All hardware and components (1SOL, 2SOL & PT-3) to modify purge piping.
- \* Transducer PT-4. If unit does not have the purge tank isolation valve for PT-4, one will need to be installed. Materials for this purpose must be purchased separately.
- \* Thermistor RT-12. If unit does not have the thermowell for RT-12, one will need to be installed.
- \* Components to modify MicroPanel for Auto-Purge and Crystallization Cutout Safety feature. Including latest EPROM version.
- \* Some additional items and welding will be required to install the SmartPurge Retrofit Kit. See Field Retrofit Instructions for a complete list.

2. Flow Switch can be used for either evaporator, condenser, or Hi-temp. aux. heat exchanger water loops.

## SPARE AND EMERGENCY PARTS

### RECOMMENDED SPARE PARTS LIST

It is recommended that certain parts be stocked by the customer to facilitate prompt service in the event of a component failure. Spare parts will, of course, depend upon the degree of self-sufficiency required by the building owner. Larger cost items such as pump repair kits should be stocked only if there is no chiller redundancy at the site.

The table below includes parts recommended by YORK to sufficiently service the unit under normal circumstances.

**TABLE 31 - PREVENTATIVE, REGULAR AND SCHEDULED MAINTENANCE SPARE PARTS**

ITEM	DESCRIPTION	QUANTITY	PART NUMBER	COMMENTS
1	Gasket, Water Box	—	VARIABLE	See Gasket section for applicable gaskets
2	Adhesive For Water Box Gaskets	1	013-00995-000	5 oz. tube
3	Gasket, Evap. Pass Baffle	25'	028-08547-000	Units with Multiple pass boxes only
4	Inhibitor, Powder (See Notes)			
5	Inhibitor, Liquid			
8	Hydrometer Kit, Case And Set Of 8 Hydrometers	1	026-32366-000	See Service Tools Section for contents of kit
9	Cleaner, Loctite 7070	1	013-02899-000	16 fl. oz. aerosol can
10	Primer, Loctite "Primer N 7649"	1	013-01753-000	1.76 oz. bottle
11	Pipe Thread Sealant, Loctite 567	1	013-02280-000	8.45 oz. tube
12	Vacuum Grease, Dow Corning High Vacuum	1	011-00901-000	5.3 oz tube
13	Vacuum Sealant	1	013-02882-003	4 oz. can with brush
14	Heat Conductive Compound (For Low Temp. Thermowells)	1	013-00898-000	4 oz. can
15	Heat Conductive Compound (For High Temp. Thermowells)	1	013-03083-000	16 oz. can
16	Vacuum Pump Oil	5	011-00524-004	1 gallon container
17	Replacement O-Ring Kit For Spindle Valves	1	028-12271-002	for 1/2" spindle valves
18	Replacement O-Ring Kit For Spindle Valves	1	028-12271-003	for 1" spindle valves
19	Replacement O-Ring Kit For Spindle Valves	1	028-12271-004	for 1-1/2" spindle valves
21	Ic, Real Time Clock - U16	1	031-00955-000	
22	Replacement Neoprene Diaphragm	1	022-09126-000	for 1/2" diaphragm valve
23	Solution Sample Kit	1	028-15065-000	for Litium Bromide

**NOTE:**

1 Purchase appropriate type of inhibitor for your unit only. See Chemicals and Compounds Section of this manual.

## RECOMMENDED EMERGENCY SPARE PARTS LIST

The table below is parts recommended by YORK for **Emergency** chiller failures. The parts listed are for electrical and general chiller repairs in the event the chiller goes off line and needs to be repaired as soon as possible.

**TABLE 32 - EMERGENCY SPARE PARTS**

ITEM	DESCRIPTION	QTY.	PART NUMBER	COMMENTS
1	Temperature Sensor, 50K (for high temp. areas of unit)	1	025-29924-000	HTG and solution/dilution
2	Temperature Sensor, 3K (low temp areas of unit)	1	025-29964-000	Evap & Cond water Ref. temp
3	Pressure Transducer	1	025-29907-001	PT1
4	Fuse	1	025-29905-000	7 amp (1FU)
5	I/O Expansion Board	1	031-01301-001	
6	Power Supply Board	1	031-01080-000	
7	Micro Board	1	031-01065-002	Eprom not included
8	Relay Board	1	031-01199-000	
9	Digital Input Board (Note 1)	1	031-01621-001	Standard
10	Digital Input Board (Note 2)	1	031-01621-002	VDE
11	Rupture Disk (Note 3)	1	VARIABLE	
12	New Motor with Pump Repair Kit (Note 4)	1	VARIABLE	
13	york Vacuum Pump Model 1400 V-Belt (Size 4L340)	1	028-14422-000	208-230/460/3/60 Hz
14	york Vacuum Pump Model 1400 V-Belt (Size 4L350)	1	028-14423-000	380/3/50 Hz

