

INSTRUCTION MANUAL

SOLVENT RECOVERY STILL

MODELS: 110, 111, 120, 121,
130, 131, 140, 141

5110R

**IMPORTANT SERVICE
LITERATURE**

Forward to Your Service Department

BRANSON CLEANING EQUIPMENT COMPANY

Parrott Drive • Shelton, Connecticut 06484-0768 • (203) 929-7301

MANUAL CHANGE INFORMATION

At BRANSON, we continually strive to keep up with the latest electronic developments by adding circuit and component improvements to our equipment as soon as they are developed and tested.

Sometimes, due to printing and shipping requirements, we can't incorporate these changes immediately into printed manuals. Hence, your manual may contain new change information. Change information, if any, is located in the Appendix.

The material contained in this manual is intended for use by persons having technical skill, at their own discretion and risk. BRANSON makes no representations or warranties, either express or implied, with regard to the material contained in this manual. Since conditions of application are beyond the control of BRANSON, BRANSON assumes no liability for special, consequential or incidental damages or otherwise in connection with or arising out of the use of this material or any part thereof.

WARNING

READ BEFORE USING THE STILL

All personnel using the equipment should read this manual thoroughly and understand its contents, as well as familiarize themselves with precautionary instructions pertaining to the usage and handling of solvents. If necessary, contact the solvent manufacturer for recommendations regarding handling and usage of solvent.

Since all cleaning solvents are toxic to some degree it is recommended that you inform all operating personnel as to the extent of the toxicity. Do not allow solvent vapors to exceed the safe maximum allowable concentration. Consult published safety regulations for the particular solvent being used.

DO NOT expose any halogenated solvent or its vapors to the high temperatures existing in open flames and exposed electric heating elements because the solvent may decompose to toxic and corrosive substances. Install the still in a well ventilated room, away from glowing electric heating elements, open flames or welding operations.

DO NOT allow solvent to come in contact with the body. Solvent above 140°F (60°C) and solvent vapors above 160°F (71°C) can cause burns. Solvent removes the natural oils from the skin with prolonged or frequent contact. Use eye protection, gloves and protective clothing when handling solvent.

DO NOT use solvent other than those specified in paragraph 1-2.

DO NOT deliberately inhale or take solvent internally because doing either could be fatal.

DO NOT bring solvent into contact with highly active metals such as sodium, potassium and barium.

DO NOT allow solvent to become over contaminated.

Solvents can break down and become acidic in nature when exposed over prolonged periods to reactive metals such as magnesium, aluminum, zinc, beryllium, etc. Analyze the solvent frequently to determine if it has broken down. Failure to comply with this recommendation will result in damage to the equipment and could void the warranty covering it.

DO NOT perform any maintenance of the still while 1) the solvent is hot and/or 2) the electrical power is on. Electrically lockout degreaser and place "Out of Service" sign on the unit.

The thermostats have been factory set for the solvent, specified on the label affixed next to the thermostats. If you wish to change solvent, contact your Branson representative or your solvent supplier for the proper thermostat setting.

The START switch MUST be depressed immediately after depressing the THERMAL POWER switch to prevent damage to the refrigeration system which could result from operating without a load (heat).

When the still is not in use, keep top cover on.

Install the still in accordance with the National Electrical Code and any applicable local electrical codes.

Never operate the still in an ungrounded mode.

GUARANTEE STATEMENT

When used in accordance with written instructions and under normal operating conditions BRANSON manufactured products are guaranteed to be free from defects in material and workmanship for one (1) year from the invoice date. Any unit which proves defective during the stated period will be repaired or replaced, at the sole discretion of BRANSON, f.o.b. Shelton, Connecticut, provided the defective part is returned properly packed with all freight charges prepaid to BRANSON factory located at Parrott Drive, Shelton, Connecticut or to a designated repair center.

BRANSON'S liability, whether based on warranty, negligence or other cause, arising out of and/or incident to the sale, use or operation of the equipment, or any part thereof, shall not in any case exceed the cost of repair or replacement of the defective equipment and such repair or replacement shall be the exclusive remedy of purchaser and in no case shall BRANSON be responsible for any and/or all incidental or consequential damages including consequential damages arising out of commercial loss.

This guarantee shall not apply to:

- * Complete assemblies such as pumps and refrigeration units purchased from other manufacturers and incorporated into BRANSON products. In case of failure of these assemblies, BRANSON will honor the specific guarantee terms of the individual manufacturer involved.
- * Cavitation erosion of tank and transducer surfaces which is a normal occurrence and develops over time in the operation of ultrasonic cleaning equipment.
- * Equipment subjected to misuse, improper installation, alteration, neglect or accident.

This guarantee is limited to the original purchaser and is not transferrable.

No warranties expressed or implied have been made other than those stated herein. BRANSON HEREBY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

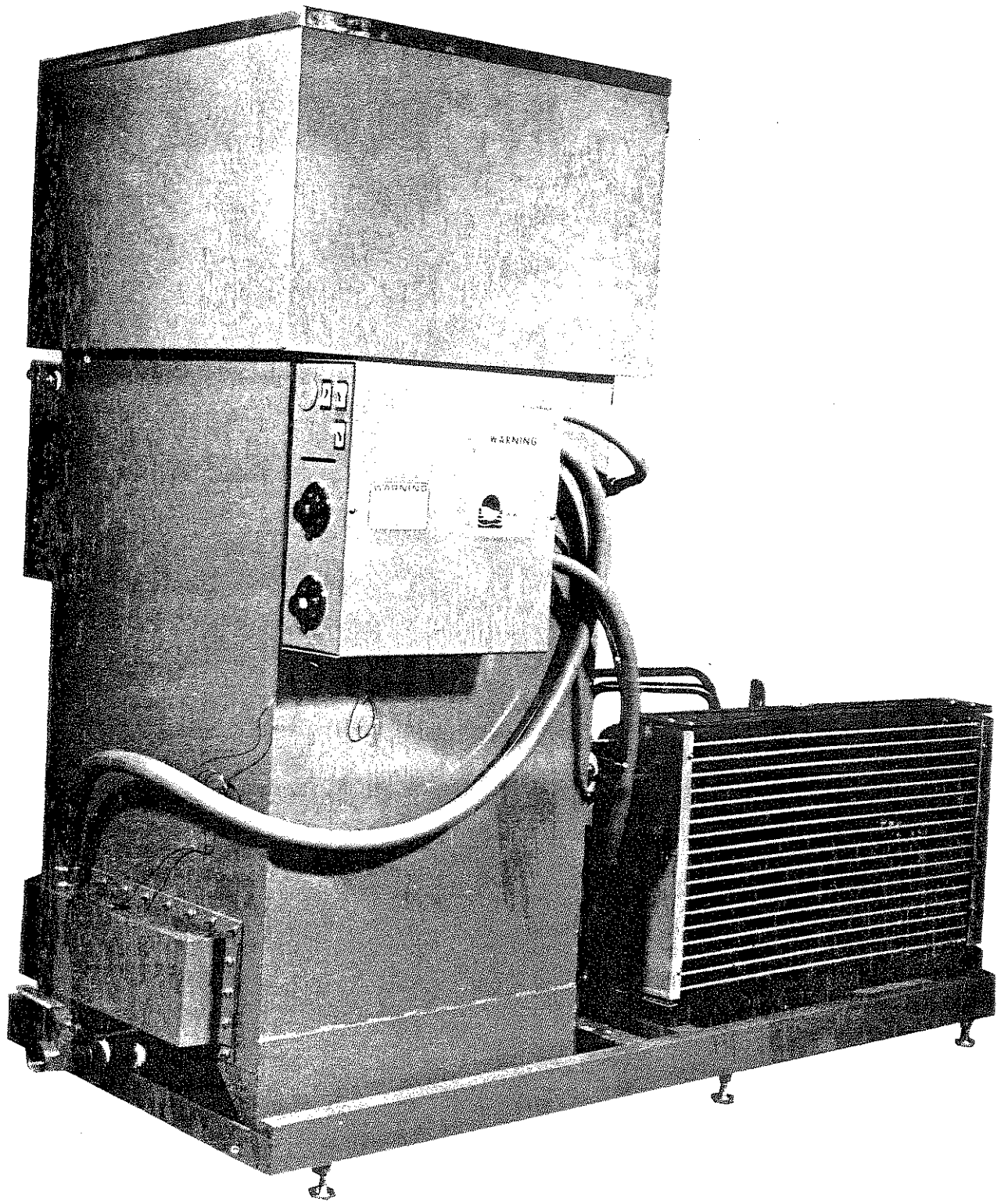
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Solvent Recovery Still
Model S130R (Refrigerated)

SECTION I

DESCRIPTION

1-1 PURPOSE OF MANUAL

This handbook contains operation and service instructions for the Branson Solvent Recovery Still Models 110, 111, 120, 121, 130, 131, 140 and 141.

NOTE

Stills equipped with a cold water cooling system are designated by a "w" suffix. Stills equipped with a refrigeration system* are designated by an "r" suffix.

1-2 GENERAL

The still is used to reclaim solvent and remove excessive contaminations from a degreaser on a continuous basis.

1-3 SPECIFICATIONS

SOLVENT RECLAIMED

Model	Solvent
110, 120, 130, 140	Freon TA, Freon TE, Freon TF, Freon TMC, Freon TMS, Chloro- thene VG, Methylene Chloride, 111 Trichloroethane
111, 121, 131, 141	Freon TF, Chloroethene VG, 111 Trichloroethane.

*Optional

1-3 SPECIFICATIONS (cont.)

	MODEL 110,111,120,121		MODEL 130,131,140,141	
Maximum Usable Solvent Capacity	22 gallons (84 liters)		70 gallons (266 liters)	
Dimensions Water Cooled (H x W x D)	51" x 25-1/2" x 22" 129.5 cm x 65 cm x 56 cm		63" x 38" x 30" 160 cm x 96.5 cm x 76 cm	
Dimensions Refrigerated (H x W x D)	110/111	51-1/2" x 25-1/2" x 42-1/8" 131 cm x 65 cm x 107.1 cm	130	63-1/2" x 38" x 68-3/8" 161.5 cm x 96.5 cm x 173.9 cm
	120/121	51-1/2" x 25-1/2" x 60-1/8" 131 cm x 65 cm x 152.9 cm	131/140	63-1/2" x 38" x 77" 161.5 cm x 96.5 cm x 195.9 cm
Weight Dry (W)	160 lbs (72.5 kg)		320 lbs (145 kg)	
Weight Dry (R)	110	363 lb (165 kg)	130	745 lb (338.6 kg)
	111	376 lb (170.9 kg)	131	846 lb (384.5 kg)
	120	483 lb (219.5 kg)	140	846 lb (384.5 kg)
	121	540 lb (245.4 kg)		
Solvent Inlet Height	7-3/4" (19.5 cm)		8-1/2" (21.5 cm)	
Solvent Discharge Height	28" (71 cm)		30" (76 cm)	
Water Separator Capacity	2 gallons (7.5 liters)		9.5 gallons (36 liters)	
Solvent Inlet	3/4" NPT		1" NPT	
Solvent Outlet	1/2" NPT		3/4" NPT	
Water Inlet	1/2" NPT		1/2" NPT	
Water Outlet	1/2" NPT		3/4" NPT	
Steam Heat Inlet	3/4" NPT		3/4" NPT	
Steam Heat Outlet	3/8" NPT		3/8" NPT	

AND DISTILLATION RATES

MODEL	SOLVENT	(15.6°C) lit./min.)	SOLVENT TURNOVER (gal./hr.) (lit./hr.)	
110W	Freon TMC	7.2	7.8	29.5
	Methylene Chloride	4.5	6.0	23
	Freon TA	4.5	9.1	34.4
	Freon TE	4.5	9.4	35.5
	Freon TF	4.5	10.8	41.0
	Chloroethane	.75	6.4	24.0
111W	111Trichloroethane	.75	5.2	20
	Methylene Chloride	6.0	14.9	56
	Freon TA	1.0	9.3	35
	Freon TE	.75	7.9	29.8
	Freon TF	4.0	15.0	61
	Chloroethane	2.6	10	48
120W	Freon TA	2.6	12.6	48
	Freon TE	2.6	10	73
	Freon TF	2.6	19.4	76
	Chloroethane	2.6	20	87
	111Trichloroethane	.5	23.1	87
	111Trichloroethane	.4	2	15.3
121W	Freon TF	1.5	13.3	50
	Chloroethane	3.5	31.3	118.25
	111Trichloroethane	.7	21.50	81
130W	111Trichloroethane	.6	18.8	71
	Freon TMC	6.6	26.7	101
	Methylene Chloride	4.3	20.9	79
	Freon TA	4.3	16.25	124.25
	Freon TE	4.3	16.25	125
	Freon TF	4.2	16	144.75
131W	Chloroethane	.8	38.3	95
	111Trichloroethane	.7	25.1	82.5
	Freon TF	6.1	21.8	82.5
	Chloroethane	1.2	54.7	206.75
	111Trichloroethane	1.0	37.1	140
	111Trichloroethane	1.0	32.6	123
140W	Freon TMC	12	48.9	185
	Methylene Chloride	8.0	38.4	145
	Freon TA	7.9	59.4	224.50
	Freon TE	7.9	61.21	231
	Freon TF	7.9	71.1	268.7
	Chloroethane	1.6	49.0	185
141W	111Trichloroethane	1.4	43.5	164.50
	Freon TF	10.6	95.8	362
	Chloroethane	2.2	66.9	253
141W	111Trichloroethane	1.9	59.7	225.50
	111Trichloroethane	7		

POWER REQUIREMENT.

DEL	WATER COOLED		REFRIGERATED		HEATERS (NOMINAL)			
	208V	230V	208V	230V				
					3 KW	09.		
110	16.6 *	15.0 *	26.0 *	24.4 *				
111	22.1	20	42.1	33.6	04 KW	13.6	1.5	
120	28.6	26	42.3	39.7	06 KW	13.7 3 Ø	5 m/hr	
121	38	34.6	58	50.2	08 KW	15.6 3 Ø	15	
130	48	43.6	68	60	10 KW	15.6 3 Ø	5	35.5
131	48	43.6	76.4	71	14 KW	27.5 3 Ø	15	50.5 "
140	63	57	91.4	84.5	18 KW	27.5 3 Ø	10	63.9 "
141	77	70	-	-	24 KW	-	15	86.5 "

* Power requirements given in amps

1-4 PRINCIPLE OF OPERATION

The contaminated solvent coming out of the degreaser is fed into the still. The still consists of a boiling chamber and a vapor condensing chamber.

In the boiling chamber, the solvent is boiled and vaporized.

In the vapor condensing chamber, water and solvent condense on the peripheral condensing coil. The condensate drips into the collecting trough located under the coil and is discharged into the water separator. The solvent, being denser than the water, sinks to the bottom of the separator and is fed back into the degreaser, while the water, being lighter than the solvent, floats to the top and is discharged via the outlet petcock.

The non-volatile soil remains inside the boiling chamber.

1-5 DESCRIPTION AND FUNCTION OF CONTROLS AND INDICATORS

Table 1-1 lists the controls and indicators for the still, and give a brief description of the function of each.

TABLE 1-1. FUNCTION OF CONTROLS AND INDICATORS

Device	Function
Thermal Power switch	Energizes the refrigeration system*. Lights when ON.

CAUTION

START switch MUST be depressed immediately after depressing the THERMAL POWER switch to prevent damage to the refrigeration system which could result from operating without a load (heat).

Start Switch

Used in conjunction with the thermal power switch to energize relay CR1 which supplies power to the boiling sump heaters and transfer pump; must be depressed immediately after the THERMAL POWER switch is depressed. Used as the thermostat reset switch to re-energize the relay. Lights when ON

NOTE

Relay can be re-energized only after the solvent has dropped in temperature and the thermostats have reset.

*Optional

TABLE 1-1. FUNCTION OF CONTROLS AND INDICATORS (cont.)

Device	Function
Transfer Pump switch*	Energizes the transfer pump. Lights when ON.
Boiling Sump thermostat	Safety device. Trips and de-energizes the heaters when the temperature of the boiling chamber exceeds safe limits.
Vapor Level thermostat	Safety device. Trips and de-energizes the heater when the vapor level rises above the condensing coil.
Upper Transfer Float switch (High level liquid control)	De-energizes the transfer pump when the solvent reaches a predetermined upper limit.
Lower Transfer Float switch (Low level liquid control)	Energizes the transfer pump when the solvent reaches a predetermined lower limit.
Safety Float switch	Safety device. De-energizes the heater when the solvent falls below a safe level.
Thermometer	Indicates temperature of boiling solvent.

*Optional

SECTION II

PREPARATION FOR USE

2-1 UNPACKING AND HANDLING

Normal precautions in unpacking and reasonable care in handling should be exercised to avoid possible damage to the still. A visual inspection of all external controls and surfaces should be conducted to detect any damage which might have occurred during shipment. Damage should be reported at once to the carrier. If the still is equipped with a refrigeration system, * remove the shipping blocks located under the compressor.

NOTE

The carrier is responsible for damage to equipment during shipment. If damage has occurred, notify the carrier immediately to establish proper basis for claim.

2-2 POWER REQUIREMENTS

See Specifications.

2-3 WATER AND DRAINAGE REQUIREMENTS

TO N.A. U.S. } The still requires a constant supply of clean, cold water (40° to 60°F/4.5° to 15.5°C), and adequate drainage facilities.

NOTE

Stills equipped with a refrigeration system * do not require any water supply or drainage facilities.

2-4 INSTALLING THE STILL

- N.B.!*
- a. Install the still in a well ventilated room, away from air currents, welding operations, electric heating elements or open flames. Ensure that the still is in proximity to adequate exhaust facilities, and that there is at least 8 inches (20 cm) of clearance around the still. If the still is equipped with a refrigeration system, * ensure that refrigeration air intake remains unobstructed.

* Optional

NOTE

When using a still equipped with a refrigeration system*, disregard all references applicable to water connections and water related controls.

- b. Set THERMAL POWER and TRANSFER PUMP* switches to OFF.
- c. NA Using appropriate tubing, connect the still water inlet "WATER IN" to a cold water outlet. Connect a water shut-off valve between the water source and the still.
- d. NA Using appropriate tubing, connect the still water outlet "WATER OUT" to an open drain.
- e. Using appropriate tubing, connect the still solvent inlet "SOLVENT IN" and outlet "SOLVENT OUT". (See Installation Drawing No. 1915-775).
- f. Check line voltage to ascertain that it agrees with voltage rating specified on the still.
- g. Wire the still directly into the main power disconnect box. Connect incoming power line to TB terminal block (See Schematic Diagram). Do not isolate from ground. Ground properly to earth ground.

2-5 PRELIMINARY SET UP

CAUTION

To enable a still equipped with a refrigeration system* to operate at optimum efficiency, it is suggested that the main power be connected to the still at least four hours before the still is turned on. This precaution will allow the refrigeration system to operate at optimum temperature and insure maximum longevity. Whenever possible, it is recommended that the main power disconnect circuit breaker be left in the ON position at all times.

- a. Ensure that THERMAL POWER and TRANSFER PUMP switches are set to OFF.
- b. Ensure that drain valve is closed.

CAUTION

If the still is equipped with a transfer pump*, remove the plug on the pump housing, prime the pump and replace the plug.

*Optional

Read from left to right.

IF		THEN		
the SOLVENT ¹ is:	with a BOILING POINT ² of:	BOILING SUMP	VAPOR ZONE	ULTRASONIC SUMP
		THERMOSTAT is set at:		
Freon [®] TMC	97.6°F/ 36.4°C	115°F/ 46.1°C	85°F/29.4°C	90°F/32.2°C
Methylene Chloride	102.6°F/ 39.2°C		90°F/32.2°C	95°F/35.0°C
Freon [®] TMS ^{3,4}	103.5°F/ 39.7°C			
Freon [®] TA ³	110.5°F/ 43.6°C	125°F/ 51.7°C	90°F/32.2°C	100°F/37.8°C
Freon [®] TES ³	111.9°F/ 44.4°C			
Freon [®] TE ³	112.3°F/ 44.6°C			
Freon [®] TF	117.6°F/ 47.6°C	130°F/ 54.4°C	130°F/54.4°C	105°F/40.6°C
111 Trichloroethane	162.0°F/ 72.2°C	180°F/ 82.2°C		150°F/65.6°C
Chlorothene [®] VG	167.0°F/ 75.0°C	185°F/ 85.0°C		
Trichloroethylene	188.0°F/ 86.7°C	200°F/ 93.3°C		160°F/71.1°C
Perchloroethylene	250.0°F/121.1°C	265°F/129.4°C		210°F/98.9°C

¹ Use degreaser grade (inhibited) solvents only. Uninhibited grades are unstable.

² At sea level with an ambient temperature of 70°F/21.1°C. Subtract 2.5°F/1.4°C for every 1,000 feet/305 meters of elevation.

³ Requires the dessiccator/drier option. Water causes alcohol extraction and possibly stabilizer extraction.

⁴ Requires higher cooling rates. If you can't keep the water-for-cooling at a maximum constant temperature of 60°F/15.6°C, then the degreaser **MUST** have a refrigeration system.

CAUTION:

The thermostat is factory-set at the proper temperature for the solvent specified for use at time of purchase. If you intend to use a solvent other than the one specified at time of purchase, your thermostat must be reset. Contact your Branson representative before you reset your thermostat.

SECTION III
OPERATING INSTRUCTIONS

3-1 OPERATING PROCEDURE

CAUTION

Observe warning notices at front of manual.

If VAPOR thermostat or BOILING SUMP thermostat trips, investigate cause and remedy problem before resetting thermostats.

Due to variation in water temperature and pressure, it might be necessary to occasionally adjust the water shut-off valve in order to maintain the vapor level - three quarters of the way up the condensing coil.

If the still is equipped with a transfer pump*, clean the strainer once a week. If the still is used on a continuous basis, clean at more frequent intervals.

- a. Open water shut-off valve about half way.

CAUTION

START switch MUST be depressed immediately after depressing the THERMAL POWER switch to prevent damage to the refrigeration system which could result from operating without a load (heat).

- b. Set THERMAL POWER switch to ON, depress START switch and then the TRANSFER PUMP switch. In approximately 15 minutes, the solvent will begin to boil and fill the still with vapors.
- c. Using water shut-off valve, regulate water flow so as to maintain vapor level three quarters of the way up the condensing coil.

NOTE

Periodically check vapor level and repeat Step C as necessary.

3-2 SYSTEM SHUTDOWN

- a. Set THERMAL POWER and TRANSFER PUMP* switches to OFF.

CAUTION

If it is necessary to re-energize a still equipped with a refrigeration system*, wait at least five minutes before setting THERMAL POWER switch back to ON. Ignoring this caution might result in fuse failure.

- b. For prolonged system shutdown, close water shut-off valve.

*Optional

SECTION IV
MAINTENANCE

Unless the maintenance specialist is familiar with the still's physical makeup and operational characteristics, it is recommended that assistance be obtained from Branson Cleaning Equipment Company Service Department or your Branson representative.

4-1 PERIODIC INSPECTION

Once a week, inspect the still for leaks. Every month, or as often as necessary as dictated by usage, drain the still and clean thoroughly. On refrigerated units, check air intake and ensure that it is free of dirt and dust. If necessary, clean with compressed air.

NOTE

Solvent should be changed when 1) it appears contaminated, or 2) when it does not boil at the preset temperature.

Under no circumstances should the BOILING sump thermostat setting be changed to allow the solvent to boil at a higher temperature.

4-2 TRANSFER PUMP

Since centrifugal pumps do not create any suction, it is important that solvent is free-flowing and always present in the line. Check strainer periodically. If the impeller is jammed, disassemble pump, remove obstructing object and reassemble pump.

4-3 TROUBLE ANALYSIS

In order to better prepare maintenance personnel in understanding and troubleshooting the system, the following are supplied:

- a. Theory of Operation
- b. Troubleshooting Charts
- c. Schematic Diagrams

4-4 THEORY OF OPERATION

General Description - Refer to schematic diagram

As the THERMAL POWER switch (S1) is depressed, the indicator lights and the refrigeration system is energized. The START switch is depressed next and energizes relay CRI which applies power to the boiling sump heater and the primary of transformer TX1. As TRANSFER PUMP switch (S2) is depressed, the secondary of TX1 is fed to the transfer pump. The VAPOR TEMP and BOILING SUMP thermostats are safety devices and not temperature control devices. VAPOR TEMP thermostat (TH1) will de-energize the boiling sump heater and transfer pump should the vapor level rise above the condensing coil. This condition will occur if 1) there is insufficient cooling or 2) complete lack of cooling. BOILING SUMP thermostat (TH2) will de-energize the boiling sump heater and transfer pump, should 1) the level of solvent in the boiling sumps drop below that required, causing the heating element to overheat, or 2) excess solvent contamination in the boiling sumps result in an abnormally high boiling point. The safety float switch will de-energize the boiling sump heater and transfer pump, should the solvent drop below a certain level. The upper transfer float will de-energize the transfer pump when the solvent reaches a predetermined upper limit. The lower transfer float will energize the transfer pump when the solvent reaches a predetermined lower limit. Power is also applied through CR2 relay contacts to the compressor. Power is applied to the crankcase heater* at all times, and can only be removed by switching the main disconnect to OFF.

4-5 TROUBLESHOOTING

WARNING

To avoid shock hazard when troubleshooting the degreaser, switch off main disconnect.

*Refrigeration system

NOTE

When troubleshooting a still equipped with re-
frigeration system *, ignore all notations app-
licable to water related symptoms.

TABLE 4-1. SYSTEM TROUBLE ANALYSIS CHART

Symptom	Probable Cause
Plant fuse fails or circuit breaker trips when still is connected. Still is de-energized.	1. Shorted power line.
Plant fuse fails or circuit breaker trips when still is energized.	1. Underrated plant fuse or circuit breaker. 2. Incorrect line voltage. 3. Still was re-started too soon**. 4. Control relay has failed. 5. Heater has failed. 6. Switch S1 or S2 has failed. 7. Refrigeration system has failed**. 8. Transformer TX1 has failed.
THERMAL POWER indicator does not illuminate.	1. Circuit breaker is set to OFF. 2. Switch/indicator has failed.
TRANSFER PUMP* indicator does not illuminate. THERMAL POWER indicator illuminates.	1. Switch/indicator has failed. 2. Control relay CR1 has failed. 3. Safety float switch has been activated or has failed. 4. Boiling sump thermostat has tripped or has failed. 5. VAPOR TEMPERATURE thermostat has tripped or has failed.
TRANSFER PUMP indicator* is illuminated. Transfer pump* is not operating.	1. Lower transfer float switch has failed. 2. Pump relay has failed. 3. Pump has lost its prime.
Too much solvent in boiling sump.	1. Upper transfer float switch has failed.
BOILING SUMP thermostat has to be reset.	1. Excessive solvent contamination. 2. Lack of solvent in sump.

*Optional

** Stills equipped with refrigeration system.

TABLE 4-1. SYSTEM TROUBLE ANALYSIS CHART (Cont.)

Symptom	Probable Cause
VAPOR thermostat has to be reset.	<ol style="list-style-type: none"> 1. Water supply is inadequate. Check water shut-off valve. 2. Refrigeration system * has failed.
No vapors in boiling sump. Heater in boiling sump is not operating.	<ol style="list-style-type: none"> 1. THERMAL POWER switch is OFF or has failed. 2. VAPOR or BOILING SUMP thermostat has tripped or has failed. 3. Safety float switch has been activated or has failed. 4. Heater has failed. 5. Control relay CRI has failed. 6. Lack of solvent in sump.
Not enough vapors in boiling sump.	<ol style="list-style-type: none"> 1. Heater has not been energized long enough. 2. Contamination level in boiling sump is too high. 3. Boiling sump thermostat is improperly set 4. Low line voltage.
Vapor level is too high.	<ol style="list-style-type: none"> 1. Water supply is inadequate. Check water temperature and pressure. 2. Refrigeration system * has failed. 3. Vapor thermostat is improperly set or has failed.
Solvent temperature is too high.	<ol style="list-style-type: none"> 1. Contamination level in boiling sump is too high.
Water mixed with solvent.	<ol style="list-style-type: none"> 1. Obstruction in water separator overflow. 2. Improper solvent level in water separator.
Excessive solvent loss.	<ol style="list-style-type: none"> 1. Leak in system. 2. Top cover is off.
Motor/Pump is not operating.	<ol style="list-style-type: none"> 1. Pump impeller jammed or pump shaft frozen. 2. Pump motor has failed. 3. Strainer is clogged.
Motor/Pump is operating but solvent does not circulate.	<ol style="list-style-type: none"> 1. Strainer is loaded. 2. Air is present in suction line. 3. Solvent flow control valve is improperly set.

*Optional

4-6 INSTRUCTIONS FOR USING THE DESICCATOR

The function of the desiccator is to extract the water from Freon TE, TMS, and TA solvents. If these solvents are used in the machine, the gravity water separator is of no use since the water is miscible in the alcohol/acetone in these solvents. The desiccator contains molecular sieves which are capable of absorbing 14% water by weight.

To maintain the effectiveness of the desiccator use the following test procedure and sampling recommendation and charge the desiccator as required. The desiccant can be regenerated using the "Desiccant Regeneration" procedure.

NOTE

A "Desiccator Test Kit" P/N 870-901 consisting of Tel-Tale^R indicating silica gel and a 100ml beaker is shipped with the desiccator.

TEST PROCEDURE

1. Remove a 100ml sample of solvent from the desiccator, place in the beaker and cover. Allow to cool to room temperature.
2. Add 1 tsp (one teaspoon) of "Tel-Tale"^R indicating silica gel to the beaker containing the solvent sample.
3. Stir the contents of the beaker for 1 minute, cover and set aside.
4. After thirty (30) minutes standing, observe the color of the silica gel. If the color shows a pink tinge, change the desiccant.

SAMPLING

The dessicant should be sampled and tested twice per working shift until experience shows what frequency is appropriate. For example: after sampling twice per shift and changing the desiccant three times, the shortest desiccant life is found to be four (4) days and the largest life is six (6) days. In this case the recommended sampling scheme would be to sample and test on the third day after a desiccant charge and then daily until the desiccant needs to be changed.

Factors that influence the rate of desiccant exhaustion are:

1. Ambient humidity.
2. Moisture introduced on work load.
3. Temperature of vapor condensing coils.

DESSICANT REGENERATION

WARNING

Never put the molecular sieve into the oven until the solvent has evaporated completely because the solvent can become corrosive and explosive when exposed to high temperature.

Molecular sieve can be regenerated in the following manner:

- a. Allow the solvent to drip from the molecular sieve.
- b. Spread the molecular sieve no more than 1 inch deep in a flat container and allow to dry at room temperature overnight. This step allows the solvents to evaporate.
- c. Remove water by baking for about four hours in an atmospheric oven at 400°F.

4-7 ACID STILL CLEANOUT PROCEDURE

The following procedure is recommended for neutralizing and repassivating a still that has gone acid:

WARNING

Oakite 33 contains an acid. Avoid contact with eyes and skin. Wear appropriate eye protection, gloves and protective clothing.

1. Neutralize the still and any associated equipment as follows:
 - a. Prepare a 1/2LB/gallon baking soda in water solution.
 - b. Scrub all exposed surfaces and flush solution through all pipes, fitting valves and the water separator.
 - c. Rinse thoroughly with water and flush out any residue.
2. To remove and prevent rusting, scrub exposed surfaces with a solution of 1 part Oakite 33 to 6 parts water. Also flush solution through all pipes, fillings, valves and the water separator.
3. Neutralize all treated surfaces as in step 1 and rinse thoroughly with water.
4. Drain all cavities and dry all surfaces thoroughly before using.

Oakite 33 is available from:

Oakite Products
50 Valley Road
Berkeley Heights, New Jersey 07922

Phone: 800-526-4473

4-8 RETURN OF EQUIPMENT

All requests for repairs and replacement parts should be directed to the Branson Cleaning Equipment Company Service Department. In order to receive prompt service, always contact the Branson Cleaning Equipment Company Service Department or the local office before returning any equipment. Include Date of Purchase, Model Number, and Serial Number with all requests for parts or service to avoid unnecessary delay. For equipment not covered by the warranty, a purchase order should also be forwarded. Care should be exercised to provide adequate packing to insure against possible damage in shipment. Equipment should be sent with all transportation charges prepaid and the return method of shipment indicated.

