



**TECHNICAL MANUAL**  
**Door Type Dishwashing Machine**

**Commander 18-6**

**18-6**

**18-6C**

**18-6H**

**18-6HC**

**18-6VG**

**18-6HVG**

Installation, Operation and Maintenance Instructions

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

**800-344-4802**

Fax 215-624-6966

[www.insingermachine.com](http://www.insingermachine.com)

**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:

<b>TECHNICAL SERVICE CONTACTS</b>	
Toll-Free	800-344-4802
Fax	215-624-6966
e-mail	<a href="mailto:service@insingermachine.com">service@insingermachine.com</a>
Web site	<a href="http://www.insingermachine.com">www.insingermachine.com</a>

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

## COMMANDER 18-6

### Automatic Single Tank Door Type Dishwasher

- Automatic door type, single tank dishwasher with timed wash and rinse cycle
- 0.72 gallon/rack
- Capacity is 65- 20" x 20" racks per hour or 1625 dishes per hour
- Fully automatic operation
- RackAware™ Automatic Rack Sensing System only runs a cycle when a rack is present
- Selectable 2 minute extended wash cycle
- Field convertible straight through to corner
- Digital temperature indicators for wash and rinse temperature



RackAware™ Automatic Rack Sensing System\* only runs a cycle when a rack is present

#### STANDARD FEATURES

- SureFire® Start-Up & Check-Out Service
- Non-proprietary commercially available pump motor and parts
- "Easy Clean" front-mounted wash tank
- Tank heat: electric immersion heater or steam injectors
- Top-mounted NEMA 12 control panel
- Single point electrical connection: motor, controls, heater and optional built-in booster (when selected)
- Door safety switch
- Low water protection
- Override switches for de-liming and extended wash cycle on front control panel
- Vent fan connection provision
- Easy-glide doors
- Detergent connection provision
- Manifold clean-out brush
- S/S frame, legs and feet
- S/S front panel
- End caps/pipe plugs secured to prevent loss

#### OPTIONS

- VaporGuard™ Condensation Removal System (refer to VaporGuard accessory sheet for information)
- Pressure reduction valve and line strainer
- Stainless steel steam coil tank heat
- Steam booster
- Built-in electric booster
- Remote electric booster
- Security package
- Totally enclosed motor
- Door activated drain closer
- Plastic 20" x 20" racks (plate or silver)
- Drain quench system

**Commander 18-6**

#### AUTOQUOTES



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## COMMANDER 18-6

### Automatic Single Tank Door Type Dishwasher

Capacity Per Hour	65 racks 1625 dishes 80-160 meals		
Tank Capacity	6.4 gallons		
Motor Size	1 hp (wash)		
Electric Usage	5.0 Kw 208v 5.0 Kw 240v 5.0 Kw 380v 5.0 Kw 480v		
	Built-in booster 40° - 70° rise 10.1 Kw 208v 13.5 Kw 240v 13.5 Kw 380v 13.5 Kw 480v		
Steam Consumption at 20 psi min.	6.0 Kw remote booster 40° rise 12.0 Kw remote booster 70° rise		
	11 lbs./hour tank 22 lbs./hour booster 40° rise 43 lbs./hour booster 70° rise		
Final Rinse Peak Flow at 20 psi min.	4.36 gallons/minute		
Final Rinse Consumption at 20 psi min.	47 gallons/hour 0.72 gallons/rack		
Exhaust Hood Requirement	500 cfm		
Peak Rate Drain Flow	9 gallons/minute		
Shipping Weight	400 lbs.		
Current Draw Amps	Steam	Electric w/o booster	Electric w/ built-in booster
208/1/60	9.3	33.3	81.9
240/1/60	8.1	28.9	85.2
208/3/60	5.1	19	47
240/3/60	4.2	16.2	48.7
480/3/60	2.3	8.3	24.5
380/3/50	2.8	10.4	30.9

Note: Due to product improvement we reserve the right to change information and specifications without notice.

### SPECIFICATIONS

**CONSTRUCTION**- Hood and tank constructed of 16 gauge type 304 S/S. Hood unit of all welded seamless construction. S/S frame, legs and feet. All internal castings are non-corrosive lead free nickel alloy or bronze.

**DOORS**- Three (both sides and front) simultaneously opening doors. Operating doors have fingertip control, balanced by externally mounted springs. (Corner installations have two simultaneously opening doors at right angles.) All doors have easy-glide strips. Extra large die formed type 304 S/S doors ride in all S/S channels. A triple ply leading edge on the door channels made of S/S.

**PUMP**- Centrifugal type "packless" pump with a brass petcock drain. Construction includes ceramic seal and a balanced cast impeller on a precision ground stainless steel shaft, extension or sleeve. All working parts mounted as an assembly and removable as a unit without disturbing pump housing. One 1 hp motor, standard horizontal C-face frame, drip proof, internally cooled with ball-bearing construction.

**CONTROLS**- Top mounted control cabinet, NEMA 12 rated, housing motor controls and overload protection, transformer, contactors and all dishwasher integral controls. Integrated rack sensing system.

**SPRAY SYSTEM**- Wash and rinse spray systems made of type 304 stainless steel pipe threaded into cast hub assemblies. Upper and lower wash and rinse spray assemblies are removable without the use of tools.

**WASH**- 2 power spinning wash arms above and 2 power spinning wash arms below. On top, each wash arm is designed with 8 nozzles (16 total). On the bottom, each wash arm is designed with 4 slots (8 total). The slots are precision milled for water control and produce a fan spray.

**FINAL RINSE**- 2 power spinning rinse arms above and 2 power spinning wash arms below. On top, each rinse arm is designed with 2 nozzles (4 total). On the bottom, each rinse arm is designed with 4 nozzles (8 total). The nozzles produce a fan spray reducing water consumption, maximizing heat retention.

**DRAIN**- Drain valve externally controlled. Overflow assembly with skimmer cap is removable without the use of tools for drain line inspection. Heater is protected by low water level control.


