



# AQUASCRUBBER

Technical Manual

AquaScrubber | SmartScrubber





Thank you for purchasing this quality Insinger product.

On the space provided below please record the model, serial number and start-up date of this unit:

Model: \_\_\_\_\_

Serial Number: \_\_\_\_\_

Start-Up Date: \_\_\_\_\_

When referring to this equipment please have this information available.

Each piece of equipment at Insinger is carefully tested before shipment for proper operation. If the need for service should arise please contact your local Authorized Insinger Service Company.

A Service Network Listing is provided on our web site, [www.insingermachine.com](http://www.insingermachine.com) or call Insinger at 800-344-4802 for your local authorized servicer.

For proper activation of the *Insinger Limited Warranty* a SureFire™ Start-Up & Check-Out Service should be completed on your machine. Refer to the Introduction section in this manual for an explanation of Insinger SureFire™ Start-Up & Check-Out Program.

Please read the Insinger Limited Warranty and all installation and operation instructions carefully before attempting to install or operate your new Insinger product.

To register your machine for warranty by phone, fax or the internet or for answers to question concerning installation, operation, or service contact our Technical Services Department:

<i>TECHNICAL SERVICE CONTACTS</i>	
Toll-Free	<b>800-344-4802</b>
Fax	<b>215-624-6966</b>
E-mail	<b>service@insingermachine.com</b>
Web	<b>www.insingermachine.com</b>

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Project \_\_\_\_\_  
 Item \_\_\_\_\_  
 Quantity \_\_\_\_\_  
 CSI - 11400 \_\_\_\_\_  
 Approval \_\_\_\_\_  
 Date \_\_\_\_\_

## AquaScrubber Pot and Pan Washing System

- Automatic scrub sink reduces labor costs up to 56%.
- Innovative angled corners with 2 jets in each corner keep the ware moving
- No corners = No jams
- 2 hp TEFC pump
- Custom build to your application or choose from 2 pre-engineered systems



### STANDARD FEATURES

- Heavy duty pump with a 2 hp TEFC motor
- Basket style high capacity lever action waste drain
- Easy clean seamless front skirt
- Fast flow mixing faucets
- Single point electrical connection: motor, controls, heater
- Stainless steel utensil basket
- Dual water temperature settings 110 low/130 high
- 2.5 kW heater with low water protection and dual temperature control
- Welded support legs with s/s feet
- 300 series stainless steel
- NEMA 4X control panel enclosure

### OPTIONS

- Undershelf on clean end drain board
- Sink overflows
- 1 to 8 hour pump timer
- Scrap trough in drain board
- Overshelf with mounting brackets (12" increments, 60" and up)
- End splash
- Disposal and cone (in soiled drain board, 48" minimum length)
- Hot water sanitizing booster heater
- Scrapper drain board with pre-rinse faucet
- Shelves (cantilevered or wall mounted)

### SPECIFIER STATEMENT

Specified unit will be an Insinger AquaScrubber pot and pan washing system. Featured include heavy duty pump with 2-HP TEFC motor, basket style high-capacity lever action waste drain, fast flow mixing faucets, 2.5kW heater with low water protection and dual temperature control, and 300 series stainless steel construction.



# Additional Information

Motor Size	2 hp
Heater Size	2.5 kW
Shipping Weight	Dash 109- 557 lbs. Marathon 140- 650 lbs.

Current Draw Amps			
	Heater	Pump & Controls	Total
208/1/60	12.0	9.6	21.6
220-240/1/60	10.9	8.9	19.8
208/3/60	6.9	5.9	12.8
220-240/3/60	6.3	5.6	11.9
440-480/3/60	3.1	2.8	5.9

## SPECIFICATIONS

**CONSTRUCTION-** Entire unit constructed of 300 series polished stainless steel.

**SINKS AND DRAINBOARDS-** Constructed of 14 gauge s/s. All interior corners are coved to 3/4" radius. Top is 14 gauge s/s all welded with 11" high splash on front and sides with a 1 3/4" rolled edge.

**WASH SINK-** Consists of side mounted intake manifold and specially designed nozzles strategically placed in corners for maximum scrubbing action. Intake manifold includes hinged access panel to facilitate cleaning of the intake chamber, heater and probes.

**PUMP-** The pump is heavy duty stainless steel construction with a 4" diameter intake and 3" diameter discharge. The motor is 2 hp totally enclosed, fan cooled with permanently sealed bearings.

**SUPPORT-** The wash sink is supported by heavy gauge stainless steel channels welded to the underside of the sink. H frame leg assemblies are removable and have stainless steel adjustable bullet feet.

**CONTROL PANEL-** Control enclosure is made of 300 series stainless steel, completely welded and waterproof (NEMA 4X). On/off power switch, dual water temperature switch (low and high), on/off pump motor switch and reset switch. Heavy duty pump contactor and overload. Heavy duty grounded plug. Controls labeled in English and Spanish.

**PRE-ENGINEERED SYSTEMS-** The Dash 109 and Marathon 140.

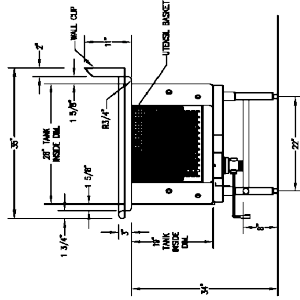
# Technical Drawings

## 140" LEFT HAND QUAD-JET AQUA SCRUBBER WASHING SYSTEM

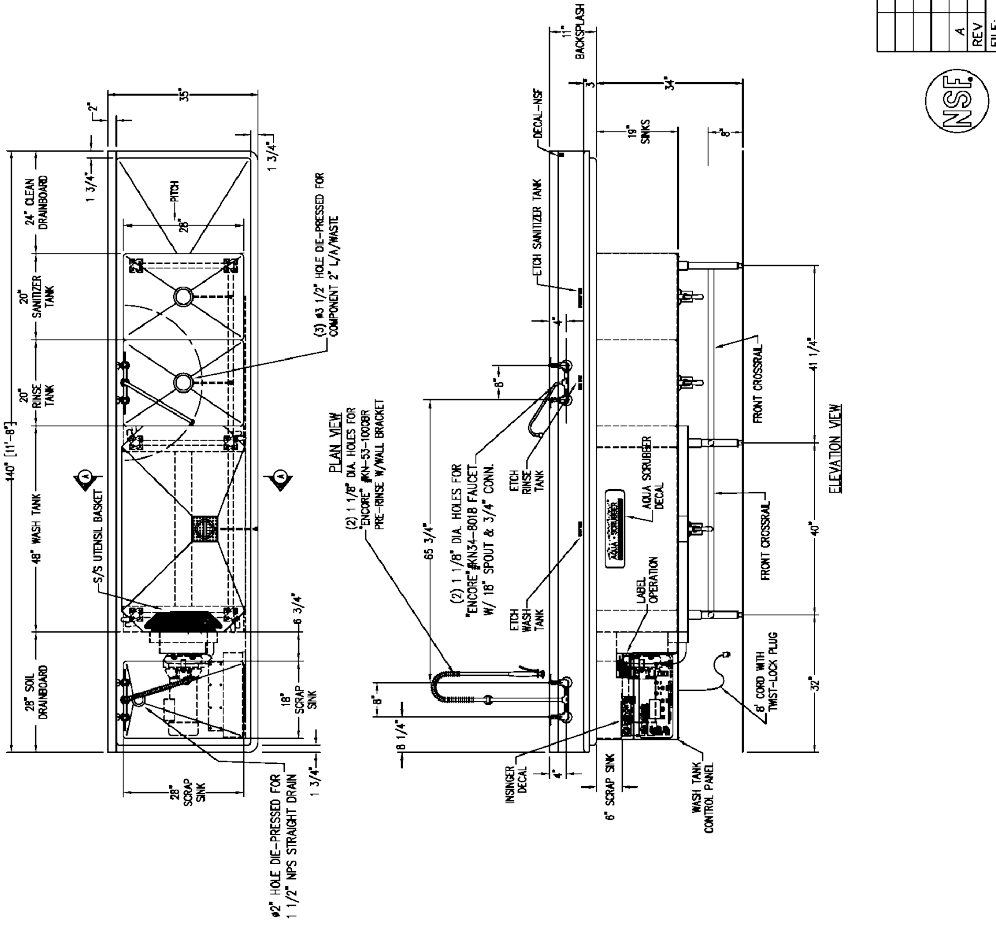
- CONSTRUCTED OF 14 GA. S/S ALL WELDED W/ INTERNAL BACKFLASH IN REAR W/ ROLLED EDGES.
- CONSTRUCTED OF 14GA. S/S ALL WELDED INTERNAL W/ TOP. ALL INTERIOR CORNERS TO BE COINED TO 3/4" RADIUS. CREASE BOTTOM TO DRAIN OPENING. WATER PUMP ASSEMBLY, AND INTAKE AT LEFT SIDE, AND DISCHARGE OUTLETS AT FOUR CORNERS.
- WELD WATER CHANNELS TO BOTTOM OF WASH TANK. STUD-BOLT LEG HOLDERS TO CHANNELS.
- RINSE AND SANITIZER BOWLS: 14GA. S/S ALL WELDED INTERNAL W/ TOP. ALL INTERIOR CORNERS TO BE COINED TO 3/4" RADIUS. CREASE BOTTOM TO DRAIN OPENING.
- STUD BOLT LEG HOLDERS TO BOWLS AS NOTED.
- SODAP SINK: CONSTRUCTED OF 14GA S/S ALL WELDED INTERNAL W/ TOP. ALL INTERIOR CORNERS TO BE COINED TO 3/4" RADIUS. CREASE BOTTOM TO DRAIN OPENING.
- CROSSBARS: 1 1/4" O.D. S/S TUBING WELDED TO LEGS AND POLISHED.
- LEGS AND FEET: 2" O.D. S/S TUBING WELDED TO LEGS AND POLISHED.
- APRON: CONSTRUCTED OF 20 GA. S/S WELDED IN PLACE ACROSS FRONT OF TANKS.
- WASH TANK: CONSTRUCTED OF 14 GA. S/S ALL WELDED INTERNAL W/ TOP. INTERIOR CORNERS TO BE COINED TO 3/4" RADIUS. CREASE BOTTOM TO DRAIN OPENING.
- NOTES:
  - ALL S/S TO BE PER 32A W/ JAMES FINISH.
  - ELIMINATE ALL EDGES SHARP CORNERS OR SHARP CORNERS.
  - UNCOINED WELDS TO BE COATED W/ ALUMINUM PAINT.
  - TIGHTEN ALL STUD-BOLTS SECURELY.
  - APPLY ALL APPROPRIATE LABELS WHERE NOTED.