110 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
142-040		BOIL SUMP GASKET	1
247-085		MANUAL	1
342-014		PSD GROMMET	1
385-062		SINGLE LEVEL SWITCH	1
385-107		EM/PSD DP SWITCH	1
385-190		SWITCH SPST LTILA5B	1
407-102		THERMOMETER SS 50-300	1
701-022		FLOAT PIPE	1
<u>S110-ELECTRIC-208/60/1</u>			
155-707		SERPENTINE HEATER 3KW	1
310-001		CONTACTOR 3P/25A/220V	1
408-007		MANUAL THERMOSTAT	1
<u>S110-ELECTRIC-230/60/1</u>			
155-708		SERPENTINE HEATER 3KW	1
310-001		CONTACTOR 3P/25A/220V	1
408-007		MANUAL THERMOSTAT	1
310-009		S DPST/NO PR7AYO 240	1
408-007		MANUAL THERMOSTAT	1
408-015		THERMOSTAT BUSHING	1
539-513		STEAM SOLENOID	1
597-503		STEAM TRAP	1
701-050		THERMO BULB HOLDER	1
724-010		STEAM COIL	1

110 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
		<u>S-110 BRASS PLUMBING</u>	
537-203		PLUG BRASS 1/4	1
537-207		PLUG BRASS 1/2	1
559-215		BALL VALVE BR 1F	1
589-154		SWAGE CONNECTOR	1
		<u>S-110 S.S. PLUMBING</u>	
408-015		THERMOSTAT BUSHING	1
537-103		PLUG S.S. 1/4	1
		<u>BRASS DESICCANT DRYER</u>	
142-005		FILTER GASKET	1
525-206		CAP 1/2 BRASS	2
537-107		PLUG S.S. 3.8	3
559-111		BALL VALVE S.S.1	1
589-154		SWAGE CONNECTOR	2
589-254		SWAGE CONNECTOR	1
701-050		THERMOSTAT BULB HOLDER	1
870-901		DESICCATOR TEST KIT	1
950-555		MOLECULAR SIEVE	1
		<u>BRASS WATER SEPERATOR</u>	
519-204		BUSHING BRASS 1/2M X	1
567-205		PETCOCK BR 1/4MX1/4F	1

110 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
<u>BRASS PERC TRANSFER PUMP</u>			
285-085		B25 PUMP BR 115/230	1
310-009		S DPST/NO PR7AYD 240	1
385-063		S DUAL LEVEL SWITCH	1
385-106		S P SWITCH LIGHTED	1
546-207		BUCKET STR. BR 3/4	1
589-137		SWAGE ELBOW B-6002-4	1
589-139		SWAGE ELBOW B-6002-8	1
<u>REFRIGERATED S-110</u>			
310-001		CONTACTOR 3P/25A/220V	1
342-010		GROMMET 2186 3/4	1
513-107		INDICATOR	1
513-202		DRIER	1
513-420		EXPANSION VALVE	1
513-430		DBV ADRPE 3-0/80	1
513-449		HGBV STRAINER	1
513-605		CU 1 HP 230/208/1	1
100-513-705		COMPRESSOR 1HP	1
<u>PERC INSULATION S-110</u>			
175-100		S PERC INSULATION	3
182-300		PERC R-S KNOB	2
230-125		PERC HOT LABEL	1

110 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
		<u>S.S. WATER SEPERATOR</u>	
519-107		S.S. BUSHING 1/2	1
535-115		NIPPLE S.S. 1/4CL	1
567-107		PETCOCK S.S. 1/4F	1
		<u>S.S. DESICCANT DRYER</u>	
142-005		FILTER GASKET	1
525-409		TH PVC CAP 1/2 FNPT	2
589-254		SWAGE CONNECTOR	2
870-901		DESICCATOR TEST KIT	1
950-555		MOLECULAR SIEVE	1
		<u>BRASS TRANSFER PUMP</u>	
285-080		PSD PUMP 14100 115/5	1
310-016		S DPST 120V PR7AY	1
385-063		S DUAL LEVEL SWITCH	1
385-106		S P SWITCH LIGHTED	1
447-155		PUMP TRANSFORMER	1
545-410		PLASTIC STRAINER 3/4	1
589-147		SWAGE ELBOW B-810	1
589-254		SWAGE CONNECTOR 1010	1
589-752		S SWAGE FEM. CONN	1
100-142-030		GASKET 3/4 VITON R	1

110 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
		<u>S.S. TRANSFER PUMP</u>	
285-080		PSD PUMP 14100	1
310-016		S DPST 120V	1
385-063		S DUAL LEVEL SWITCH	1
385-106		S P SWITCH LIGHTED	1
447-155		PUMP TRANSFORMER	1
545-410		PLASTIC STRAINER	1
589-247		SWAGE ELBOW S.S.	1
589-852		SWAGE FEM. CONNECTOR	1

111 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
142-040		BOIL SUMP GASKET	1
247-085		MANUAL	1
342-014		PSD GROMMET	1
385-062		SINGLE LEVEL SWITCH	1
385-107		EM/PSD DP SWITCH	1
385-190		SWITCH SPST LTILA5B	1
407-102		THERMOMETER SS 50-300	1
701-022		FLOAT PIPE	1
<u>S111-ELECTRIC-208/60/1</u>			
155-710		SERPENTINE HEATER 4KW	1
310-001		CONTACTOR 3P/25A/220V	1
408-007		MANUAL THERMOSTAT	1
<u>S111-ELECTRIC-230/60/1</u>			
155-711		SERPENTINE HEATER 4KW	1
310-001		CONTACTOR 3P/25A/220V	1
408-007		MANUAL THERMOSTAT	1
<u>S-111 STEAM-230/60/1</u>			
310-009		S DPST/NO FR7AYO 240	1
408-007		MANUAL THERMOSTAT	1
408-015		THERMOSTAT BUSHING	1
539-513		STEAM SOLENOID	1
597-503		STEAM TRAP	1
701-050		THERMO BULB HOLDER	1
724-010		STEAM COIL	1

111 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
		<u>BRASS DESICCANT DRYER</u>	
142-005		FILTER GASKET	1
525-206		CAP 1/2 BRASS	2
589-154		SWAGE CONNECTOR	2
870-901		DESICCATOR TEST KIT	1
950-555		MOLECULAR SIEVE	1
		<u>S.S. DESICCANT DRYER</u>	
142-005		FILTER GASKET	1
525-409		TH PVC CAP 1/2 FNPT	2
589-254		SWAGE CONNECTOR	2
870-901		DESICCATOR TEST KIT	1
950-555		MOLECULAR SIEVE	1
		<u>BRASS TRANSFER PUMP</u>	
285-080		FSD PUMP 14100 115/5	1
310-016		S DPST 120V FR7AY	1
385-063		S DUAL LEVEL SWITCH	1
385-106		S P SWITCH LIGHTED	1

111 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
<u>S-111 BRASS PLUMBING</u>			
537-203		PLUG BRASS 1/4	1
537-207		PLUG BRASS 1/2	1
559-215		BALL VALVE BR 1F	1
589-154		SWAGE CONNECTOR	1
<u>S-111 S.S. PLUMBING</u>			
408-015		THERMOSTAT BUSHING	1
537-103		PLUG S.S. 1/4	1
537-107		PLUG S.S. 3.8	3
559-111		BALL VALVE S.S.1	1
589-254		SWAGE CONNECTOR	1
701-050		THERMOSTAT BULB HOLDER	1
<u>BRASS WATER SEPERATOR</u>			
519-204		BUSHING BRASS 1/2M X	1
567-205		PETCOCK BR 1/4MX1/4F	1
<u>S.S WATER SEPERATOR</u>			
519-107		S.S. BUSHING 1/2	1
535-115		NIPPLE S.S. 1/4CL	1
567-107		PETCOCK S.S. 1/4F	1

111 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
<u>BRASS TRANSFER PUMP CONT.</u>			
447-155		PUMP TRANSFORMER	1
545-412		PLASTIC STRAINER 3/4	1
589-147		SWAGE ELBOW B-810	1
589-254		SWAGE CONNECTOR 1010	1
589-752		S SWAGE FEM. CONN	1
100-142-030		GASKET 3/4 VITON R	1
<u>BRASS PERC TRANSFER PUMP</u>			
285-085		B25 PUMP BR 115/230	1
310-009		S DPST/NO PR7AYD 240	1
385-063		S DUAL LEVEL SWITCH	1
385-106		S P SWITCH LIGHTED	1
546-207		BUCKET STR. BR 3/4	1
589-137		SWAGE ELBOW B-6002-4	1
589-139		SWAGE ELBOW B-6002-8	1
<u>REFRIGERATED S-111</u>			
310-001		CONTACTOR 3P/25A/220V	1
342-010		GROMMET 2186 3/4	1
513-107		INDICATOR	1
513-202		DRIER	1
513-420		EXPANSION VALVE	1
513-430		DBV ADPPE 3-0/80	1
513-449		HGBV STRAINER	1

111 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
513-605		CU 1 HP 230/208/1	1
100-513-705		COMPRESSOR 1HP	1
<u>PERC INSULATION S-111</u>			
175-100		S PERC INSULATION	3
182-300		PERC R-S KNOB	2
230-125		PERC HOT LABEL	1
<u>S.S. TRANSFER PUMP</u>			
285-080		PSD PUMP 14100	1
310-016		S DPST 120V	1
385-063		S DUAL LEVEL SWITCH	1
385-106		S P SWITCH LIGHTED	1
447-155		PUMP TRANSFORMER	1
545-412		PLASTIC STRAINER	1
589-247		SWAGE ELBOW S.S.	1
589-852		SWAGE FEM. CONNECTOR	1

120 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
142-040		BOIL SUMP GASKET	1
247-085		MANUAL	1
342-014		PSD GROMMET	1
385-062		SINGLE LEVEL SWITCH	1
385-107		EM/PSD DP SWITCH	1
385-190		SWITCH SPST LTILA5B	1
407-102		THERMOMETER SS 50-300	1
701-022		FLOAT PIPE	1
 <u>S120-ELECTRIC-208/60/1</u>			
155-707		SERPENTINE HEATER 3KW	1
310-001		CONTACTOR 3P/25A/220V	1
408-007		MANUAL THERMOSTAT	1
 <u>S120-ELECTRIC-230/60/1</u>			
155-708		SERPENTINE HEATER 3KW	1
310-001		CONTACTOR 3P/25A/220V	1
408-007		MANUAL THERMOSTAT	1

120 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
		<u>S-120 STEAM-230/60/1</u>	
310-009		S DPST/NO PR7AYD 240	1
408-007		MANUAL THERMOSTAT	1
408-015		THERMOSTAT BUSHING	1
539-513		STEAM SOLENOID	1
597-503		STEAM TRAP	1
701-050		THERMO BULB HOLDER	1
724-010		STEAM COIL	1
		<u>S-120 BRASS PLUMBING</u>	
537-203		PLUG BRASS 1/4	1
537-207		PLUG BRASS 1/2	1
559-215		BALL VALVE BR 1F	1
589-154		SWAGE CONNECTOR	1
		<u>S-120 S.S. PLUMBING</u>	
408-015		THERMOSTAT BUSHING	1
537-103		PLUG S.S. 1/4	1
537-107		PLUG S.S. 3/8	3
559-111		BALL VALVE S.S.1	1
589-254		SWAGE CONNECTOR	1
701-050		THERMOSTAT BULB HOLDER	1
		<u>BRASS WATER SEPERATOR</u>	
519-204		BUSHING BRASS 1/2M X	1
567-205		PETCOCK BR 1/4MX1/4F	1

120 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
		<u>S.S WATER SEPERATOR</u>	
519-107		S.S. BUSHING 1/2	1
535-115		NIPPLE S.S. 1/4CL	1
567-107		PETCOCK S.S. 1/4F	1
		<u>BRASS DESICCANT DRYER</u>	
142-005		FILTER GASKET	1
525-206		CAP 1/2 BRASS	2
589-154		SWAGE CONNECTOR	2
870-901		DESICCATOR TEST KIT	1
950-555		MOLECULAR SIEVE	1
		<u>S.S. DESICCANT DRYER</u>	
142-005		FILTER GASKET	1
525-409		TH PVC CAP 1/2 FNPT	2
589-254		SWAGE CONNECTOR	2
870-901		DESICCATOR TEST KIT	1
950-555		MOLECULAR SIEVE	1
		<u>BRASS TRANSFER PUMP</u>	
285-080		PSD PUMP 14100 115/5	1
310-016		S DPST 120V PR7AY	1
385-063		S DUAL LEVEL SWITCH	1
385-106		S P SWITCH LIGHTED	1
447-155		PUMP TRANSFORMER	1
545-410		PLASTIC STRAINER 3/4	1

120 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
		<u>BRASS TRANSFER PUMP CONT.</u>	
589-147		SWAGE ELBOW B-810	1
589-154		SWAGE CONNECTOR 1010	1
589-752		S SWAGE FEM. CONN	1
100-142-031		GASKET 1 VITON R	1
		<u>BRASS PERC TRANSFER PUMP</u>	
285-085		B25 PUMP BR 115/230	1
310-009		S DPST/NO PR7AYO 240	1
385-063		S DUAL LEVEL SWITCH	1
385-106		S P SWITCH LIGHTED	1
546-207		BUCKET STR. BR 3/4	1
589-137		SWAGE ELBOW B-6002-4	1
589-139		SWAGE ELBOW B-6002-8	1
		<u>REFRIGERATED S-120</u>	
310-001		CONTACTOR 3P/25A/220V	1
342-010		GROMMET 2186 3/4	1
513-107		INDICATOR	1
513-202		DRIER	1
513-420		EXPANSION VALVE	1
513-430		DBV ADRPE 3-0/80	1
513-449		HGBV STRAINER	1
513-605		CU 1 HP 230/208/1	1
100-513-705		COMPRESSOR 1HP	1

120 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
		<u>PERC INSULATION S-120</u>	
175-100		S PERC INSULATION	3
182-300		PERC R-S KNOB	2
230-125		PERC HOT LABEL	1
		<u>S.S. TRANSFER PUMP</u>	
285-080		PSD PUMP 14100	1
310-016		S DPST 120V	1
385-063		S DUAL LEVEL SWITCH	1
385-106		S P SWITCH LIGHTED	1
447-155		PUMP TRANSFORMER	1
545-410		PLASTIC STRAINER	1
589-247		SWAGE ELBOW S.S.	1
589-852		SWAGE FEM. CONNECTOR	1

121 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
142-040		BOIL SUMP GASKET	1
247-085		MANUAL	1
342-014		PSD GROMMET	1
385-062		SINGLE LEVEL SWITCH	1
385-107		EM/PSD DP SWITCH	1
385-190		SWITCH SPST LTI5A5B	1
407-102		THERMOMETER SS 50-300	1
701-022		FLOAT PIPE	1
<u>S121-ELECTRIC-208/60/1</u>			
155-710		SERPENTINE HEATER 4KW	1
310-001		CONTACTOR 3P/25A/220V	1
408-007		MANUAL THERMOSTAT	1
<u>S121-ELECTRIC-230/60/1</u>			
155-711		SERPENTINE HEATER 4KW	1
310-005		CONTACTOR 3P/25A/220V	1
310-009		S DPST/NO PR7AYD 240	1
408-007		MANUAL THERMOSTAT	1
408-015		THERMOSTAT BUSHING	1
539-513		STEAM SOLENOID	1
<u>S-121 STEAM-230/60/1</u>			
597-503		STEAM TRAP	1
701-050		THERMO BULB HOLDER	1
724-010		STEAM COIL	1

121 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
<u>S-121 BRASS PLUMBING</u>			
537-203		PLUG BRASS 1/4	1
537-207		PLUG BRASS 1/2	1
559-215		BALL VALVE BR 1F	1
589-154		SWAGE CONNECTOR	1
<u>S-121 S.S. PLUMBING</u>			
408-015		THERMOSTAT BUSHING	1
537-103		PLUG S.S. 1/4	1
<u>S-121 STEAM-230/60/1</u>			
537-107		PLUG S.S. 3.8	3
559-111		BALL VALVE S.S.1	1
589-254		SWAGE CONNECTOR	1
701-050		THERMOSTAT BUBL HOLDER	1
<u>BRASS WATER SEPERATOR</u>			
519-204		BUSHING BRASS 1/2M X	1
567-205		PETCOCK BR 1/4MX1/4F	1
<u>S.S WATER SEPERATOR</u>			
519-107		S.S. BUSHING 1/2	1
535-115		NIPPLE S.S. 1/4CL	1
567-107		PETCOCK S.S. 1/4F	1

121 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
<u>BRASS DESICCANT DRYER</u>			
142-005		FILTER GASKET	1
525-206		CAP 1/2 BRASS	2
589-154		SWAGE CONNECTOR	2
870-901		DESICCATOR TEST KIT	1
950-555		MOLECULAR SIEVE	1
<u>S.S. DESICCANT DRYER</u>			
142-005		FILTER GASKET	1
525-409		TH PVC CAP 1/2 FNPT	2
589-254		SWAGE CONNECTOR	2
870-901		DESICCATOR TEST KIT	1
950-555		MOLECULAR SIEVE	1
<u>BRASS TRANSFER PUMP</u>			
285-080		PSD PUMP 14100 115/5	1
310-016		S DPST 120V PR7AY	1
385-063		S DUAL LEVEL SWITCH	1
385-106		S P SWITCH LIGHTED	1
447-155		PUMP TRANSFORMER	1
545-410		PLASITC STRAINER 3/4	1
589-147		SWAGE ELBOW B-810	1
589-254		SWAGE CONNECTOR 1010	1
589-752		S SWAGE FEM. CONN	1
100-142-030		GASKET 3/4 VITON R	1

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
		<u>S.S. TRANSFER PUMP</u>	
285-080		PSD PUMP 14100	1
310-016		S DPST 120V	1
385-063		S DUAL LEVEL SWITCH	1
385-106		S P SWITCH LIGHTED	1
447-155		PUMP TRANSFORMER	1
545-410		PLASTIC STRAINER	1
589-247		SWAGE ELBOW S.S.	1
589-852		SWAGE FEM. CONNECTOR	1
100-142-030		STRAINER GASKET	1

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
<u>BRASS PERC TRANSFER PUMP</u>			
285-085		B25 PUMP BR 115/230	1
310-009		S DPST/NO PR7AYD 240	1
385-063		S DUAL LEVEL SWITCH	1
385-106		S P SWITCH LIGHTED	1
546-207		BUCKET STR. BR 3/4	1
589-137		SWAGE ELBOW B-6002-4	1
589-139		SWAGE ELBOW B-6002-8	1
100-142-030		STRAINER GASKET	1
<u>REFRIGERATED S-120</u>			
310-001		CONTACTOR 3P/25A/220V	1
342-010		GROMMET 2186 3/4	1
513-107		INDICATOR	1
513-202		DRIER	1
513-420		EXPANSION VALVE	1
513-430		DBV ADRPE 3-0/80	1
513-449		HGBV STRAINER	1
513-605		CU 1 HP 230/208/1	1
100-513-705		COMPRESSOR 1HP	1
<u>PERC INSULATION S-120</u>			
175-100		S PERC INSULATION	3
182-300		PERC R-S KNOB	2
230-125		PERC HOT LABEL	1

130 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
408-007		MANUAL THERMOSTAT	2
447-091		S-130 TRANSFORMER	1
513-612		CU 3HP 230/200/3	1
100-513-712		COMPRESSOR 3HP 3P	1

S-130 STEAM 230/60/3

310-009		S DPST/NO PR7AYD 240	1
408-007		MANUAL THERMOSTAT	1
408-015		THERMOSTAT BUSHING	1
539-513		STEAM SOLENOID	1
597-503		STEAM TRAP	1
701-050		THERMO BULB HOLDER	1
724-030		STEAM COIL	1

BRASS PLUMBING

537-207		PLUG BRASS 1/2	3
559-217		BALL VALVE BR 1-1/4F	1
589-166		SWAGE CONN. B-1210-1	1

STAINLESS STEEL PLUMBING

408-015		THERMO BUSHING	1
537-107		PLUG SS 1/2	3
559-112		BALL VALVE SS 1-1/4	1
589-266		SWAGE CONN. SS1210-1	1
701-050		THERMO BULB HOLDER	1

130 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
142-042		B/S U/S GASKET	1
247-085		STILL MANUAL	1
342-014		PSD GROMMET	1
385-062		S LEVEL SW M5600	1
385-106		S P SWITCH LIGHTED	1
385-190		SWITCH SPST LTI	1
407-102		THERMOMETER SS 50-300	1
701-022		FLOAT PIPE	1
<u>S-130-ELECTRIC 208/60/3</u>			
155-716		S HEATER 5KW 208/1	2
310-054		CONT. 3P/60A/208-240	1
408-007		MANUAL THERMOSTAT	1
<u>S-130-ELECTRIC 230/60/3</u>			
155-717		S HEATER 5KW 2	2
310-054		CONT. 3P/60A/208-240	1
408-007		MANUAL THERMOSTAT	1
<u>S-130W ELECTRIC 460/60/3</u>			
155-729		S HEATER 5KW 450/1	2
310-054		CONT. 3P/60A/208-240V	1
408-007		MANUAL THERMOSTAT	2
<u>S-130R ELECTRIC 460/60/3</u>			
155-729		S HEATER 5KW 460/1	2
310-054		CONT. 3P/60A/208-240V	1

130 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
		<u>BRASS WATER SEPERATOR</u>	
519-115		S BUSHING SS 3/4X1/4	1
567-205		PETCOCK BR 1/4MX1/4F	1
		<u>STAINLESS STEEL WATER SEPERATOR</u>	
535-115		NIPPLE SS 1/4 X CL	1
567-107		PETCOCK SS 1/4FX1/4F	1
		<u>BRASS DESICCANT DRYER</u>	
142-005		FILTER GASKET	1
525-206		CAP. 1/2 BRASS	1
589-166		SWAGE CONN. B-1210-1	2
870-901		DESICCANT TEST KIT	1
950-555		MOLECULAR SIEVE	2
		<u>STAINLESS STEEL DESICCANT DRYER</u>	
138-004		FILTER SS 10X1/2	1
142-005		FILTER GASKET	1
525-409		TH PVC CAP 1/2FNPT	1
589-266		SWAGE CONN. SS-1210-1	1
870-907		DESICCANT TEST KIT	1
950-555		MOLECULAR SIEVE	2
		<u>BRASS TRANSFER PUMP</u>	
285-100		PUMP 145200 115/50/60	1
310-016		S DPST 120V PR7AY	1
385-063		S DUAL LEVEL SWITCH	1

130 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
385-106		S P SWITCH LIGHTED	1
447-162		A-300 TRANSFORMER	1
545-412		PLASTIC STRAINER 1F	1
589-157		SWAGE ELBOW B1010-2-	2
589-254		SWAGE CONN. SS1010-1-	1
701-020		FLOAT PIPE	1

STAINLESS STEEL TRANSFER PUMP

285-100		PUMP 14520 115/50/60	1
310-016		S DPST 120V PR7AY	1
385-063		S DUAL LEVEL SWITCH	1
385-106		S P SWITCH LIGHTED	1
447-162		A-300 TRANSFORMER	1
545-412		PLASTIC STRAINER 1F	1
589-254		SWAGE CONN. SS1010-1	1
589-257		SWAGE ELBOW SS1010-2	2
701-020		FLOAT PIPE	1

BRASS PERC TRANSFER PUMP

285-080		B25 PUMP BR 115/230	1
310-009		S DPST/NO PR7AYD 240	1
546-207		BUCKET STRAINER	1

WATER COOLED

127-030		PSD SNAP BUTTON 1-1/8	1
589-166		SWAGE CONN. B1210-1	2

130 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
		<u>REFRIGERATED S-130</u>	
513-108		INDICATOR	1
513-204		DRIER	1
513-422		EXPANSION VALVE	1
513-431		DBV ADPHE 6-0/80	1
513-449		HGBV STRAINER 877-5	1
513-612		CU 3HP 230/200/3	1
100-513-712		COMPRESSOR 3HP 3P	1
		<u>PERC INSULATION</u>	
175-100		S PERC INSUL R1800	5
182-300		PERC R-S KNOB	2
230-125		PERC HOT LABEL	1

131 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
142-042		B/S U/S GASKET	1
247-085		STILL MANUAL	1
342-014		PSD GROMMET	1
385-062		S LEVEL SW M5600	1
385-106		S P SWITCH LIGHTED	1
385-190		SWITCH SPST LTI	1
407-102		THERMOMETER SS 50-300	1
701-024		FLOAT PIPE	1
<u>S-131-ELECTRIC 208/60/3</u>			
155-710		S. HEATER 4KW 208/1	1
155-716		S. HEATER 5KW 208/1	2
310-054		CONT. 3P/60A/208-240	1
408-007		MANUAL THERMOSTAT	1
<u>S-131-ELECTRIC 230/60/3</u>			
155-710		S. HEATER 4KW 230/1	1
155-717		S. HEATER 5KW 2	2
310-054		CONT. 3P/60A/208-240	1
408-007		MANUAL THERMOSTAT	1
<u>S-131W ELECTRIC 460/60/3</u>			
155-728		S. HEATER 4KW 460/1	1
155-729		S. HEATER 5KW 450/1	2
310-054		CONT. 3P/60A/208-240V	1
408-007		MANUAL THERMOSTAT	2

131 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
559-112		BALL VALVE SS 1-1/4	1
589-266		SWAGE CONN. SS1210-1	1
701-050		THERMO BULB HOLDER	1
<u>BRASS WATER SEPERATOR</u>			
519-115		S BUSHING SS 3/4X1/4	1
567-205		PETCOCK BR 1/4MX1/4F	1
<u>STAINLESS STEEL WATER SEPERATOR</u>			
535-115		NIPPLE SS 1/4 X CL	1
567-107		PETCOCK SS 1/4FX1/4F	1
<u>BRASS DESICCANT DRYER</u>			
142-005		FILTER GASKET	1
525-206		CAP. 1/2 BRASS	1
589-166		SWAGE CONN. B-1210-1	2
870-901		DESICCANT TEST KIT	1
950-555		MOLECULAR SIEVE	2
<u>STAINLESS STEEL DESICCANT DRYER</u>			
138-004		FILTER SS 10X1/2	1
142-005		FILTER GASKET	1
525-409		TH PVC CAP 1/2FNPT	1
589-266		SWAGE CONN. SS-1210-1	1
870-907		DESICCANT TEST KIT	1
950-555		MOLECULAR SIEVE	2

131 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
<u>S-131R ELECTRIC 460/60/3</u>			
155-728		S HEATER 4KW 460/1	1
155-729		S HEATER 5KW 460/1	2
310-054		CONT. 3P/60A/208-240V	1
408-007		MANUAL THERMOSTAT	2
447-091		S-130 TRANSFORMER	1
513-612		CU 3HP 230/200/3	1
100-513-712		COMPRESSOR 3HP 3P	1
<u>S-131 STEAM 230/60/3</u>			
310-009		S DPST/NO PR7AYO 240	1
408-007		MANUAL THERMOSTAT	1
408-015		THERMOSTAT BUSHING	1
539-513		STEAM SOLENOID	1
597-503		STEAM TRAP	1
701-050		THERMO BULB HOLDER	1
724-030		STEAM COIL	1
<u>BRASS PLUMBING</u>			
537-207		PLUG BRASS 1/2	3
559-217		BALL VALVE BR 1-1/4F	1
589-166		SWAGE CONN. B-1210-1	1
<u>STAINLESS STEEL PLUMBING</u>			
408-015		THERMO BUSHING	1
537-107		PLUG SS 1/2	3

131 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
		<u>BRASS TRANSFER PUMP</u>	
285-100		PUMP 145200 115/50/60	1
310-016		S DPST 120V PR7AY	1
385-063		S DUAL LEVEL SWITCH	1
385-106		S P SWITCH LIGHTED	1
447-162		A-300 TRANSFORMER	1
545-412		PLASTIC STRAINER 1F	1
589-157		SWAGE ELBOW B1010-2-	2
589-254		SWAGE CONN. SS1010-1-	1
701-020		FLOAT PIPE	1
		<u>STAINLESS STEEL TRANSFER PUMP</u>	
285-100		PUMP 14520 115/50/60	1
310-016		S DPST 120V PR7AY	1
385-063		S DUAL LEVEL SWITCH	1
385-106		S P SWITCH LIGHTED	1
447-162		A-300 TRANSFORMER	1
545-412		PLASTIC STRAINER 1F	1
589-254		SWAGE CONN. SS1010-1	1
589-257		SWAGE ELBOW SS1010-2	2
701-020		FLOAT PIPE	1
		<u>BRASS PERC TRANSFER PUMP</u>	
285-080		B25 PUMP BR 115/230	1
310-009		S DPST/NO PR7AYD 240	1
546-207		BUCKET STRAINER	1

131 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
		<u>WATER COOLED</u>	
127-030		PSD SNAP BUTTON 1-1/8	1
589-166		SWAGE CONN. B1210-1	2
		<u>REFRIGERATED</u>	
513-108		INDICATOR	1
513-204		DRIER	1
513-422		EXPANSION VALVE	1
513-431		DBV ADPHE 6-0/80	1
513-449		HGBV STRAINER 877-5	1
513-622		CJ 5HP 230/200/3	1
100-513-722		COMPRESSOR 5HP 3P	1
		<u>PERC INSULATION</u>	
175-100		S PERC INSUL R1800	5
182-300		PERC R-S KNOB	2
230-125		PERC HOT LABEL	1

140 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
142-042		B/S U/S GASKET	1
247-085		STILL MANUAL	1
342-014		PSD GROMMET	1
385-062		S LEVEL SW M5600	1
385-106		S P SWITCH LIGHTED	1
385-190		SWITCH SPST LTI	1
407-102		THERMOMETER SS 50-300	1
701-024		FLOAT PIPE	1
<u>S-140-ELECTRIC 208/60/3</u>			
155-710		S. HEATER 4KW 208/1	1
155-716		S. HEATER 5KW 208/1	2
310-054		CONT. 3P/60A/208-240	1
408-007		MANUAL THERMOSTAT	1
<u>S-140-ELECTRIC 230/60/3</u>			
155-710		S. HEATER 4KW 230/1	1
155-717		S. HEATER 5KW 2	2
310-054		CONT. 3P/60A/208-240	1
408-007		MANUAL THERMOSTAT	1
<u>S-140W ELECTRIC 460/60/3</u>			
155-728		S. HEATER 4KW 460/1	1
155-729		S. HEATER 5KW 450/1	2
310-054		CONT. 3P/60A/208-240V	1
408-007		MANUAL THERMOSTAT	2

140 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
		<u>S-140R ELECTRIC 460/60/3</u>	
155-728		S. HEATER 4KW 460/1	1
155-729		S. HEATER 5KW 460/1	2
310-054		CONT. 3P/60A/208-240V	1
408-007		MANUAL THERMOSTAT	2
447-091		S-130 TRANSFORMER	1
513-612		CU 3HP 230/200/3	1
100-513-712		COMPRESSOR 3HP 3P	1
		<u>S-140 STEAM 230/60/3</u>	
310-009		S DPST/NO PR7AYD 240	1
408-007		MANUAL THERMOSTAT	1
408-015		THERMOSTAT BUSHING	1
539-513		STEAM SOLENOID	1
597-503		STEAM TRAP	1
701-050		THERMO BULB HOLDER	1
724-030		STEAM COIL	1
		<u>BRASS PLUMBING</u>	
537-207		PLUG BRASS 1/2	3
559-217		BALL VALVE BR 1-1/4F	1
589-166		SWAGE CONN. B-1210-1	1
		<u>STAINLESS STEEL PLUMBING</u>	
408-015		THERMO BUSHING	1
537-107		PLUG SS 1/2	3

140 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
559-112		BALL VALVE SS 1-1/4	1
589-266		SWAGE CONN. SS1210-1	1
701-050		THERMO BULB HOLDER	1
<u>BRASS WATER SEPERATOR</u>			
519-115		S BUSHING SS 3/4X1/4	1
567-205		PETCOCK BR 1/4MX1/4F	1
<u>STAINLESS STEEL WATER SEPERATOR</u>			
535-115		NIPPLE SS 1/4 X CL	1
567-107		PETCOCK SS 1/4FX1/4F	1
<u>BRASS DESICCANT DRYER</u>			
142-005		FILTER GASKET	1
525-206		CAP. 1/2 BRASS	1
589-166		SWAGE CONN. B-1210-1	2
870-901		DESICCANT TEST KIT	1
950-555		MOLECULAR SIEVE	2
<u>STAINLESS STEEL DESICCANT DRYER</u>			
138-004		FILTER SS 10X1/2	1
142-005		FILTER GASKET	1
525-409		TH PVC CAP 1/2 FNPT	1
589-266		SWAGE CONN. SS-1210-1	1
870-907		DESICCANT TEST KIT	1
950-555		MOLECULAR SIEVE	2

140 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
<u>BRASS TRANSFER PUMP</u>			
285-100		PUMP 145200 115/50/60	1
310-016		S DPST 120V PR7AY	1
385-063		S DUAL LEVEL SWITCH	1
385-106		S P SWITCH LIGHTED	1
447-162		A-300 TRANSFORMER	1
545-412		PLASTIC STRAINER 1F	1
589-157		SWAGE ELBOW B1010-2-	2
589-254		SWAGE CONN. SS1010-1-	1
701-020		FLOAT PIPE	1
<u>STAINLESS STEEL TRANSFER PUMP</u>			
285-100		PUMP 14520 115/50/60	1
310-016		S DPST 120V PR7AY	1
385-063		S DUAL LEVEL SWITCH	1
385-106		S P SWITCH LIGHTED	1
447-162		A-300 TRANSFORMER	1
545-412		PLASTIC STRAINER 1F	1
589-254		SWAGE CONN. SS1010-1	1
589-257		SWAGE ELBOW SS1010-2	2
701-020		FLOAT PIPE	1
<u>BRASS PERC TRANSFER PUMP</u>			
285-080		B25 PUMP BR 115/230	1
310-009		S DPST/NO PR7AYO 240	1
546-207		BUCKET STRAINER	1

140 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
		<u>WATER COOLED</u>	
127-030		PSD SNAP BUTTON 1-1/8	1
589-166		SWAGE CONN. B1210-1	2
		<u>REFRIGERATED S-140</u>	
513-108		INDICATOR	1
513-204		DRIER	1
513-422		EXPANSION VALVE	1
513-431		DBV ADPHE 6-0/80	1
513-449		HGBV STRAINER 877-5	1
513-622		CU SHP 230/200/3	1
100-513-722		COMPRESSOR SHP 3P	1
		<u>PERC INSULATION</u>	
175-100		S PERC INSUL R1800	5
182-300		PERC R-S KNOB	2
230-125		PERC HOT LABEL	1

141 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
142-042		B/S U/S GASKET	1
247-085		STILL MANUAL	1
342-014		PSD GROMMET	1
385-062		S LEVEL SW M5600	1
385-106		S P SWITCH LIGHTED	1
385-190		SWITCH SPST LTI	1
407-102		THERMOMETER SS 50-300	1
701-024		FLOAT PIPE	1
<u>S-141-ELECTRIC 208/60/3</u>			
155-723		S. HEATER 4KW 208/1	1
310-054		CONT. 3P/60A/208-240	1
408-007		MANUAL THERMOSTAT	1
<u>S-141-ELECTRIC 230/60/3</u>			
155-715		S. HEATER 4KW 230/60/3	2
310-054		CONT. 3P/60A/208-240	1
408-007		MANUAL THERMOSTAT	1
<u>S-141W ELECTRIC 460/60/3</u>			
155-724		S. HEATER 5KW 460/1	1
310-054		CONT. 3P/60A/208-240V	1
408-007		MANUAL THERMOSTAT	2
<u>S-141 STEAM 230/60/3</u>			
310-009		S DPST/NO PR7AYD 240	1
408-007		MANUAL THERMOSTAT	1