**NOTES:**

1. Standard wiring.
2. VDE, (Germany Wiring Code) order only if chiller meets VDE code.
3. Older model units use a carbon type rupture disk mounted between standard flanges:  
 4 inch 026-32007-015, replacement gaskets 026-33818-000 (torque 20 ft./lbs.).  
 6 inch 026-32007-016, replacement gaskets 026-33819-000 (torque 20 ft./lbs.).  
 The carbon type rupture disk will need to be replaced every three years as it becomes porous over time. Therefore, it is highly recommended by York to upgrade the unit rupture disks to metallic. These disks do not require a routine change out and no gaskets are required for installation. However, some unit cutting and welding will be required due to special flanges are needed.
4. Pump repair kits are available to fix virtually any pump problem that may be encountered. It is recommended that a new motor with pump repair kit be available on site for each type of pump located on the unit. Smaller units will have only two pumps while larger units will have four. New motor with pump repair kits are listed in this form for new style pumps. A kit, contents listing of what comes with each kit is also listed. If two or more pumps on the same unit have the same kit number, stock only one kit.

## UNIT SHIP LOOSE PARTS

The following tables are typical items that are shipped loose with each unit. Find the table with the heading that matches your unit for an itemized list of what should be included but shipped separately with the unit. The tables do not reflect any special items or additional accessories that may have been included with the Factory Order.

If any items are missing contact the factory, Customer Service dept.

Sometimes Lithium Bromide Solution, Refrigerant, and Alcohol are shipped separate from the unit. See Factory Order Sheet to determine if these items are shipped loose.

**TABLE 33 - UNIT SHIP LOOSE PARTS FOR 50HZ AND 60HZ DIRECT FIRED UNITS**

PART NO.	SUB-ITEM PART NO.	DESCRIPTION	QUANTITY	UOM
026-45534-000	—	Pressure Gauge 4" Dial Non-Mercury 0-40 TORR	1	ea.
023-04685-000	—	Pipe Bush Face 1/2 - 14 NPTE x 1/4 - 18 NPTI	1	ea.
023-08856-000	—	Hose Clamp 11/16" minimum dia.	2	ea.
021-12930-000	—	Hose Clamp 1-1/16" minimum dia. (Purge)	2	ea.
375-19010-000	—	Leak Test Kit	1	ea.
—	044-02982-000	Polypropylene Hydrometer Cylinder	1	ea.
—	022-08885-001	Ball Valve 1/4" NPTI	1	ea.
—	022-08885-005	Ball Valve 1/2" NPTI	1	ea.
—	023-14616-000	Pipe Nipple 1/2" Schedule 40 Close	1	ea.
—	023-03986-000	Pipe Bushing 1/2 - 14 NPTE x 1/4 - 18 NPTI	1	ea.
—	023-11329-000	Tee Screw 1/2 NPTI x 1/2 NPTI x 1/2 NPTI #300 lb.	1	ea.
—	023-04320-000	45 Degree Elbow Screw 1/2 NPTI x 1/2 NPTI	1	ea.
—	023-14611-000	Pipe Nipple 1/2 - 14 (Schedule 40) NPTE x 4" long	1	ea.
—	028-10605-000	Plastic Tube 3/8" O.D. x 1/4" I.D. (Bubble Hose)	4	ft.
—	023-10280-000	Hose Clamp 1/4" minimum dia.	1	ea.
023-18224-000	—	Hose Barb 1/2" NPTE x 3/4" Hose Barb	1	ea.
028-13535-000	—	Hose 3/4" I.D. x 1.024" O.D. (Purge Pump Inlet)	4	ft.
026-33637-0001	—	Vacuum Pump, 60Hz, Model 1400 (0.9 cfm) 60Hz Units only	1	ea.
026-33832-0001	—	Vacuum Pump, 50Hz, Model 1400 (0.9 cfm) 50Hz Units only	1	ea.
026-32007-002	—	Refrigerant Removal Tank with 5/8 ID Hose and Clamps	1	ea.
035-12629-000	—	Label Ship Loose Packaging	1	ea.
335-12694-003	—	Label Valve Designations	1	ea.
922-08869-001	—	Sample Valve Adapter	1	ea.
<b>THE BELOW ITEMS ARE NOT INCLUDED IN KIT BUT ARE SHIPPED WITH EACH UNIT</b>				
024-26116-0002	—	Chilled Water Flow Switch (Standard 150# DWP water boxes)	1	ea.

**NOTES:**

1. One vacuum pump shipped per unit, part number dependent upon unit Hertz.
2. One switch is included with each unit for chilled water flow. A condenser or Hot water flow switch can be supplied as an extra accessory to the factory order. Also available are 300# DWP flow switches and Differential Pressure switches.

**TABLE 34 - UNIT SHIP LOOSE PARTS TYPICAL BURNER SHIP LOOSE ITEMS**

PART NUMBER	DESCRIPTION	QUANTITY	UOM
See Burner Specification Sheet	Thermocouple, Probe with Junction Box - 1/8" NPTE	1	EA.
See Burner Specification Sheet	Wire, Thermocouple - J-Type	50	FT.
See Burner Specification Sheet	Tubing, Aluminum, Coil for Pilot Gas	6	FT.
See Burner Specification Sheet	Gas Train	1	EA.
See Burner Specification Sheet	Pump, Oil with Drive Motor	1*	EA.
See Burner Specification Sheet	Filter, Oil	1*	EA.
See Burner Specification Sheet	Gauge, Oil Pressure	1*	EA.
029-22435-00X**	Burner Damper Assembly with FGR Connection	1	EA.
See Burner Specification Sheet	Braided Fiberglass Rope	13	FT.
See Burner Specification Sheet	Burner Damper Assembly w/ FGR Connection	1	EA.