WASH TANK LENGTH	WELDER CALLING FOR WELD (CPW) RATING
48"	5.25"
	255

ELECTRICAL REQUIREMENTS TO BE DETERMINED

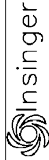


SECTION A-A



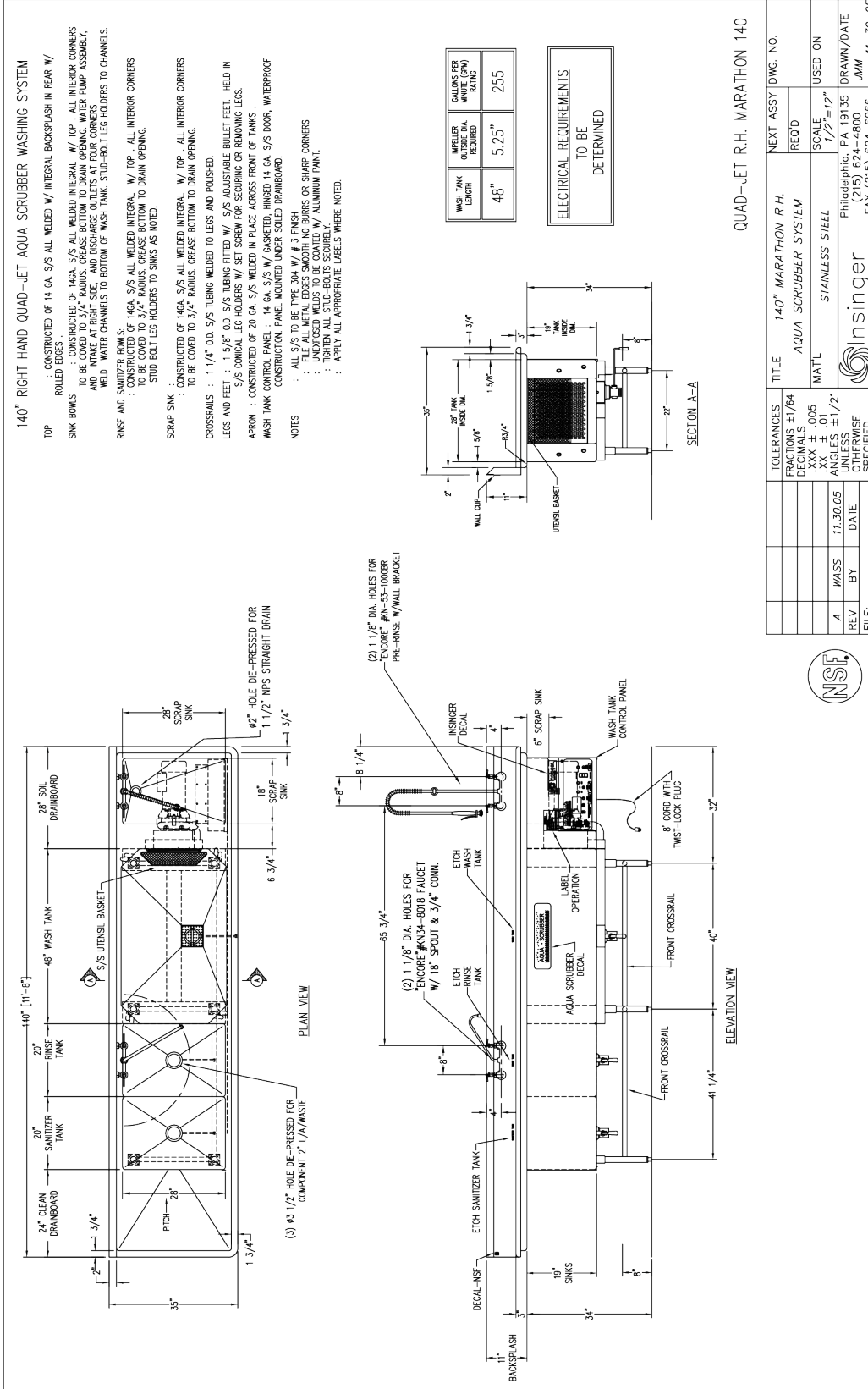
QUAD-JET L.H. MARATHON 140

TOLERANCES	TITLE	140" MARATHON L.H.	NEXT ASSY DWG. NO.
FRACTIONS ±1/8"	AQUA SCRUBBER SYSTEM		REQ'D
DECIMALS .0005	MAT'L	STAINLESS STEEL	USED ON
XX ±.01			SCALE 1/2"=12"
ANGLES ±1/2°			
UNLESS OTHERWISE SPECIFIED			
REV. BY: A WASS			DATE: 11.30.05
FILE:			



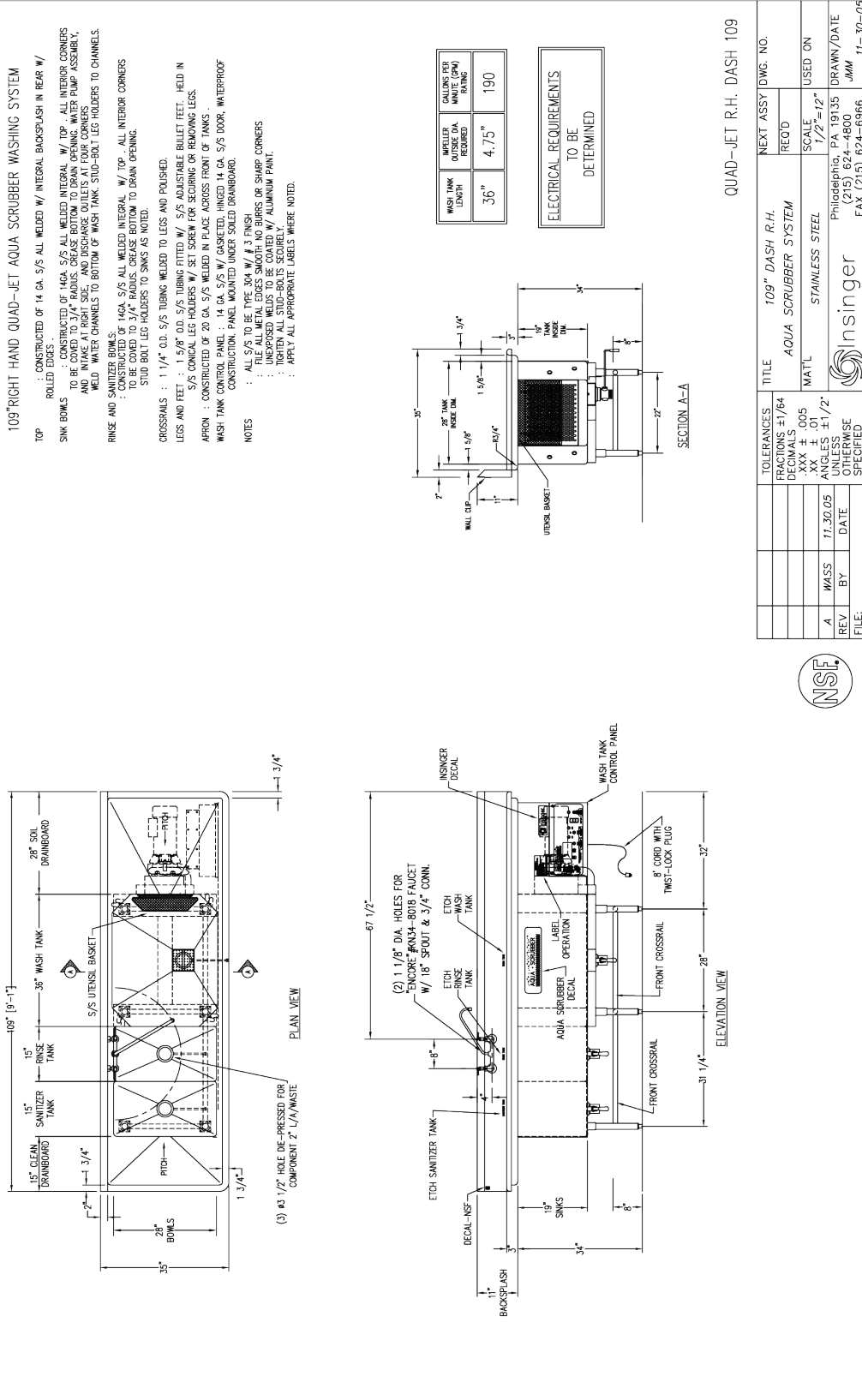
Philadelphia, PA 19135  
 (215) 624-4800  
 FAX (215) 624-6986  
 11-30-05