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

## COMMANDER 18-6H

### Automatic Extra High Single Tank Door Type Dishwasher

#### DESIGN

- Automatic door type, single tank dishwasher with timed wash and rinse cycle
- 0.72 gallon/rack
- Capacity is 65- 20" x 20" racks per hour or 1625 dishes per hour
- Fully automatic operation
- RackAware™ Automatic Rack Sensing System\* only runs a cycle when a rack is present
- Selectable 2 minute extended wash cycle
- Handles mixer agitators, 18" x 26" sheet pans, utensils & mixing bowls up to 60 quarts
- Field convertible straight through to corner
- Digital temperature indicators for wash and rinse temperature



RackAware™ Automatic Rack Sensing System\* only runs a cycle when a rack is present

#### STANDARD FEATURES

- Door safety switch
- Detergent connection provision
- Fully automatic operation
- Non-proprietary commercially available pump motor
- Easily removable pump suction strainer
- Tank heat: 5 Kw electric immersion heater or steam injector
- SureFire® Start-Up & Check-Out Service
- Easy-glide doors
- Single point electrical connection: motor, controls, heater and optional built-in booster (when selected)
- Top-mounted NEMA 12 control panel
- "Easy Clean" front-mounted wash tank
- Manifold clean-out brush
- S/S frame, legs and feet
- S/S front panel
- Automatic tank fill
- Low water protection
- Override switches for de-liming and extended wash cycle on front control panel
- Vent fan connection provision
- End caps/pipe plugs secured to prevent loss


**Commander 18-6H**

#### OPTIONS

- VaporGuard™ Condensate Removal System\* (Refer to VaporGuard accessory sheet for information)
- Pressure reduction valve and line strainer
- Stainless steel steam coil tank heat
- Steam booster
- Built-in electric booster
- Remote electric booster
- Security package
- Totally enclosed motor
- Door activated drain closer
- Plastic 20" x 20" racks (plate or silver)
- Drain quench system

\*Patent Pending

#### AUTOQUOTES



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## COMMANDER 18-6H

### Automatic Extra High Single Tank Door Type Dishwasher

Capacity Per Hour	65 racks 1625 dishes 80-160 meals		
Tank Capacity	6.4 gallons		
Motor Size	2 hp (wash)		
Electric Usage	5.0 Kw Built-in booster 40° or 70° rise 10.1 Kw 208v 13.5 Kw 240v 13.5 Kw 380v 13.5 Kw 480v  6.0 Kw remote booster 40° rise 12.0 Kw remote booster 70° rise		
Steam Consumption at 20 psi min.	18 lbs./hour tank 22 lbs./hour booster 40° rise 43 lbs./hour booster 70° rise		
Final Rinse Peak Flow at 20 psi min.	4.36 gallons/minute		
Final Rinse Consumption at 20 psi min.	47 gallons/hour 0.72 gallons/rack		
Exhaust Hood Requirement	400 cfm		
Peak Rate Drain Flow	9 gallons/minute		
Shipping Weight	600 lbs.		
Current Draw Amps	Steam	Electric w/o booster	Electric w/ built-in booster
208/1/60	13.7	32.0	80.5
240/1/60	11.9	33.3	89.5
208/3/60	8.0	21.9	49.9
240/3/60	7.2	19.2	51.7
480/3/60	3.6	9.6	25.9
380/3/50	4.4	12.0	32.6

Note: Due to product improvement we reserve the right to change information and specifications without notice.

### SPECIFICATIONS

**CONSTRUCTION-** Hood and tank constructed of 16 gauge type 304 S/S. Hood unit of all welded seamless construction. S/S frame, legs and feet. All internal castings are non-corrosive lead free nickel alloy or bronze.

**DOORS-** Three (both sides and front) simultaneously opening doors. Operating doors have fingertip control, balanced by externally mounted springs. (Corner installations have two simultaneously opening doors at right angles.) All doors have easy-glide strips. Extra large die formed type 304 S/S doors ride in all S/S channels. A triple ply leading edge on the door channels made of S/S.

**PUMP-** Centrifugal type “packless” pump with a brass petcock drain. Construction includes ceramic seal and a balanced cast impeller on a precision ground stainless steel shaft, extension or sleeve. All working parts mounted as an assembly and removable as a unit without disturbing pump housing. One 2 hp motor, standard horizontal C-face frame, drip proof, internally cooled with ball-bearing construction.

**CONTROLS-** Top mounted control cabinet, NEMA 12 rated, housing motor controls and overload protection, transformer, contactors and all dishwasher integral controls. Integrated rack sensing system.

**SPRAY SYSTEM-** Wash and rinse spray systems made of type 304 stainless steel pipe threaded into cast hub assemblies. Upper and lower wash and rinse spray assemblies are removable without the use of tools.

**WASH-** 2 power spinning wash arms above and 2 power spinning wash arms below. On top, each wash arm is designed with 8 nozzles (16 total). On the bottom, each wash arm is designed with 4 slots (8 total). The slots are precision milled for water control and produce a fan spray.

**FINAL RINSE-** 2 power spinning rinse arms above and 2 power spinning wash arms below. On top, each rinse arm is designed with 2 nozzles (4 total). On the bottom, each rinse arm is designed with 4 nozzles (8 total). The nozzles produce a fan spray reducing water consumption, maximizing heat retention.

**DRAIN-** Drain valve externally controlled. Overflow assembly with skimmer cap is removable without the use of tools for drain line inspection. Heater is protected by low water level control.

**COMMANDER 18-6 DOOR TYPE  
DISHWASHER SERIES****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 Insinger Commander Series dishwashers.

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](mailto: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 3-2008 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:

**NOTE:**

Indicates helpful operating hints or tips.

**WARNING:**

Indicates potential physical danger.

**CAUTION:**

Indicates potential equipment damage.

## **Door Type Dishwashing Machine**

### **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.



**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 or start-up 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 shortest 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. An RMA# must be obtained from the Insinger Warranty Department before returning any material. Return may be done through an Authorized Service Agency. Furnish serial number of machine and RMA # 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 15 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 postage 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.

**INSTALLATION INSTRUCTIONS**
**Commander 18-6 Series & CS Series**
**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 feet to level the machine.

Fasten the tables to the load and unload side of the machine. Most installations require fastening the turn-down lip of the dish tables to the side of the machine with flathead countersunk screws. The table design should provide horizontal clearance of 30" for servicing.

**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.

If an electric booster is provided, connect power directly to the booster.