141 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
<u>BRASS DESICCANT DRYER</u>			
142-005		FILTER GASKET	1
525-206		CAP. 1/2 BRASS	1
589-166		SWAGE CONN. B-1210-1	2
870-901		DESICCANT TEST KIT	1
950-555		MOLECULAR SIEVE	2
<u>STAINLESS STEEL DESICCANT DRYER</u>			
138-004		FILTER SS 10X1/2	1
142-005		FILTER GASKET	1
525-409		TH PVC Cap 1/2 FNPT	1
589-266		SWAGE CONN. SS-1210-1	1
870-907		DESICCANT TEST KIT	1
950-555		MOLECULAR SIEVE	2
<u>BRASS TRANSFER PUMP</u>			
285-100		PUMP 145200 115/50/60	1
310-016		S DPST 120V PR7AY	1
385-063		S DUAL LEVEL SWITCH	1
385-106		S P SWITCH LIGHTED	1
447-162		A-300 TRANSFORMER	1
545-412		PLASTIC STRAINER 1F	1
589-157		SWAGE ELBOW B1010-2-	2
589-254		SWAGE CONN. SS1010-1-	1
701-020		FLOAT PIPE	1

141 STILL

<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
408-015		THERMOSTAT BUSHING	1
539-513		STEAM SOLENOID	1
597-503		STEAM TRAP	1
701-050		THERMO BULB HOLDER	1
724-040		STEAM COIL	1

BRASS PLUMBING

537-207		PLUG BRASS 1/2	3
559-217		BALL VALVE BR 1-1/4F	1
589-166		SWAGE CONN. B-1210-1	1

STAINLESS STEEL PLUMBING

408-015		THERMO BUSHING	1
537-107		PLUG SS 1/2	3
559-112		BALL VALVE SS 1-1/4	1
589-266		SWAGE CONN. SS1210-1	1
701-050		THERMO BULB HOLDER	1

BRASS WATER SEPERATOR

519-115		S BUSHING SS 3/4X1/4	1
567-205		PETCOCK BR 1/4MX1/4F	1

STAINLESS STEEL WATER SEPERATOR

535-115		NIPPLE SS 1/4 X CL	1
567-107		PETCOCK SS 1/4FX1/4F	1

141 STILL

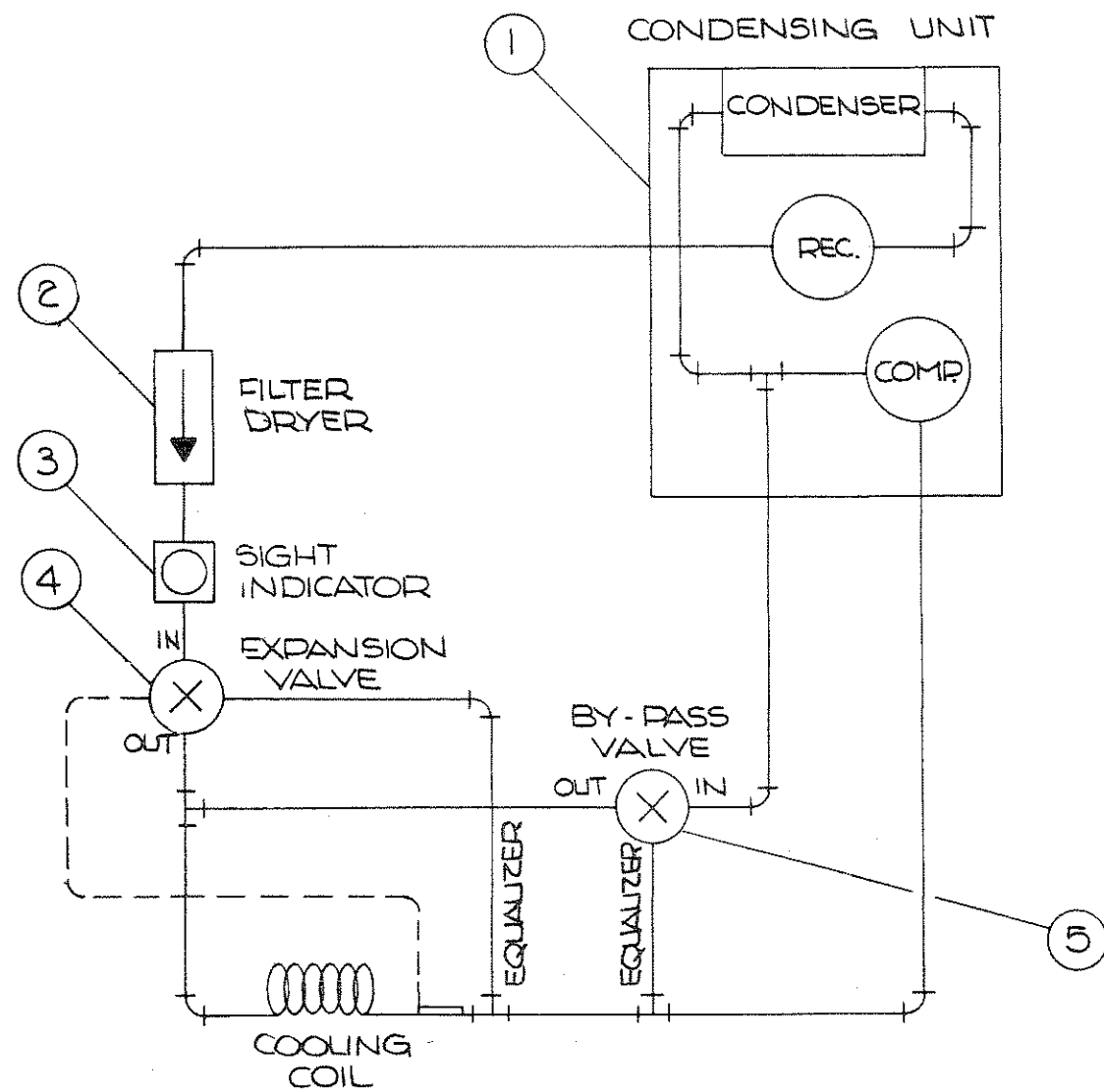
<u>PART NUMBER</u>	<u>DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
<u>STAINLESS STEEL TRANSFER PUMP</u>			
285-100		PUMP 14520 115/50/60	1
310-016		S DPST 120V PR7AY	1
385-063		S DUAL LEVEL SWITCH	1
385-106		S P SWITCH LIGHTED	1
447-162		A-300 TRANSFORMER	1
545-412		PLASTIC STRAINER 1F	1
589-254		SWAGE CONN. SS1010-1	1
589-257		SWAGE ELBOW SS1010-2	2
701-020		FLOAT PIPE	1
<u>BRASS PERC TRANSFER PUMP</u>			
285-080		B25 PUMP BR 115/230	1
310-009		S DPST/NO PR7AYD 240	1
546-207		BUCKET STRAINER	1
<u>WATER COOLED</u>			
127-030		PSD SNAP BUTTON 1-1/8	1
589-166		SWAGE CONN. B1210-1	2
<u>PERC INSULATION</u>			
175-100		S PERC INSUL R1800	5
182-300		PERC R-S KNOB	2
230-125		PERC HOT LABEL	1

AUTHORIZED SERVICE CENTERS

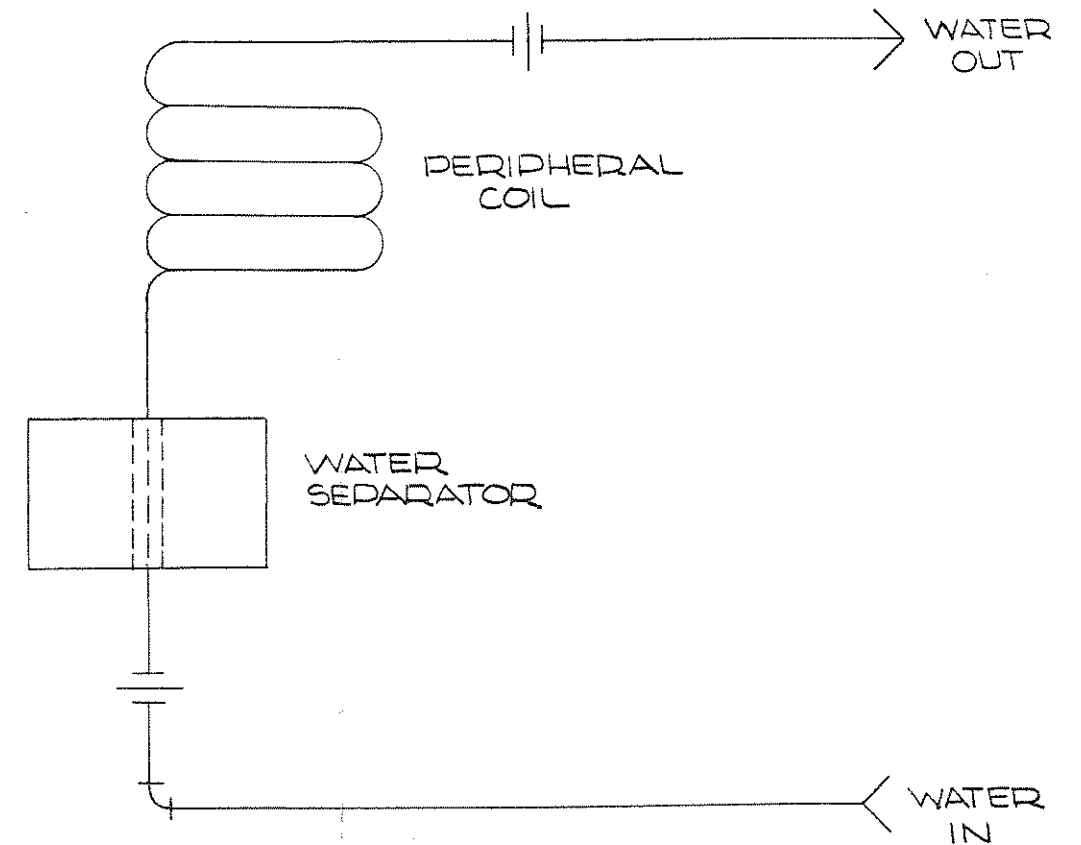
<p><u>CALIFORNIA</u> Branson Cleaning Equipment Co. 12955 E. Perez Place City of Industry, CA 91746 (818) 960-5711</p> <p>Branson Cleaning Equipment Co. 780 Trimble Road Suite 405 San Jose, CA 95131 (408) 946-7933, 946-7934</p>	<p><u>GEORGIA</u> Branson Cleaning Equipment Co. 6090 McDonough Road Norcross, GA 30093 (404) 448-9377</p> <p><u>ILLINOIS</u> Branson Cleaning Equipment Co. 541 West Golf Road Arlington Heights, IL 60005 (312) 981-0178</p>
<p><u>CANADA</u> Branson Canada 705 Progress Avenue, Unit 27 Scarborough, Ontario, Canada (416) 431-4411 TLX 06525402</p>	<p><u>MASSACHUSETTS</u> Branson Cleaning Equipment Co. 59 Commerce Way Woburn, MA 01801 (617) 938-8172</p>
<p><u>CONNECTICUT</u> Branson Cleaning Equipment Co. Parrott Drive Shelton, CT 06484-0768 (203) 929-7301 TLX 643102 Parts (203) 929-8491 Service (203) 929-8492</p>	<p><u>SOUTH CAROLINA</u> Sound Services 3111 Pt. Clear Drive Fort Mill, SC 29715 (803) 831-4334</p>
<p><u>FLORIDA</u> Paragon Electronics 11075 NE 6th Avenue Miami, FL 33161 (305) 757-0631</p>	<p><u>TEXAS</u> Alpha Omega Electronics Corp. 2821 National Drive Garland, TX 75041 (214) 271-5569</p>

LIST OF DRAWINGS

<u>Drawing no.</u>	<u>Model</u>	<u>Description</u>
C12278	110 - 141	Piping Diagram
D12136	110R	Refrigeration Assembly
D12143	120, 121W	Final Assembly
D12145	140, 141W	Final Assembly
D12144	130, 131W	Final Assembly
D12142	110, 111W	Final Assembly
D12277	110 - 141	Plumbing Diagram
D12157	121R	Refrigeration Assembly
D12156	120R	Refrigeration Assembly
D12158	131R, 140R	Refrigeration Assembly
C12082	110, 11W/R	Wiring Diagram
C12083	120 - 141W/R	Wiring Diagram
C51-1730	5-130, 131, 140, 141	Wiring Diagram
D12115	120 - 121	Control Box
D12122	110, 111	Control Box
D12123	130, 131	Control Box
D12124	140, 141	Control Box
D15-775	All	Still to PSD Degreaser, Interconnecting Plumbing
D15-779	All	Still to WSD Degreaser Interconnecting Plumbing
C12457	110 - 141	Wiring Diagram, Steam Heat Option
C12347	110 - 111	Wiring Diagram, Perchelor Option
C12348	120 - 141	Wiring Diagram, Perchelor Option



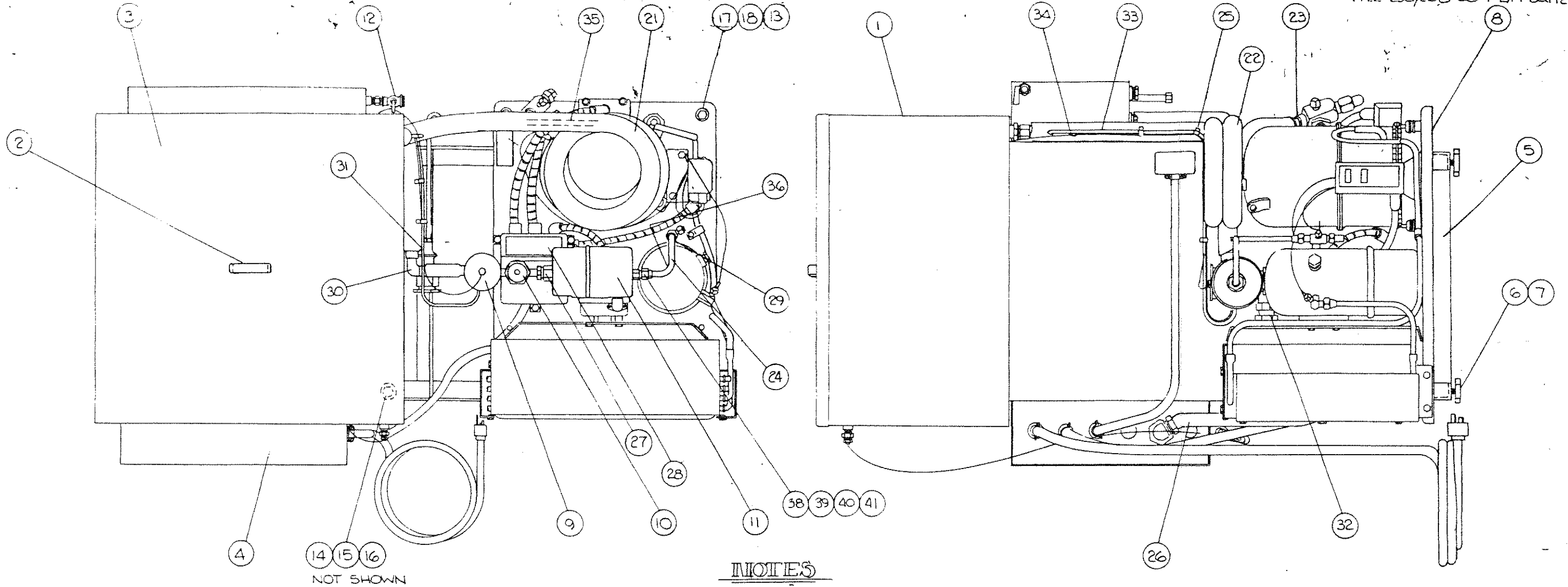
PIPING DIAGRAM REFRIGERATION STILLS



PIPING DIAGRAM WATER COOLED STILLS

NO	DESCRIPTION	110R	111R	120R	121/130R	131/140R
1	CONDENSING UNIT	513-605	513-608	513-610	513-611	513-620
2	FILTER DRYER	513-202	513-202	513-204	513-204	513-204
3	SIGHT INDICATOR	513-107	513-107	513-108	513-108	513-108
4	EXPANSION VALVE	513-420	513-421	513-425	513-422	513-423
5	BYPASS VALVE	513-430	513-430	513-431	513-431	513-431

		DATE		BY		DESCRIPTION		REVISIONS	
						BRANSON INSTRUMENTS COMPANY A SUBSIDIARY OF SMITH KLINE & FRENCH LABORATORIES STAMFORD CONNECTICUT		PIPING DIAGRAMS	
						MATERIAL BRASS & COPPER FINISH		REMOVE BURRS	
						FRACT. 2/164, DEC. 2.005, ANG. 2° UNLESS SPECIFIED		SCALE 1/2"	
						MODEL 110-141 STILLS QTY/UNIT 1		SCALE 1/2"	
						ORDER NO.		CUST.	
						PRODUCT NO.		STOCK NO.	
						D'WH KL DATE 2-18-77		D'WH NO. C12278	
						AP'VD X.Z.P. DATE 3-1-77		REL.	

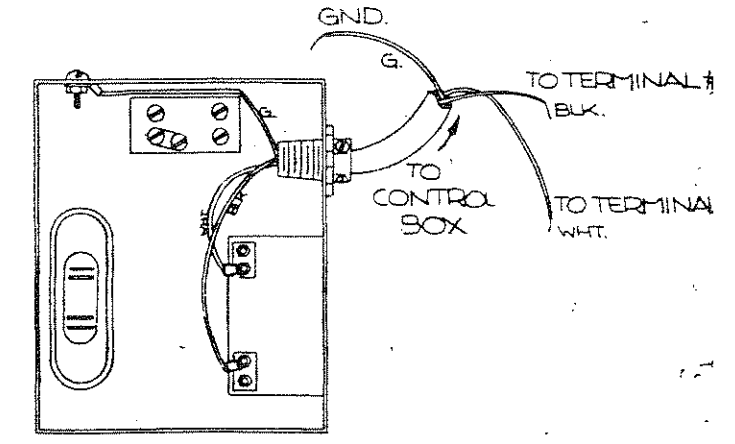


NOTES

- 1) REFRIGERATION SYSTEM CAPACITY: LB.
CHARGE OF R12
- 2) ALL CONNECTIONS TO BE SILVER BRAZED WITH NITROGEN SWEPT THROUGH TUBING.
- 3) CONNECT NITROGEN HOSE TO RESPECTIVE SERVICE VALVES WHEN BRAZING HIGH & LOW SIDES.
- 4) PRIME AND PAINT BLUE
- 5) INSULATE ALL PIPING WITH "ARMSTRONG" ARMSTRONG ARMAFLEX OR EQUIVALENT
- 6) ADD SHIPPING BLOCKS (A-12065) UNDER REFRIGERATION COMPRESSOR AFTER TESTING.

NO	PART NO	DESCRIPTION	QTY	UM
1	937-110	TANK ASSEMBLY S1	1	EA
2	142-020	MC MASTER HANDLE 1651A18	1	EA
3		TANK COVER (SEE DWG)	1	EA
4	820-026	CONTROL BOX ASSEMBLY	1	EA
5	721-300	FRAME	1	EA
6	127-054	LEVELING FOOT	4	EA
7	127-152	PDR WELD NUT SF4408	4	EA
8	513-605	TECUMSEH CONDENSING UNIT AJ4512AC	1	EA
9	513-420	T.E.V. SFE-1-CR60	1	EA
10	513-107	MOISTURE INDICATOR SA-135(3/8 ODF)	1	EA
11	513-202	FILTER-DRIER C1635(3/8 ODF)	1	EA
12	567-205	PETCOCK 1/4 M x 1/4 F BRASS	1	EA
13	348-197	HEX BOLT 1/4-20 x 1/2	4	EA
14	348-198	HEX BOLT 5/16-18 x 1/2	4	EA
15	352-114	HEX NUT 5/16-18	4	EA
16	354-065	LOCKWASHER 5/16 ST.	4	EA
17	352-113	HEX NUT 1/4-20	4	EA
18	354-064	LOCKWASHER 1/4 ST.	4	EA
19				
20				
21		VIBRATION ELIMINATOR ASSEMBLY	1	EA
22	513-001	PDR 5/8 I.D. INSULATOR	9	FT
23	513-524	PDR 3/8 OD REFRIG FLARE NUT	1	EA
24	503-303	COPPER TUBING SOFT 3/8 OD 032	4	FT
25	075-006	CABLE TIE TY-25M 3/12	6	EA

NO	PART NO	DESCRIPTION	QTY	UM
26	085-004	CORD 14/3 S	6	FT
27	529-308	3/8 COUPLING	1	EA
28	230-105	REFRIGERATION LABEL	1	EA
29	513-524	REFRIGERATION FLARE NUT 3/8 OD	2	EA
30	531-321	ELBOW 1/2 x 90° STREET	1	EA
31	513-449	PDR STRAINER HGBV	1	EA
32	513-430	D.B.V. ADPDE-3-0/80	1	EA
33	503-304	SOFT COPPER TUBE 1/4 OD	4	FT
34	547-306	TEE 1/8 x 1/8 x 1/4	1	EA
35	503-315	SOFT COPPER TUBE 5/8 OD	13	FT
36	503-308	SOFT COPPER TUBE 3/8 OD	3	FT
37	650-600	CONDENSOR COVER (NOT SHOWN)	1	EA
38	541-304	3/4 COUPLING	1	EA
39	342-010	GROMMET	1	EA
40	352-090	1/2 NUT	1	EA
41	1500-201	1/2 3/4 HEADED ROD	1	EA
42				



JUNCTION BOX WIRING

HIDDEN LINES INDICATE ORIGINAL LOCATION OF WIRE LEADS

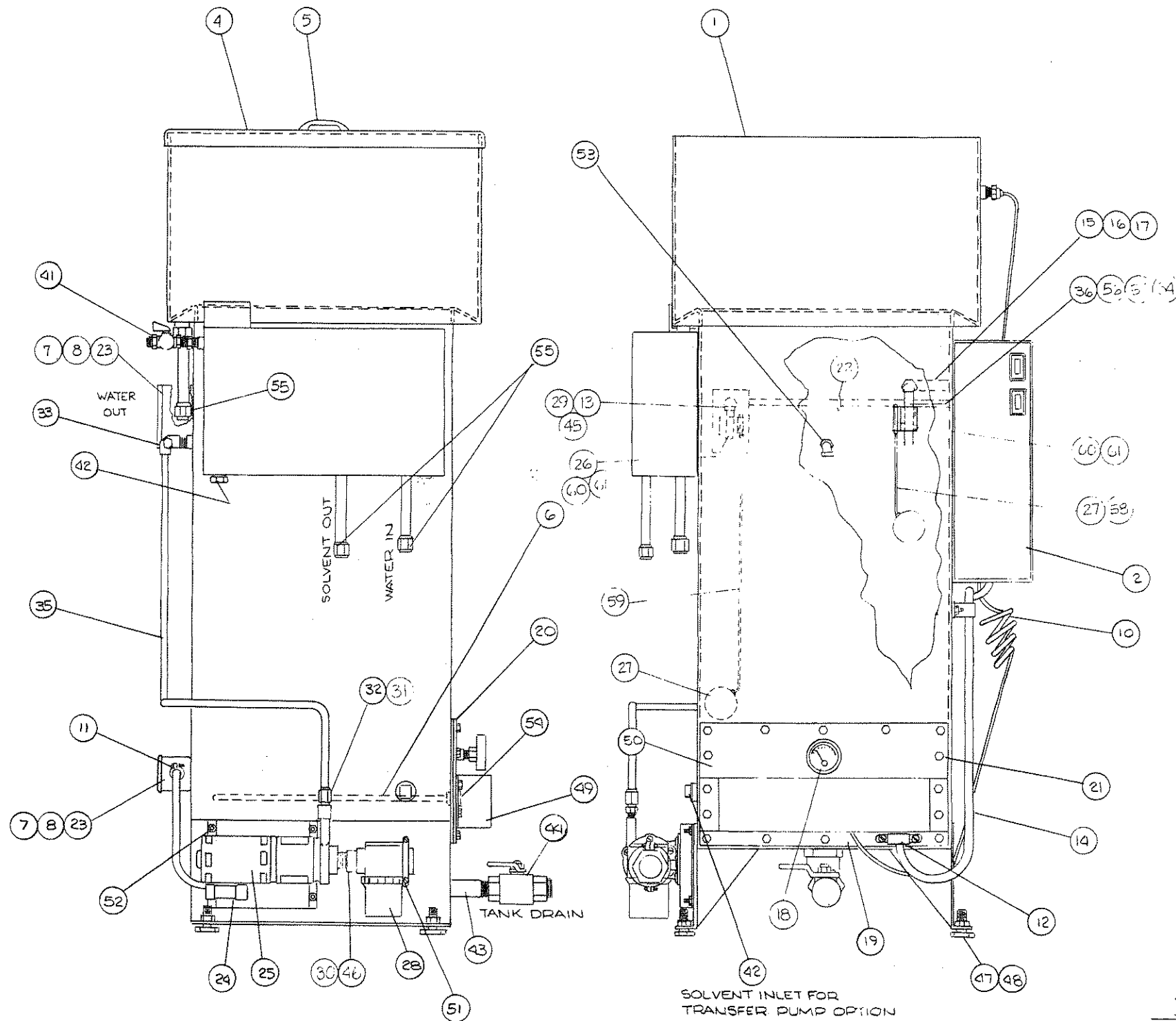
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1	1	11/17/77	XP	XP	
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3	3	11/17/77	XP	XP	
4	4	11/17/77	XP	XP	
5	5	11/17/77	XP	XP	
6	6	11/17/77	XP	XP	
7	7	11/17/77	XP	XP	
8	8	11/17/77	XP	XP	
9	9	11/17/77	XP	XP	
10	10	11/17/77	XP	XP	
11	11	11/17/77	XP	XP	
12	12	11/17/77	XP	XP	
13	13	11/17/77	XP	XP	
14	14	11/17/77	XP	XP	
15	15	11/17/77	XP	XP	
16	16	11/17/77	XP	XP	
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37	37	11/17/77	XP	XP	
38	38	11/17/77	XP	XP	
39	39	11/17/77	XP	XP	
40	40	11/17/77	XP	XP	
41	41	11/17/77	XP	XP	
42	42	11/17/77	XP	XP	

BRANSON INSTRUMENTS CO.
 A Subsidiary of BRANSON ELECTRIC & POWER CO.
 STAMFORD, CT 06407

REFRIGERATION ASSEMBLY

DATE: 11/17/77
 DRAWN BY: XP
 CHECKED BY: XP
 APPROVED BY: XP

STOCK NO. 110R
 PART NO. 110R
 QUANTITY 1
 PRICE \$121.36

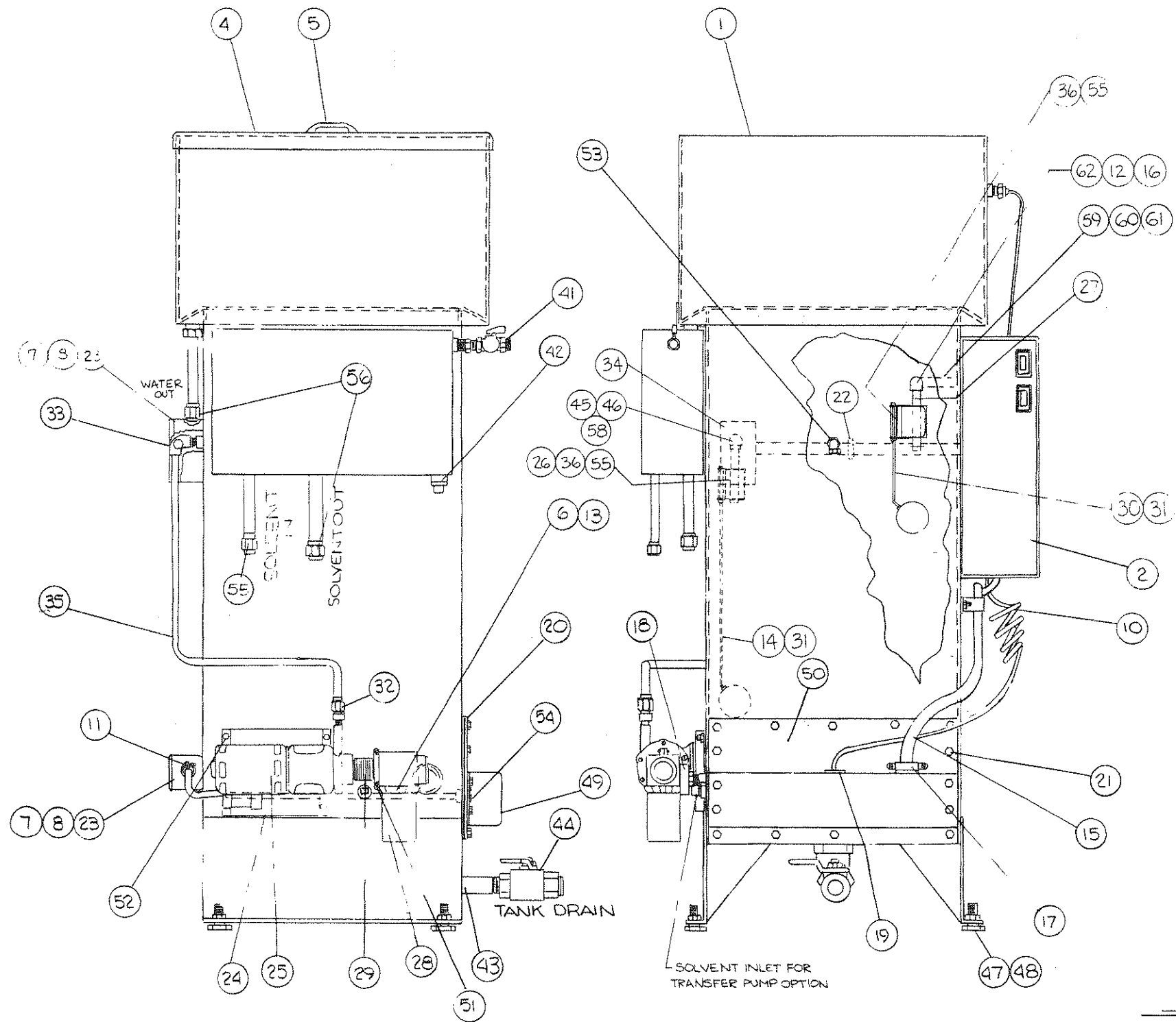


Nº	PART Nº	DESCRIPTION	QTY.	U/M
1	820-434	TANK ASSEMBLY 52	1	EA
2	820-052	CONTROL BOX ASSEMBLY 52	1	EA
3				
4		TANK COVER	1	EA
5	145-020	MC MASTER HANDLE 1051A18	1	EA
6	155-708	SERPENTINE HEATER 3KW	1	EA
7	110-052	HANDI BOX 2x4	2	EA
8	110-063	HANDI BOX COVER BLANK	2	EA
9	075-019	CABLE CLAMP EG	3	EA
10	595-002	EMT STRAP	1	EA
11	599-003	CONNECTOR 3302 3/8x1/2 2 SCR	5	EA
12	599-005	BX CONNECTOR 2 SCREW	2	EA
13	535-153	1/2" x 3" NIPPLE	1	EA
14		PSD CORD 5 12/3	6	FT
15	509-002	SEALTITE 3/8	1	FT
16	593-120	SEALTITE ELBOW 3/8	1	EA
17	593-104	SEALTITE STRAIGHT ADAPTOR 3/8	1	EA
18	407-102	THERMOMETER S.S. 20-240°F	1	EA
19	342-014	GROMMET RUBBER	1	EA
20	142-040	CLEANING PORT GASKET	1	EA
21	352-019	LOCKNUT 1/4-20	28	EA
22	352-035	PSD LOCKNUT 10-32	7	EA
23	352-102	PSD LOCKNUT 141-1/2	1	EA
24	650-610	PSD PUMP MOUNTING BRACKET	1	EA
25	285-17	PSD PUMP 1.2 GPM @ 120 PSI	1	EA
26	385-062	MADISON 316SS LEVEL SW. M5600-W/29	1	EA
27	550-240	LEVEL FOOT	2	EA
28	545-412	BUCKET STRAINER 1" PLASTIC	1	EA
29	531-118	1/2" x 1/2" ELBOW	1	EA
30	385-153	1/2" x 4" BRASS NIPPLE	1	EA
31	529-118	1/2" SS ELBOW	1	EA
32	529-118	1/2" SS ELBOW	1	EA
33	529-147	PSD SWAGelok ELBOW	1	EA
34	529-107	PUSH NUT 1/2" x 1/2"	1	EA
35	603-312	TUBING 1/2" O.D. COPPER SOFT	6	FT
36	595-007	3/8" x 1/2" FLAT LIQUID LINE CONTROL SW.	1	EA
37	535-250	NIPPLE 1/2" x 1/2" BRASS	1	EA
38	519-204	BUSHING 1/2" M x 1/4" F BRASS	1	EA
39	531-204	ELBOW 1/2" x 90° BRASS	1	EA
40	535-216	PSD NIPPLE 1/4" x 1/2"	2	EA
41	567-205	PETCOCK 1/4" M x 1/4" F BRASS	1	EA
42	537-207	PLUG 1/2" BRASS	3	EA
43	535-181	NIPPLE 1" x 3" SS	1	EA
44	559-215	BALL VALVE 1" NPT BRASS	1	EA
45	219-107	1/4" F x 1/2" M BUSHING	1	EA
46	519-204	1" M x 1/2" F BRASS BUSHING	1	EA
47	127-054	LEVELING FOOT	4	EA
48	127-152	PSD WELDNUT SF4408	4	EA
49		HEATER COVER	1	EA
50		CLEANOUT PORT	1	EA
51	541-307	SPLIT RING HANGER 1 1/2"	1	EA
52	127-131	WELDSTUD 10-32 x 1/2"	4	EA
53	531-118	ELBOW SS 1/2" M x 1/2" F x 90°	1	EA
54	354-100	EXTERNAL TOOTH LOCKWASHER	4	EA
55	589-154	PSD SWAGelok CONN B1010-1-B	3	EA
56	531-118	1/2" ELBOW	1	EA
57	535-136	3/8" x 3" NIPPLE	1	EA
58	600-080	EXT. ROD 3/8" x 7 3/4" LG. SS	1	EA
59	600-082	EXT. ROD 3/8" x 19" LG. SS	1	EA
60	650-793	STRAP	2	EA
61	355-014	SPACER 3/8" OD x 2" LG	2	EA

NOTE

ALL EXTERNAL PLUMBING TO TRANSFER PUMP OPTION SUPPLIED BY CUSTOMER SHOULD BE A MINIMUM OF 5/8" O.D.