# Technical Drawings





# Technical Drawings



## INSINGER MACHINE COMPANY LIMITED WARRANTY

*Insinger Machine Company, Inc. (Insinger) hereby warrants to the original retail purchaser of this Insinger Machine Company, Inc. product, that if it is assembled and operated in accordance with the printed instructions accompanying it, then for a period of either 15 months from the date of shipment from Insinger or 1 year (12 months) from the date of installation, that said Insinger product shall be free from defects in material and workmanship. Whichever one of the two aforesaid limited warranty time periods is the longest shall be the applicable limited warranty coverage time period.*

*Insinger may require reasonable proof of your date of purchase; therefore, you should retain your copy of invoice or shipping document.*

*This limited warranty shall be limited to the repair or replacement of parts which prove defective under normal use and service and which on examination shall indicate, to Insinger's satisfaction, they are defective. Any part that is claimed to be defective and covered by this limited warranty must be returned to Insinger, this may be done through an Authorized Service Agency. Furnish serial number of machine with shipment and send to:*

*Insinger Machine Company  
6245 State Road  
Philadelphia, PA 19135-2996*

*If Insinger's inspection confirms the defect and the claim, Insinger will repair or replace such part without charge and return it to you freight or postage prepaid.*

*This limited warranty does not cover any failure or accident, abuse, misuse, alteration, misapplication, improper installation, fire, flood, acts of God or improper maintenance or service, or failure to perform normal and routine maintenance as set out in*

*the instruction booklet (operating instructions) or for improper operation or failure to follow normal operating instructions (as set out in the instruction booklet). Insinger is not responsible nor liable for any conditions of erosion or corrosion caused by corrosive detergents, acids, lye or other chemicals used in the washing and or cleaning process.*

*Service must be done by either Insinger Appointed Service Agencies or agencies receiving prior authorization from Insinger.*

*All warranty work must be done during normal working hours, unless purchaser receives prior authorization from Insinger.*

*There are no other express warrants except as set forth herein and any applicable implied warranties of merchantability and fitness are limited in duration to the period of coverage of this express written limited warranty. This limited warranty supersedes all other express warranties, implied warranties of merchant-ability and fitness or limited warranties as of this date, January 1, 1998. Some states do not allow limitation on how long an implied warranty lasts so this limitation may not apply to you.*

*Insinger is not liable for any special, indirect or consequential damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, so this limitation nor exclusion may not apply to you.*

*Insinger does not authorize any person or company to assume for it any other obligation or liability in connection with the sale, installation, use, removal, return or replacement of its equipment: and no such representations are binding on Insinger.*

**INSINGER MACHINE COMPANY LIMITED WARRANTY  
COMMERCIAL MARINE USE**

*Insinger Machine Company, Inc. (Insinger) hereby warrants to the original retail purchaser of this Insinger Machine Company, Inc. product, that if it is assembled and operated in accordance with the printed instructions accompanying it (installation manual), then for a period of 18 months from the date of installation on board the vessel, that said Insinger product shall be free from defects in material and workmanship.*

*Insinger may require reasonable proof of your date of equipment install, therefore, you should retain your copy of invoice or shipping document.*

*This limited warranty shall be limited to the replacement of parts which prove defective under normal use and service and which on examination shall indicate, to Insinger's satisfaction, they are defective. Any part that is claimed to be defective and covered by this limited warranty must be returned to Insinger. Furnish serial number of machine with shipment and send to:*

*Insinger Machine Company, Inc.  
6245 State Road  
Philadelphia, PA 19135-2996*

*If Insinger's inspection confirms the defect and the claim, Insinger will repair or replace such part without charge and return it to you freight or post-age prepaid. If part damages are not covered, Insinger will contact the customer and advise.*

*If a factory trained authorized technician is required to repair or replace defective parts or material during the 18 month warranty period, the cruise line will be responsible for the payment of travel expense and a minimum of four hours labor.*

*Labor will be billed to the customer at a reduced rate of \$40.00 per hour. If sailing with a vessel is required, then an eight hour per day minimum will apply.*

*This limited warranty does not cover accident, abuse, misuse, alteration, misapplication, improper installation, fire, flood, or improper maintenance or service, or failure to perform normal and routine maintenance as set out in the instruction booklet (operating instructions) or for improper operation or failure to follow normal operating instructions (as set out in the instruction booklet).*

*Insinger is not responsible nor liable for any conditions of erosion or corrosion caused by corrosive detergents, acids, lye or other chemicals used in the washing, caring and or cleaning process.*

*Warranty service must be done by either Insinger Appointed Service Agencies or agencies, customers galley engineers receiving prior authorization from Insinger.*

*There are no other express warrants except as set forth herein and any applicable implied warranties of merchantability and fitness are limited in duration to the period of coverage of this express written limited warranty. This limited warranty supersedes all other express warranties, implied warranties of merchantability and fitness or limited warranties as the above date.*

*Insinger does not authorize any person or company locally or overseas to assume for it any other obligation or liability in connection with the sale, installation, use, removal, return or replacement of its equipment; and no such representations are binding on Insinger.*

*QuadJet Aqua-Scrubber*

## INTRODUCTION

*Purpose*

The purpose of this technical manual is to provide installation, operation, cleaning and maintenance directions.

A section is provided for replacement parts.

*Scope*

This manual contains all pertinent information to assist in the proper installation, operation, cleaning, maintenance, and parts ordering for the QuadJet Aqua-Scrubber Warewashing System.

The **installation instructions** are intended for qualified equipment installers. The **operation and cleaning instructions** are intended for the daily users of the equipment. The **maintenance and parts sections** are intended for qualified service and/or maintenance technicians. Replacement parts may be ordered directly from our factory or from your local Insinger Authorized Service Agency. You can speak to the **Insinger Technical Services Department, 800/344-4802**, or e-mail us at **service@insingermachine.com**. When calling for warranty information or replacement parts please provide the model and serial number of your Insinger Equipment. These important numbers should be noted in this manual on the spaces provided on the opening page.

*Surefire™ Start-up & Check-out Program*

Insinger is proud to offer our exclusive Surefire™ Start-up & Check-out Program to our commercial customers. This service is included in the purchase price of your new Insinger dishwasher. We will provide an authorized factory service technician for the initial start-up of your new Insinger dishwasher to ensure it is running at optimum levels from the very first pass. Please call the factory or your local Insinger Sales Representative to schedule this service.

*NSF 3-2003 requirements for detergent and chemical sanitizer dispensers.*

This machine must be operated with an automatic detergent dispenser and, if applicable, an automatic chemical sanitizer feeder, including a visual means to verify that detergents and sanitizers are delivered or a visual or audible alarm to signal if detergents and sanitizers are not available for delivery to the respective washing and sanitizing systems. Please see instructions for electrical and plumbing connections located in this manual and in the feeder equipment manual.

*Definitions*

Throughout this guide you will find the following terms: WARNING, CAUTION, & NOTE.

**WARNING** indicates potential physical danger.  
**CAUTION** indicates potential equipment damage.  
**NOTE** indicates helpful operating hints or tips.

You will visually be able to identify each as shown below:



**WARNING:**  
Indicates potential physical danger.



**NOTE:**  
Indicates helpful operating hints or tips.

**CAUTION:**

Indicates potential equipment damage.

## *QuadJet Aqua-Scrubber*

### *Safety Summary*

The following are general safety precautions that are not related to any specific procedures. These are recommended precautions that personnel must understand and apply during many phases of operation and maintenance.

### *Keep Away From Live Circuits*

Operating personnel must at all times observe all safety regulations. Do not replace components or make adjustments inside the equipment with the high voltage supply turned on. Under certain conditions, dangerous potentials may exist when the power control is in the off position. To avoid casualties, always remove power, red tag machine and ground a circuit before touching it.

### *Do Not Service or Adjust Alone*

Under no circumstances should any person reach into or enter the enclosure for the purpose of servicing or adjusting the equipment except in the presence of someone who is capable of rendering aid.

### *Resuscitation*

Personnel working with or near high voltages should be familiar with modern methods of resuscitation. Such information may be obtained from the Bureau of Medicine and Surgery.

## INSTALLATION INSTRUCTIONS

### Aqua-Scrubber

#### Placement

Carefully uncrate machine. Take caution not to damage components which may be mounted on the top or sides of the machine. Set unit in place and adjust the bullet feet to level the machine. Turning the bullet foot clockwise will lower the unit. Turning the bullet foot counter-clockwise will raise the unit.

#### Electrical Connections

Connect electrical lines sized for the correct voltage, current and phase of the machine. These should agree with the machine requirements indicated on the nameplate and labels on the control panel.

A single-point electrical connection is provided for the pumps, control circuit, and wash tank heater.

#### CAUTION:

Connections must be made to a circuit breaker or fused disconnect as provided by the end-user and required by local codes. A laminated wiring diagram is inside the control panel.

#### Fuse Sizing Chart

Model	208-240VAC/10
Aqua-Scrubber	30A

#### Mechanical/Plumbing Connections

Connect hot (140°F) water line and cold water line to the provided faucet. Both are 3/4" connections.

Connect the drain line (1 1/2").

#### CAUTION:

Drain lines must be as specified on installation drawing.