If the Insinger Self-Contained booster is provided the machine comes standard with a Single-Point Connection (to include the booster).

**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**

<b>Model</b>	<b>208VAC/3PH</b>	<b>240VAC/3PH</b>	<b>380VAC/3PH</b>	<b>480VAC/3PH</b>	<b>220VAC/1PH</b>
18-6 (C) Steam heat	10A	10A	6A	6A	15A
18-6 (C) Electric heat	20A	20A	10A	10A	35A
18-6 (C) Electric heat Insinger SCB	60A	50A	30A	25A	90A
18-6H (C) Steam heat	10A	10A	10A	6A	20A
18-6H (C) Electric heat	25A	25A	15A	15A	40A
18-6H (C) Electric heat Insinger SCB	60A	60A	35A	30A	100A

**CAUTION:**

As with any 3 phase system, an electrician must check all motors for proper phasing, i.e., Pump motors must be running in direction indicated by arrow on housing.

**Mechanical Connections**

Connect hot water (see specific unit info) lines for tank fill/booster as tagged and noted on the installation drawings. If machine is provided with steam heat connect the steam lines and steam condensate lines as tagged and noted on installation drawings. Connect the drain line.

**CAUTION:**

Drain lines must be as specified on installation drawings.

Drain line should be properly vented and should 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.

**HVAC**

Ventilation system must be sized to provide adequate ventilation per machine specs. Refer to spec sheet.

**Chemicals**

Upon the completed installation of the dishwasher, contact a local detergent/chemical supplier for the correct chemicals for your soil load and geographical area.

Electrical connection points for the detergent dispenser and rinse injector are located inside the control panel. Refer to the wiring diagram for this machine for the proper connection points.

Dispensers may be connected on either the primary voltage side of the machine or the 24VAC control voltage side.

**CAUTION:**

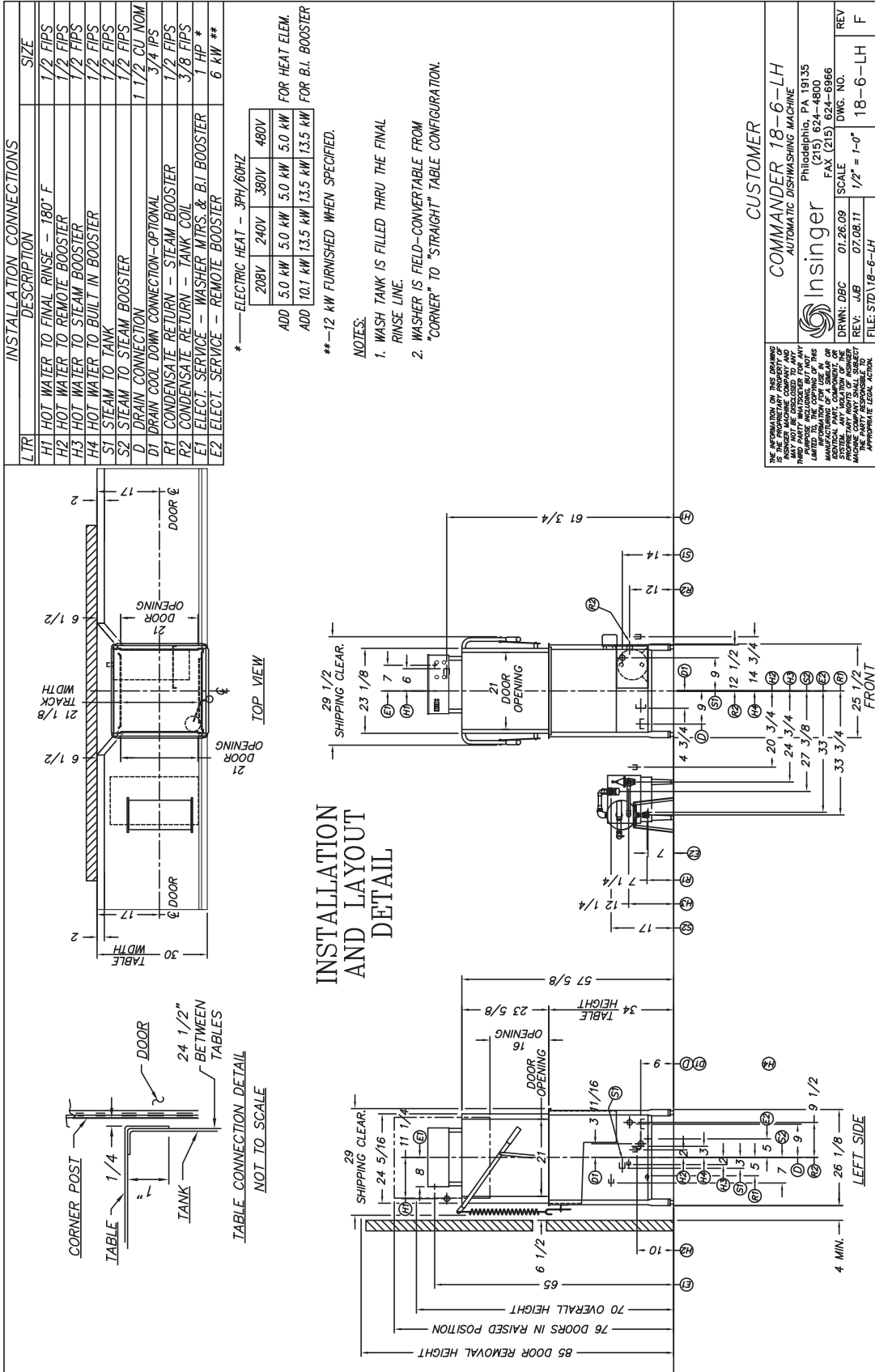
When connecting on the 24VAC control voltage side of the transformer, total VA must not exceed 50VA.