BRANSON CLEANING EQUIPMENT COMPANY PARROTT DRIVE • SHELTON, CONN 06484		BRANSON a Smithline company	
STILL FINAL ASSEMBLY			
MODEL: 120,121W	CUSTOMER:		OFFYOUT AR
MATERIAL: 5-2-81	DATE:		REV.:
CHKD: [Signature]	DATE: 5-2-81	PART NO:	D12143
APPVD: [Signature]	DATE:	SCALE: 1/8"	REV. 6

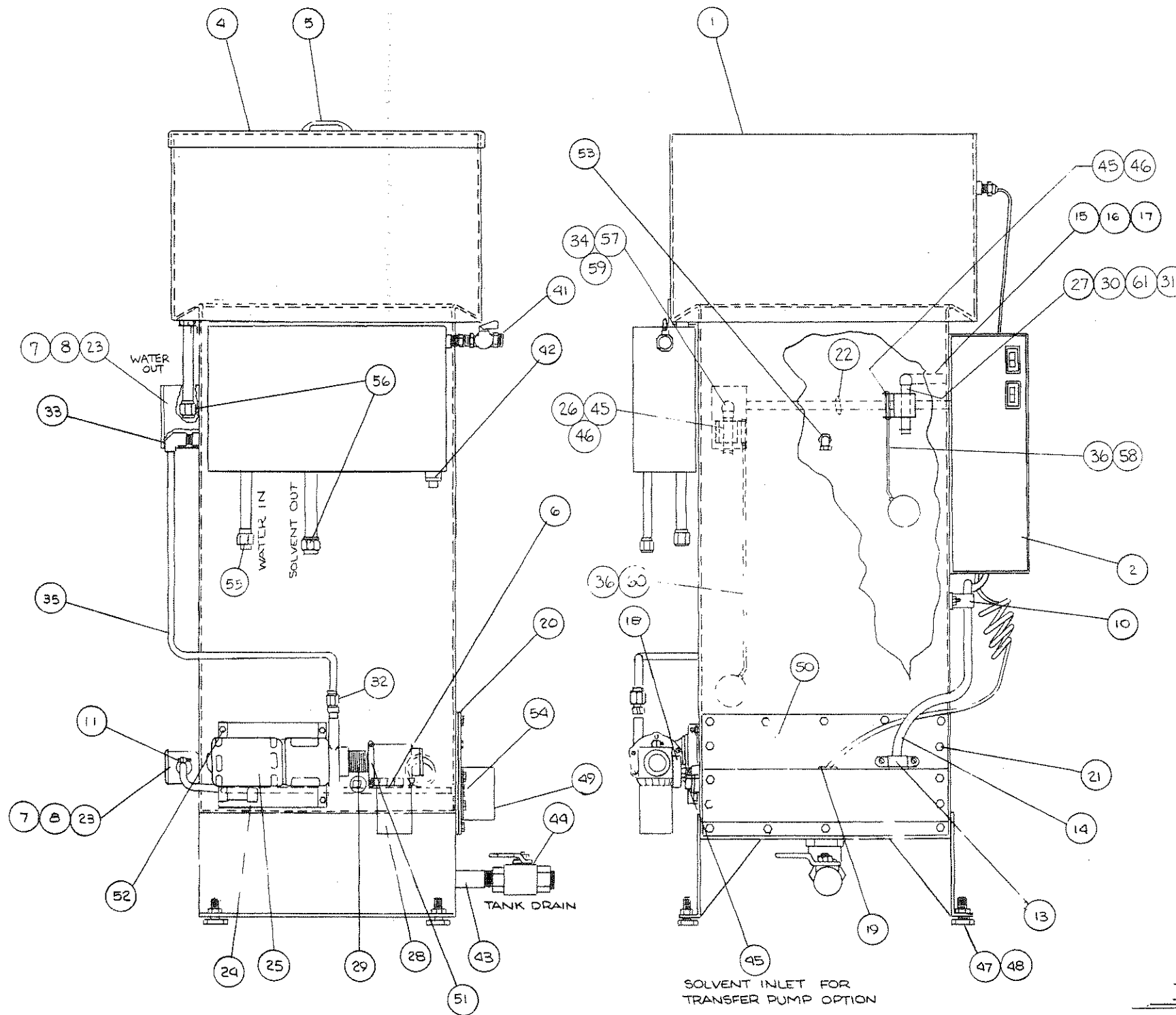


Nº	PART Nº	DESCRIPTION	QTY	UM
1	820-478	TANK ASSEMBLY S4	1	EA
2	820-054	CONTROL BOX ASSEMBLY S4	1	EA
3				
4		TANK COVER	1	EA
5	145-020	MC MASTER HANDLE 1651A18	1	EA
6	155-711	SERPENTINE HEATER 2KW	2	EA
7	110-052	HANDI BOX 2x4	2	EA
8	110-053	HANDI BOX COVER BLANK	2	EA
9	075-019	CABLE CLAMP EG	3	EA
10	595-006	EMT STRAP	1	EA
11	599-003	CONNECTOR 3302 3/8x1/2 2SCR	5	EA
12	535-136	3/8 x 3" NIPPLE S.S.	1	EA
13	155-717	SERPENTINE HEATER 5KW	2	EA
14	600-084	EXT. ROD 3/16" x 21 1/2" LG. S.S.	1	EA
15	509-008	SEALTITE 1"	1	FT
16	531-110	3/8" x 90° ELBOW S.S.	1	EA
17	593-110	SEALTITE STRAIGHT ADAPTOR	1	EA
18	407-102	THERMOMETER SS 120-240 F	1	EA
19	342-014	GROMMET RUBBER 2273	1	EA
20	142-042	CLEANING PORT GASKET	1	EA
21	352-019	LOCKNUT 1/4-20	28	EA
22	352-035	PSD LOCKNUT 10-32	9	EA
23	352-102	PSD LOCKNUT 1/4-1/2	1	EA
24	650-610	PSD PUMP MOUNTING BRACKET	1	EA
25	285-700	PSD PUMP GR-14520	1	EA
26	385-062	MADISON 316 SS LEVEL SW. M8600 W/A	1	EA
27	385-067	SINGLE FLOAT LEVEL CONTROL	1	EA
28	545-412	BUCKET STRAINERS 1 PLASTIC	1	EA
29	535-282	NIPPLE 1"x2" BRASS	1	EA
30	600-080	EXT. ROD 3/16 DIA. x 7 3/4" LG. S.S.	1	EA
31	580-240	LOWER FLOAT	2	EA
32	589-154	PSD SWAGelok CONN. 3600 - A-B	1	EA
33	589-157	PSD SWAGelok ELBOW 3600-8-8	1	EA
34	589-254	SWAGelok CONN SS-1010-1-B	1	EA
35	503-315	TUBING 3/8 OD COPPER SOFT	6	FT.
36	650-792	STRAP	2	EA
37	535-250	NIPPLE 1/2 x CL BRASS	1	EA
38	519-204	BUSHING 1/2M x 1/4F BRASS	1	EA
39	531-204	ELBOW 1/4 x 90° BRASS	1	EA
40	535-216	PSD NIPPLE 1/4 x CL	2	EA
41	567-205	PETCOCK 1/4M x 1/4F BRASS	1	EA
42	537-207	PLUG 1/2" BRASS	2	EA
43	535-191	NIPPLE 1/4 x 3" S.S.	1	EA
44	559-217	BALL VALVE 1" NPT. BRASS	1	EA
45	535-153	1/2" x 3" NIPPLE S.S.	1	EA
46	531-116	1/2" x 90° ELBOW S.S.	1	EA
47	127-054	LEVELING FOOT	4	EA
48	127-152	PSD WELDNUT SF4408	4	EA
49		HEATER COVER	1	EA
50		CLEANOUT PORT	1	EA
51	541-307	SPLIT RING HANGER 1 1/2"	1	EA
52	127-131	WELDSTUD 10-32 x 1/2	4	EA
53	531-118	ELBOW SS 1/2M x 1/2F x 90°	1	EA
54	354-100	EXTERNAL TOOTH LOCKWASHER	12	EA
55	355-014	SPACER 3/8 O.D. x 2" LG.	2	EA
56	589-106	SWAGelok CONN B1210-1-12	2	EA
57	600-023	PSD MACH FULL COUPLING	1	EA
58	519-107	BUSHING 1/4" F x 1/2" M	1	EA
59	509-002	3/8 SEALTITE	1	EA
60	593-104	3/8 SEALTITE STRAIGHT ADAPTOR	1	EA
61	593-120	3/8 SEALTITE ELBOW	1	EA
62	519-109	BUSHING 3/8 x 1/2	1	EA

NOTE

ALL EXTERNAL PLUMBING TO TRANSFER DUMP OPTION SUPPLIED BY CUSTOMER SHOULD BE A MINIMUM OF 3/4" O.D.

BRANSON CLEANING EQUIPMENT COMPANY PARROTT DRIVE • SHELTON, CONN. 06484		BRANSON a Smithline company	
STILL FINAL ASSEMBLY			
MODEL: 140, 141W		DITYAINT: 1	
ORDER NO.	CUSTOMER		
MATL.	FINISH		
DATE: 6-31-81	DATE: 9/2/81	SCALE: 1/4" = 1"	DWG NO: D12145
APPROVED: [Signature]	DATE: 9/2/81	SCALE: 1/4" = 1"	REV: F



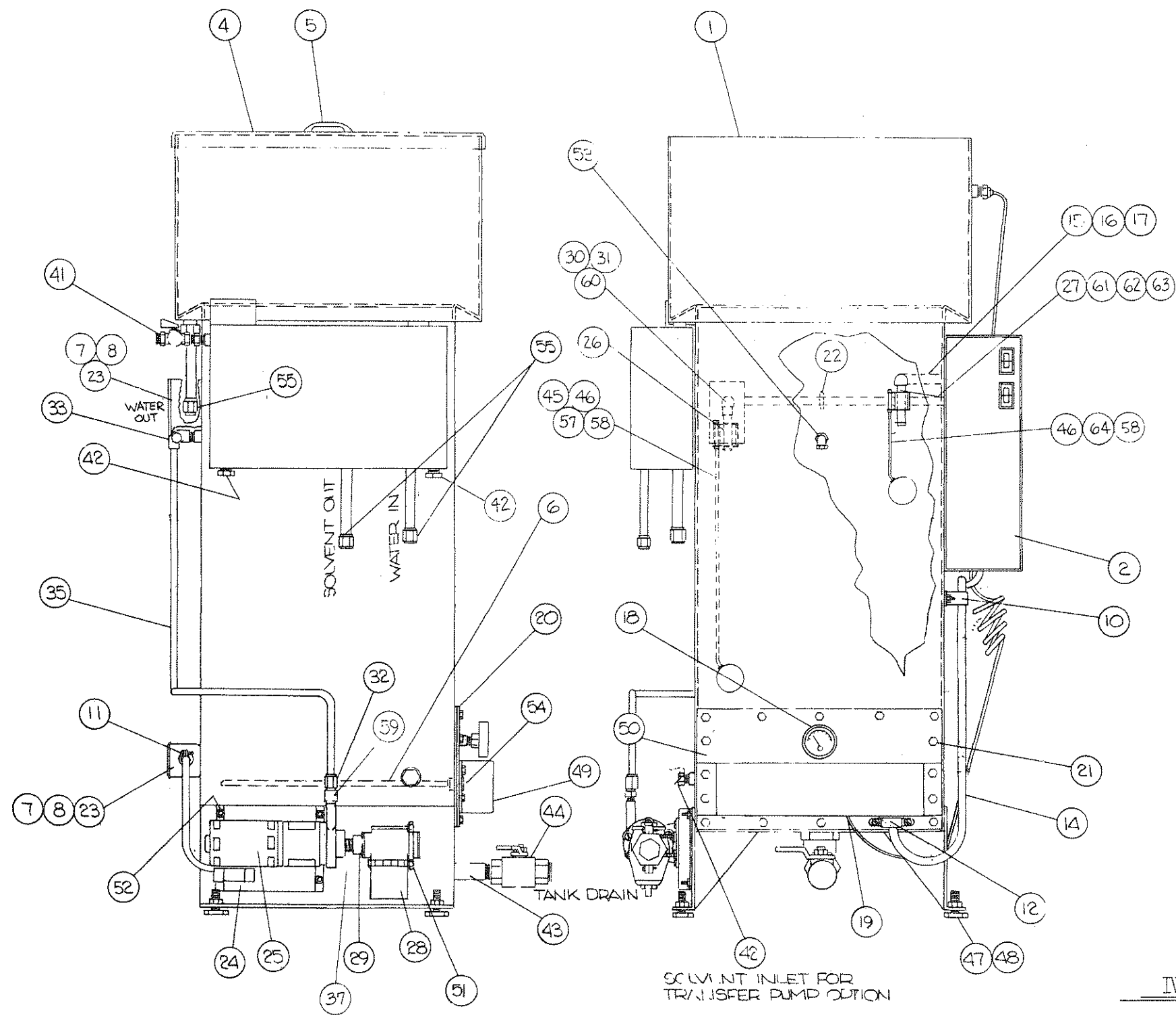
Nº	PART N°	DESCRIPTION	QTY.	U/M
1	820-456	TANK ASSEMBLY S3	1	EA
2	820-053	CONTROL BOX ASSEMBLY S3	1	EA
3				
4		TANK COVER	1	EA
5	145-020	MC MASTER HANDLE 1651A18	1	EA
6	155-717	SERPENTINE HEATER 5KW	2	EA
7	110-052	HANDI BOX 2x4	2	EA
8	110-053	HANDI BOX COVER BLANK	2	EA
9	075-019	CABLE CLAMP E6	3	EA
10	595-004	EMT STRAP 3/4	2	EA
11	599-003	CONNECTOR 3302 3/8x1/2 2SCR	5	EA
12	599-005	BX CONNECTOR 2SCREW	2	EA
13	593-108	SEALTITE STRAIGHT ADAPTOR 3/4	1	EA
14	509-006	SEALTITE 3/4	1	FT
15	509-002	SEALTITE 3/8	1	FT
16	593-120	SEALTITE ELBOW 3/8	1	EA
17	593-104	SEALTITE STRAIGHT ADAPTOR 3/8	1	EA
18	407-102	THERMOMETER SS 20-240°F	1	EA
19	342-014	GROMMET RUBBER	1	EA
20	142-042	CLEANING PORT GASKET	1	EA
21	352-019	LOCKNUT 1/4-20	28	EA
22	352-035	PSD LOCKNUT 10-32	9	EA
23	352-102	PSD LOCKNUT 141-1/2	1	EA
24	650-610	PSD PUMP MOUNTING BRACKET	1	EA
25	285-100	S3.54 PUMP GR 14520	1	EA
26	385-062	MADISON 316 SS LEVEL SW M5600-W/24	1	EA
27	385-067	SINGLE FLOAT LEVEL CONTROL SW.	1	EA
28	545-412	BUCKET STRAINER 1" PLASTIC	1	EA
29	535-282	NIPPLE 1" x 2" BRASS	1	EA
30	531-110	3/8" x 90° ELBOW S.S.	1	EA
31	535-136	3/8" x 3" NIPPLE	1	EA
32	589-154	PSD SWAGelok CONN.	1	EA
33	589-157	SWAGelok ELBOW	1	EA
34	531-116	1/2" x 90° ELBOW S.S.	1	EA
35	503-315	TUBING 5/8" O.D COPPER SOFT	6	FT
36	580-240	LOWER FLOAT	2	EA
37	535-250	NIPPLE 1/2" x CL BRASS	1	EA
38	519-204	BUSHING 1/2" M x 1/4" F BRASS	1	EA
39	531-204	ELBOW 1/2" x 90° BRASS	1	EA
40	535-216	PSD NIPPLE 1/4" x CL	2	EA
41	567-205	PETCOCK 1/4" M x 1/4" F BRASS	1	EA
42	537-207	PLUG 1/2" BRASS	1	EA
43	535-191	NIPPLE 1/4" x 3" S.S.	1	EA
44	559-217	BALL VALVE 1/4" BRASS	1	EA
45	650-793	STRAP	2	EA
46	355-014	SPACER 3/8" O.D. x 2" LG	2	EA
47	127-054	LEVELING FOOT	4	EA
48	127-152	PSD WELDNUT SF 4408	4	EA
49		HEATER COVER	1	EA
50		CLEANOUT PORT	1	EA
51	541-307	SPLIT RING HANGER 1 1/2	1	EA
52	127-131	WELDSTUD 10-32 x 1/2	4	EA
53	531-118	ELBOW S.S. 1/2" M x 1/2" F x 90°	1	EA
54	354-100	EXTERNAL TOOTH LOCKWASHER	6	EA
55	589-154	PSD SWAGelok B1010-1-8	1	EA
56		SWAGelok CONN B-1210-1-2	2	EA
57	535-153	1/2" x 3" NIPPLE S.S.	1	EA
58	600-080	EXT ROD 3/16 DIA. x 7 3/4" LG SS.	1	EA
59	519-107	BUSHING 1/4" F x 1/2" M	1	EA
60	600-084	EXT. ROD 3/16 DIA.	1	EA
61	519-109	BUSHING 3/8" x 1/2" S.S.	1	EA

NOTE

ALL EXTERNAL PLUMBING TO TRANSFER PUMP OPTION SUPPLIED BY CUSTOMER SHOULD BE A MINIMUM OF 3/4" O.D.

REVISIONS		DATE	
BY	DESCRIPTION	BY	DATE
G	ECN # 1307	JUH	11/85
L	ECN # 1317	JUH	11/85
E	ECN #	JUH	11/85
D	REWORK/REVISED	JUH	11/85

BRANSON CLEANING EQUIPMENT COMPANY PARROTT DRIVE • SHELTON, CONN. 06484		BRANSON a Smithline company	
STILL FINAL ASSEMBLY			
MODEL: 130, 131W	CUSTOMER:		DTYANT: AR
ORDER NO:	PART NO:		
MATERIAL: SEE DWG		FINISH:	
DESIGN: J. WILLIAMS	DATE: 9-2-81	SCALE:	DWG NO: D12144
CHKD:	DATE:	APPROV:	REV: G
APPROV: P.3M	DATE: 9/2/81		



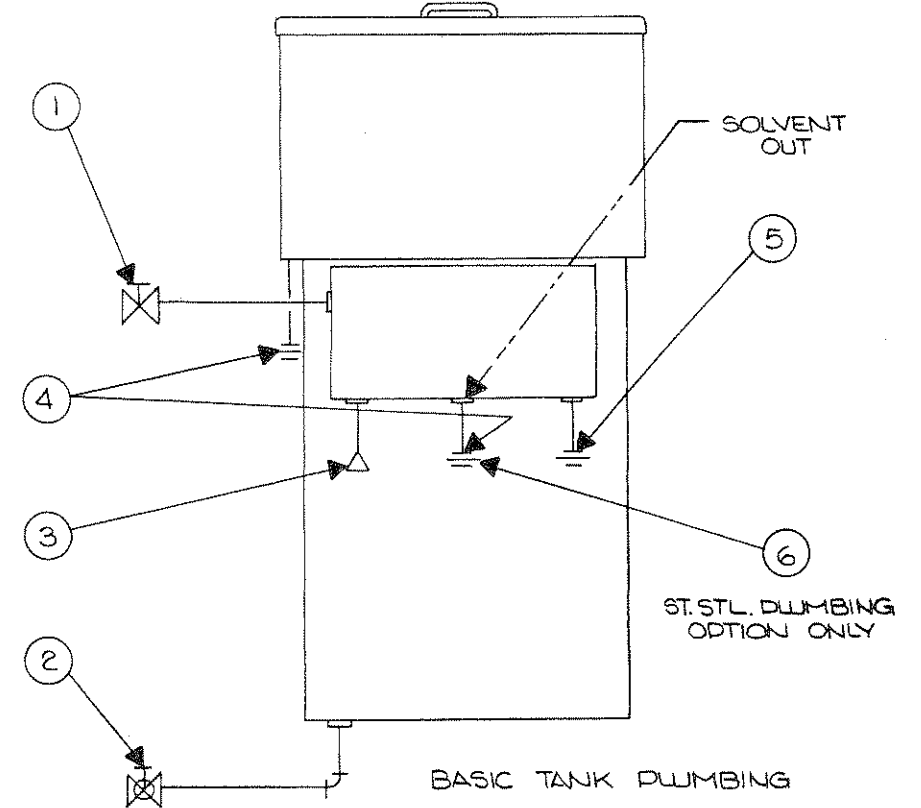
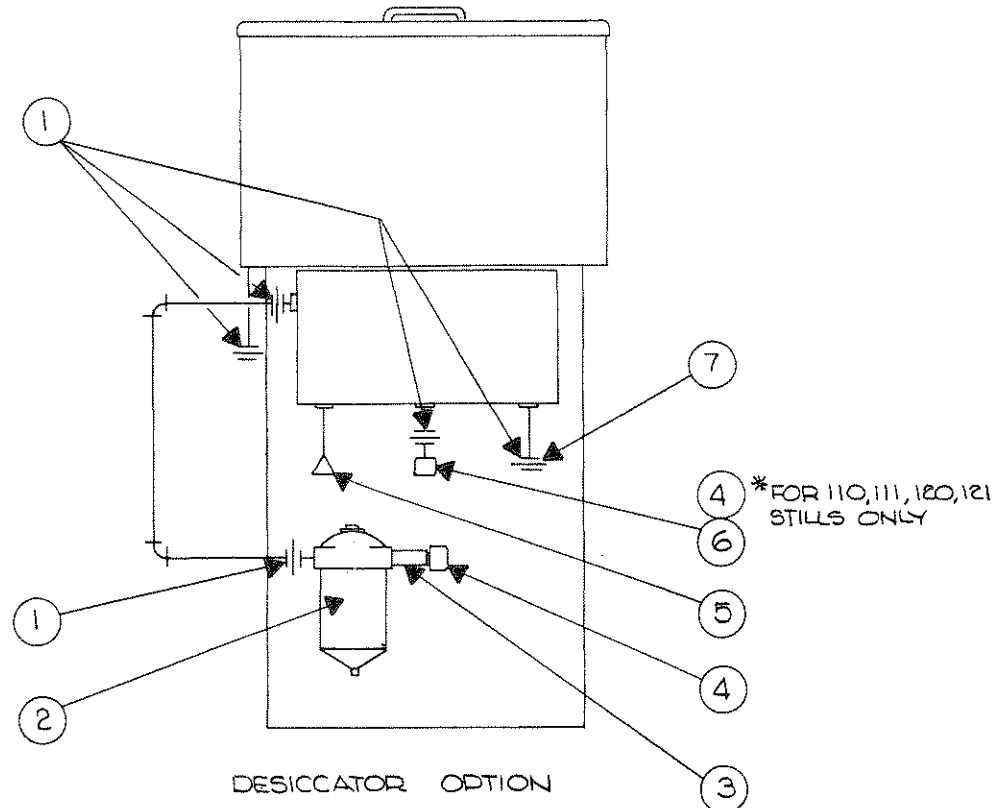
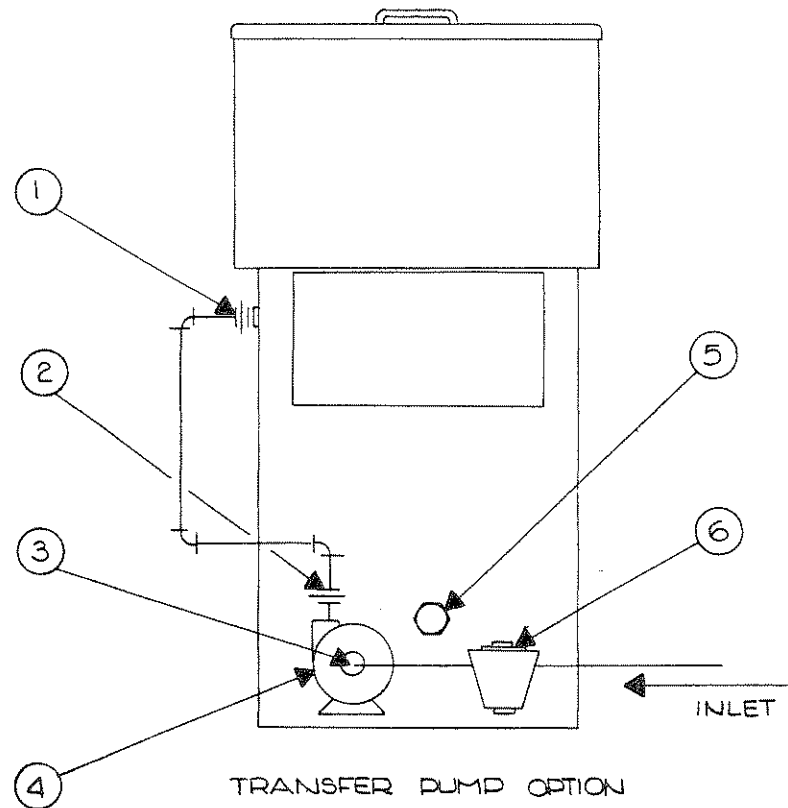
SOLVENT INLET FOR TRANSFER PUMP OPTION

No	PART No	DESCRIPTION	QTY	LM
1	820-434	TANK ASSEMBLY SI	1	EA
2	820-051	CONTROL BOX ASSEMBLY SI	1	EA
3				
4		TANK COVER	1	EA
5	145-020	MC MASTER HANDLE 1651A18	1	EA
6	155-708	SERPENTINE HEATER 3KW	1	EA
7	110-052	HAND BOX 2x4	1	EA
8	110-053	HAND BOX COVER BLANK	1	EA
9	075-019	CABLE CLAMP E6	1	EA
10	595-002	EMT STRAP	1	EA
11	599-003	CONNECTOR 3302 3/8x1/2 2'SC2	1	EA
12	570-005	BX CONNECTOR 2 SCREW	2	EA
13				
14		PSD CORD S 12/3	2	EA
15	509-002	SEALTITE 3/8"	1	EA
16	593-120	SEALTITE ELEC W 3/8"	1	EA
17	593-104	SEALTITE STRAIGHT ADAPTOR 3/8"	1	EA
18	407-102	HELYMETER S.S. 20.140°	1	EA
19	242-014	GROMMET RUBBER 2272	1	EA
20	142-040	CLEANING PORT GASKET	1	EA
21	252-019	LOCKNUT 1/4-20	28	EA
22	252-035	PSD LOCKNUT 10-32	9	EA
23	252-102	PSD LOCKNUT 141-1/2	1	EA
24	650-610	PSD PUMP MOUNTING BRACKET	1	EA
25	285-17	PSD PUMP 1 1/2" 115/50/30	1	EA
26	385-062	MADISON 21638 LEVEL SW. M5600-1/24	1	EA
27	385-067	SINGLE FLOAT LEVEL CONT. SW.	1	EA
28	545-412	BUCKET STRAINER 1" PLASTIC	1	EA
29	519-217	1" M x 1/2" F BRASS PUSHING	1	EA
30	535-153	NIPPLE 1/2 x 3 S.S.	1	EA
31	531-116	ELBOW 1/2" S.S.	1	EA
32	599-144	1/2" x 1/2" S.S. SWAGE CONN	1	EA
33	589-147	PSD SWAGELOK ELBOW	1	EA
34				
35	503-312	TUBING 1/2 OD COPPER SOFT	6	FT.
36				
37	535-256	NIPPLE 1/2 x 4 BRASS	2	EA
38	519-204	BUSHING 1/2M x 1/4F BRASS	1	EA
39	531-204	ELBOW 1/4 x 90° BRASS	1	EA
40	535-216	PSD NIPPLE 1/4 x CL	2	EA
41	567-205	PETCOCK 1/4M x 1/4F BRASS	1	EA
42	537-207	PLUG 1/2" BRASS	3	EA
43	535-181	NIPPLE 1" x 3" S.S.	1	EA
44	559-215	BALL VALVE 1" NPT. BRASS	1	EA
45	600-082	EXT. ROD 3/16 x 19" LG. S.S.	1	EA
46	580-240	LOWER FLOAT	1	EA
47	127-054	LEVELING FOOT	4	EA
48	127-152	PSD WELD NUT SF4408	4	EA
49		HEATER COVER	1	EA
50		CLEANOUT PORT	1	EA
51	541-307	SPLIT RING HANGER 1 1/2"	1	EA
52	127-131	WELDSTUD 10-32 x 1/2	4	EA
53	531-118	ELBOW S.S. 1/2M x 1/2F x 90°	1	EA
54	354-100	EXTERNAL TOOTH LOCKWASHER	1	EA
55	589-154	PSD SWAGELOK CONN. B1010-1-S	1	EA
56	252-110	HEX NUT 10-32 S.S.	3	EA
57	355-014	SPACER 3/8 O.D. x 2" LG.	2	EA
58	257-193	STRAP	2	EA
59	529-113	1/2 S.S. COUPLING	1	EA
60	519-107	BUSHING 1/4 F x 1/2 M S.S.	1	EA
61	519-109	BUSHING 3/8 x 1/2 S.S.	1	EA
62	531-110	3/8 ELBOW S.S.	1	EA
63	535-136	3/8 x 3" NIPPLE S.S.	1	EA
64	600-080	EXT. ROD 3/16 x 7 3/4 LG. S.S.	1	EA
65				

NOTE

ALL EXTERNAL PLUMBING TO TRANSFER PUMP OPTION SUPPLIED BY CUSTOMER SHOULD BE A MINIMUM OF 5/8" O.D.