Drain line must be properly vented and have fall of not less than 1/4" to the foot of proper flow. Some area plumbing codes require drains to flow into an open gap with an opening twice the diameter of the pipe.

Check with your local plumbing codes for the type of drain connection required.

#### CAUTION:

All lines must be flushed prior to use to remove debris.

#### CAUTION:

Do not reduce the size of lines as specified in installation drawings. All lines are sized to facilitate necessary flows, pressures, etc.

For best washing results, use only Insinger Aqua Wash detergent in the wash tank. Three pre-packaged pouches have been provided with your new Aqua Scrubber Warewashing System.

Open the Aqua Wash detergent pouch and dump into the wash tank. One packet will last 2-4 hours, depending on the soil load.

**p**

#### NOTE:

Contact Insinger for our exclusive AQUA WASH prepackaged detergent for use in your Aqua Scrubber Warewashing System. Toll-free, 800.344.4802 or on the internet, [parts@insingermachine.com](mailto:parts@insingermachine.com)

Use any approved chlorine or iodine based food-grade sanitizer in the sanitizing basin. Dilute to manufacturers specifications. Consult your local chemical supplier.

The unit should be regularly de-limed to avoid excessive limescale build-up in the tank and on components. Any approved limescale removal chemical

## Operation & Cleaning Instructions Aqua-Scrubber

Follow these operation procedures and general cleaning procedures to ensure your Insinger ware-washer will give you years to trouble free service.

### Operation Instructions

Close the tank drain valve

All water lines must be open. All electrical circuits must be on.

Fill the tank(s) by opening the faucet. Each tank has a "Tank Fill" indication on the back wall. Fill to this level. The tank should be filled with HOT water.

On the control panel, move the power toggle switch to the "ON" position. The power light will illuminate.

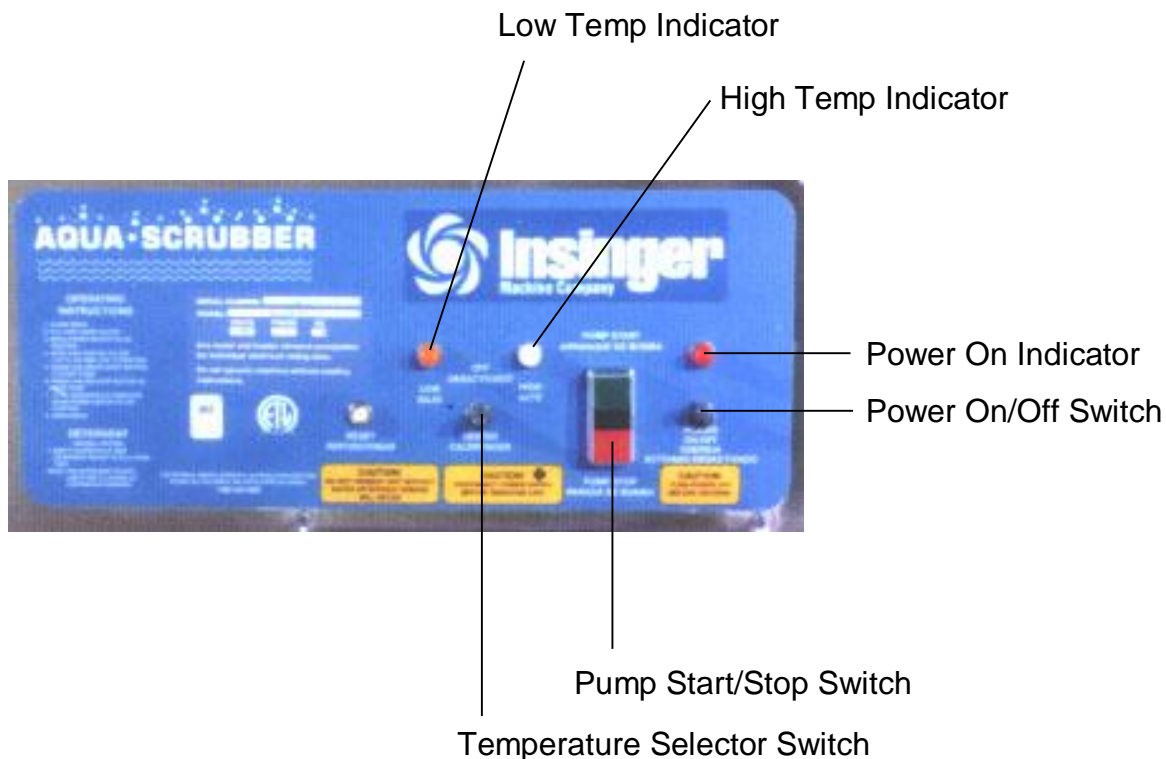
The Aqua Scrubber has two heat levels, high and low, controlled by the TEMPERATURE SELECTOR switch. Move the TEMPERATURE SELECTOR switch to the desired temperature. The appropriate indicator light will illuminate indicating that the tank is heating.

- Low Temperature is factory set to approximately 110°F
- High Temperature is factory set to approximately 140°F



#### WARNING:

Scalding occurs at 113°F. Do not remove ware from the Aqua-Scrubber with bare hands. Use a tool to aid in ware removal.



*Operation & Cleaning Instructions  
Aqua-Scrubber*

*Operation Instructions (continued)*

Place soiled ware into the Aqua-Scrubber wash tank.

Press the green pump start button to start the wash pump. Press the red pump stop button to stop the wash pump.

**p** *NOTE:*  
Overloading the wash tank will minimize the proper cleaning of ware.

Clean tank level probe (located under hinged pump scrap strainer).

When ware is clean, dip it into the rinse tank for rinsing and into the sanitizing tank for sanitizing.

Upon completion of ware cleaning move the power toggle switch to the "OFF" position.

Open the drains to allow the tanks to drain.

Refer to the cleaning procedures for proper clean-up of the Aqua-Scrubber.

Report any unusual occurrences to qualified service personnel.

The following cleaning procedures should be done daily, at the end of the shift.

Cleaning procedures, daily:

Clean the hinged pump scrap strainer.

Flush the insides of each tank.

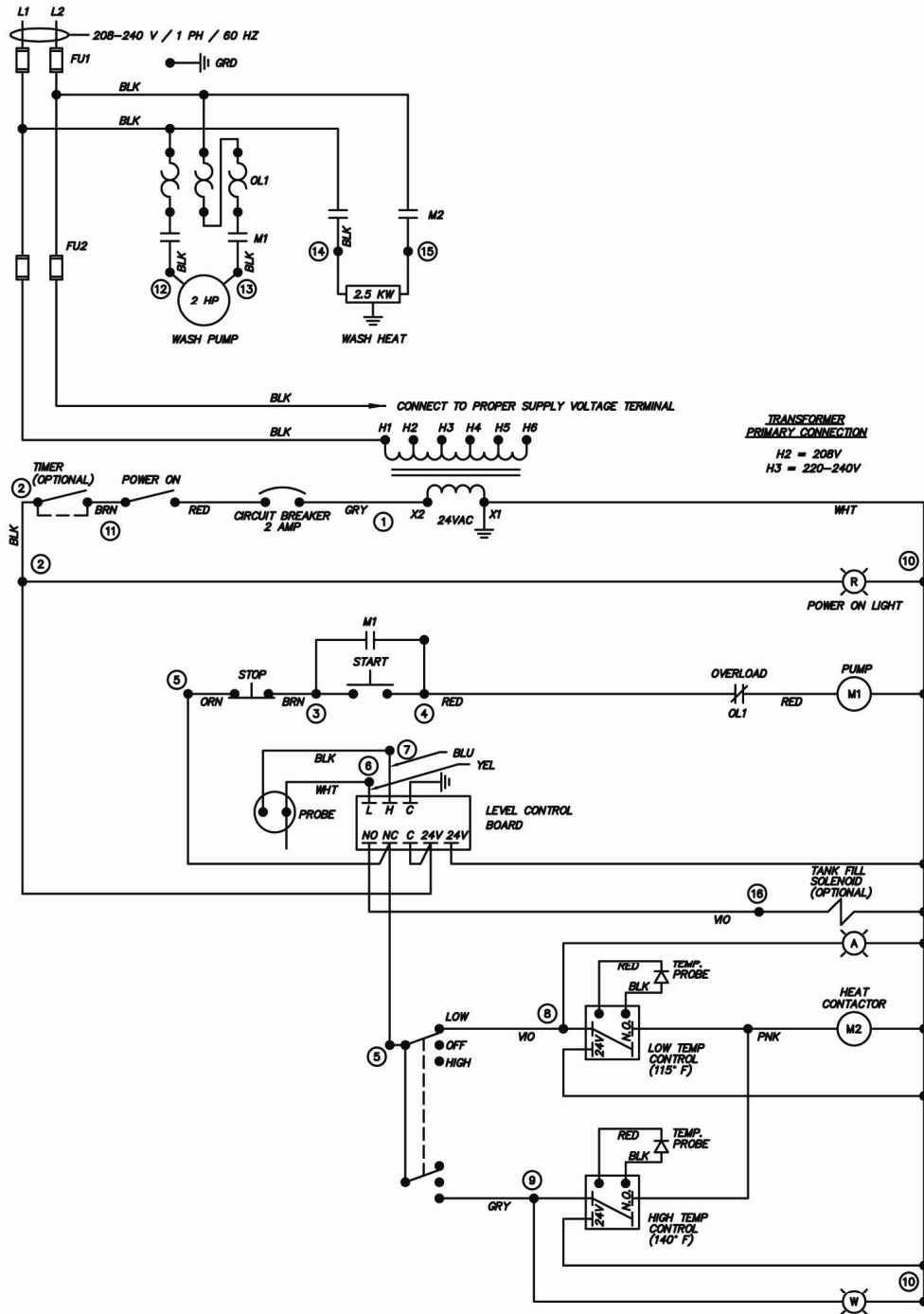
**p** *NOTE:*  
Improper cleaning of pump scrap strainers will cause the pumps to cavitate. This will cause poor washing results.