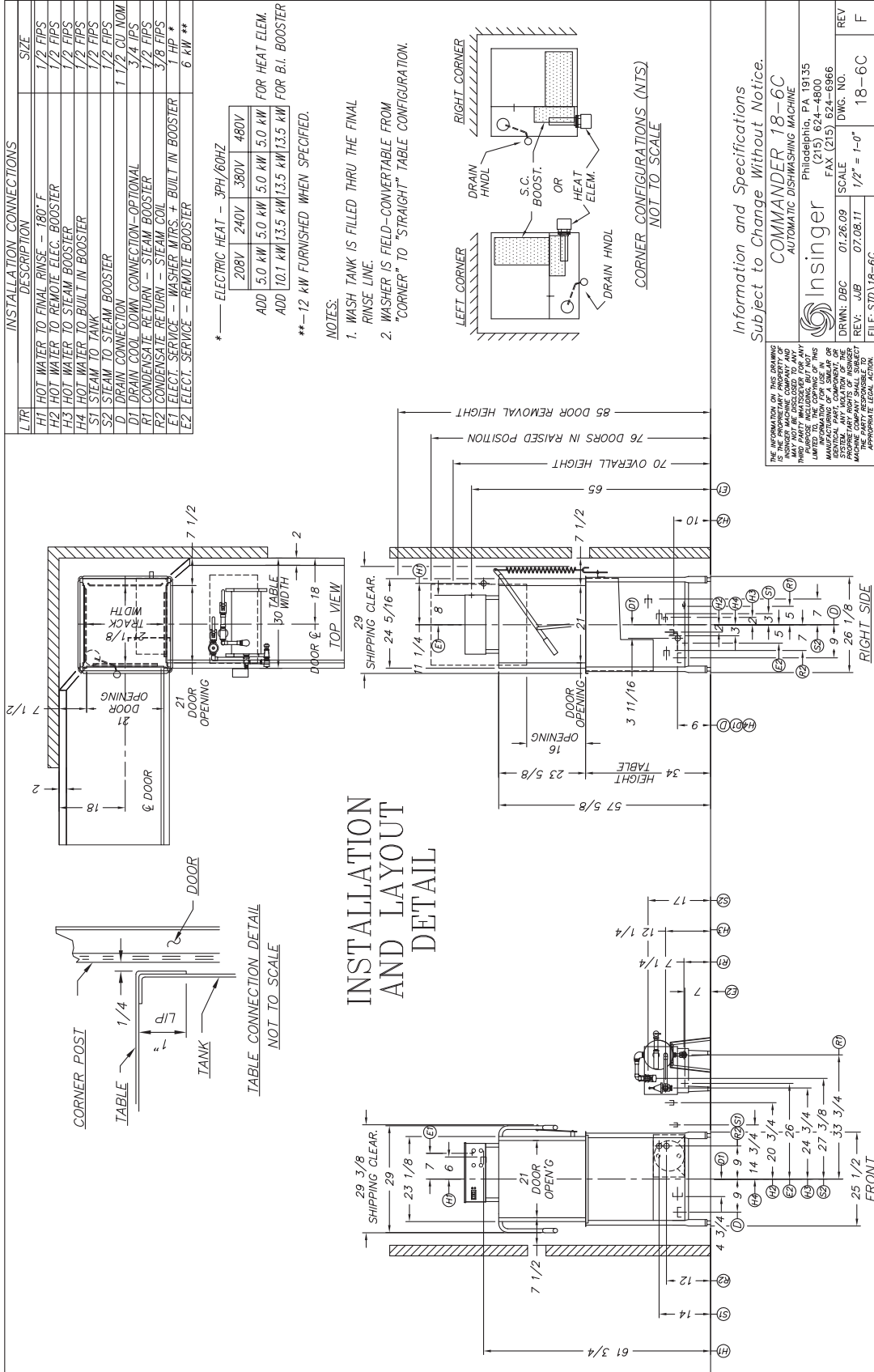
The detergent density probe should be installed in the hole provided & labeled in the wash tank. A switch on the control panel labeled "De-lime" is provided for delimiting the machine. When activated, this switch will keep the machine in an indefinite wash cycle. A switch on the control panel labeled "Heavy Cycle" provide an extended 2 minute wash cycle.

**Tabling**

Load and unload tables should be pitched towards the machine to return excess water into the machine.

Insinger dishmachines are user-friendly, making them easy to operate and maintain. By following the operation procedure and general cleaning procedures your Insinger dishwasher will give you years of trouble free service.





### INSTALLATION CONNECTIONS

LTR	DESCRIPTION	SIZE
H1	HOT WATER TO FINAL RINSE - 180° F	1/2 FIPS
H2	HOT WATER TO REMOTE BOOSTER	1/2 FIPS
H3	HOT WATER TO STEAM BOOSTER	1/2 FIPS
H4	HOT WATER TO BUILT IN BOOSTER	1/2 FIPS
S1	STEAM TO TANK	1/2 FIPS
S2	STEAM TO STEAM BOOSTER	1/2 FIPS
D1	DRAIN CONNECTION	1 1/2 CU INOM
D2	DRAIN COOL DOWN CONNECTION- OPTIONAL	3/4 IPS
R1	CONDENSATE RETURN - STEAM BOOSTER	1/2 FIPS
R2	CONDENSATE RETURN - TANK COIL	3/8 FIPS
E1	ELECT. SERVICE - WASHER MTRS. & B.I. BOOSTER	2 HP *
E2	ELECT. SERVICE - REMOTE BOOSTER	6 KW **

**INSTALLATION AND LAYOUT DETAIL**

\* — ELECTRIC HEAT — 3PH/60HZ

208V	240V	380V	480V
ADD 5.0 KW	5.0 KW	5.0 KW	5.0 KW

FOR HEAT ELEM.

10.1 KW	13.5 KW	13.5 KW	13.5 KW
ADD 10.1 KW	13.5 KW	13.5 KW	13.5 KW

FOR B.I. BOOSTER

\*\* — 12 KW FURNISHED WHEN SPECIFIED.

NOTES:

- WASH TANK IS FILLED THRU THE FINAL RINSE LINE.

Information and Specifications  
Subject to Change Without Notice.

**COMMANDER 18-6H-LH**  
AUTOMATIC DISHWASHING MACHINE EX-HIGH

**Insinger**  
Philadelphia, PA 19135  
(215) 624-4800  
FAX (215) 624-6866

DRWN: DBC	6.23.09	SCALE	DWG. NO.	REV
REV: JAB	10.24.11	1/2" = 1'-0"	18-6H-LH	F

FILE: STD\18-6H-LH

THE INFORMATION IN THIS MANUAL IS THE PROPERTY OF INSINGER AND IS TO BE USED ONLY BY THE PARTY TO WHOM IT IS LOANED. NO PART OF THIS PUBLICATION MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF INSINGER. ANY VIOLATION OF THE ABOVE TERMS OF THIS WARRANTY SHALL SUBJECT THE USER TO THE PENALTIES OF THE APPLICABLE LAW.