**NOTE:**

\*Only supplied with gas / oil dual fuel burners.

\*\* 029-22435-001 – unit models 12SC thru 14S

029-22435-002 – unit models 14SC and 15S

029-22435-003 – unit models 15SL and 16S

029-22435-004 – unit models 16SL and 17S

029-22435-005 – unit models 18S and 19S

**TABLE 35 - YORK VACUUM PUMP SHIP LOOSE PARTS**

WELCH PART NUMBER	DESCRIPTION	QUANTITY	UOM
1407k-11	Duoseal Vacuum Pump Oil	1	qt.
61-8503a	Black Pipe Male To Male Adapter, 3/4"-20 X 1/2" NPTE	1	ea.
67-0607	Owner's Manual	1	ea.
41-13453	Discharge Port Dust Cap (3/4"-20 Threads)	1	ea.

**NOTES:**

1. Above parts are applicable for both 50 and 60 Hz pumps.

2. Gas ballast piping is already installed on pump from the factory.

3. This item is not required for pump operation and may not be included with all pumps.

**TABLE 36 - UNIT SHIP LOOSE PARTS FOR 50HZ AND 60HZ STEAM FIRED UNITS**

PART NO.	SUB-ITEM PART NUMBER	DESCRIPTION	QUANTITY	UOM
026-45534-000	—	Pressure Gauge, Dial Type, (Non-Mercury) 0 to 40mm	1	ea.
023-08856-000	—	Hose Clamp 11/16" minimum dia.	2	ea.
375-19010-000	—	Leak Test Kit	1	ea.
—	044-02982-000	Polypropylene Hydrometer Cylinder	1	ea.
—	022-08885-001	Ball Valve 1/4" NPTI	1	ea.
—	022-08885-005	Ball Valve 1/2" NPTI	1	ea.
—	023-14616-000	Pipe Nipple 1/2" Schedule 40 Close	1	ea.
—	023-03986-000	Pipe Bushing 1/2 - 14 NPTE x 1/4 - 18 NPTI	1	ea.
—	023-11329-000	Tee Screw 1/2 NPTI x 1/2 NPTI x 1/2 NPTI #300 lb.	1	ea.
—	023-04320-000	45 Degree Elbow Screw 1/2 NPTI x 1/2 NPTI	1	ea.
—	023-14611-000	Pipe Nipple 1/2 - 14 (schedule 40) NPTE x 4" long	1	ea.
—	028-10605-000	Plastic Tube 3/8" O.D. x 1/4" I.D.	4	ft.
—	023-10280-000	Hose Clamp 1/4" minimum dia.	1	ea.
375-06889-000	—	Gauge Kit	1	ea.
—	026-03952-000	3-1/2" Dial Compound Gauge, Steam Pressure	1	ea.
—	026-28384-000	Siphon, Ashcroft (to be used with above compound gauge)	1	ea.
—	023-11103-000	1/4 -18 NPTI Pipe Coupling	1	ea.
023-18224-000	—	Hose Barb 1/2" NPTE x 3/4" Hose Barb	1	ea.
028-13535-000	—	Hose 3/4" I.D. x 1.024" O.D.	4	ft.
026-33637-000 <sup>1</sup>	—	Vacuum Pump, 60Hz, Model 1400 (0.9 cfm) 60Hz Units only	1	ea.
026-33832-000 <sup>1</sup>	—	Vacuum Pump, 50Hz, Model 1400 (0.9 cfm) 50Hz Units only	1	ea.
026-32007-002	—	Refrigerant Removal Tank with 5/8" ID Hose and Clamps	1	ea.
035-12629-000	—	Label Ship Loose Packaging	1	ea.
335-12694-004	—	Label Valve Designations	1	ea.
021-12930-000	—	Hose Clamp 1-1/16" minimum dia.	2	ea.
922-08869-001	—	Sample Valve Adapter	1	ea.
<b>THE BELOW ITEMS ARE NOT INCLUDED IN KIT BUT ARE SHIPPED WITH EACH UNIT</b>				
024-26116-000 <sup>2</sup>	—	Chilled Water Flow Switch (Standard 150# DWP water boxes)	1	ea.
026-20742-00X <sup>3</sup>	—	Steam Control Valve	1	ea.

**NOTES:**

1. Only one vacuum pump shipped with each unit, dependent upon unit Hertz.
2. One switch is included with each unit for chilled water flow. A condenser or hot water flow switch can be supplied as an extra to the factory order. Also available are 300# DWP flow switches and differential pressure switches.
3. See Factory Order Sheet for specific Steam Control Valve part number.

## NOTES



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