*CAUTION:*

Level probe must be cleaned daily. Build-up of scale or grease will cause faulty operation of the heat system.

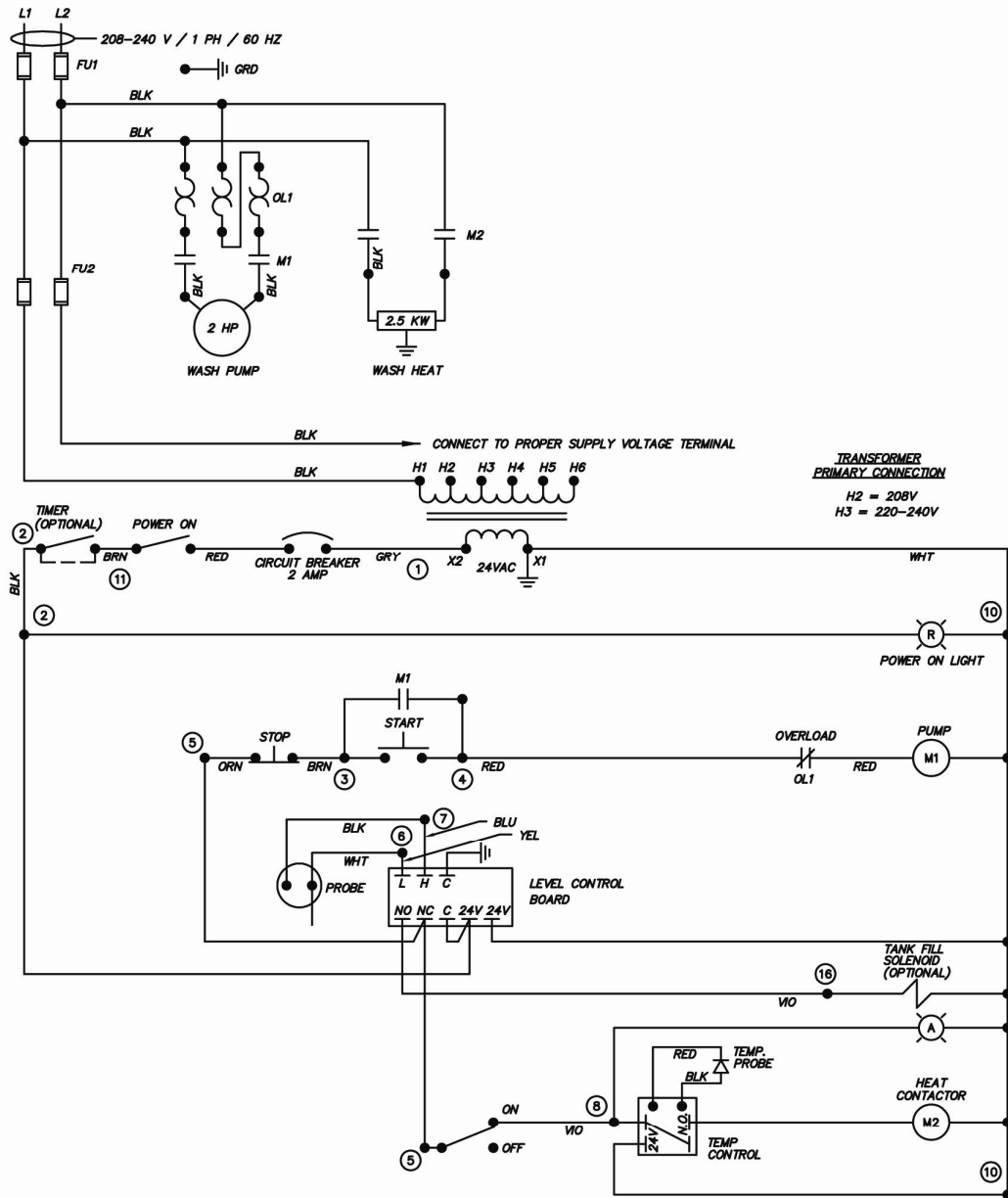
## QuadJet Aqua-Scrubber

<i>Basic Service Guide</i>		
<i>SYMPTOM</i>	<i>POSSIBLE CAUSE</i>	<i>SOLUTION</i>
1. Machine will not operate	a. No power b. Blown fuse or tripped breaker c. Motor overload tripped	a. Check power supply b. Replace fuse; reset breaker c. Reset overload
2. Tank will not hold water	a. Drain not closed b. Pump petcock opened	a. Close drain b. Close pump petcock
3. Tank fills beyond overflow	a. Level probe dirty b. Level control system not operating correctly	a. Clean level probe b. Troubleshoot level control system
4. Weak wash	a. Clogged spray nozzles b. Obstruction in pump	a. Clean spray nozzles b. Clear obstruction through pump inspection plate
5. Water hammer	a. Excessive water line pressure	a. Install shock arrestor
6. Tank not filling	a. Faucet turned off b. Ball valve turned off	a. Turn faucet on b. Turn ball valve on
7. Tank heat not working; temperature too low or high	a. Heat switch not in LOW or HIGH position b. Level probe dirty c. Heat circuit not working d. Thermostat not adjusted e. Breaker turned off/tripped or blown fuse f. Element limed up	a. Move heat switch to desired position b. Clean level probe c. Troubleshoot heat circuit d. Adjust thermostat e. Turn on/reset breaker; replace fuse f. De-lime unit



C	1895	9.13.01	TITLE	WIRING SCHEMATIC	DWG. NO.
B	1647	12.11.98		AQUA-SCRUBBER (SINGLE PHASE)	SK-4005
A	-	10.12.97			
REV	EGN NO	DATE	 Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-8988		DRWN/DATE
					MFJ 6.17.97

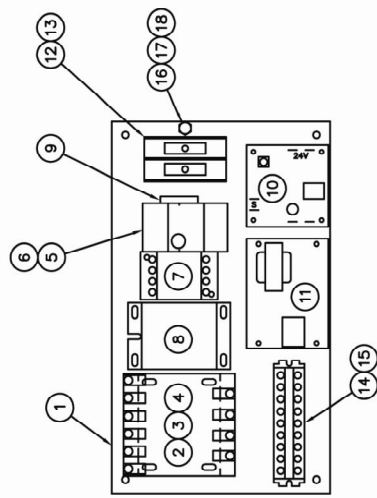




⑨ ⑫ ⑬ ⑭ ⑮ NOT USED

		TITLE		DWG. NO.	
		WIRING SCHEMATIC		SK-4246	
		AQUA-SCRUBBER (FAST FOOD) 1 PH			
REV	ECN NO	DATE	Philadelphia, PA 19135		DRWN/DATE
A	1895	9.13.01	(215) 624-4800		MFJ
FILE: SKETCH\SK-4246		Insinger Machine Company		FAX (215) 624-6966	
				2.3.99	

THESE ITEMS SHIPPED LOOSE IN BAG		THESE ITEMS WIRED TOGETHER ON 18" PIGTAIL AND CONNECTED TO TERMINAL BLOCK.		THESE ITEMS ATTACHED TO MOUNTING PLATE	
ITEM	DESCRIPTION	QTY	PART NO.	DESCRIPTION	QTY
34	BOOT (FOR DE5-32AE)	1	DE5-69	1	COMPONENT MOUNTING PLATE
35	BOOT (FOR TOGGLE SWITCH)	2	DE9-13	2	TRANSFORMER (50 VA, 24 VAC)
36	HEX NUT (FOR TEMP PROBE)	1	D-337	1	FUSE BLOCK KIT (50 VA XFMR)
37				1	FUSE (50 VA TRANSFORMER PRIMARY)
ITEMS FOR REFERENCE ONLY					
ITEM	DESCRIPTION	QTY	PART NO.	DESCRIPTION	QTY
38	AQUA-SCRUBBER DECAL LOGO (INSINGER)	1	SK-4025-1	208 - 240 V FNO-R-.75	2
	LIGHT BLUE			208-240/1/60 9-13 A	
	DARK BLUE	1	SK-4025-2	OVERLOAD RELAY (2 HP PUMP)	1
39	DATA DECAL	1	SK-3715-1	CONTACTOR (PUMP) SP4	1
40	AQUA-SCRUBBER OVERLAY (INSINGER)	1	NEW	CONTACTOR (ELECT TANK HEAT) 30 A RES	1
	AQUA-SCRUBBER OVERLAY (NWS)	1	NEW	DIN RAIL (35 mm)	1
41	WIRING SCHEMATIC (FAST FOOD)	-	SK-4246	TEMPERATURE CONTROL BOARD	1
				LEVEL CONTROL BOARD	1
				FUSE BLOCK, 2 POLE	1
				FUSE	2
				208-240/1/60 FNO-R-30	
				OVERLOAD BASE	1
				DE2-60	
				DE1-93	
				DE1-109	
				DE9-84	
				DE9-251	
				DE9-85	
				DE9-185	
				DE9-227	
				TERMINAL BLOCK	9
				DE3-9A	
				DE3-9B	
				D309C-GC-4G	
				D313C-65	
				D312C-GC-2	