INSTALLATION CONNECTIONS		
LTR	DESCRIPTION	SIZE
H1	HOT WATER TO FINAL RINSE - 180° F	1/2 FIPS
H2	HOT WATER TO REMOIE BOOSTER	1/2 FIPS
H3	HOT WATER TO STEAM BOOSTER	1/2 FIPS
H4	HOT WATER TO BUILT IN BOOSTER	1/2 FIPS
S1	STEAM TO TANK	1/2 FIPS
S2	STEAM TO STEAM BOOSTER	1/2 FIPS
D	DRAIN CONNECTION	1 1/2 CU NOM
D1	DRAIN COOL DOWN CONNECTION-OPTIONAL	3/4 IPS
R1	CONDENSATE RETURN - STEAM BOOSTER	1/2 FIPS
R2	CONDENSATE RETURN - TANK COIL	3/8 FIPS
E1	ELECT SERVICE - WASHER MTRS. & B.I. BOOSTER	2 HP *
E2	ELECT. SERVICE - REMOIE BOOSTER	6 kW **

\* ——— ELECTRIC HEAT — 3PH/60HZ  

208V	240V	380V	480V
------	------	------	------

 ADD 5.0 KW 5.0 KW 5.0 KW 5.0 KW FOR HEAT ELEM.  
 ADD 10.1 KW 13.5 KW 13.5 KW 13.5 KW FOR B.I. BOOSTER

\*\* — 12 KW FURNISHED WHEN SPECIFIED.

**NOTES:**

1. WASH TANK IS FILLED THRU THE FINAL RINSE LINE.
2. WASHER IS FIELD-CONVERTABLE FROM "CORNER" TO "STRAIGHT" TABLE CONFIGURATION.

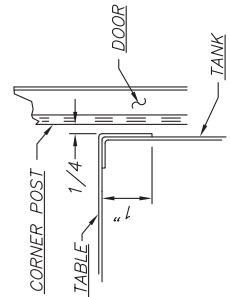
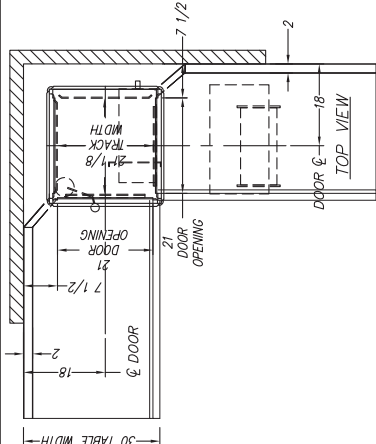
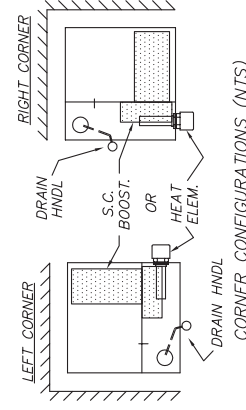
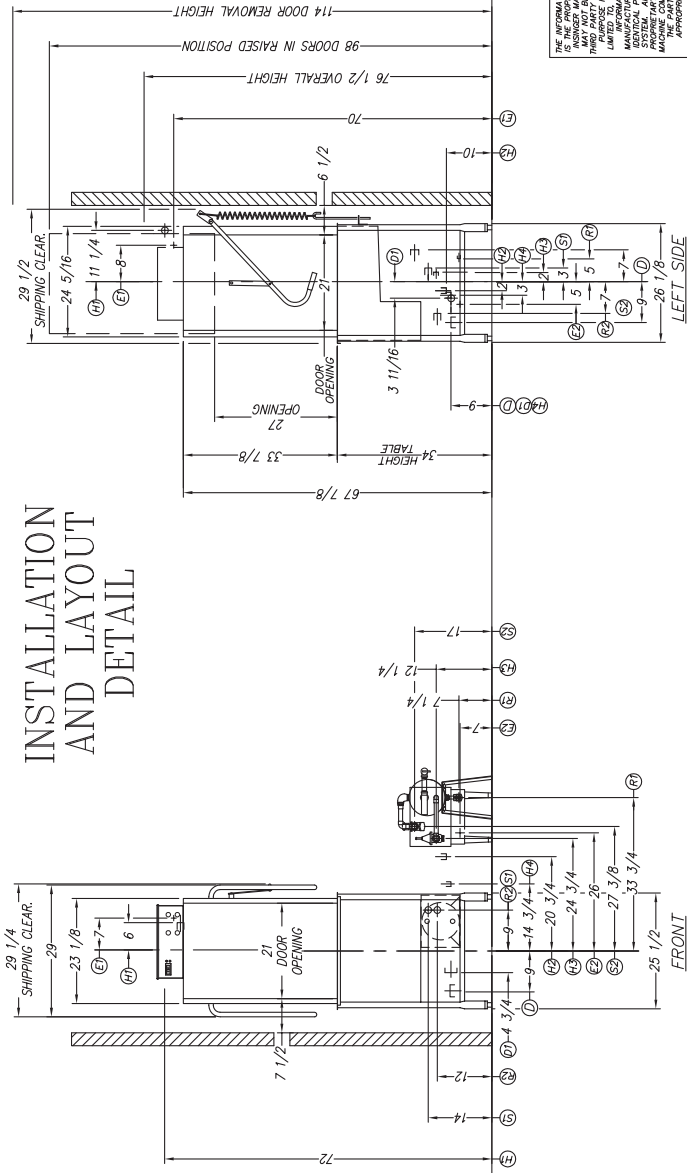


TABLE CONNECTION DETAIL  
NOT TO SCALE

**INSTALLATION AND LAYOUT DETAIL**



Information and Specifications  
 Subject to Change Without Notice.

THE INFORMATION IN THIS MANUAL IS THE PROPERTY OF INSINGER. IT IS TO BE USED ONLY FOR THE PURPOSES SPECIFIED HEREIN. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. ANY VIOLATION OF THIS NOTICE SHALL SUBJECT THE USER TO APPLICABLE LEGAL ACTION.