BRANSON INSTRUMENTS COMPANY A SUBSIDIARY OF SMITH KLINE & FRENCH LABORATORIES STAMFORD CONNECTICUT	
STILL FINAL ASSEMBLY	
MAT'L SEE DWG.	FINISH
FRAC'T. 2 1/4", DEC. 1, 1955, ANG. 31" UNLESS SPECIFIED	REMOVE BURRS
MODEL T1011W	QTY/UNIT AB SCALE 1/4"
ORDER NO.	CUST.
PRODUCT NO.	STOCK NO.
D'WH KL DATE 1/2/56	D'WH NO.
APYB J.P. DATE 1/2/56	D12142 E

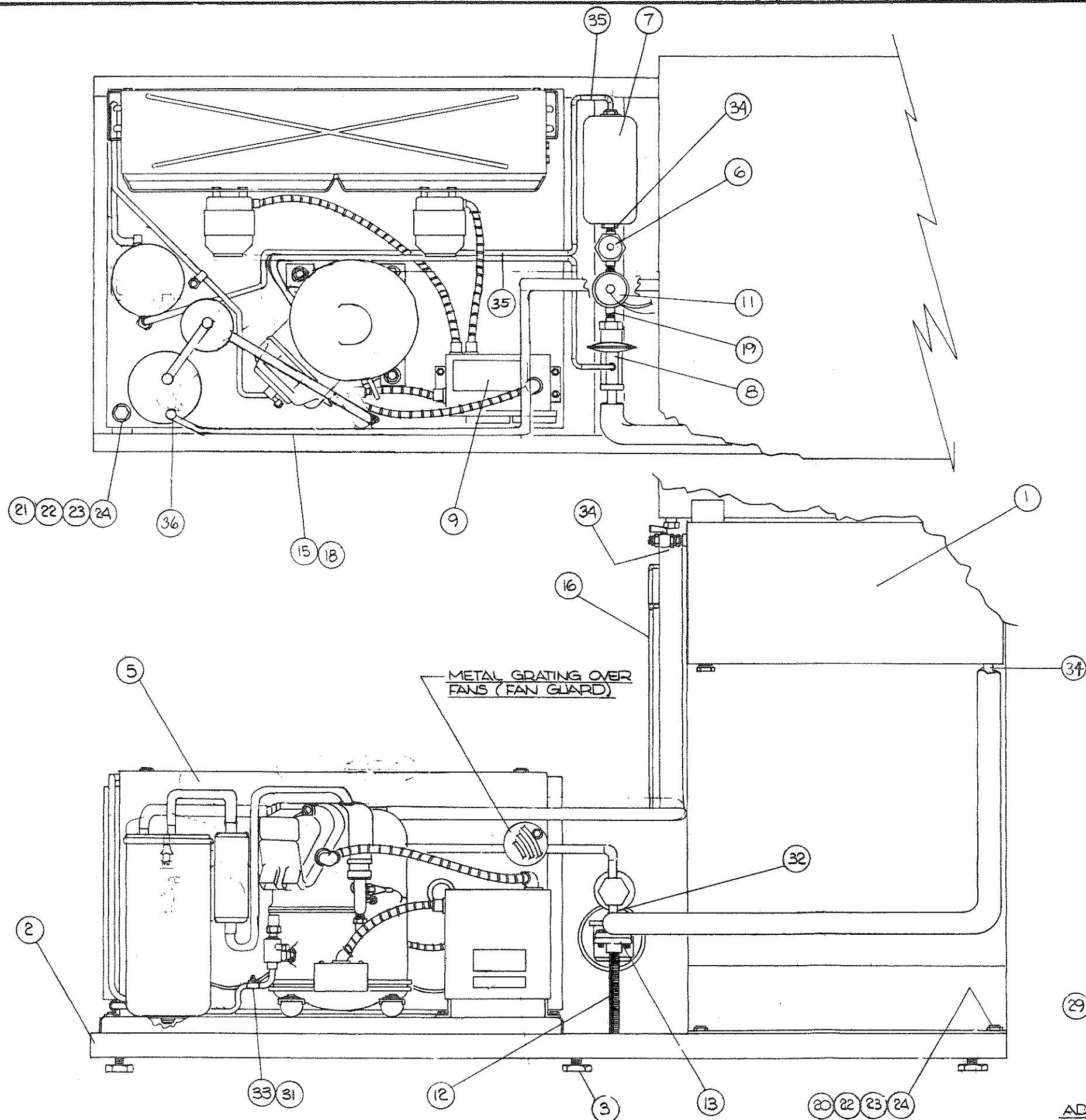


UNIT 110,111,120,121 STILL'S			
NO	DESCRIPTION	PART NO	QTY/UM
1	S. SWAGE ELBOW	589-147	1 EA
2	S. SWAGE CONN. B-810-1-8	589-144	1 EA
3	1" M.F. BRASS BUSHING	519-211	1 EA
4	PSD PUMP L-G 2MD4C	285-120	1 EA
5	PLUG BR.	537-209	1 EA
6	PLASTIC STRAINER 1"	545-412	1 EA
BRASS			
1	BCRS SWAGE ELBOW	589-247	1 EA
2	BCRS SWAGE CONN. SS-810-8	589-852	1 EA
3	COUPLING SS 1x3/4	529-132	1 EA
4	PSD PUMP L-G 2MD4C	285-130	1 EA
5	PLUG SS	537-109	1 EA
6	PLASTIC STRAINER 1"	545-412	1 EA
ST. STL.			
1	PSD SWAGE ELBOW	589-139	1 EA
2	PSD SWAGE CONN.	589-132	1 EA
3	BCRD BUSHING BR	519-212	1 EA
4	PSD PUMP	285-003	1 EA
5	PLUG BR	537-209	1 EA
6	S BUCKET STRAINER BR 3/4	546-207	1 EA
PERCHLOR			
UNITS 130,131,140,141 STILL'S			
1	S SWAGE ELBOW	589-157	1 EA
2	S SWAGE CONN.	589-154	1 EA
BRASS			
4	PSD PUMP	285-075	1 EA
5	PLUG BR	537-211	1 EA
6	PLASTIC STRAINER 1"	545-412	1 EA
BRASS			
1	BCRS SWAGE ELBOW	589-257	1 EA
2	BCRS SWAGE CONN.	589-254	1 EA
ST. STL.			
4	PSD PUMP	285-075	1 EA
5	PLUG SS	537-111	1 EA
6	PLASTIC STRAINER 1"	545-412	1 EA
ST. STL.			
1	PSD SWAGE ELBOW	589-139	1 EA
2	PSD SWAGE CONN.	589-132	1 EA
3	BCRD BUSHING BR	519-212	1 EA
4	PSD PUMP	285-003	1 EA
5	PLUG BR	537-211	1 EA
6	S BUCKET STRAINER BR 3/4	546-207	1 EA
PERCHLOR			

UNIT 110,111,120,121 STILL'S			
NO	DESCRIPTION	PART NO	QTY/UM
1	PSD SWAGE CONN. B-1010	589-154	5 EA
2	PSD MACH. DESICCATOR	701-012	1 EA
3	NIPPLE BRASS 1/2xCL	535-250	1 EA
4	B125/PSD CAP 1/2	525-206	1 EA
5	PLUG BRASS 1/2	537-207	1 EA
6	CAP BRASS 1/2	525-206	1 EA
BRASS			
UNIT 130,131,140,141 STILL'S			
1	PSD SWAGE CONN. B-1210	589-166	4 EA
2	PSD MACH. DESICCATOR	701-013	1 EA
3	NIPPLE BRASS 1/2xCL	535-250	1 EA
4	B125/PSD CAP 1/2	525-206	1 EA
5	PLUG BRASS 1/2	537-207	1 EA
6	CAP BRASS 3/4	525-208	1 EA
7	PSD SWAGE CONN. B1010	589-154	1 EA
BRASS			

UNIT 110,111,120,121 STILL'S			
NO	DESCRIPTION	PART NO	QTY/UM
1	PSD PETCOCK BR 1/4Mx1/4F	567-205	1 EA
2	PSD/BC BALL VALVE BR 1" F	559-215	1 EA
3	PLUG BRASS 1/2	537-207	1 EA
4	PSD SWAGE CONN. B-1010	589-154	2 EA
5	PSD SWAGE CONN. B-1010	589-154	1 EA
6	PSD SWAGE CONN. B-1010	589-154	1 EA
BRASS			
1	PSD PETCOCK SS 1/4Mx1/4F	567-107	1 EA
2	PSDS BALL VALVE SS 1" F	559-111	1 EA
3	PSDS PLUG SS 1/2	537-107	1 EA
4	PSD SWAGE CONN. B-1010	589-154	1 EA
5	PSD SWAGE CONN. B-1010	589-154	1 EA
6	TW SWAGE CONN. SS-1010	589-254	1 EA
ST. STL.			
UNIT 130,131,140,141 STILL'S			
1	PSD PETCOCK BR 1/4Mx1/4F	567-205	1 EA
2	S BALL VALVE BR 1/4 F	559-217	1 EA
3	PLUG BRASS 1/2	537-207	1 EA
4	S SWAGE CONN. B-1210	589-166	2 EA
5	PSD SWAGE CONN. B1010	589-154	1 EA
6			
BRASS			
1	PSDS PETCOCK SS 1/4F x 1/4F	567-107	1 EA
2	SS BALL VALVE 1/4	559-112	1 EA
3	PSDS PLUG SS 1/2	537-107	1 EA
4	S SWAGE CONN. B1210	589-166	2 EA
5	PSD SWAGE CONN. B-1010	589-154	1 EA
6	S SWAGE CONN. SS 1210	589-266	1 EA
ST. STL.			

DATE	1-85	BY	WJ
PROJECT	110-141 STILL'S	SCALE	AS SHOWN
DESCRIPTION	PLUMBING DIAGRAMS	ORDER NO.	
REV	1	DATE	1-85
REV	2	DATE	1-85
REV	3	DATE	1-85
REV	4	DATE	1-85
REV	5	DATE	1-85
REV	6	DATE	1-85
REV	7	DATE	1-85
REV	8	DATE	1-85
REV	9	DATE	1-85
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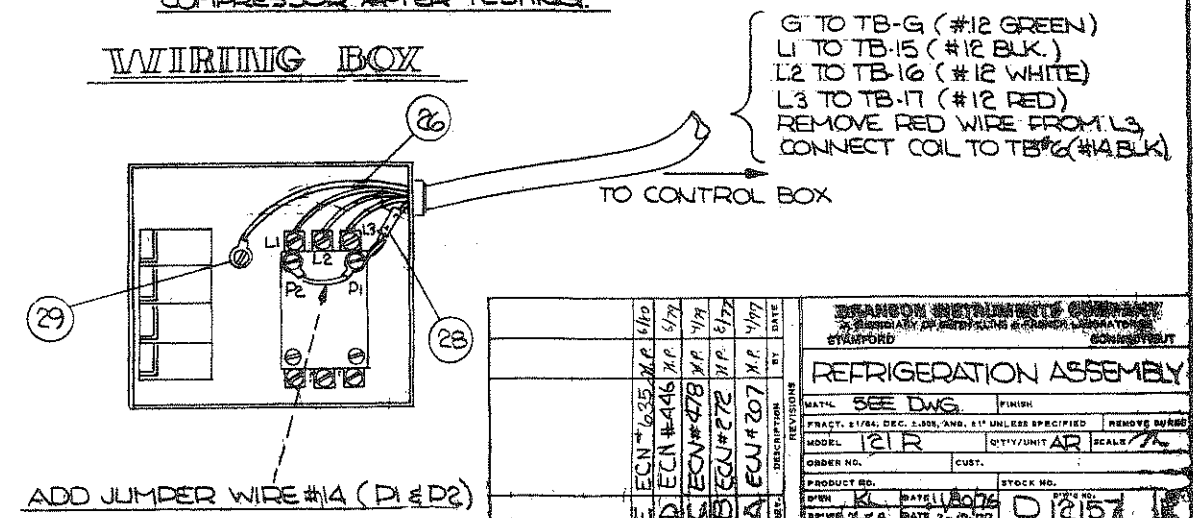


No	PART NO	DESCRIPTION	QTY	UM
1	937-121	TANK ASSEMBLY	1	EA
2	721-302	FRAME	1	EA
3	127-054	LEVELING FOOT	4	EA
4	490-275	WIRE #12 RED STR.	10	FT.
5	573-612	TECLIMSEH CONDENSING UNIT	1	EA
6	513-108	MOISTURE INDICATOR SA-K/S (1/2" ODF)	1	EA
7	513-204	FILTER DRYER C3045 (1/2" ODF)	1	EA
8	513-431	DISCHARGE BY-PASS VALVE SPORLAN	1	EA
9	230-105	REFRIGERATION LABEL	1	EA
10	230-120	REFRIGERATION TAG (NOT SHOWN)	1	EA
11	513-422	SPORLAN EXPANSION VALVE SFE-3-CR6	1	EA
12	505-206	THREADED ROD 1/2-13x6	.3	EA
13	541-510	SPLIT RING HANGER 2 1/2" GAL.	1	EA
15	513-001	REFRIGERATION INSULATION	4	FT.
16	503-304	TUBING SOFT COPPER 1/4 O.D.	6	FT.
18	503-315	TUBING SOFT COPPER 5/8 O.D.	8	FT.
19	503-319	TUBING HARD COPPER 3/4 O.D.	.5	FT.
20	348-199	3/8-16 x 1 1/2 HEX BOLT ZPS	4	EA
21	348-217	3/8-16 x 2 1/2 HEX BOLT ZPS	4	EA
22	352-115	3/8-16 HEX NUT ZPS	15	EA
23	354-060	3/8 FLAT WASHER ZPS	8	EA
24	354-066	3/8 SPLIT LOCKWASHER ZPS	9	EA
25	490-276	WIRE #12 TW STR. BLK.	10	FT.
26	490-274	WIRE #12 TW STR. GRN.	6	FT.
27	490-283	WIRE #14 TW STR. BLK.	12	FT.
28	400-014	LUG B4071 BLUE SPRUCE	2	EA
29	400-022	LUG 121028-10P YELLOW	8	EA
31	529-325	COUPLING 3/4x1/2 C	7	EA
32	547-213	COPPER TEE 3/4 x 1/2 x 3/4	1	EA
33	547-308	COPPER TEE 1/2	1	EA
34	529-318	1/2 COUPLING	2	EA
35	503-312	COPPER TUBE 1/2" O.D. x .035	7	FT.
36	523-310	3/4 FTG x 1/2 C EX. BUSHING	1	EA

NOTES

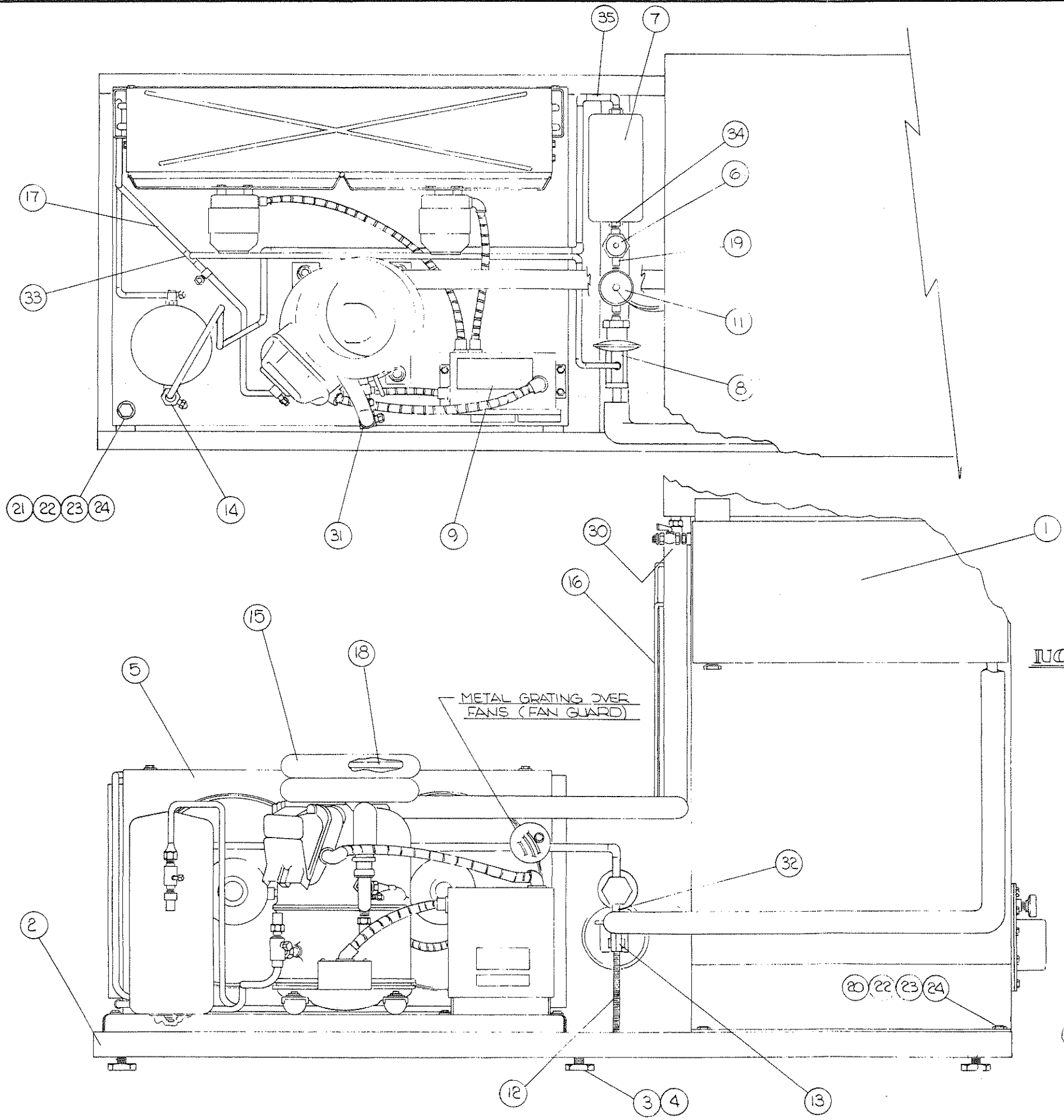
- 1) REFRIGERATION SYSTEM CAPACITY - 10 LB. CHARGE OF R12
- 2) ALL CONNECTIONS TO BE SILVER BRAZED WITH NITROGEN SWEEP THROUGH TUBING
- 3) CONNECT NITROGEN HOSE TO RESPECTIVE SERVICE VALVES WHEN BRAZING HIGH AND LOW SIDES
- 4) PRIME AND PAINT BLUE
- 5) INSULATE ALL PIPING WITH "ARMSTRONG" ARMAFLEX OR EQUIVALENT; USE DOUBLE FLARING TOOL ON STEEL TUBING
- 6) ADD SHIPPING BLOCKS (A1206'S) UNDER REFRIGERATION COMPRESSOR AFTER TESTING.

WIRING BOX



REV	DESCRIPTION	BY	DATE
1	ECN # 635	W.P.	1/10
2	ECN # 446	W.P.	1/17
3	ECN # 478	W.P.	1/18
4	ECN # 272	W.P.	1/27
5	ECN # 207	W.P.	1/17

FRAC. 5/164	DEC. 2/28	AND. 1/11	UNLESS SPECIFIED	REMOVE NUM.
MODEL 121R	QTY/UNIT	AP	SCALE	1/4
ORDER NO.	CUST.	PRODUCT NO.	STOCK NO.	
DWY	K	MATL	1/10/76	D 12157



NO	PART NO	DESCRIPTION	QTY	UNIT
1	937-120	TANK ASSEMBLY	1	EA
2	721-202	FRAME	1	EA
3	127-054	LEVELING FOOT	4	EA
4	490-275	WIRE #12 TW STR. RED	6	FT
5	513-210	TECHNICAL COND. INLET KIT	1	EA
6	513-107	MO. ET. FL. IND. VALVE 3A-135 (3/8 OD)	1	EA
7	513-202	FILTER DRYER 1635 (3/8 OD)	1	EA
8	513-431	DISCHARGE BYPASS VALVE	1	EA
9	230-102	REFRIGERATION LABEL	1	EA
10	230-120	REFRIGERATION TAG (NOT SHOWN)	1	EA
11	513-425	EXPANSION VALVE SPORLAN SPE-2-0260	1	EA
12	503-106	THREADED ROD 1/2-12 x 6	1	EA
13	503-10	SPLITTING HANGER 2 1/2 GAL	1	EA
14	513-216	REFRIGERATION FLARE NUT 1/2" OD	1	EA
15	503-001	REFRIGERATION INSULATION	3	EA
16	503-304	TUBING SOFT COPPER 1/4 OD	3	FT.
17	503-312	TUBING SOFT COPPER 1/2 OD	3	FT.
18	503-315	TUBING SOFT COPPER 5/8 OD	8	FT.
19	503-319	TUBING HARD COPPER 3/4 OD	5	FT.
20	348-199	HEX BOLT 3/8-16 x 1/2 ZPS	4	EA
21	348-217	HEX BOLT 3/8-16 x 2 1/2 ZPS	1	EA
22	352-115	HEX NUT 3/8-16 ZPS	14	EA
23	354-060	FLAT WASHER 2/8 ZPS	3	EA
24	354-066	SPLIT LOCKWASHER 3/8 ZPS	8	EA
25	490-276	WIRE #12 TW STR. BLK	10	FT
26	490-274	WIRE #12 TW STR. GRN.	6	FT
27	490-283	WIRE #14 TW STR. BLK.	12	FT.
28	400-014	LUG E4071 BLUE SPICE	2	EA
29	400-022	LUG 121028-10D YELLOW	8	EA
30	521-308	FLUSH BUSHING 3/4 FTG. x 1/2C	1	EA
31	521-313	FLUSH BUSHING 1" FTG. x 3/4C	1	EA
32	547-219	COPPER TEE 3/4 x 1/2 x 1/2	1	EA
33	547-308	COPPER TEE 1/2	1	EA
34	529-318	1/2 COUPLING	1	EA
35	503-312	COPPER	4	FT

- NOTES:**
- 1) REFRIGERATION SYSTEM CAPACITY = 12 LB. CHARGE OF R12.
 - 2) ALL CONNECTIONS TO BE SILVER BRAZED WITH NITROGEN SWEPT THROUGH TUBING.
 - 3) CONNECT NITROGEN HOSE TO RESPECTIVE SERVICE VALVES WHEN BRAZING HIGH & LOW SIDES.
 - 4) PRIME & PAINT BLUE.
 - 5) INSULATE ALL PIPING WITH "ARMSTRONG" ARMAFLEX OR EQUIVALENT. USE DOUBLE FLARING TOOL WHERE APPLICABLE.
 - 6) ADD SHIPPING BLOCKS (A12065) UNDER REFRIGERATION COMPRESSOR AFTER TESTING.



REV. NO.	DATE	DESCRIPTION	BY
1	12/16	REVISED	AW
2	1/17	REVISED	AW
3	3/17	REVISED	AW

BRANSON INSTRUMENTS COMPANY
 A SUBSIDIARY OF SMITH KLINE & FRENCH LABORATORIES
 STAMFORD, CONNECTICUT

REFRIGERATION ASSEMBLY

MAT'L: SEE L.V.G. FINISH: UNLESS SPECIFIED REMOVE BURRS

FRACT. 11764, DEC. 1965, ANG. 1" UNLESS SPECIFIED

MODEL: 120R CTT/UNIT: AR SCALE: 1/2"

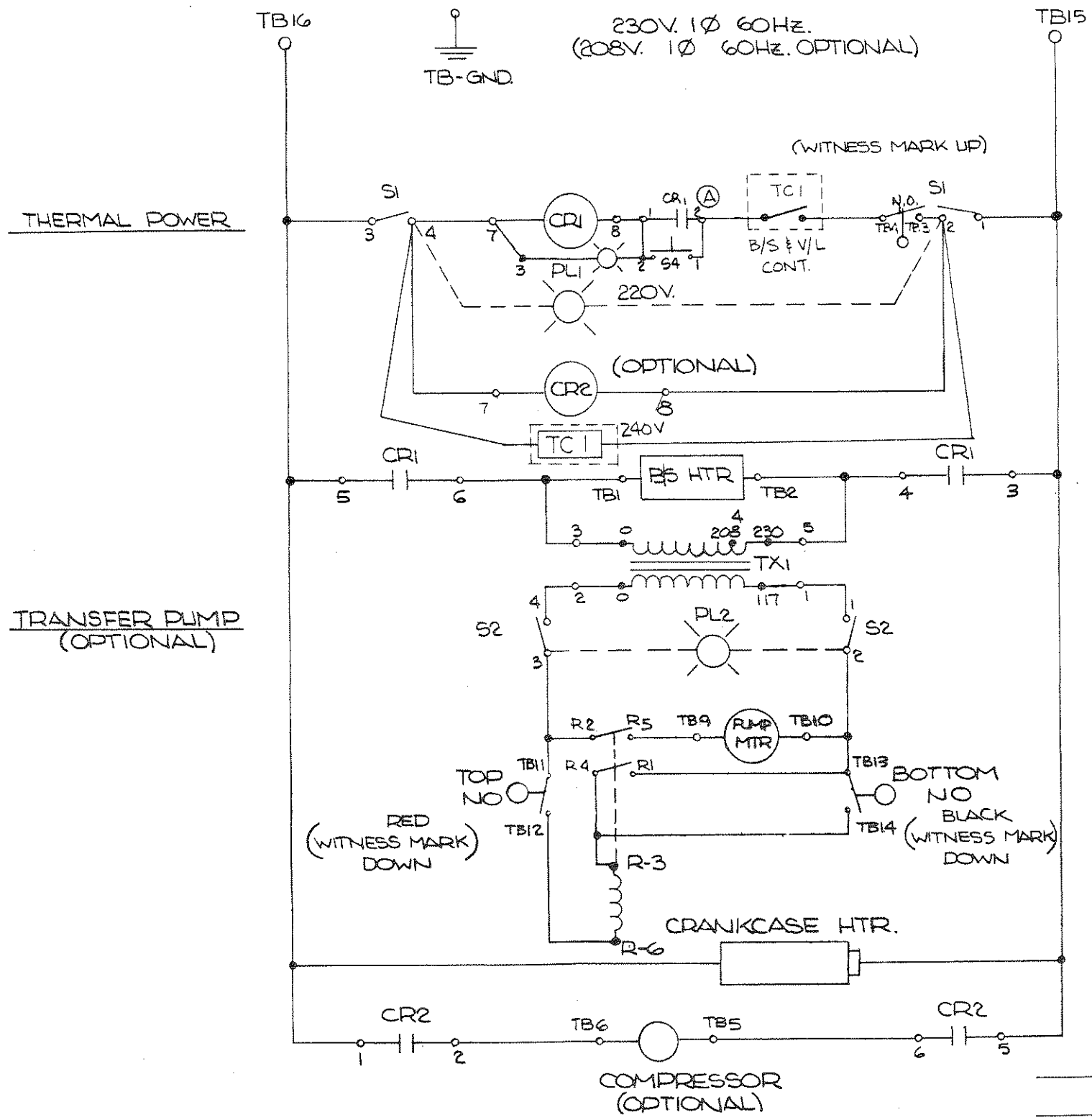
ORDER NO. _____ CUST. _____

PRODUCT NO. _____ STOCK NO. _____

D'PN: K DATE: 12/16

AP'VD: JI DATE: 3/17

D12156

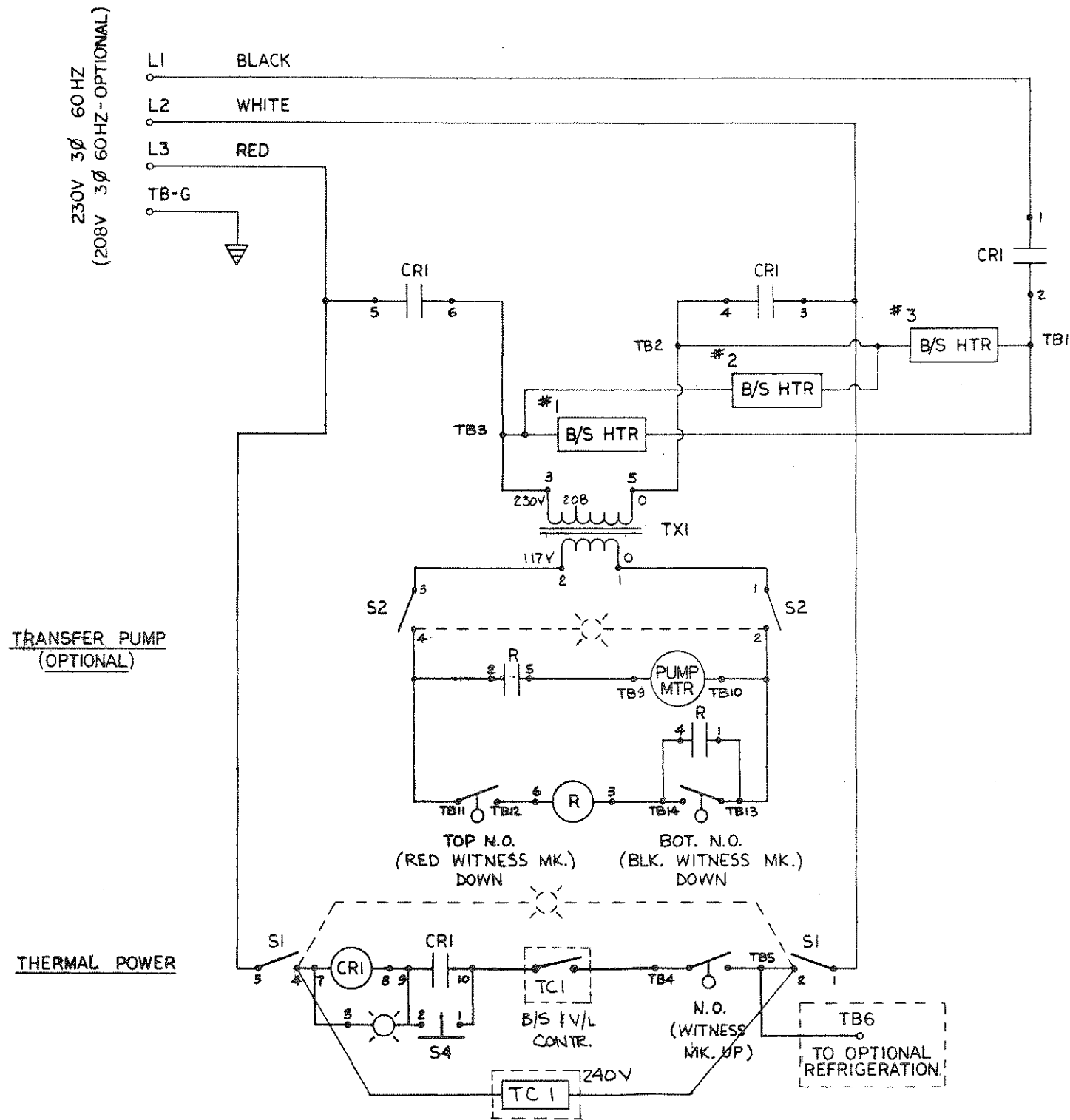


NOTES

- 1) 208VOLT UNIT 1 PHASE
 - a) TRANSFORMER PRIMARIES SET FOR 208V.
 - b) B/S HEATER CHANGED
- 2) 50 HZ. UNITS ARE OPTIONAL
- 3) TRANSFER PUMP - DOUBLE FLOAT SWITCH SHOWN NO. WHEN TANK IS IN FULL POSITION.
- 4) FOR REFRIG. STEAM UNITS ONLY REMOVE B/S HEATERS AND WIRE STEAM SOLENOID TO TB1, TB2. REPLACE B/S SENSOR W/ 11 K RES.
- 5) SEE DWG. A 14652 FOR TCI WIRING.

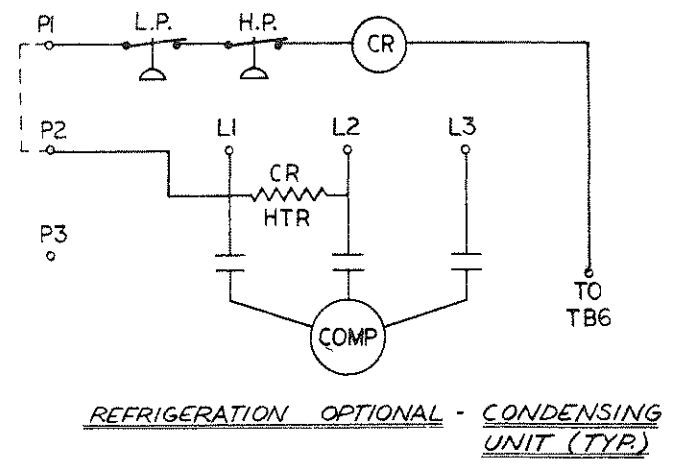
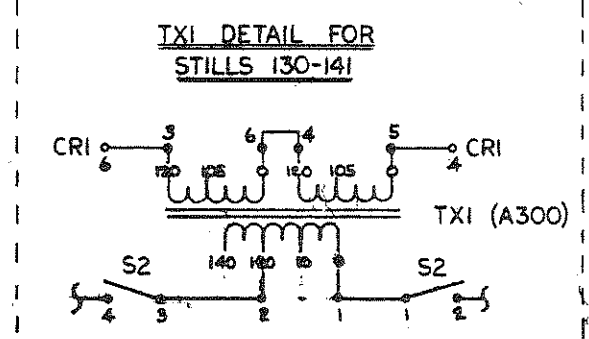
REVISIONS				DATE	
REV.	DESCRIPTION	BY	DATE	REV.	DATE
E	ECN # 1254	PM	7/88		
D	ECN # 1098	JH	7/87		
U	correct error	J.P.	7/76		
D	ECN # 399	X.P.	7/76		
A	RETRACTED FROM TO I.C. ECN # 25	J.P.	7/76		

BRANSON INSTRUMENTS COMPANY A SUBSIDIARY OF SMITH KLINE & FRENCH LABORATORIES STAMFORD CONNECTICUT	
STILL WIRING SCHEMATIC	
MAT'L	SEE DWG.
FRACT.	11/84, DEC. 1, 1985, ANG. 11' UNLESS SPECIFIED
MODEL	110,111 WR
ORDER NO.	CUST.
PRODUCT NO.	STOCK NO.
D'WN	DATE 7/27/76
AP'D	DATE 11/11/76
C12082 E	



TRANSFER PUMP
(OPTIONAL)

THERMAL POWER

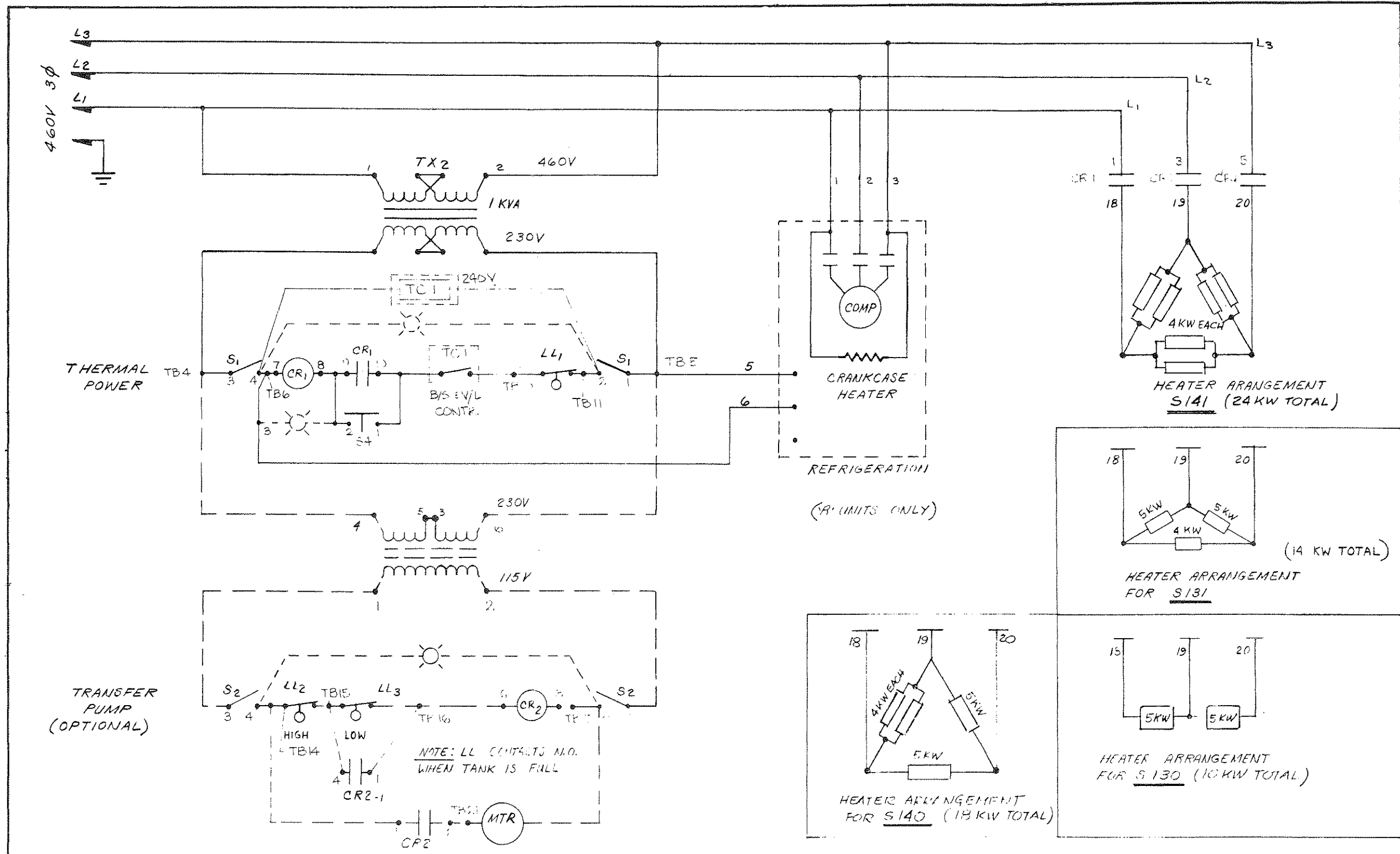


NOTES :

- 1) FOR REFRIGERATED STEAM UNITS ONLY : REMOVE B/S HEATERS AND PARALLEL STEAM SOLENOID WITH COIL OF CRI. REPLACE B/S SENSOR W/ 11K Ω RES.
- 2) 208 VOLT UNITS, 3 PHASE :
A) TRANSFORMER PRIMARIES SET FOR 208V.
B) B/S HEATERS CHANGED.
- 3) TRANSFER PUMP - DOUBLE FLOAT SWITCH SHOWN N.O. WHEN TANK IS IN FULL POSITION.
- 4) TB1, 2, 3 ARE NOT USED ON S130-141. CONNECT WIRES TO CRI-2, 4, 6.
- 5) SEE DWG. A14652 FOR TCI WIRING.