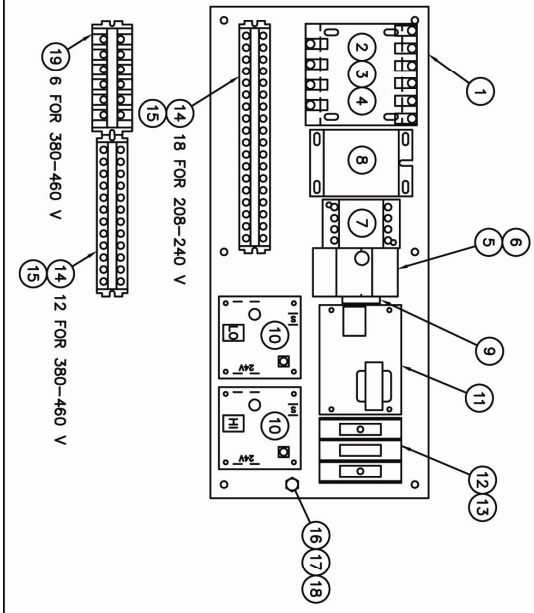


**FILE:** SKETCH\SK-4247  
**SCALE:** 1=4  
**REV:** ECN NO DATE  
**REV B:** 1857 2.15.07  
**REV A:** 1672 4.26.99  
**DWG. NO.:** SK-4247

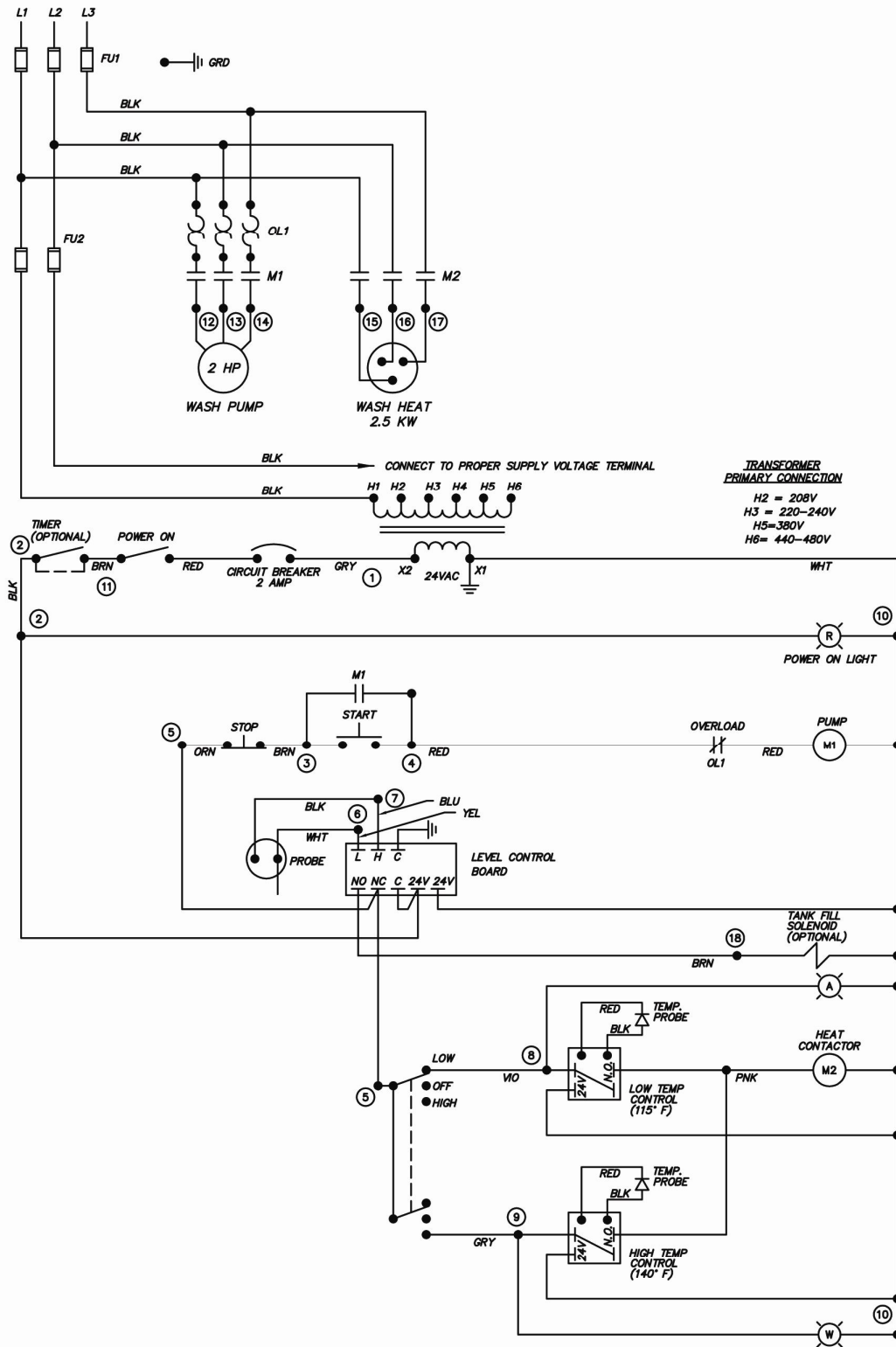
**INSINGER**  
 Philadelphia, PA 19135  
 (215) 624-4800  
 FAX (215) 624-6966  
 FILE: SKETCH\SK-4247

**CONTROL PANEL LAYOUT (FAST FOOD) 1 PHASE**  
 DRWN/DATE: MFJ 3.4.99

THESE ITEMS SHIPPED LOOSE IN BAG				THESE ITEMS WIRED TOGETHER ON 18" PIGTAIL AND CONNECTED TO TERMINAL BLOCK.				THESE ITEMS ATTACHED TO MOUNTING PLATE			
ITEM	DESCRIPTION	PART NO.	QTY	ITEM	DESCRIPTION	PART NO.	QTY	ITEM	DESCRIPTION	PART NO.	QTY
34	BOOT (FOR DE5-32AE)	DE5-69	1	1	COMPONENT MOUNTING PLATE	SK-4009	1	1	OVERLOAD RELAY (2 HP PUMP)	DE2-55	1
35	BOOT (FOR TOGGLE SWITCH)	DE9-13	2	2	TRANSFORMER (50 VA, 24 VAC)	DE6-8	1	2	TRANSFORMER (50 VA, 24 VAC)	DE2-55	1
36	HEX NUT (FOR TEMP PROBE)	D-337	2	3	FUSE BLOCK KIT (50 VA XMR)	DE9-163	1	3	FUSE BLOCK KIT (50 VA XMR)	DE2-54	1
37				4	FUSE (50 VA TRANSFORMER PRIMARY)	DE9-166	2	4	FUSE (50 VA TRANSFORMER PRIMARY)	DE3-196	1
ITEMS FOR REFERENCE ONLY				27	PILOT LIGHT (AMBER)	DE9-109	1	5	OVERLOAD RELAY (2 HP PUMP)	DE3-196	1
38	AQUA-SCRUBBER DECAL LOGO (INSINGER)	SK-4025-1	1	28	CIRCUIT BREAKER (2A)	FNQ-R-.5	1	6	OVERLOAD RELAY (2 HP PUMP)	DE2-55	1
39	DATA DECAL	SK-3715-1	1	29	SWITCH (HI-OFF-LOW)	FNQ-R-.5	1	7	CONTRACTOR (PUMP) SP4	DE2-54	1
40	AQUA-SCRUBBER OVERLAY (NWS)	SK-4026-1	1	30	SENSOR (FOR TEMP CONTROL BOARD)	FNQ-R-.5	1	8	CONTRACTOR (ELECT TANK HEAT) 3/1 A RES	DE1-109	1
41	WIRING SCHEMATIC (THREE PHASE)	SK-4283	-	31	TIMER, 12 HOURS (OPTIONAL)	DE7-36	1	9	DIN RAIL (35 mm)	DE3-84	1
				32				10	TEMPERATURE CONTROL BOARD	DE9-291	2
				THIS ITEM WIRED ON 96" PIGTAIL WITH PUSH-ON CONNECTORS AND CONNECTED TO TERMINAL BLOCK.				11	LEVEL CONTROL BOARD	DE3-85	1
				33	LEVEL PROBE ASSY (INC PROBE, NUT, WASHER, & 2 GASKETS)	D2470-31	1	12	FUSE BLOCK, 3 POLE	DE3-186	1
				1				13	FUSE	DE9-184	3
				2				14	208/3/60	FNQ-R-20	1
				3				15	230/3/60	FNQ-R-20	1
				4				16	380/3/50	FNQ-R-15	1
				5				17	460/3/60	FNQ-R-10	1
				6				18	TERMINAL BLOCK	DE3-94	1
				7				19	TERMINAL BLOCK END	DE3-99	1
				8				20	GROUNDING STUD, 1/4-20	D309C-GC-4G	1
				9				21	LOCKWASHER, 1/4	D313C-G5	1
				10				22	HEX NUT, 1/4-20	D312C-GC-2	1
				11					TERMINAL BLOCK (6) 380-460 V ONLY	DE3-155	1
				12							
				13							
				14							
				15							
				16							
				17							
				18							
				19							
				20							
				21							
				22							