COMMANDER 18-6HC  
 AUTOMATIC DISHWASHING MACHINE EX-HIGH CORNER INSTALL.  
 Philadelphia, PA 19135  
 (215) 624-4800  
 Insinger  
 DRWN: DBC SCALE: 1/2" = 1'-0"  
 REV: JJB 10.24.11 DWG. NO. 18-6HC  
 FILE: STD\18-6HC



*Insinger dishmachines are user-friendly, making them the easiest dishmachines on the market to operate and maintain.*

*By following these operating procedures your Insinger dishwasher will give you years of trouble free service.*

### OPERATION INSTRUCTIONS

1. Ensure drain overflow tube is in place. Close all tank drain valve.
2. Check for proper installation and cleanliness of all internal, removable components such as suction strainers, scrap screens, and spray manifolds.
3. Ensure all water & steam lines are open. Ensure electrical circuits are on.
4. Close machine doors.
5. Press the power switch to the ON position. The switch will light up red when on. The machine will fill the tank, run through a complete wash/rinse cycle and shut-off.
6. When the tank is full the tank heat will operate automatically. Proper wash tank temperature is 160° F minimum. Proper final rinse temperature is 180° F minimum at 20 PSI ± SPSI, while in the final rinse cycle.

#### CAUTION:

To ensure proper operation of the auto tank fill feature and the tank heaters, the tank level floats **MUST** be cleaned daily.

7. Open doors.
8. Insert a rack of soiled dishware in machine and lower doors. The machine is equipped with RackAware™ and will start the wash and rinse automatically. When the rinse indicator light goes off the machine cycle is complete.

#### CAUTION:

Overloading racks will minimize the proper cleaning of ware.



#### WARNING:

Do not open the doors during the wash/rinse cycle as hot water is being sprayed. An interlock is provided to stop the wash/rinse cycle if the doors are opened but hot water may spray out if doors are opened too quickly.

9. Open doors and remove rack of clean ware. For continuous operation repeat steps 7 & 8.
10. Upon completion of ware cleaning press the power switch to the "OFF" position. The switch light will go off.
11. Refer to the cleaning procedures for proper clean-up of the dishmachine.
12. A switch on the control panel labeled "De-lime" is provided for use when de-liming the machine. When activated, this switch will keep the machine in an indefinite wash cycle.
13. A switch on the control panel labeled "Heavy Cycle" will activate the extended wash cycle for heavily soiled ware.
14. 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

1. Remove all internal removable parts including spray manifolds, scrap screens, drain overflow tube and suction strainer.
2. Remove the end caps from the spray manifolds and clean with the brush provided. Flush the manifolds.
3. Flush scrap screens
4. Clean drain overflow tube.



#### NOTE:

V-cup seal on the drain overflow tube may become gummed not allowing the overflow tube to seal. This will cause the drain to leak water. Remove any build-up on the V-cup seal. When the seal becomes worn, replace with part #D2-557.

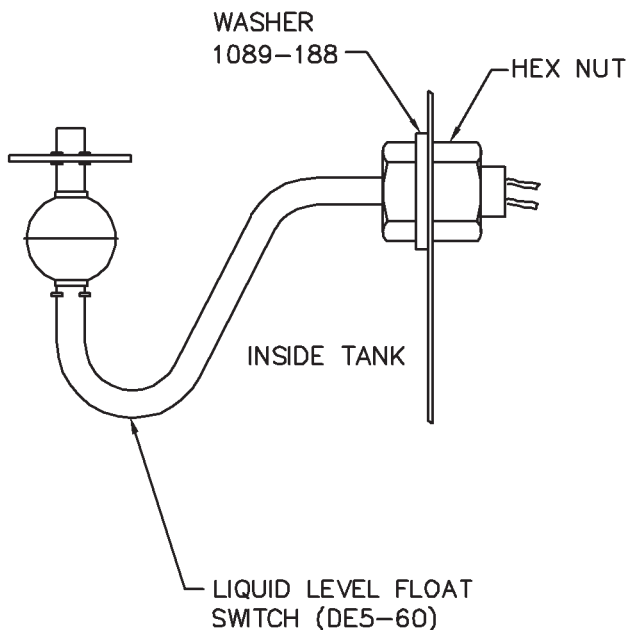
**CLEANING PROCEDURES (continued)**

5. Clean suction strainers of build-up.


**NOTE:**

Improper cleaning of the suction strainers will cause the pumps to cavitate. This will cause poor washing results.

6. Clean the tank level float with a plastic abrasive pad (do not use steel wool).


**CAUTION:**

Level floats must be cleaned daily. Build-up of grease and dirt will cause faulty operation of the tank fill heating system.


**NOTE:**

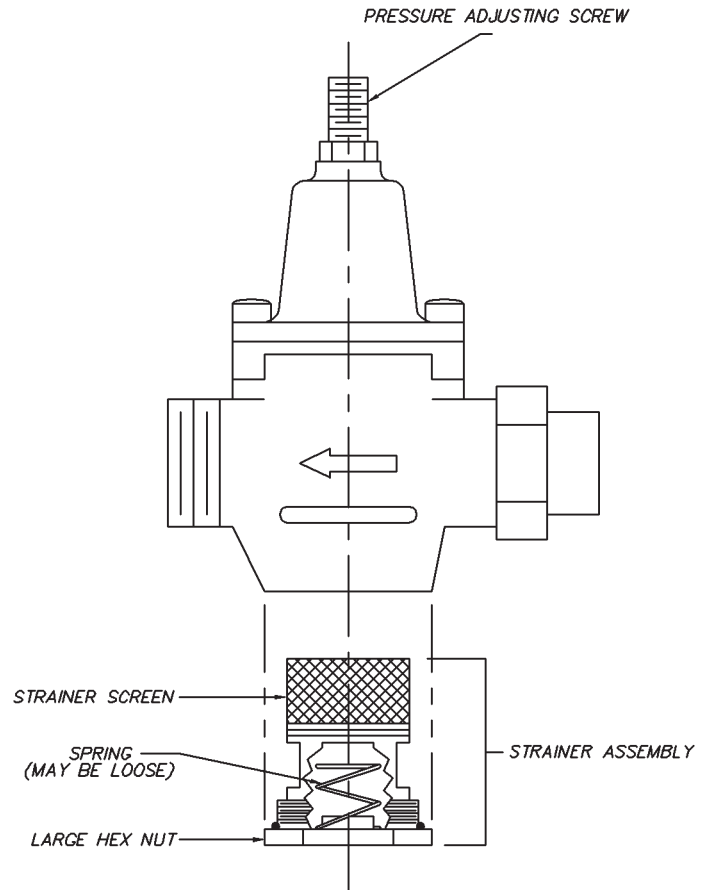
Upper and lower wash & rinse pipes are not the same.