REVISIONS		DATE	BY	APP'D
1	ECN # 1284	JUN 1987	JH	
2	ECN # 1098	JAN 1987	JH	
3	REV. & CORN. BY TP	5/16	TP	
4	PER ECN 605			

BRANSON CLEANING EQUIPMENT COMPANY PARROTT DRIVE • SHELTON, CONN 06484		BRANSON a Smith Barney Company	
STILL WIRING SCHEMATIC			
MODEL: 120-141	CUSTOMER:	DATE: 5-2-80	ISSUE NO:
ORDER NO.:	CUSTOMER:	DATE: 5-2-80	ISSUE NO:
DATE: 5-2-80	ISSUE NO:	DATE: 5-2-80	ISSUE NO:
DATE: 5-2-80	ISSUE NO:	DATE: 5-2-80	ISSUE NO:



THERMAL POWER

TRANSFER PUMP (OPTIONAL)

REFRIGERATION ('R' UNITS ONLY)

HEATER ARRANGEMENT S141 (24 KW TOTAL)

HEATER ARRANGEMENT FOR S131 (14 KW TOTAL)

HEATER ARRANGEMENT FOR S140 (18 KW TOTAL)

AMPERAGE CHART

MODEL	'W' UNITS	'R' UNITS	TRANSFER PUMP OPTION
S-130	21A	30A	+1A
S-131	21A	39A	+1A
S-140	27A	44A	+1A
S-141	32A	N/A	+1A

SEE DWG. A142 FOR TCI WIRING
SEE DWG. A142 FOR TCI WIRING (PERCHLOR)

BRANSON CLEANING EQUIPMENT COMPANY
PARROTT DRIVE • SHELTON CONN 06484

BRANSON
a Smithline company

WIRING DIAGRAM (460V)

MODEL S-130, 131, 140, 141

ORDER NO. _____ CUSTOMER _____

MATL. _____ FINISH _____

DWN. *WJS* DATE 3.7.79 PART NO. _____ SCALE _____

CHKD. *Boys* DATE 3.8.79 SCALE _____

APPVD. _____ DATE _____

REV. DESCRIPTION BY DATE

A ADDED S130, 141 AMP. CHART. *WJS* 11-5-79

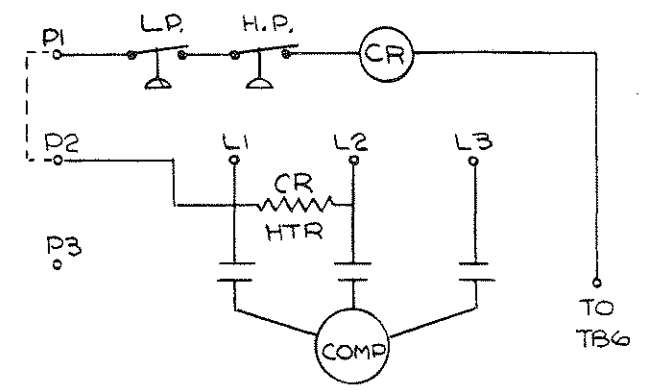
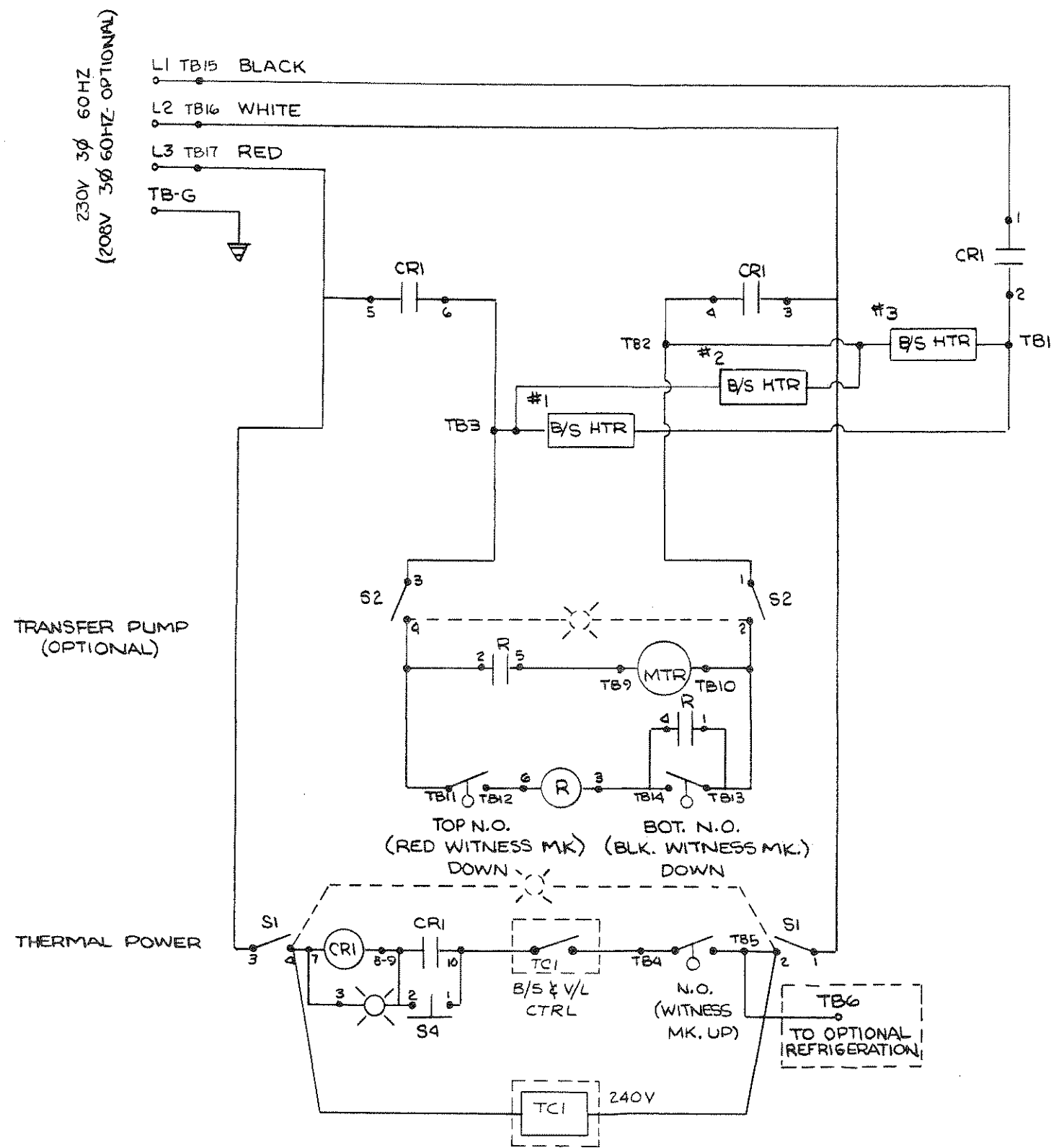
REVISIONS

DATE 3.7.79

SCALE _____

DWG. NO. C51-1730

REV. _____



REFRIGERATION OPTIONAL
CONDENSING UNIT TYP.

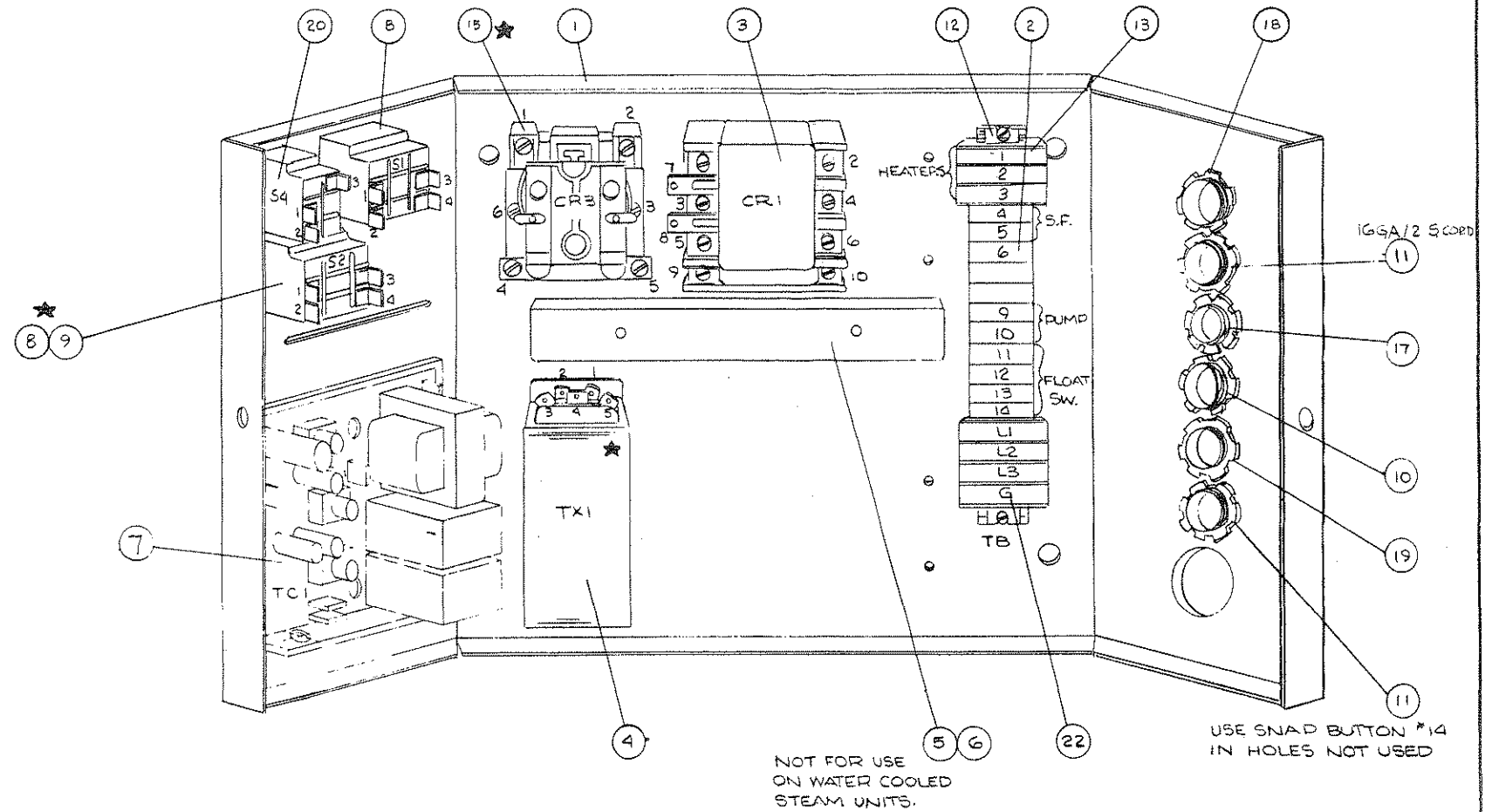
NOTES:

- 1) 208 VOLT UNIT, 3 PHASE
B/S HEATERS CHANGED.
- 2) TRANSFER PUMP - DOUBLE FLOAT SWITCH
SHOWN N.O. WHEN TANK IS IN FULL
POSITION.
- 3) TB1, 2, 3 ARE NOT USED ON S130-141
CONNECT WIRES TO CR1-2, 4, 6.
- 4) SEE DWG A14650 FOR TCI WIRING

REVISIONS		DATE	
REV	DESCRIPTION	BY	DATE
C	ECN # 1366	CM	10/85
B	ECN # 1260	JH	7/83
A	REWORK	JH	1/81

BRANSON CLEANING EQUIPMENT COMPANY PARROTT DRIVE • SHELTON, CONN 06484		BRANSON a Smithline company	
STILL WIRING SCH. (PERC. OPTION)			
MODEL: 120-141	QTY/UNIT		
ORDER NO:	CUSTOMER		
MATL:	FINISH		
DWN: J.WILLIAMS	DATE: 11-13-81	PART NO:	
CHKD:	DATE:	SCALE:	DWG NO:
APPVD: JSP	DATE: 11/17/81	SCALE: NONE	DWG NO: C12348
			REV: C

Nº	WIRE FROM	WIRE TO	COLOR	LENGTH	RECED	WIRES GA
UNITS LESS OPTIONS (SEE WIRING DWG C12083)						
1	L2	CR1-3	WHITE	12	0-8P	8
2	L1	CR1-1	BLACK	14 1/2	0-8P	8
3	L3	SI-3	RED	19	0-1/4	16
4	SI-4	CR1-7	YELLOW	18	1/4-1/4	16
5	L3	CR1-5	RED	13	0-8P	8
6	L2	SI-1	WHITE	20	0-1/4	16
7	CR1-9	CR1-8	BLK/PURP/WHT	4	1/4-10P	16
8	CR1-9	S4-2	BLK/PURP/WHT	18	1/4-1/4	16
9	TB6	CHASSIS	GREEN	8	0-8P	8
10						
11						
12	TB5	SI-2	BLU/WHT	21	0-1/4	16
13	TB2	CR1-4	WHITE	6	0-8P	8
14	TB1	CR1-2	BLACK	6	0-8P	8
15	TB3	CR1-6	RED	5	0-8P	8
16	S4-3	CR1-7	YELLOW	18	1/4-10P	16
17						
18	CR1-10	S4-1	BLK/PUR/WHT	18	1/4-1/4	16
19						
20						
STEAM OPTION - WATER COOLED ONLY (SEE WIRING DWG C12957)						
1	L2	CR1-5	BLACK	13	0-8P	16
2	L2	SI-3	BLACK	19	0-1/4	16
3	SI-4	CR1-7	YELLOW	23	1/4-8P	16
4	TB1	CR1-7	YELLOW	16	0-8P	16
5						
6	TB2	CR1-8	YEL/WHT	14	0-8P	16
7						
8	TB3	SI-2	GRY/WHT	2 1/2	0-1/4	16
9	L1	CR1-3	BLACK	8	0-8P	16
10		SI-1		21	0-1/4	16
11						
12	TB6	CHASSIS	GREEN	10 1/2	0-8P	16
13	S4-1	CR1-2	YEL/WHT	18	1/4-10P	16
14	S4-2	CR1-1	YEL/WHT	18	1/4-10P	16
15	S4-3	CR1-7	YELLOW	18	1/4-10P	16
16	CR1-1	CR1-8	YEL/WHT	4	10P-10P	16
17						
18						
19						
20						
REFRIG. OPTION						
TRANSFER PUMP OPTION						
1	TX1-5	CR1-4	BLACK	18	1/4-0	16
2	TX1-3	CR1-6	WHITE	16	1/4-0	16
3	TX1-1	S2-1	BLK/WHT	10	1/4-1/4	16
4	TX1-2	S2-4	BRN/WHT	10	1/4-1/4	16
5	TB12	R6	BLU/WHT	16	0-10P	16
6	TB14	R3	GRY/WHT	16	0-10P	16
7	R3	R4	BROWN	4	10P-10P	16
8	TB13	R1	YELLOW	16	0-10P	16
9	TB11	R2	YEL/WHT	16	0-10P	16
10	TB9	R5	BLUE	16	0-10P	16
11	TB10	TB13	PURPLE	4	0-0	16
12	S2-3	R2	TAN/WHT	6 1/2	1/4-10P	16
13	S2-2	R1	BLK/PURP/WHT	19	1/4-10P	16



★ TRANSFER PUMP OPTION ONLY

Nº	PART Nº	DRAWING Nº	DESCRIPTION
1	650-573	D11861	PLD CONTROL BOX
2	404-054		TERM. BLK A&B #1492-F1 (9)
3	310-005		PSD CTR 4P/40A/208-240V
4	447-155	C11696	TRANSFORMER 180W
5	594-100		WIRE DUCT 1X1 CHASE 91000
6	594-101		DUCT COVER CHASE 90011
7	405-022	B14091	TEMPERATURE CONTROLLER - 13
24	650-550	A14040	BRACKET, TEMP CONTR.
8	385-107	A11449	SWITCH DP LTIGK51
9	650-676		HOLE TITE AS100-1
10	599-003		CONNECTOR 3302 3/8x1/2
11	599-005		BX CONNECTOR 25SCREWS (1)
12	404-055		A&B MTG CHAN. 1492 NI (8)
13	404-056		TERM. BLK A&B 1492-CA1 (3)
14	127-028		PSD SNAP BUTTON
15	310-016		RELAY P&B PR7AY
16	404-050		PSD END BARRIER 1492
17	593-124		3/4" SEALTITE ELBOW
18	593-108		SEALTITE STRAIGHT ADAPTOR 3/4"
19	593-104		SEALTITE STRAIGHT ADAPTOR 5/8"
20	385-190		CARL" START SWITCH
21	230-043		FRONT LABEL WITHOUT PUMP
22	404-058		TERM. BLOCK #1492 CE2 (4)REG
23	230-045		FRONT LABEL WITH PUMP

NOTES

- ALL WIRES WILL BE STRIPPED 1/4 INCH ON BOTH ENDS. RECEPTICLE 1/4": AMD 41274 P/N 400-084 8PIN RECEPTICLE: LUG 121028-8P P/N 400-022 10 PIN RECEPTICLE: LUG 161437-10P P/N 400-012 SPICE 89071 P/N 400-014
- USE (1) 1/4 AMP TAP FOR TWO WIRES
- SEE DWG. A14653 FOR TCI WIRING.

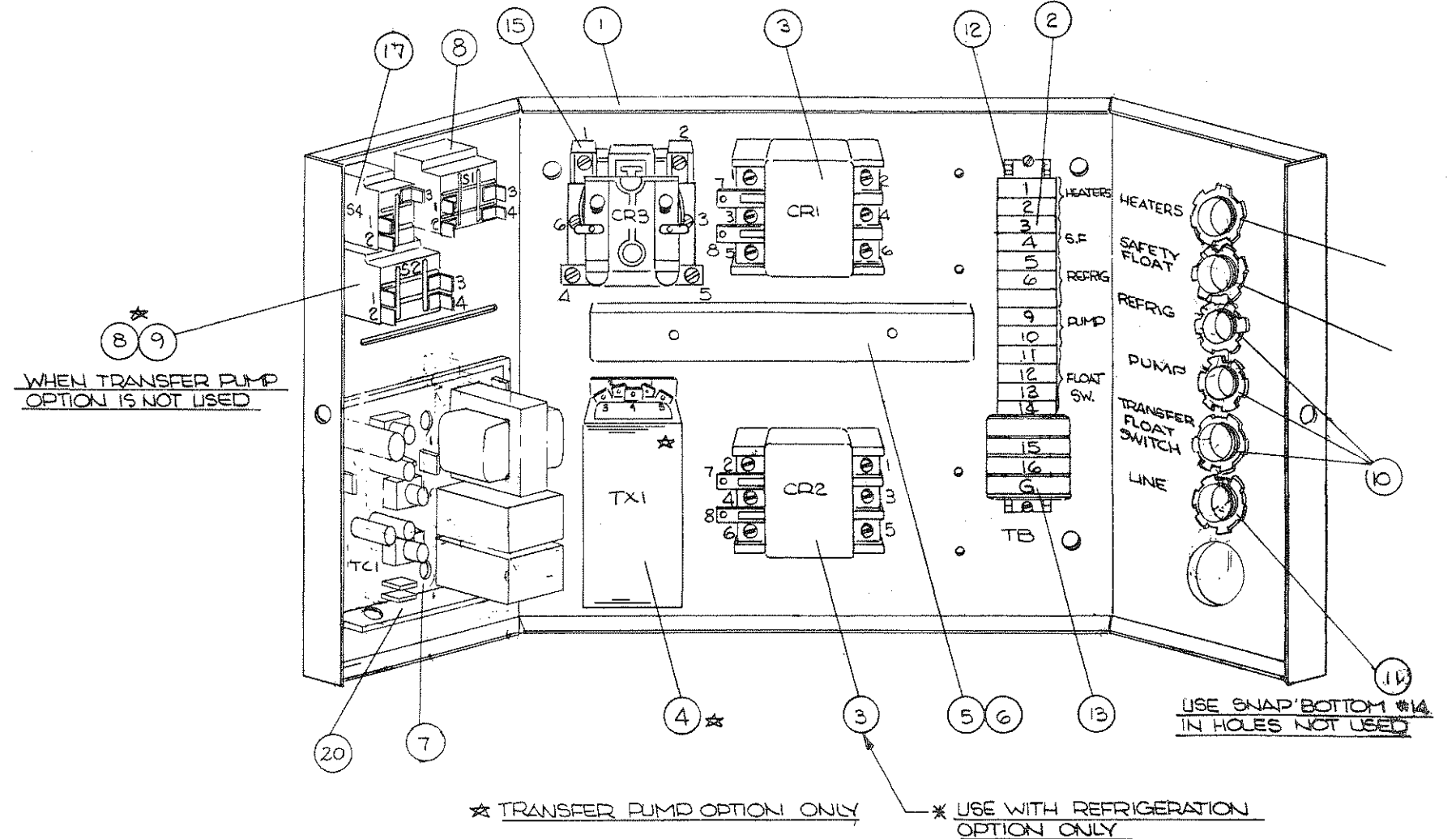
BRANSON CLEANING EQUIPMENT COMPANY PARROTT DRIVE • SMELTON, CONN. 06484		BRANSON a Smith Barney Company	
STILL CONTROL BOX MAIN COMPONENTS & WIRING			
MODEL: 120 # 121		OPTION: AR	
ORDER NO:	DATE: 9-4-81	PART NO:	REV: 0
DATE: 11/1/81	SCALE: 1/2"	REV: 0	REV: 0
DATE: 11/1/81	SCALE: 1/2"	REV: 0	REV: 0

NR.	WIRE FROM	WIRE TO	COLOR	LENGTH	RECEPT	WIRE GA.
UNITS LESS OPTIONS (SEE WIRING DWG. C12082)						
1						
2	S4-3	CR1-7	YELLOW	18	1/4-10P	16
3	S4-2	CR1-1	BLK/PUR/WHT	18	1/4-10P	16
4	S4-1	CR1-2	BLK/PUR/WHT	18	1/4-10P	16
5	TB16	CR1-5	BLACK	14 1/2	0-8P	12
6	TB16	SI-3	BLACK	19	0-1/4	16
7	TB1	CR1-6	BLACK	6	0-8P	12
8	TB15	CR1-3	WHITE	13	0-8P	12
9	TB15	SI-1	WHITE	20	0-1/4	16
10	TB2	CR1-4	WHITE	5	0-8P	12
11	TB3	SI-2	GRAY/WHT.	20	0-1/4	16
12	TB6	CHASSIS	GREEN	6	0-8P	12
13	SI-4	CR1-7	YELLOW	18	1/4-1/4	16
14	CR1-8	CR1-1	BLK/PUR/WHT	4	1/4-10P	16

STEAM OPTION - WATER COOLED UNITS ONLY (SEE WIRING DWG. C12457)						
1	TB16	CR1-5	BLACK	13	0-8P	16
2	TB16	SI-3	BLACK	19	0-1/4	16
3	TB15	CR1-3	WHITE	8	0-8P	16
4	TB15	SI-1	WHITE	21	0-1/4	16
5	TB6	CHASSIS	GREEN	10 1/2	0-8P	16
6	SI-4	CR1-7	YELLOW	23	1/4-8P	16
7	TB1	CR1-7	YELLOW	16	0-8P	16
8	CR1-8	CR1-1	YELLOW/WHT.	4	10P-10P	16
9	TB2	CR1-1	YELLOW/WHT.	14	0-8P	16
10						
11	TB-5	SI-2	GRAY/WHT	21 1/2	0-1/4	16
12						
13	S4-1	CR1-2	YELLOW/WHT	20	1/4-10P	16
14	S4-2	CR1-1	BRN/WHT	20	1/4-10P	16
15	S4-3	CR1-7	YELLOW	20	1/4-10P	16

REFRIGERATION OPTIONAL						
1	CR2-1	TB16	BLACK	9 1/2	10P-0	14
2	CR2-6	TB5	WHITE	15	10P-0	14
3	CR2-2	TB6	BLACK	14	10P-0	14
4	CR2-8	SI-2	YEL/WHT	17	1/4-10P	16
5	CR2-7	CR1-7	YELLOW	11	1/4-10P	16
6	CR2-5	TB15	WHITE	10	10P-0	14

TRANSFER PUMP OPTIONAL						
1	TX1-1	S2-1	BLK/WHT.	11	1/4-1/4	16
2	TX1-2	S2-4	BRN/WHT.	10	1/4-1/4	16
3	TB12	CR3-6	BLUE/WHT.	16	0-10P	16
4	TB14	CR3-3	GRAY/WHT.	16	0-10P	16
5	CR3-3	CR3-4	BROWN	4	10P-10P	16
6	TB13	CR3-1	YELLOW	16	0-10P	16
7	TB11	CR3-2	YEL/WHT.	16	0-10P	16
8	TB9	CR3-5	BLUE	16	0-10P	16
9	TB10	TB3	PURPLE	4	0-0	16
10	S2-3	CR3-2	ORA/WHT.	10	1/4-10P	16
11	S2-2	TB10	BLK/BRN/WHT	17	1/4-0	16
12	TX1-3	CR1-6	BLACK	15	1/4-10P	16
13			WHITE	14	1/4-10P	16



PARTS LIST			
NR	PART NR	DRAWING NR	DESCRIPTION
1	650-573	D11861	PLD CONTROL BOX
2	404-054		TERM. BLK. A & B #1492-F1 (13)
3	310-001		RELAY ACC 230UM 220V.
4	447-155	C11692	TRANSFORMER 180W.
5	594-100		WIRE DUCT 1x1 CHASE 91000
6	594-101		DUCT COVER. CHASE 90011
7	408-024	B14091	TEMP. CONTROLLER/SAFETY (1)
8	385-107	A11449	SWITCH DP LTIGKSI (2)
9	650-676		HOLE TITE AS100-1
10	599-003		CONNECTOR 3302 3/8x1/2
11	599-005		BX CONNECTOR 2 SCREWS (1)
12	404-055		A & B MTG. CHAN. 1492-N1 (3)
13	404-053		TERM. BLK. A & B 1492-CAJ (3)
14	127-028		PSD SNAP BUTTON
15	310-016		RELAY P & B DPTAY 120V.
16	404-051		END BARRIER
17	385-190		CARLING START SWITCH
18	075-109		CARLING SW HOLE PLUG (NO PUMP)
19	230-045		FRONT LABEL WITH PUMP
20	650-550	A14090	BRKT. TEMP. CONTR MTG.

NOTES

ALL WIRES WILL BE STRIPPED 1/4 INCH ON BOTH ENDS.
 RECEPTICLE 1/4 : AMP 41274
 P/N 400-084
 8 PIN RECEPTICLE :
 LUG 121028-8P P/N 400-022
 10 PIN RECEPTICLE :
 LUG 161437-10P P/N 400-012
 SPICE BA071 P/N 400-014
 * CR2 USED ON REFRIGERATION OPTION ONLY
 SEE DWG. A 14653 FOR TCI WIRING.

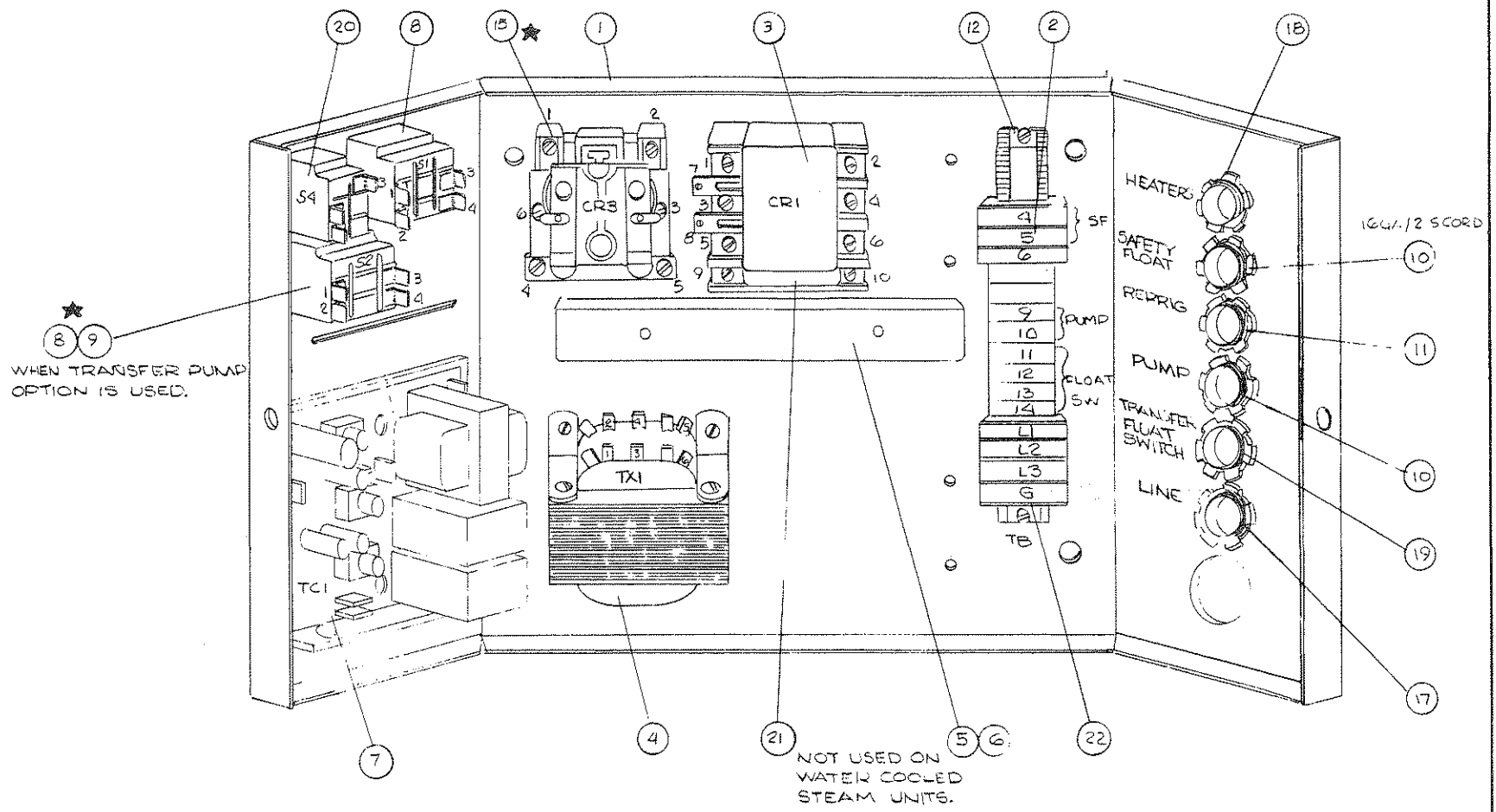
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ECN 1113	PM 1/85	DATE 5/1/85	BY	DATE 5/1/85
ECN 1175	PM 1/85	DATE 5/1/85	BY	DATE 5/1/85
ECN 135	PM 1/85	DATE 5/1/85	BY	DATE 5/1/85
ECN 256	PM 1/85	DATE 5/1/85	BY	DATE 5/1/85
ECN 256	PM 1/85	DATE 5/1/85	BY	DATE 5/1/85
ECN 256	PM 1/85	DATE 5/1/85	BY	DATE 5/1/85
ECN 256	PM 1/85	DATE 5/1/85	BY	DATE 5/1/85

STILL CONTROL BOX
 MAIN COMPONENTS & WIRING
 MODEL 110111
 ORDER NO. 110111
 DATE 5/1/85
 D12122

Nº	WIRE FROM UNITS	WIRE TO	COLOR	LENGTH	RECEPT.	WIRE GA
1	L1	CRI-1	BLACK	17	0-0	6
2	L3	SI-3	RED	18	0-1/4	16
3	SI-4	CRI-7	YELLOW	18	1/4-10P	16
4	L3	CRI-5	RED	16	0-0	6
5	L2	SI-1	WHITE	20	0-1/4	16
6	S4-3	CRI-7	YELLOW	18	1/4-10P	16
7	L2	CRI-3	WHITE	14	0-0	6
8	TBG	CHASSIS	GREEN	10	0-0	6
9						
10						
11	TB5	SI-2	BLU/WHT	20	0-1/4	16
12						
13						
14						
15						
16	CRI-10	S4-1	BLK/PURP/WHT	18	1/4-1/4	16
17	CRI-9	S4-2	BLK/PURP/WHT	18	1/4-10P	16
18	CRI-9	CRI-8	BLK/PURP/WHT	4	1/4-1/4	16
STEAM OPTION - WATER COOLED ONLY (SEE WIRING DWG C12457)						
1	TBG	CHASSIS	GREEN	10 1/2	0-8P	16
2	SI-4	CRI-7	YELLOW	23	1/4-8P	16
3	TB1	CRI-7	YELLOW	16	0-8P	16
4						
5	TB2	CRI-8	YEL/WHT	14	0-8P	16
6						
7	TB3	SI-2	GRY/WHT	21 1/2	0-1/4	16
8	L2	CRI-5	BLACK	13	0-2V	16
9	L2	SI-3	BLACK	19	0-1/4	16
10	L1	SI-1	WHITE	20	0-1/4	16
11						
12	CRI-8	CRI-1	YEL/WHT	23	1/4-10P	16
13	S4-1	CRI-2	YEL/WHT	23	1/2-10P	16
14	S4-2	CRI-1	YEL/WHT	23	1/4-10P	16
15	S4-3	CRI-7	YELLOW	23	1/4-10P	16
TRANSFER PUMP OPTION						
1	TXI-5	CRI-4	WHITE	14	1/4-0	16
2	TXI-1	S2-1	BLK/WHT	10	1/4-1/4	16
3	TXI-2	S2-4	BRN/WHT	10	1/4-1/4	16
4	TB12	R6	BLU/WHT	16	0-10P	16
5	TB14	R3	GRY/WHT	16	0-10P	16
6	R3	R4	BROWN	4	10P-10P	16
7	TB13	R1	YELLOW	16	0-10P	16
8	TB11	R2	YEL/WHT	16	0-10P	16
9	TB9	R5	BLUE	16	0-10P	16
10	TB10	TB13	PURPLE	4	0-10P	16
11	S2-3	R2	TAN/WHT	20	1/4-10P	16
12	S2-2	R1	BLK/PURP/WHT	15	1/4-10P	16
13	TXI-3	CRI-6	BLACK	15	1/4-0	16
14	TXI-4	TXI-6	JUMPER		1/4-1/4	16

SEE NOTE 2

REF. SEPAR. DL. C12457



★ WHEN TRANSFER PUMP OPTION IS USED.