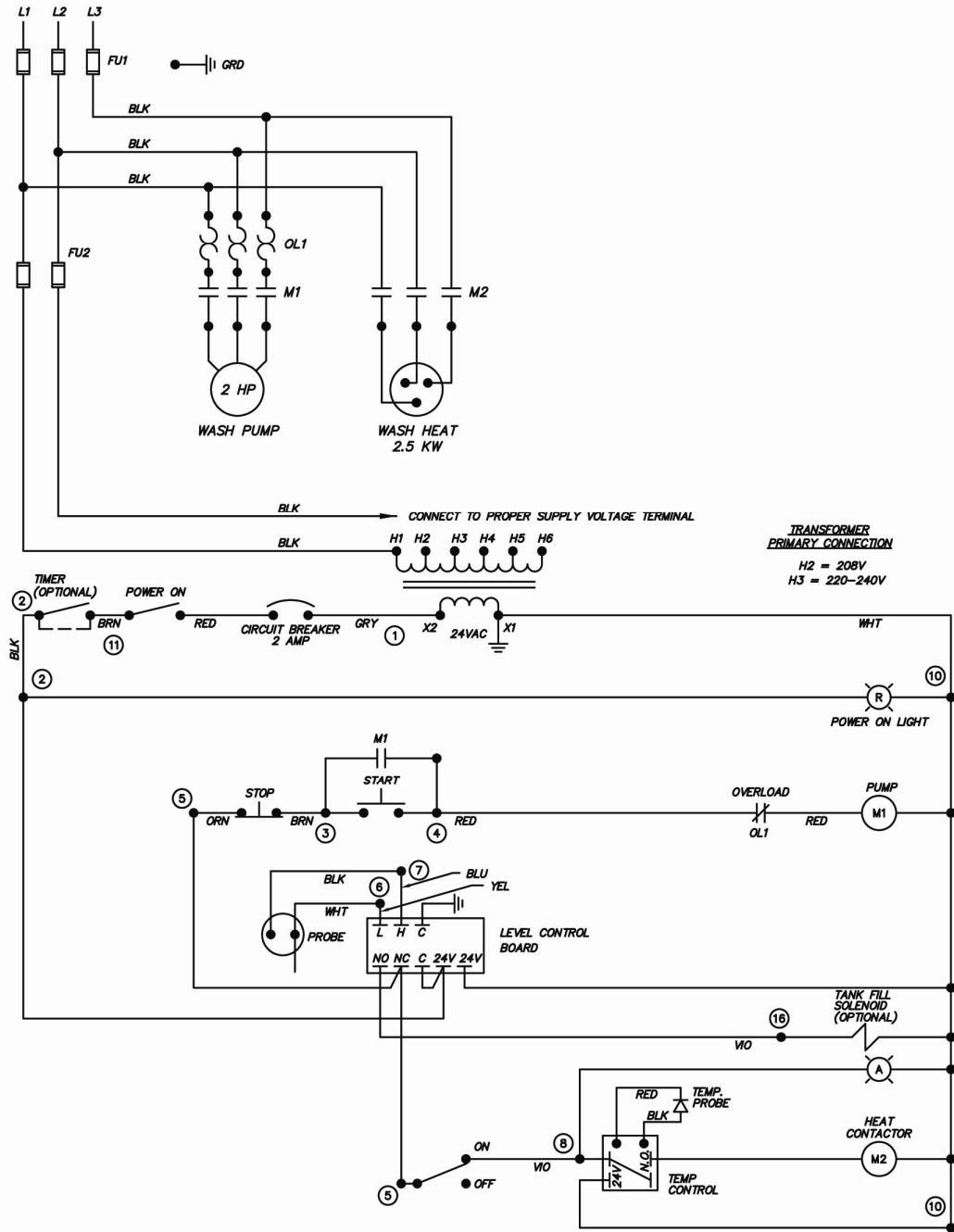


TITLE			
AQUA-SCRUBBER CONTROL PANEL LAYOUT - THREE PHASE			
		Philadelphia, PA 19135 215) 624-4800 FAX (215) 624-6966 FILE: XETCH/ SK-4280	
C	1993	8.9.03	DRW/DATE
B	1901	10.23.07	M/F/ 6.17.99
A	1887	2.15.07	
REV	ECN NO	DATE	DWG. NO.
			SK-4280



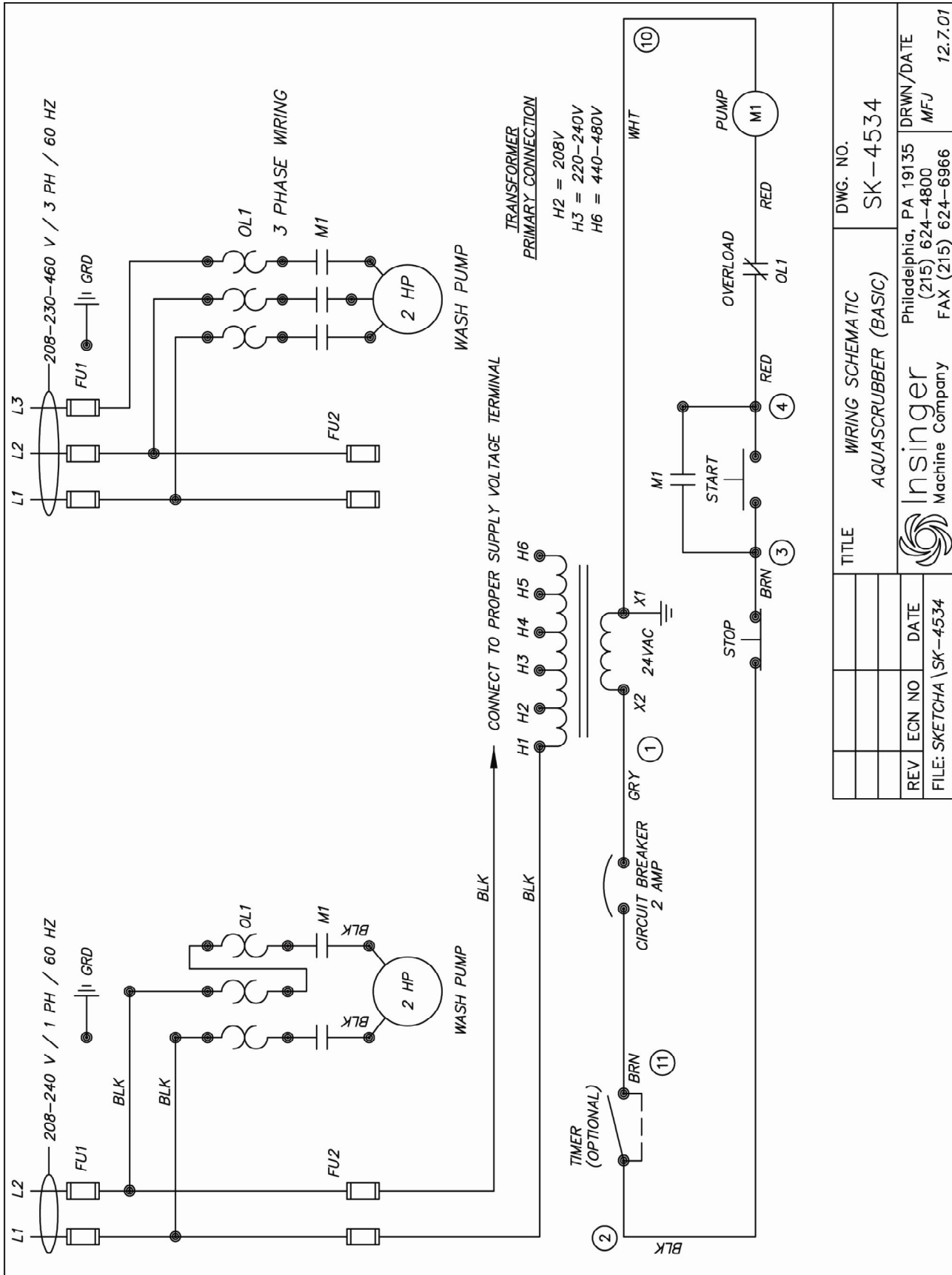
			TITLE	WIRING SCHEMATIC	DWG. NO.
			AQUA-SCRUBBER (THREE PHASE)		SK-4283
REV	ECN NO	DATE			
A	1993	9.9.03			
FILE: SKETCH\SK-4283			 Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-8966		DRWN/DATE MFJ 6.17.99





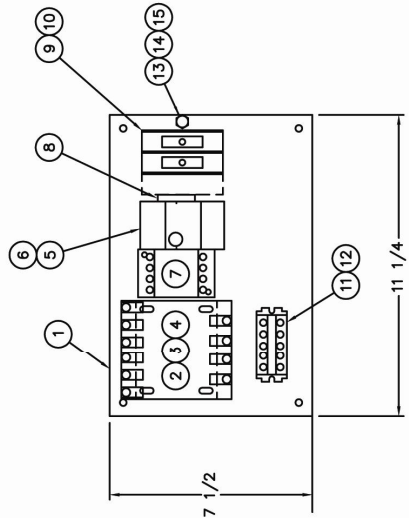
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			TITLE	WIRING SCHEMATIC	DWG. NO.	SK-4523
			AQUA-SCRUBBER (FAST FOOD) 3 PH			
REV	ECN NO	DATE	Insinger		Philadelphia, PA 19135	DRWN/DATE
FILE: SKETCH	SK-4523		Machine Company		(215) 624-4800	MFJ
					FAX (215) 624-6966	10.22.01