7. Final rinse nozzles should be cleaned of matter clogging the jet spray.

8. The doors should be left open to allow drying of interior surfaces.

**PRESSURE ADJUSTMENT**

Pressure in the final rinse must be maintained at  $20 \pm 2$  psi. Adjustment of the pressure is made with the adjusting screw on the pressure reducing valve.



SKETCHA\SK-4689 PRESSURE REDUCING VALVE

If there are flow or pressure problems with the pressure reducing valve, CAREFULLY remove the strainer assembly and clean the strainer screen. Be careful not to damage the Hex nut o-ring


**NOTE:**

The pressure reducing valve is supplied only on units equipped with optional booster

The following is a basic guide for the repair and replacement of common dishwasher parts. Refer to the Basic Services Guide for troubleshooting tips.

## MAINTENANCE REQUIREMENTS

### Daily

1. Refer to the operations and cleaning instructions provided in this manual for daily cleaning procedures.

### Weekly

1. The entire machine should be wiped down using an industrial grade stainless steel cleaner.
2. Under the supervision of your detergent supplier the machine interior must be properly de-limed.



#### NOTE:

The water quality in some areas requires de-liming to be done more frequently. Contact your detergent supplier for recommended de-liming frequency.

### Quarterly

1. Remove and clean the strainer screens on the water and steam lines. If the screens cannot be cleaned, replace.
2. Inspect the condition of the solenoid valve seats, and diaphragms. Replace where necessary.
3. Inspect drain O-Rings for leakage. Replace where necessary.
4. Check door spring tension and adjust where necessary.
5. Check wash and rinse hub bushing/bearing and replace where necessary.

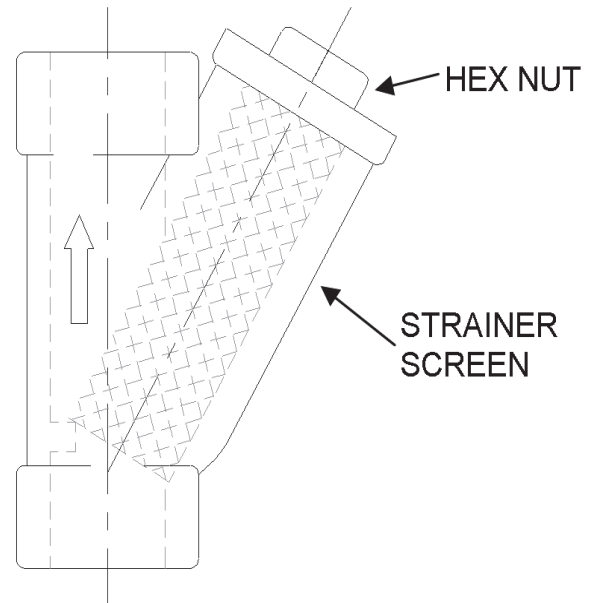
## MAINTENANCE PROCEDURES

### Solenoid Valve Disassembly

(See dwg. SK-4692)

1. Disconnect the power supply to the machine. Turn off the water supply.
2. Remove cap on top of the coil. Remove the coil.
3. Remove the 4 hex bolts and lift bonnet from valve body. Note positioning of spring and plunger.
4. Remove main piston.

5. Inspect for dirt, wear or lime build-up. Clean or replace as required.
6. Reassemble in reverse of disassembly.



### Liner Strainer Disassembly

1. Shut off water or steam supply.
2. Remove large hex nut on bottom of strainer body.
3. Remove strainer screen. Inspect and clean or replace as necessary.
4. Reassemble in reverse of disassembly. Water flow must be same direction as arrow on line strainer body. Use new gaskets to insure a tight seal.



#### NOTE:

Supplied only on units without optional boosters.

### Pump Disassembly

1. Before disassembling pump ensure there are no obstructions in the pump intake. Remove and clean the suction strainer (inside tank). See dwg. SK-2456 & SK-2923



#### NOTE:

It is not necessary to remove the pump housing from the machine to disassemble.

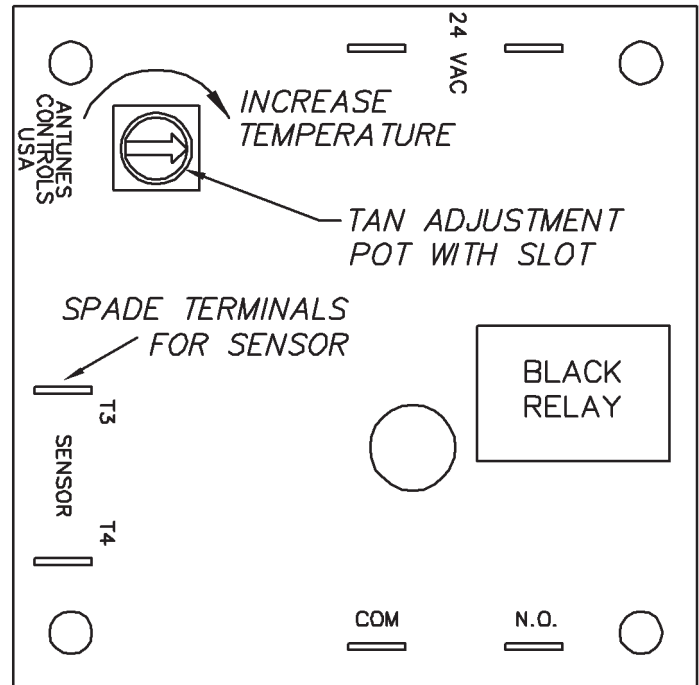
**Pump Disassembly (Continued)**

1. Remove the pump motor and impeller by removing the 4 hex bolts attaching them to the pump housing.
2. Repair or replace the pump parts as required.
3. Reassemble in reverse of disassembly.