★ TRANSFER PUMP OPTION ONLY

Nº	PART Nº	DRAWING Nº	DESCRIPTION
1	65C-573	011861	PLD CONTROL BOX
2	404-054		TERM BLK A&B #1492-A(9)
3	310-054		CONTACTOR 60AMP 240V 3P
4	447-162	C11646	TRANSFORMER A-300
5	594-100		WIRE DUCT 1X1 CHASE 91000
6	524-101		DUCT COVER CHASE 90011
7	408-024	B14091	TEMP. CONTROLLER /SAFETY (1)
8	385-107	A11449	SWITCH DP LTIGK51
9	655-672		HOLE TITE AS100-1
10	599-003		CONNECTOR 3302 3/8x1/2
11	553-124		SEALTITE ELBOW 3/4"
12	404-055		A&B MTG CHAN 1492 NI (3)
13			11 KΩ RESISTOR
14	127-028		PSD SNAP BUTTON
15	310-016		RELAY D&B PR7AY 120V
16	404-050		PSD END BARRIER 1492
17	599-010		1 1/2 TWO SCREW CONNECTOR
18	593-108		SEALTITE STRAIGHT ADAPTOR 3/4"
19	593-104		SEALTITE STRAIGHT ADAPTOR 3/8"
20	385-140		CARLING "START" SWITCH
21	310-060		CONTACTOR AUX. DOLE
22	404-058		A&B TERM. BLOCK #1492 CE2 (4)
23	073-133		CARLING SW. HOLE P. 3 (NO PUMP)
24	250-045		FRONT LABEL WITH PUMP

NOTES

- ALL WIRES WILL BE STRIPPED 1/4 INCH ON BOTH ENDS. RECEPTICLE 1/4: AMP 41274 P/N 400-084
8PIN RECEPTICLE: LUG 121028-8P P/N 400-022
10PIN RECEPTICLE: LUG 161431-10P P/N 400-012
SPLICE 84071 P/N 400-014
- USE (1) 1/4 AMP TAP FOR TWO WIRES
- SEE DWG A14653 FOR TCI WIRING.

P		ECON # 1254		JUN 1978		W/1		W/1		W/1		W/1		W/1		W/1		W/1	
O		ECON # 1098		JUN 1978		W/1		W/1		W/1		W/1		W/1		W/1		W/1	
M		ADDED ITEM 5		JUN 1978		W/1		W/1		W/1		W/1		W/1		W/1		W/1	
L		CORRECTED DRAWING		JUN 1978		W/1		W/1		W/1		W/1		W/1		W/1		W/1	
K		REDRAWN		JUN 1978		W/1		W/1		W/1		W/1		W/1		W/1		W/1	
REV.		DESCRIPTION		BY		DATE		BY		DATE		BY		DATE		BY		DATE	
REV. 1		DESCRIPTION		BY		DATE		BY		DATE		BY		DATE		BY		DATE	
REV. 2		DESCRIPTION		BY		DATE		BY		DATE		BY		DATE		BY		DATE	
REV. 3		DESCRIPTION		BY		DATE		BY		DATE		BY		DATE		BY		DATE	
REV. 4		DESCRIPTION		BY		DATE		BY		DATE		BY		DATE		BY		DATE	
REV. 5		DESCRIPTION		BY		DATE		BY		DATE		BY		DATE		BY		DATE	
REV. 6		DESCRIPTION		BY		DATE		BY		DATE		BY		DATE		BY		DATE	
REV. 7		DESCRIPTION		BY		DATE		BY		DATE		BY		DATE		BY		DATE	
REV. 8		DESCRIPTION		BY		DATE		BY		DATE		BY		DATE		BY		DATE	
REV. 9		DESCRIPTION		BY		DATE		BY		DATE		BY		DATE		BY		DATE	
REV. 10		DESCRIPTION		BY		DATE		BY		DATE		BY		DATE		BY		DATE	
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REV. 63		DESCRIPTION		BY		DATE		BY		DATE		BY		DATE		BY		DATE	
REV. 64		DESCRIPTION		BY		DATE		BY		DATE		BY		DATE		BY		DATE	
REV. 65		DESCRIPTION		BY		DATE													

N ^o	WIRE FROM UNITS	WIRE TO LESS OPTIONS (SEE WIRING DWG C12083)	COLOR	LENGTH	RECEPT.	WIRE GA
1	L1	CR1-1	BLACK	14 1/2	0-0	4
2	L3	SI-3	RED	19	0-1/4	16
3	SI-4	CR1-7	YELLOW	18	1/4-1/4	16
4	L3	CR1-8	RED	13	0-0	4
5	L2	SI-1	WHITE	20	0-1/4	16
6	S4-3	CR1-7	YELLOW	18	1/4-1/4	16
7	L2	CR1-3	WHITE	12	0-0	4
8	TB6	CHASSIS	GREEN	4	0-0	4
9						
10	TB5	SI-2	BLUE/WHT	15	0-1/4	16
11	CR1-9	CR1-8	BLK/PUR/WHT	18	1/4-1/4	16
12	CR1-9	S4-2	BLK/PUR/WHT	18	1/4-1/4	16
13	CR1-10	S4-1	YEL/WHT	18	1/4-1/4	16
14						
15						
16						
17						
18						

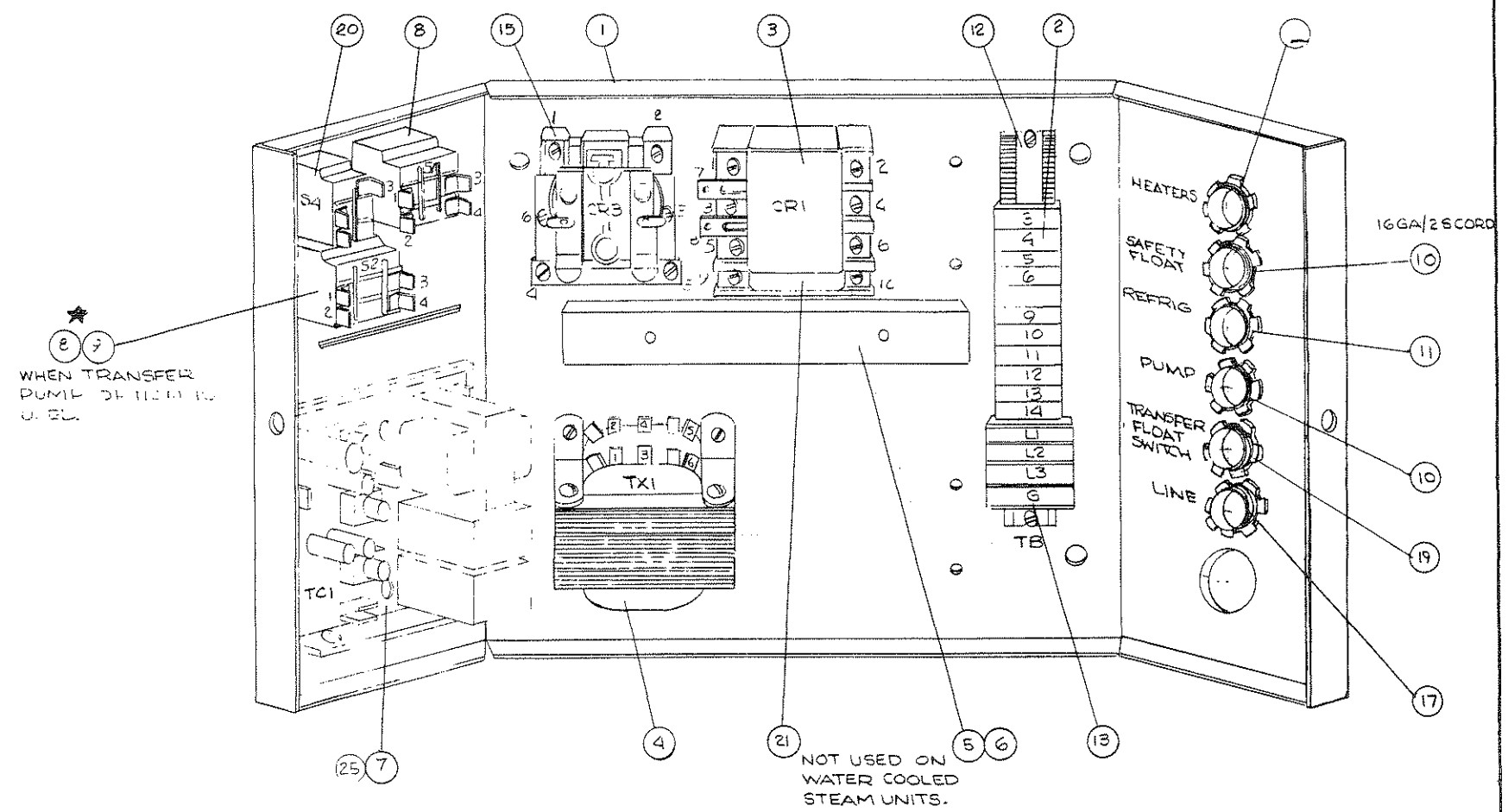
STEAM OPTION - WATER COOLED ONLY (SEE WIRING DWG C1457)

1	L2	CR1-5	BLACK	13	0-8P	16
2	L2	SI-3	BLACK	19	0-1/4	16
3	L1	CR1-3	WHITE	8	0-8P	16
4	L1	SI-1	WHITE	21	0-1/4	16
5	TB6	CHASSIS	GREEN	10 1/2	0-8P	16
6	SI-4	CR1-7	YELLOW	23	1/4-8P	16
7	TB1	CR1-7	YELLOW	16	0-8P	16
8						
9	TB2	CR1-8	YEL/WHT	14	0-8P	16
10						
11	TB3	SI-2	GRY/WHT	21 1/2	0-1/4	16
12	CR1-3	CR1-1	YEL/WHT	4	10P-10P	16
13	S4-1	CR1-2	YEL/WHT	23	1/4-10P	16
14	S4-2	CR1-1	YEL/WHT	23	1/4-10P	16
15	S4-3	CR1-7	YELLOW	23	1/2-10P	16
16	TB5	TB6	WHITE	2	0-0	16

TRANSFER PUMP - OPTIONAL

17	TX1-3	CR1-6	BLACK	15	1/4-0	16
18	TX1-5	CR1-4	WHITE	14	1/4-0	16
19	TX1-1	S2-1	BLK/WHT	10	1/4-1/4	16
20	TX1-2	S2-4	BRN/WHT	10	1/4-1/4	16
21	TB12	R6	BLU/WHT	10	0-10P	16
22	TB14	R3	GRY/WHT	16	0-10P	16
23	R3	R4	BROWN	4	10P-10P	16
24	TB13	R1	YELLOW	16	0-10P	16
25	TB11	R2	YEL/WHT	16	0-10P	16
26	TB9	R5	BLUE	16	0-10P	16
27	TB10	TB13	PURPLE	4	0-0	16
28	S2-3	R2	TAN/WHT	10	1/4-10P	16
29	S2-2	R1	BLK/PUR/WHT	10	1/4-10P	16
30	TX1-4	TX1-6	JUMPER	-	1/4-1/4	16

REFRIG. OPTIONAL



★ TRANSFER PUMP OPTION ONLY

N ^o	PART N ^o	DRAWING N ^o	DESCRIPTION
1	650-573	D11861	PLD CONTROL BOX
2	404-054		TERM BLK A&B #1492-F1 (10)
3	310-004		CONTACTOR 75 AMP 220V. 3P
4	447-162	C11646	TRANSFORMER A300
5	594-100		WIRE DUCT 1X1 CHASE 91000
6	594-101		DUCT COVER CHASE 90011
7	428-022	E-2001	TEMPERATURE CONTROLLER
25	650-550	A-12030	TEMP. CONTR.
8	385-107	A11449	SWITCH DP LTIGK51
9	650-676		HOLE TITE AS 100-1
10	599-003		CONNECTOR 3302 3/8x1/2
11	593-124		SEALTITE ELBOW 3/4"
12	404-055		A&B MTG CHAN. 1492 NI (8)
13	404-058		TERM BLK A&B 1492 CE2 (4)
14	127-028		PSD SNAP BUTTON
15	510-016		RELAY P&B PR7AY 120V
16	404-050		PSD END BARRIER
17	599-010		1 1/2 TWO SCREW CONNECTOR
18	593-110		SEALTITE STRAIGHT ADAP 1"
19	523-104		SEALTITE STRAIGHT ADAP 1/8"
22	428-022	A-12030	TEMPERATURE CONTROLLER
20	385-190		CARLING "START" SWITCH
21	310-060		AUX. CONTACTOR POLE
22	C75-100		CARLING 2X HOLE P. U.L. (10 PUMP)
23	Z30-045		FRONT LABEL WITH PUMP





NOTES

- ALL WIRES WILL BE STRIPPED 1/4 INCH ON BOTH ENDS. RECEPTICLE 1/4 : AMP 41274 P/N 400-084
8PIN RECEPTICLE : LUG 121028-8P P/N 400-022
10PIN RECEPTICLE : LUG 161437-10P P/N 400-012
SPLICE B4071 P/N 400-014
- USE (1) 1/4 AMP TAP FOR TWO WIRES
- SEE DWG. A14653 FOR TC1 WIRING.

BRANSON CLEANING EQUIPMENT COMPANY PARROTT DRIVE • SHELTON, CONN. 06484		BRANSON a Smithline company	
STILL CONTROL BOX MAIN COMPONENTS & WIRING			
MODEL: 1408141	QTY: 1	DATE: 9-8-81	SCALE: 1/8"
APP'D: [Signature]	DATE: 9/15/81	DWG NO: D12124	REV. P.

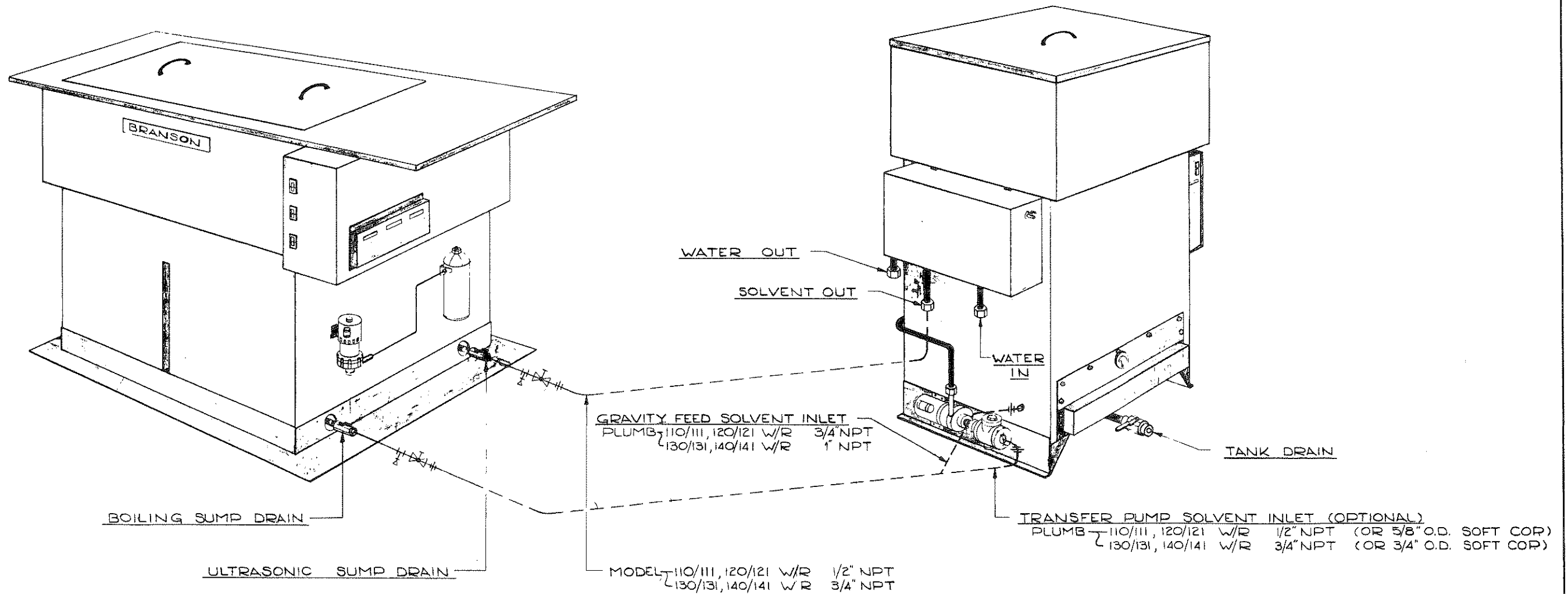
NOTE:

SCHEMATIC SYMBOLS REPRESENT ITEMS TO BE CUSTOMER SUPPLIED.

- 1.)  SCREWED TEE
- 2.)  SCREWED UNION
- 3.)  SCREWED BALL VALVE
- 4.)  SCREWED PLUG

COMPATIBILITY CHART

DEGREASER MODEL	STILL MODEL
1012 & 1216	110/111 W/R
1216 & 1620	120/121 W/R
1620 & 2024	130/131 W/R
2024	140/141 W/R



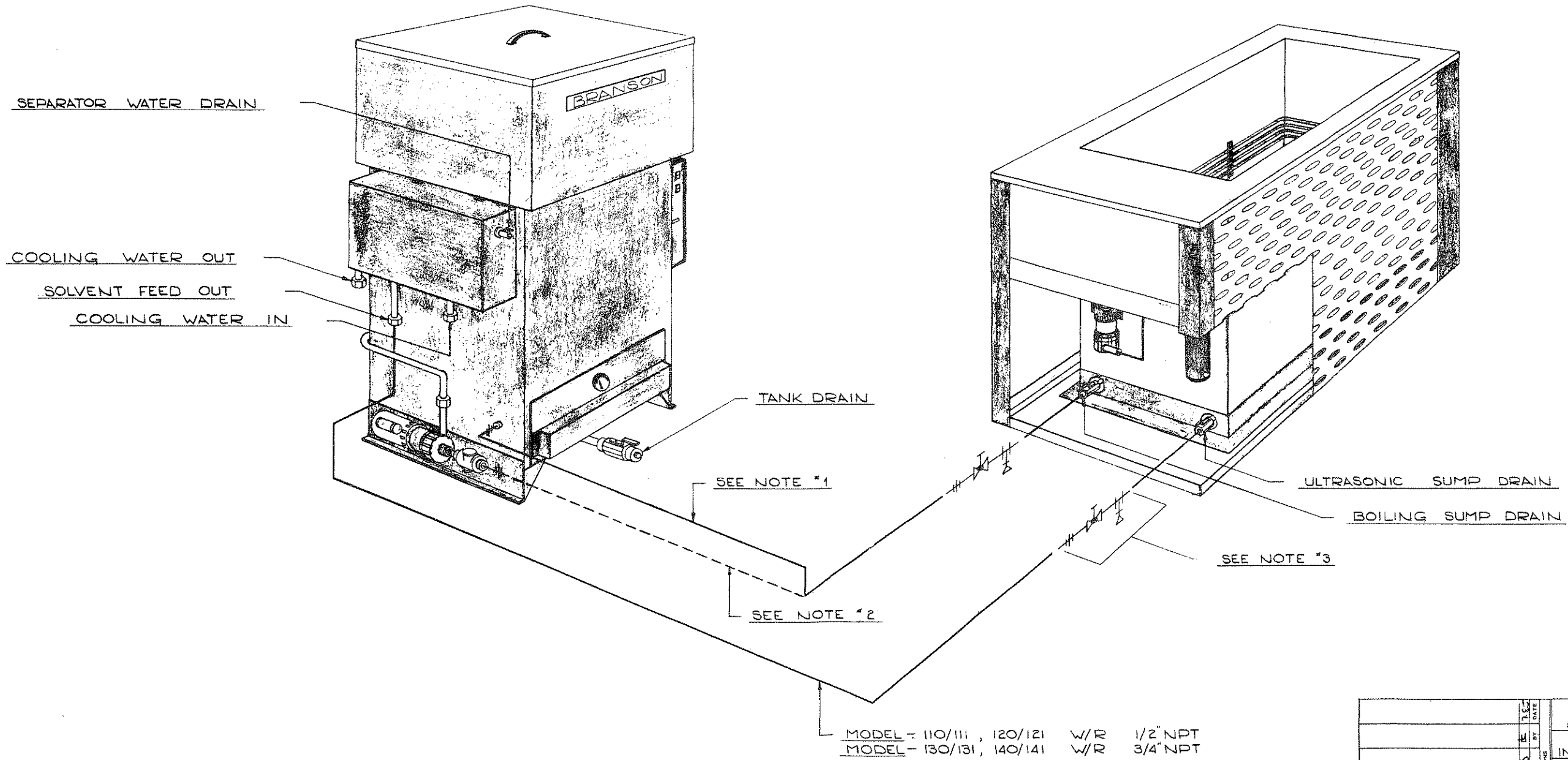
BRANSON INSTRUMENTS COMPANY A SUBSIDIARY OF SMITH KLINE & FRENCH LABORATORIES STAMFORD CONNECTICUT	
DEGREASER - STILL INTERCONNECTING PIPING	
MAT'L	FINISH
PRAC'T. 1/16", DEC. 1, 1955, ANG. 1" UNLESS SPECIFIED	REMOVE BURRS
MODEL PSD SERIES	QTY/UNIT SCALE
ORDER NO.	CUST.
PRODUCT NO.	STOCK NO.
DWN RMP DATE 10-26-76	DW'S NO.
AP'VD JAC DATE 11-17-76	DIB-775

NOTE :

- 1) GRAVITY FEED SOLVENT INLET
 PLUMB $\begin{cases} 110/111, 120/121 & \text{W/R } 3/4" \text{ NPT} \\ 130/131, 140/141 & \text{W/R } 1" \text{ NPT} \end{cases}$
- 2) TRANSFER PUMP SOLVENT INLET (OPTIONAL)
 PLUMB $\begin{cases} 110/111, 120/121 & \text{W/R } 1/2" \text{ NPT (or } 5/8" \text{ O.D. SOFT COP)} \\ 130/131, 140/141 & \text{W/R } 3/4" \text{ NPT (or } 3/4" \text{ O.D. SOFT COP)} \end{cases}$
- 3) SCHEMATIC SYMBOLS REPRESENT ITEMS TO BE SUPPLIED BY CUSTOMER:
 $\begin{matrix} \text{---} \text{---} & \text{---} \text{---} & \text{---} \text{---} \\ \text{---} \text{---} & \text{---} \text{---} & \text{---} \text{---} \\ \text{---} \text{---} & \text{---} \text{---} & \text{---} \text{---} \end{matrix}$
 SCREWED TEE, SCREWED PLUG
 SCREWED UNION, SCREWED BALL VALVE

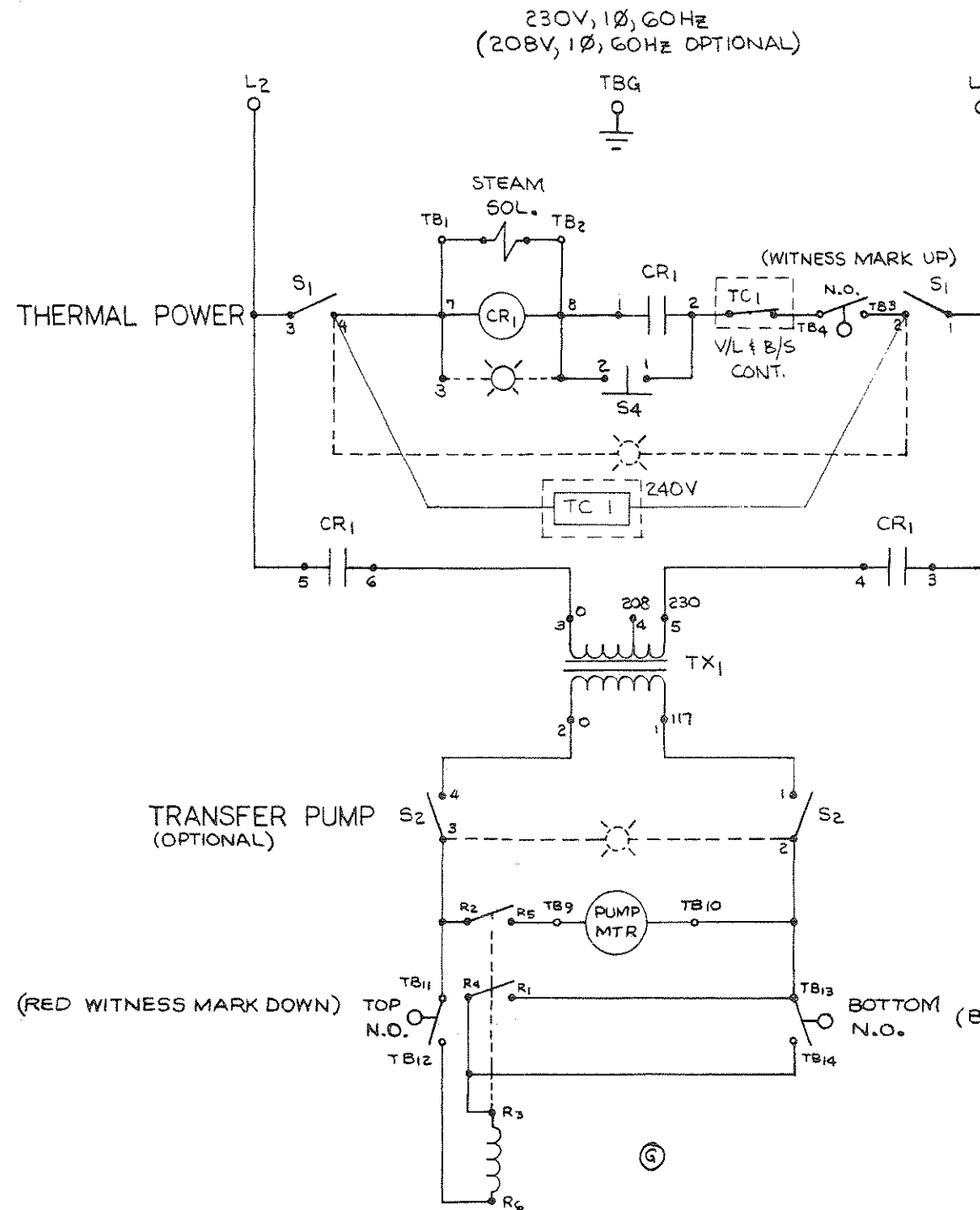
COMPATIBILITY CHART

DEGREASER MODEL		STILL MODEL	
1012	1216	110/111	W/R
1216	1620	120/121	W/R
1620	2024	130/131	W/R
2024		140/141	W/R



MODEL - 110/111, 120/121 W/R 1/2" NPT
 MODEL - 130/131, 140/141 W/R 3/4" NPT

BRANSON INSTRUMENTS COMPANY A SUBSIDIARY OF SMITH KLINE & FRENCH LABORATORIES	
STAMFORD	CONNECTICUT
DEGREASER - STILL INTERCONNECTING PIPING	
MAT'L	FINISH
PRACT. SIZE, DEC. 1.000, ANG. 31° UNLESS SPECIFIED REMOVE BURR	
MODEL WSD SERIES	QTY/UNIT SCALE
ORDER NO.	CUST.
PRODUCT NO.	STOCK NO.
DWN RMP DATE 11-24-76	DWG NO. DIS-779
AMVD RUC DATE 11-24-76	REV. A

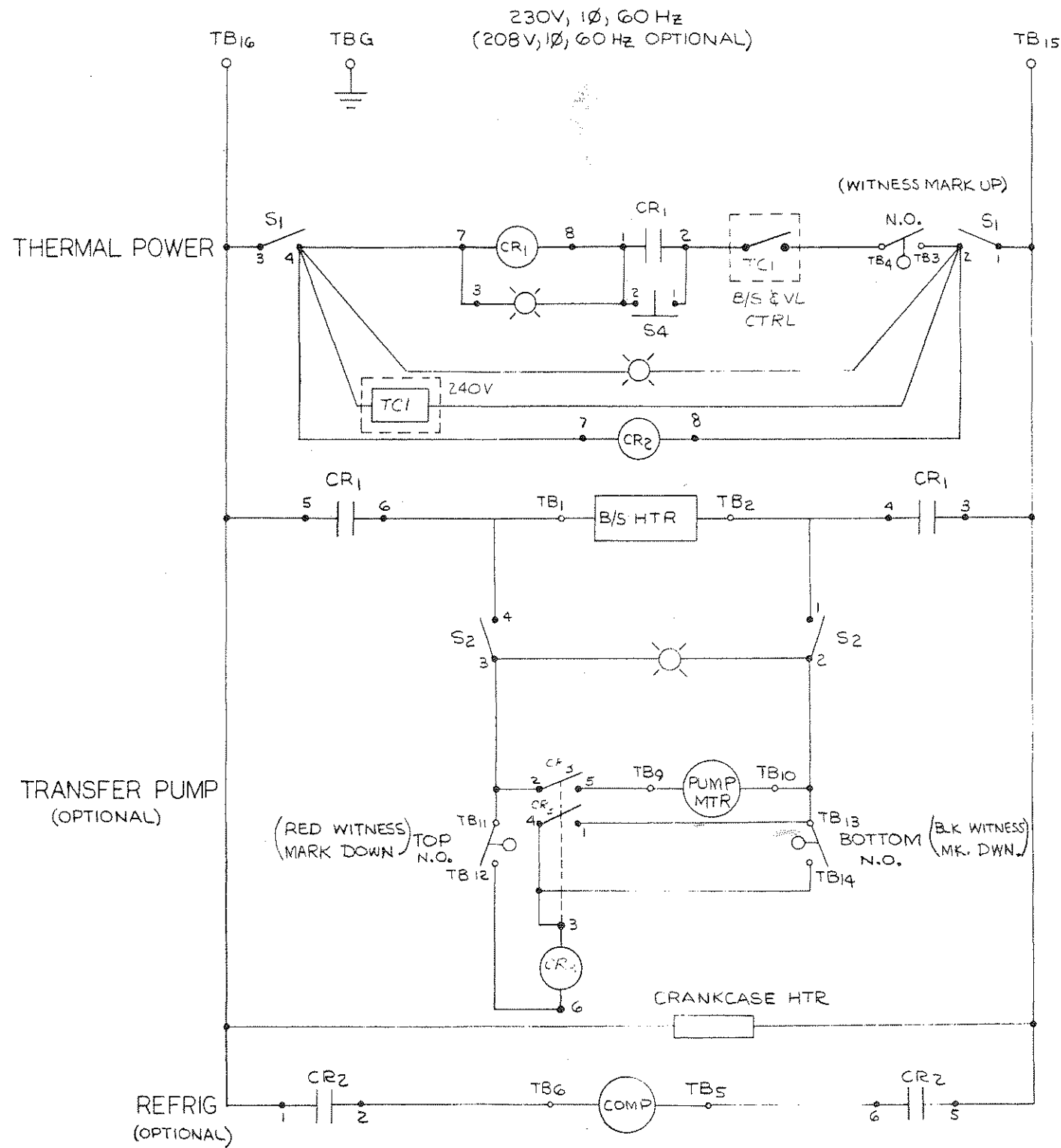


NOTE

- 1) TRANSFER PUMP - DOUBLE FLOAT SWITCH SHOWN N.O. WHEN TANK IS FULL POSITION.
- 2) SEE DWG. A 14652 FOR TC1 WIRING.