TITLE		WIRING SCHEMATIC		DWG. NO.	
		AQUASCRUBBER (BASIC)		SK-4534	
REV	ECN NO	DATE	Philadelphia, PA 19135 DRWN/DATE		
FILE: SKETCHA \ SK-4534			(215) 624-4800 MFJ		
			FAX (215) 624-6966		
			12.7.01		

THESE ITEMS WIRED TOGETHER ON 18" PIGTAIL AND CONNECTED TO TERMINAL BLOCK.			THESE ITEMS ATTACHED TO MOUNTING PLATE				
ITEM	DESCRIPTION	PART NO.	QTY	ITEM	DESCRIPTION	PART NO.	QTY
18	PUSHBUTTON ASSY, START-STOP	DE5-32AE	1	1	COMPONENT MOUNTING PLATE	SK-4544	1
19	CIRCUIT BREAKER (2A)	DE9-3T	1	2	TRANSFORMER (50 VA, 24 VAC)	DE6-8	1
20	TIMER, 12 HOURS (OPTIONAL)	DE7-36	1	3	FUSE BLOCK KIT (50 VA XFMR)	DE9-163	1
21				4	FUSE (50 VA TRANSFORMER PRIMARY)		2
22					208 - 240 V FNQ-R-.75	DE9-166	
					440 - 480 V FNQ-R-.5	DE9-196	
	THESE ITEMS SHIPPED LOOSE IN BAG			5	OVERLOAD RELAY (2 HP PUMP)		1
23	BOOT (FOR DE5-32AE)	DE5-69	1		208-240/1/60 9-13 A	DE2-57	
24					208/3/60 5.5-8 A	DE2-55	
					230/3/60 5.5-8 A	DE2-55	
					460/3/60 2.5-4 A	DE2-53	
	ITEMS FOR REFERENCE ONLY			6	OVERLOAD BASE	DE2-60	1
				7	CONTACTOR (PUMP)	DE1-93	1
25	WIRING SCHEMATIC (BASIC)	SK-4534		8	DIN RAIL (35 mm)	DE9-84	1
				9	FUSE BLOCK, 2 POLE (FOR SINGLE PHASE)	DE9-185	1
				10	FUSE BLOCK, 3 POLE (FOR 3 PHASE)	DE9-186	1
					FUSE		AR
					208-240/1/60 FNQ-R-20	DE9-184	
					208/3/60 FNQ-R-15	DE9-183	
					230/3/60 FNQ-R-15	DE9-183	
					460/3/60 FNQ-R-10	DE9-181	
				11	TERMINAL BLOCK	DE3-9A	5
				12	TERMINAL BLOCK END	DE3-9B	1
				13	GROUNDING STUD, 1/4-20	D309C-GC-4G	1
				14	LOCKWASHER, 1/4	D313C-G5	1
				15	HEX NUT, 1/4-20	D312C-GC-2	1
				16			
				17			



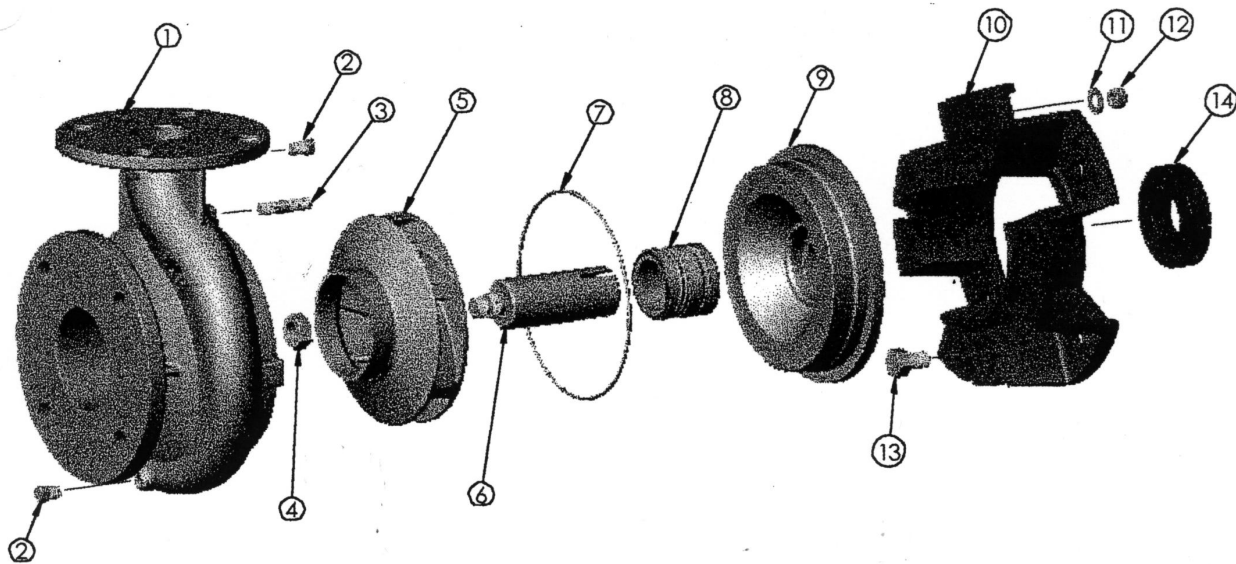
TITLE		AQUA-SCRUBBER CONTROL PANEL LAYOUT (BASIC)	
Insinger		Philadelphia, PA 19135	DRWN/DATE
		(215) 624-4800	MFJ
		FAX (215) 624-6966	12.7.01
		FILE: SKETCH/ SK-4535	
		SCALE	DWG. NO.
		1=4	SK-4535
REV	ECN NO	DATE	

*QuadJet Aqua-Scrubber*

<i>PART NUMBER</i>	<i>DESCRIPTION</i>	<i>QUANTITY</i>
D10X014	Basket Strainer	1
D130002	Crumb Cup Lever Drain	1
D10X021	O-ring Lever Drain	1
D507200	Lever Drain Complete Assembly	1
KN531000BR	Pre-Rinse Spray with Wall Bracket	1
KN348018	Wash Tank Faucet	1
KN548012	Rinse & Sanitize Tank Faucet	1
436620065044	480 Volt Heating Element	1
23278210001	208 & 204 Volt Heating Element	1

## QuadJet Aqua-Scrubber

33423



ITEM	PART NUMBER	DESCRIPTION	QUANTITY
1	31469	Volute S/S	1
2	21255	Pipe Plug S/S 1/8" NPT	2
3	21261	Stud S/S 3/8- 16 x 1 5/8"	4
4	29194	Hex Jam Nut S/S 5/8-18	1
5	31571	Impellar S/S 5.6" dia.	1
6	31806	Drive Sleeve S/S	1
7	31233	O-ring Viton	1
8	31374	Mech. Seal 1.5" T-2100	1
9	31093	Seal Housing S/S	1
10	31711	Motor Adapter 145TC	1
11	28053	Washer S/S 3/8"	4
12	21268	Hex Nut S/S 3/8-16	4
13	25663	Cap Screw S/S 3/8-16 3/4"	4
14	23039	Clamp	1

QuadJet Aqua-Scrubber

<i>Parts List</i>		
<i>Motor &amp; Pump</i>		
<i>Part Number</i>	<i>Description</i>	<i>Quantity</i>
34415-0001	Pump & Motor Assembly	1
	Pump 3 1/2" Intake x 3"	
21042	Pump Discharge Elbow	1
5663k12	Screw Clamp	2
INS0075P001	1" O.D. Tubing	4
INS0076P001	1" O.D. Tubing	4
NMLT-50	1/2" PVC Liq. Tight Conn.	4
STOCK	Bolt, Hex Head S/S	1
STOCK	Nut Hex	4
STOCK	Washer Lock	8
<i>Controls</i>		
SK4280-0001	Control Panel Large	1
208V-3PH-0001		
Special Order	Tubing Heat Shrink	1
Special Order	Watertight Connector	2
STOCK	S/S Truss Head Screw	2
STOCK	1/4-20 UNC S/S Weld Nut	2
M48-0122	S/S Continuous Hinge	1
MISC 1066	Door Gasket	1
G89-851	1/2" Flex Conduit	4 ft.
NMLT9050	1/2" 90° Liq/Tight Conn.	2
CG-5050	1/2" Liq/Tight Conn.	1
2462	1/2" Liq/Tight Conn.	1
ITCSN08006PK	Tubing Heat Shrink	1

<i>Parts List</i>		
<i>Misc. Electric</i>		
<i>Part Number</i>	<i>Description</i>	<i>Quantity</i>
436620065040	Immersion Heater	1
104S0W	Cord	8 ft.
HBL-2421	Twist Lock Plug	1
<i>Miscellaneous</i>		
QUAD 2508	Utility Basket	1
MISC 2407	S/S Wire Guard	1
A10-0851	S/S Bullet Foot	10
A18-0406	S/S Leg Holder (Plate)	6
A18-0206	S/S Leg Holder	4
J77-4401	Double Pot Hook	44

# HOURS OF OPERATION

Insinger is available to assist you and your team day or night. Our regular business hours are Monday through Friday, 8:00 AM - 5:00 PM (EST). After-hours inquiries may take longer to respond.

## CONTACTS

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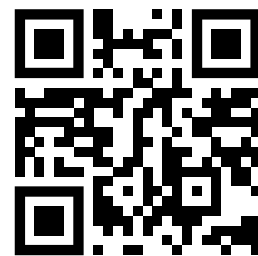
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D: (215) 624-4800 x139



Digital Contact Cards