REVISIONS		DATE	
REV.	DESCRIPTION	BY	DATE
I	ECN # 1254	JUH/PM	4/85
II	ECN # 1098	JUH/DM	1/84
G	REMOVED NOTE	JM/KP	1/83
E	REDRAWN	JM/JP	11-81

BRANSON CLEANING EQUIPMENT COMPANY PARROTT DRIVE • SHELTON, CONN. 06484		BRANSON a Smith-Barney company	
STILL WIRING SCHEMATIC			
MODEL S110-141 STEAM		QTY/UNIT:	
ORDER NO.	CUSTOMER:		
MATL:	FINISH:		
DWN: <i>MUISE</i>	DATE: 11-3-81	PART NO.	REV
CHKD:	DATE:	SCALE	DWG NO.
APPRD: <i>QJP</i>	DATE: 11/5/81	X	C12457



NOTE

- 1) 208V UNITS: B/S HEATER CHANGED.
- 2) 50 Hz UNITS OPTIONAL.
- 3) TRANSFER PUMP: DOUBLE FLOAT SWITCH SHOWN N.O. WHEN TANK IS FULL.
- 4) SEE DWG. A14650 FOR TCI WIRING

BRANSON CLEANING EQUIPMENT COMPANY PARROTT DRIVE • SHELTON, CONN 06484 BRANSON a Smithline company	
STILL WIRING SCHEMATIC (PERCHLOR OPTION)	
MODEL	110-111 W/R
ORDER NO	CUSTOMER
MATL	FINISH
DWN: MUISE	DATE 11-13-81
CHKD	SCALE
APPVD: JJP	DATE: 11/13/81
X C12347	

NOTICE

The thermostats on some stills are the manual reset type as indicated by a red reset button adjacent to the dial.

To reset the manual thermostat refer to table 1-1, Description of Controls and Indicators, under "Start Switch." Use the reset button and START switch for resetting as follows: press the thermostat reset button first and then the START switch. This step is not required for initial start-up.

NOTICE

REPLACEMENT GASKETS
FOR PLASTIC BUCKET STRAINERS

All Degreasers and Stills ordered for use with Freons[®] TF, TA or TMS have "Buna N"(black) gaskets in the plastic bucket strainer. When ordering replacement gaskets refer to the part number list below for the current part number.

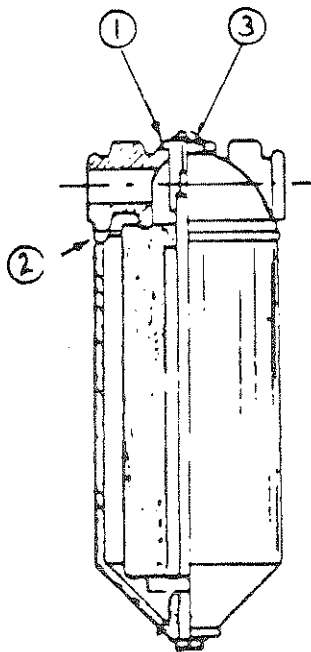
Degreasers and Stills ordered for use with Freons[®] TMC, TE and TES, III Trichloroethane, Perchlorethylene and Methylene Chloride have "Viton" gaskets (green) in the plastic bucket strainer. When ordering replacement gaskets refer to the following list for the current part numbers.

GASKET MATERIAL PART NUMBERS

Bucket Strainer Size	<u>"Viton"</u>	<u>"Buna N"</u>
3/4 inch	100-142-030	100-142-033
1 inch	100-142-031	100-142-034
Compatible Solvents	Freons [®] TMC, TE, III Trichloroethane, Perchlorethylene, Methylene Chloride	Freons [®] TF, TA, TMS

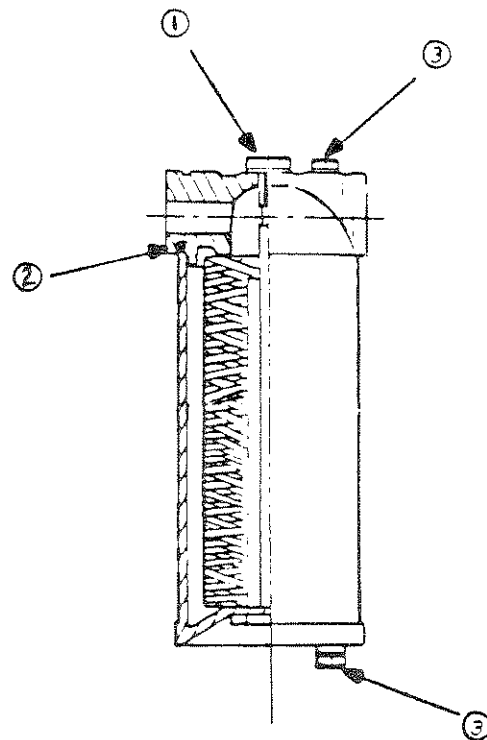
NOTICE

Your Still or Degreaser may be equipped with either of two makes of filters and dessicators, each make requiring different gaskets. Below are diagrams of each make of filter to aid in identification and a corresponding list of gaskets and part numbers.



"Full-Flow"
Filter/Dessicator

<u>Key No.</u>	<u>Part Number</u>	<u>Gasket Description</u>
1	142-001	Filter Nut
2	142-005	Filter Shell
3	142-006	Filter Screw



"Filter Equipment"
Filter/Dessicator

<u>Key No.</u>	<u>Part Number</u>	<u>Gasket Description</u>
1	142-002	Filter Nut
2	142-007	Filter Shell
3	142-008	Filter Drain & Air Vent Screw

MANUAL CHANGE INFORMATION

Since the change information is carried in the manual until all changes are permanently entered, some duplication may occur. If no pages appear in this section, your manual is complete as printed.

SOLVENT CHART

The type of equipment you have determines which printed circuit (PC) board you should use. And the type of solvent you use in your equipment determines where the thermostats on this PC board should be set.

There are two PC boards to choose from:

1. If you have a PLD, an SV, or a still, then use the PC board with part number 408-024.
2. If you have a PSD, a DUS, or any special with ultrasonics, then use the PC board with part number 408-022.

After you determine which PC board you should have, then use the solvent chart below to determine where the thermostats (OPTION) on this PC board should be set.

HOW TO USE THIS CHART: If you currently use a solvent that requires Option 1, and you want to change to a solvent that also requires Option 1, then you don't need to change PC boards. However, if you want to change to a solvent that requires an Option other than 1, then you need different thermostat settings on your PC board.

If you need a different PC board for your equipment, or if you need different thermostat settings on your PC board, or if the solvent you want to use is not on this chart, then call your nearest Branson Service Representative. For a nominal fee, you may exchange the PC board you currently have for a PC board with the correct temperature setting.

After you install a different PC board, make sure that the ACTUAL temperature in each sump is within 2 °F of the temperatures on this chart.

IF		THEN			AND
YOU USE THIS SOLVENT:	WITH A BOILING POINT OF:	ULTRASONIC SUMP THERMOSTAT IS SET AT:	BOILING SUMP THERMOSTAT IS SET AT:	VAPOR ZONE THERMOSTAT IS SET AT:	YOU MUST USE THIS PRINTED CIRCUIT BOARD:
Arkione® E	97.7 °F	90 °F	117 °F	85 °F	OPTION 1
Blaco-tron® TCM	97.3 °F				
Blaco-tron® TMC	97.7 °F				
Blaco-tron® TMC Plus	97.1 °F				
Freon® TMC	97.6 °F				
Genesolv® DM	97.7 °F				
Genesolv® DMC	97.1 °F				
Blaco-tron® TMS Plus	103.0 °F	95 °F	115 °F	90 °F	OPTION 2
Freon® TMS	103.5 °F				
M-Clene® D	104.0 °F				
Methylene Chloride	102.6 °F				
Arkione® A	112.1 °F	100 °F	125 °F	90 °F	OPTION 3
Arkione® A-M	112.1 °F				
Arkione® AS	112.1 °F				

PRINTED CIRCUIT BOARD REPLACEMENT FOR TEMPERATURE CONTROL (Part Numbers 408-022 and 408-024)

WARNING: HIGH VOLTAGE!

To avoid an electrical shock hazard, do as follows FIRST:

- TURN OFF all electric power and DISCONNECT the main power supply to equipment.
- Place "OUT OF SERVICE" signs on the degreaser.

1. Remove the cover from the power control box.

2. Disconnect ALL wires from the installed printed circuit (PC) board.

Notice that each pair of wires has a label with a number on it. Do not remove these labels. They will help you to reconnect the wires at the proper terminal connections.

3. Remove ALL screws from the installed PC board.

4. Remove the installed PC board and replace with the replacement PC board:

Screw in the replacement PC board.

5. Connect the wires to the replacement PC board:

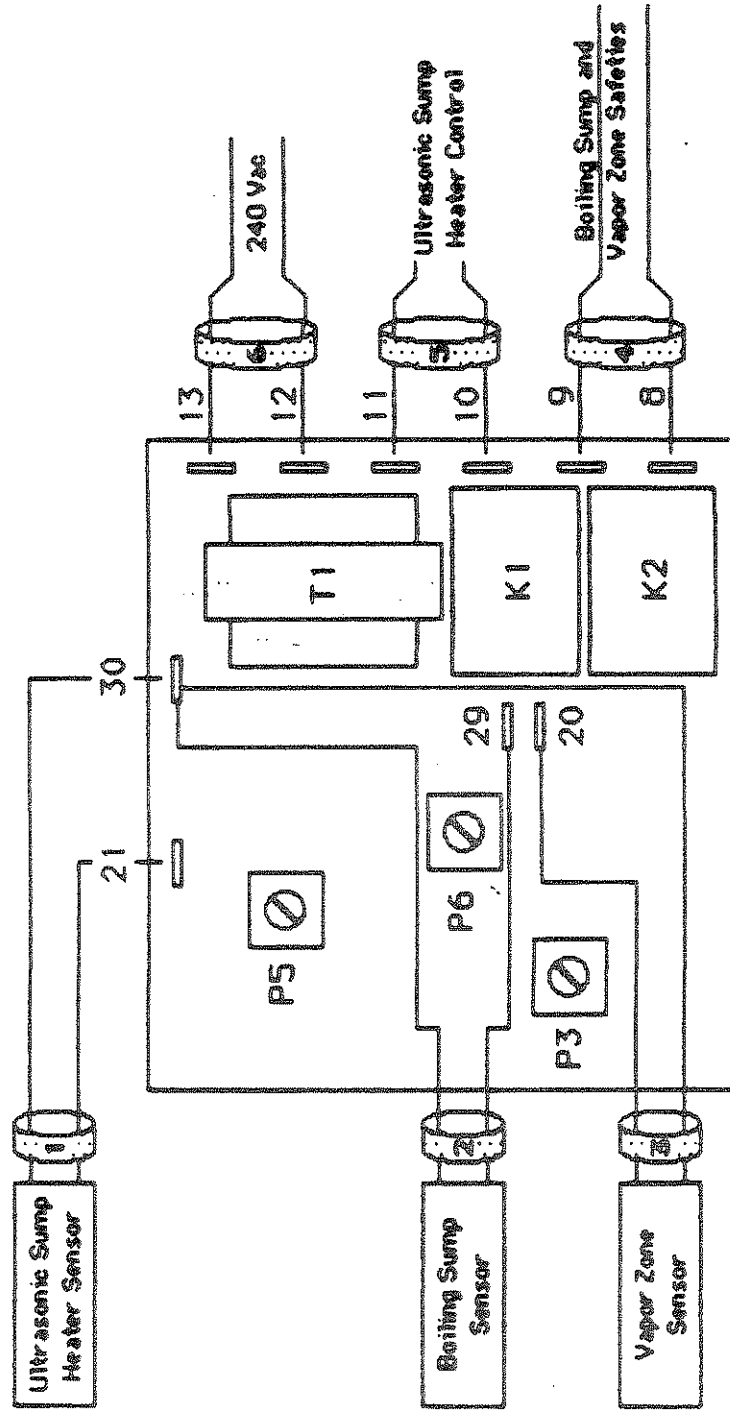
- See Figure 1 for PC board BA3202-12. (Part number 408-022)

- See Figure 2 for PC board BA3202-13. (Part number 408-024)

- See Figure 3 for PC board TH2-261-1. (Part number 408-022)

6. Replace the cover on the power control box.

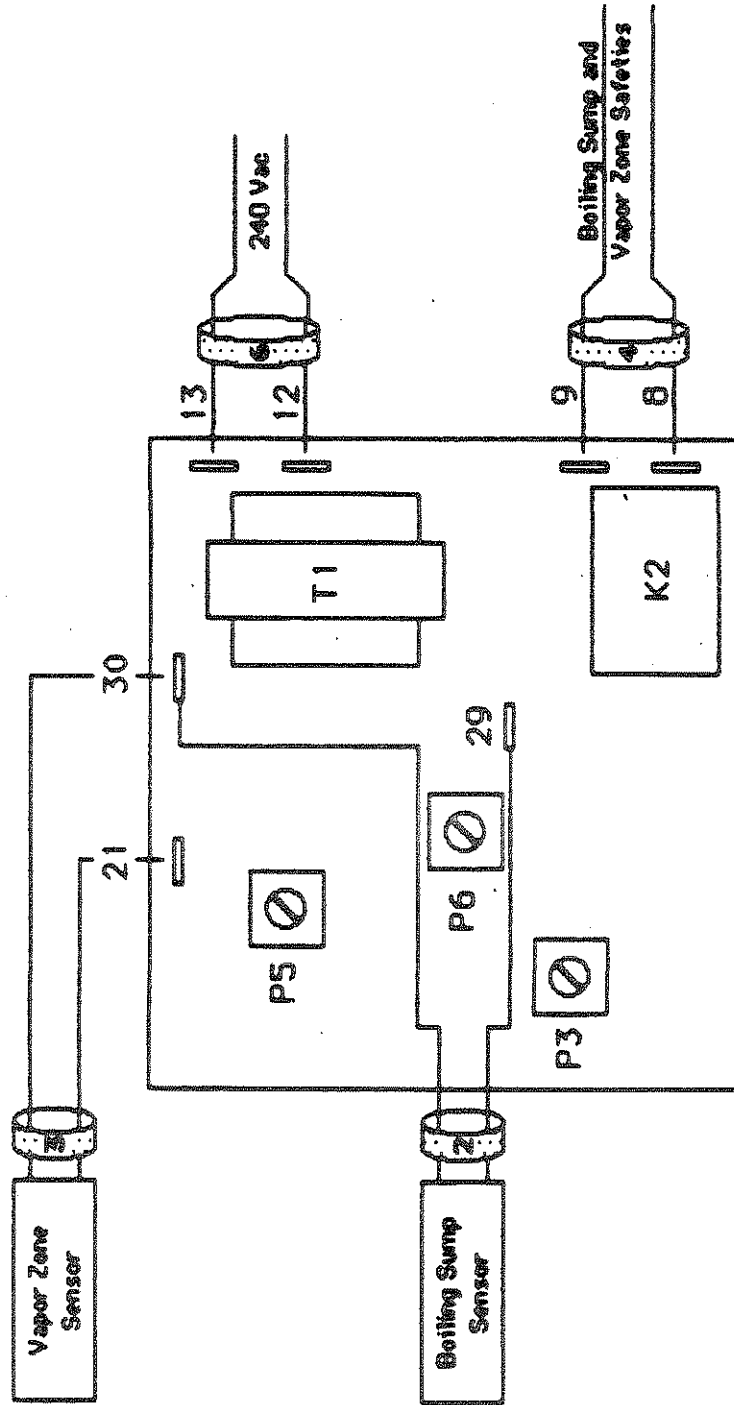
**BA 3202-12
PRINTED CIRCUIT BOARD**



VOLTAGE	TEMP RANGE	PART NO.
240 Vac	50 - 230 ° F	408-022

Figure 1

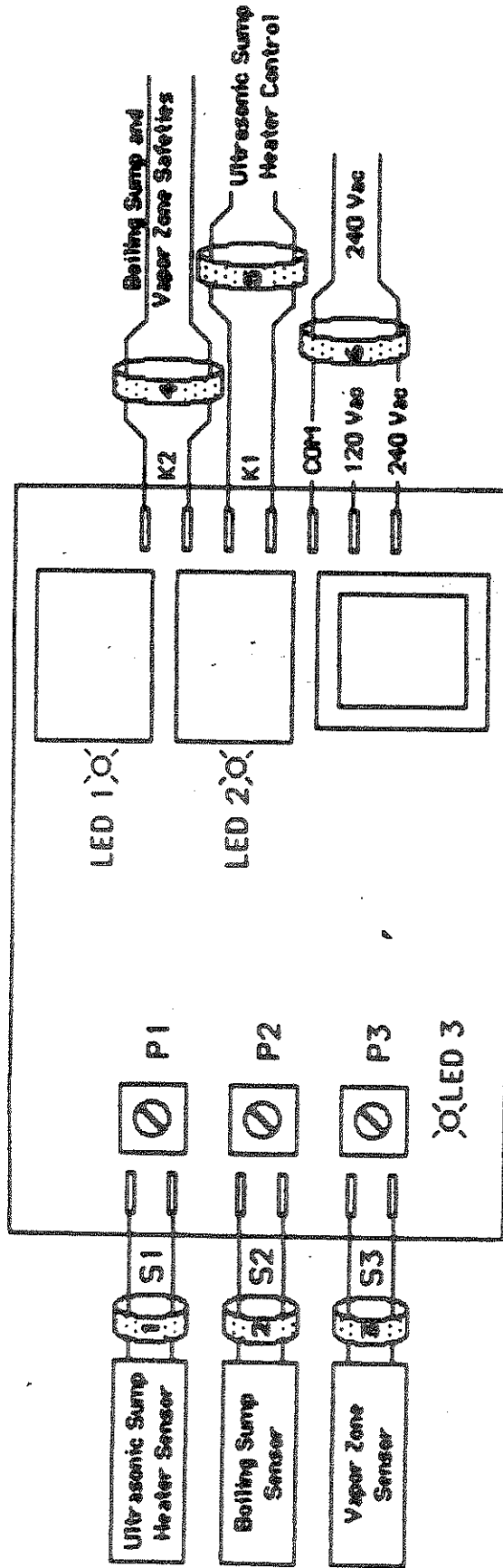
**BA 3202-13
PRINTED CIRCUIT BOARD**



VOLTAGE	TEMP RANGE	PART NO.
240 Vac	50 - 230 ° F	409-024

Figure 2

**TN2-Z61-1
PRINTED CIRCUIT BOARD**



VOLTAGE	TERMINALS	TEMP RANGE	PART NO.
120 Vac	120 V & COM	50 - 230 ° F	408-022
240 Vac	240 V & COM		

Figure 3

TEMP. CONTROLLER	
BA-3202-13	TH2-Z61-2/4

SENSOR P/N 408.020

WIRE FROM	WIRE TO	
B/S SENS.	TCI-29/30	S2
V/L SENS.	TCI-21/30	S3

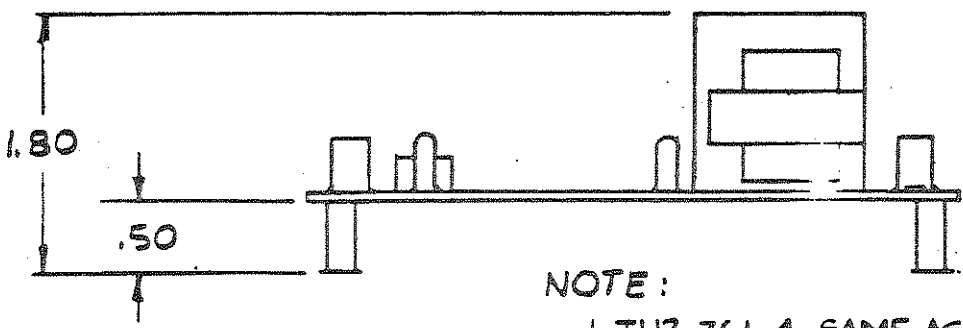
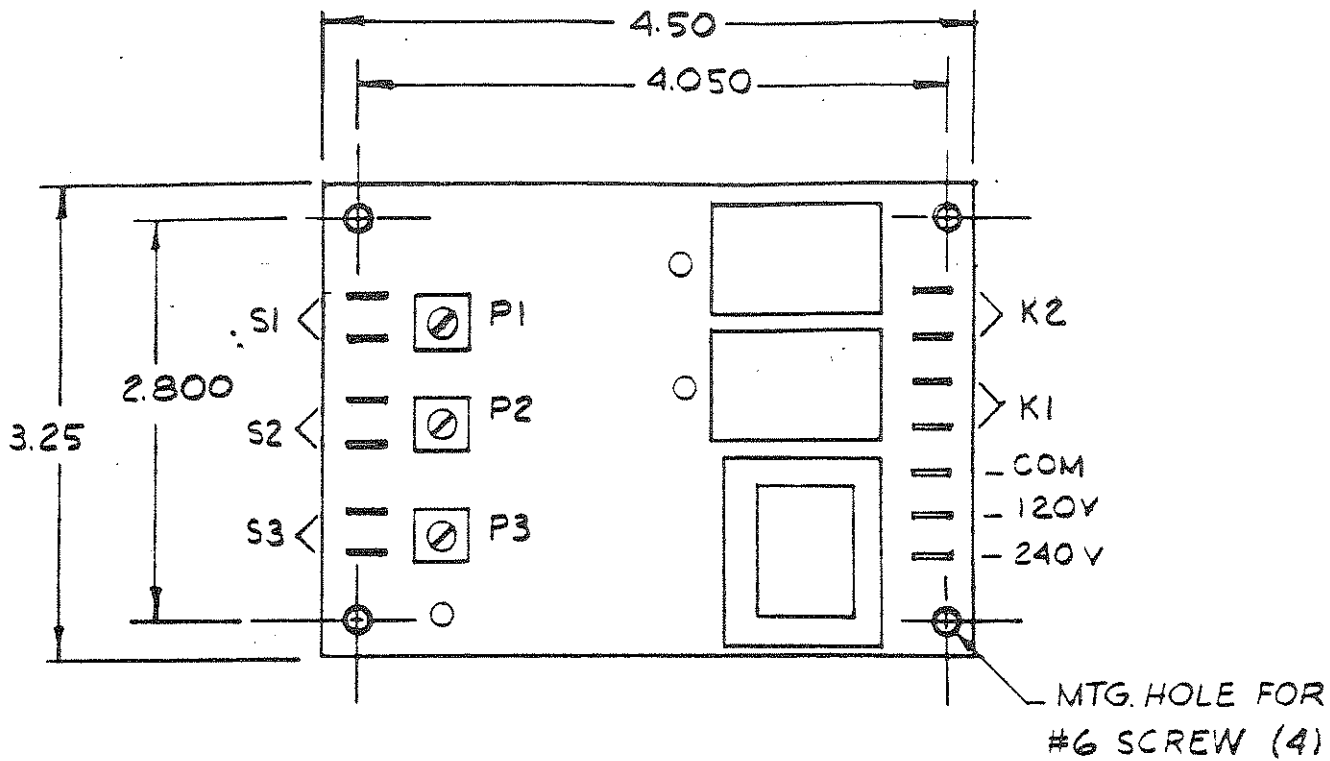
SUPPLEMENT TO		WIRING DWG. NO.	SCHEM. DWG. NO.	COLOR	LGTH.	RECEPT.	GA.				
D12123 D12115 D12124 D14516	C12083	C12348	BLK. BRN. WHT	12	1/4-1/4	16	SI-2	TCI-12	240		
			BLK. BRN. WHT	12	1/4-1/4	16	SI-4	TCI-13	COM		
			BLK. PUR. WHT	14	1/4-1/4	16	CRI-10	TCI-9	K2		
			YEL. WHT.	15	0-1/4	16	TB-4	TCI-8	K2		
D12349 D12122	C12347 C12082		BLK. BRN. WHT	12	1/4-1/4	16	SI-2	TCI-12	240		
			"	12	1/4-1/4	16	SI-4	TCI-13	COM		
			BLK. PUR. WHT	14	10P-1/4	16	CRI-2	TCI-9	K2		
			YEL. WHT	18	0-1/4	16	TB-4	TCI-8	K2		
* D12123 D12122 D12115 D12124	C12457		BLK. BRN. WHT	12	1/4-1/4	16	SI-2	TCI-12			
			"	12	1/4-1/4	16	SI-4	TCI-13			
			YEL. WHT	20	10P-1/4	16	CRI-2	TCI-9			
			BLK. PUR. WHT	18	0-1/4	16	TB-4	TCI-8			
			11K RES. (315-130)							TCI-29/30	
D14108	C51-1730		BLU. WHT	12		16	SI-2	TCI-12	240		
			"	12		16	SI-4	TCI-13	COM		
			BLK. PUR. WHT			16	CRI-10	TCI-9	K2		
			YEL. WHT			16	TB-10	TCI-8	K2		

NOTE :

1. ON TH2-Z61-2 INSTALL 11KΩ RES. ACROSS S1 ; P/N 315-130

* STEAM OPTION: REPLACE B/S SENSOR WITH 11KΩ RESISTOR

		3/86	10/86	DATE	BRANSON CLEANING EQUIPMENT COMPANY PARROTT DRIVE • SHELTON, CONN 06484				BRANSON a SmithKline company	
		5/86	6/86	APPR	TEMP. CONTR. WIRING & WIRE LIST					
		JH	GM	BY	MODEL STILLS				QTY/UNIT	
		ECN #1508	ECN #1366	DESCRIPTION	ORDER NO				CUSTOMER	
		B	A	REV	MATERIAL				FINISH	
					DWN CBA		DATE 4.2.85	PART NO		
					CHKD		DATE	SCALE DWG NO		
					APPRD PIM		DATE 4/16/85	A 14653		
									REV B	



NOTE:

- 1. THZ-Z61-4 SAME AS SHOWN EXCEPT COMPONENTS S1, P1 & K1 DELETED.
- 2. SEE DWG. B 14091 FOR ALT. CONTROLLER.

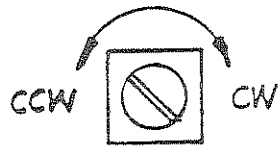
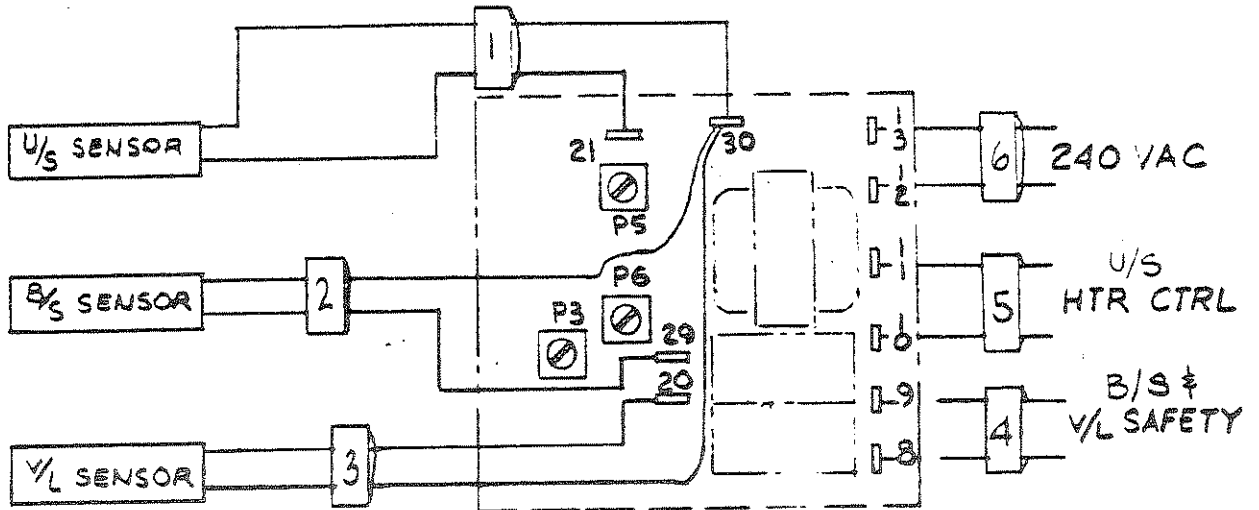
VENDOR: QUANTEM

MODEL	PART No.	TEMP. RANGE	VOLTAGE	RELAY RATING
THZ-Z61-4	408-024	50-230F	120/240 VAC	10A @ 120/240 VAC
THZ-Z61-1	408-022	50-230F		
THZ-Z61-2	408-026	100-300F		

				BRANSON CLEANING EQUIPMENT COMPANY PARROTT DRIVE • SHELTON, CONN 06484		BRANSON a SmithKline company	
				TEMPERATURE CONTROLLER / SAFETY			
MODEL				QTY UNIT			
ORDER NO.		CUSTOMER					
MATERIAL		FINISH					
DWN	CEA	DATE	5.25.85	PART NO.			
CHKD		DATE		SCALE	DWG NO.	REV	
APPRD	3/2	DATE	4/1/87	3.			

3/16/86	10/18/85	7/22	DATE
SM	SM	PM	APPR
JH	CM	GM	BY
ECN # 1508	ECN # 1366	RELEAS RELAY	DESCRIPTION
C	B	A	REV

CONTROLLER P/N 408-022
 MODEL : BA 3202-12
 RANGE : 50 TO 230 F
 VOLTAGE : 240 VAC



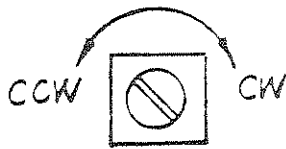
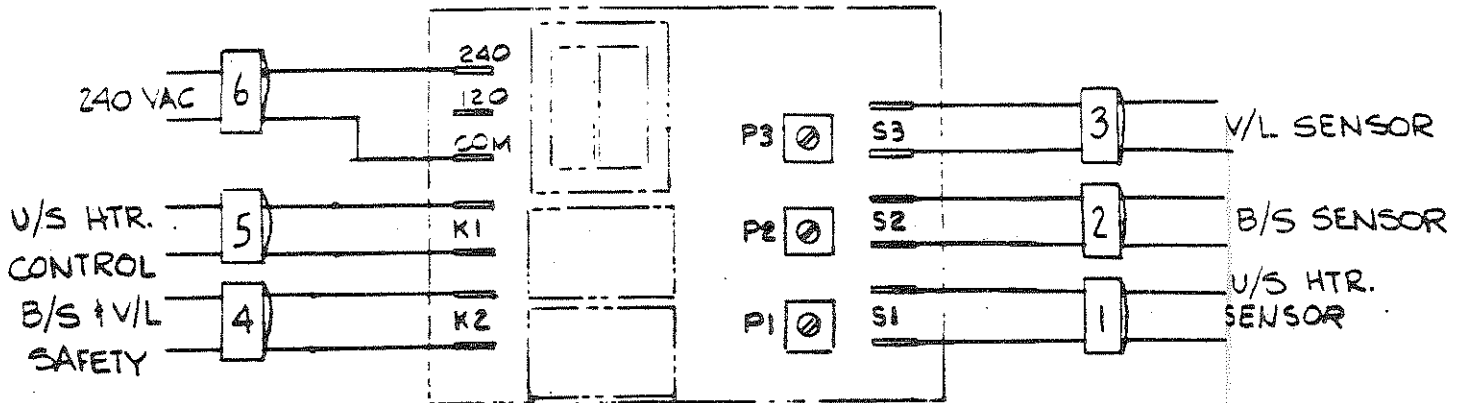
NOTE :

INSTALL WIRE MARKERS AS SHOWN AFTER ALL WIRES ARE CONNECTED

P3, P5 & P6
 CW - INCREASE SETTING

				BRANSON CLEANING EQUIPMENT COMPANY PARROTT DRIVE • SHELTON, CONN 06484		BRANSON a Smithline company	
				WIRING DIAGRAM - TEMP. CONTR. BA 3202-1			
MODEL		QTY-UNIT		ORDER NO		CUSTOMER	
MATERIAL		FINISH		DWN CBA		DATE 3.25.85	
CHKD		DATE		SCA E		DWG NO	
APPRD P.M.		DATE 4/15/85				REV C	
REV	DESCRIPTION	BY	DATE				
C	ECN # 1508	JJH	7/85				
B	ECN # 1366	GM	10/85				
A	ECN # 1307	JJH	7/85				

VOLTAGE	TEMP. RANGE	MODEL N ^o	FART N ^o
100/240 VAC	50-230 F	TH2-Z61-1	408-022
	100-300 F	TH2-Z61-2	408-026
120/240 VAC	50-230 F	TH2-Z61-4	408-024



P1, P2, & P3
CW - INCREASE SETTING

NOTE :

1. INSTALL WIRE MARKERS AS SHOWN AFTER ALL WIRES ARE CONNECTED
2. ON 408-024 K1, P1 & S1 DELETED

		BRANSON CLEANING EQUIPMENT COMPANY PARROTT DRIVE • SHELTON, CONN 06484		BRANSON a SmithKline company	
		WIRING DIAGRAM. TEMP. CONTR. TH2-Z61 SERIES			
		MODEL		QTY UNIT	
		ORDER NO		CUSTOMER	
		MATL		FINISH	
		OWN	DATE	PART NO	
		CHKD	DATE	SCA	DWG NO
		APPVD	DATE		
				REV C	

REV	DESCRIPTION	BY	DATE
C	ECN # 1508	JH	3/1/85
B	ECN # 1366	GM	10/85
A	ECN # 1307	JH	