**Immersion Heater Replacement**

See dwg. #SK-4703

1. The immersion heater **MUST** be completely submerged at all times. If this is not the case contact a qualified service technician. The heated surface should never be in contact with sludge. See dwg. SK-4703.
2. Remove the housing covering the wiring terminations. Disconnect the immersion heater wires.
3. Remove the immersion heater by loosening and removing the large hex nut.
4. The taper side of the nut must face toward wall of tank.
5. Remount Hi-Temp cutoff switch to top heavy element. (See dwg. #1433-3).



TANK TEMPERATURE CONTROL BOARD  
(DE9-251)


**NOTE:**

Use plumbers putty as gasketing around the immersion heater to minimize leaks.

**Tank Heat Temperature Adjustment**

1. A temperature control board is provided in the control panel for easy adjustment of tank temperature. Though tank temperature is adjusted during the machines factory test it is sometimes necessary to re-adjust the temperature at start-up.
2. Locate the temperature control board. Use the control panel layout drawing located in Section 4, Electrical Schematic and Replacement Parts.
3. Adjust the tank temperature to the desired temperature by turning the potentiometer located on the temperature control board. An arrow on the potentiometer indicates increase.
4. If the temperature does not change refer to Troubleshooting Tank Temperatures in the next section.

**Troubleshooting Tank Temperatures**
**Electric Heat**

1. If temperature does not change check the temperature control board (P/N DE9-251) proper operation. If the temperature control board is faulty, replace.
2. Verify tank heat contactor is working correctly. If not, replace.
3. Verify all immersion heaters are working properly and not limed. If not, replace.

**Steam Heat**

1. If temperature does not change check the temperature control board (P/N DE9-251) proper operation. If the temperature control board is faulty, replace.
2. Verify steam pressure per machine specifications.
3. Verify steam trap is not clogged. If so, replace.

### Motor Overloads

All motors used on Insinger Machines are provided with motor overloads. Motor overloads are adjusted when the machines are factory tested. Should it be necessary to adjust the motor overloads in the field first verify the motor current draw for the voltage the machine is using.

Using the Control Panel Component Layout Dwg. located in Section 3 to identify the overload adjust by turning the dial to the appropriate AMP draw.

When changing a motor always check OK setting against name plate FLA.

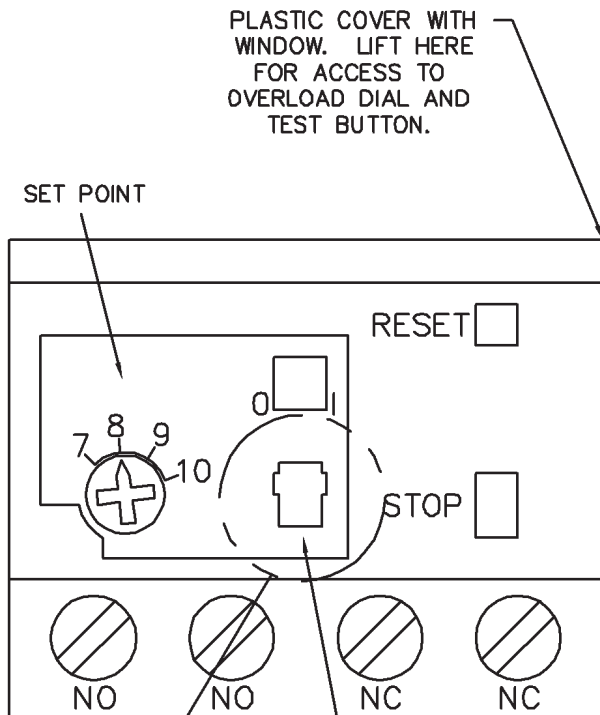
### Level System

The level control system consists of one overflow timer (P/N DE7-35) and one level float (P/N DEF-60) per tank.

When the system is powered-up, the tank(s) will begin to fill (assuming no water is in the tanks).

When the level float is actuated, the overflow timer begins to time-out and continues the filling process until the tank(s) is full.

Also consists of a Hi-Limit switch in electric heated unit. Hi-Limit in series with float. Inspect Hi-Limit for damage. Be careful when cleaning not to damage it.



PLASTIC COVER WITH WINDOW. LIFT HERE FOR ACCESS TO OVERLOAD DIAL AND TEST BUTTON.

SET POINT

RESET

STOP

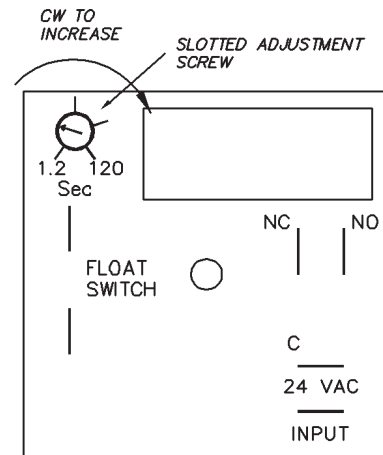
NO

NO

NC

NC

RESET SELECTOR WINDOW (AUTO RESET MODE SHOWN)



Liquid Level Timer DE7-35  
Sk-4698



#### NOTE:

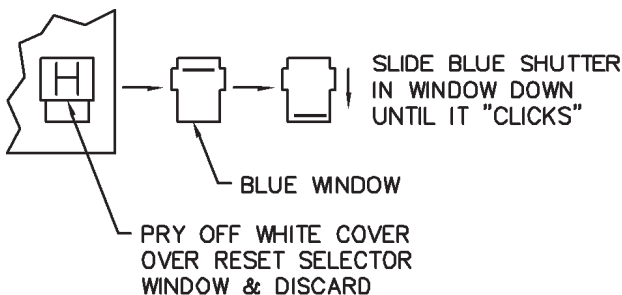
The overflow timer MUST be adjusted during initial start-up. Adjustment depends on water fill pressure. The water level MUST be 1/4" below the lip of the overflow tube. Adjust by increasing or decreasing the potentiometer on the level timer.

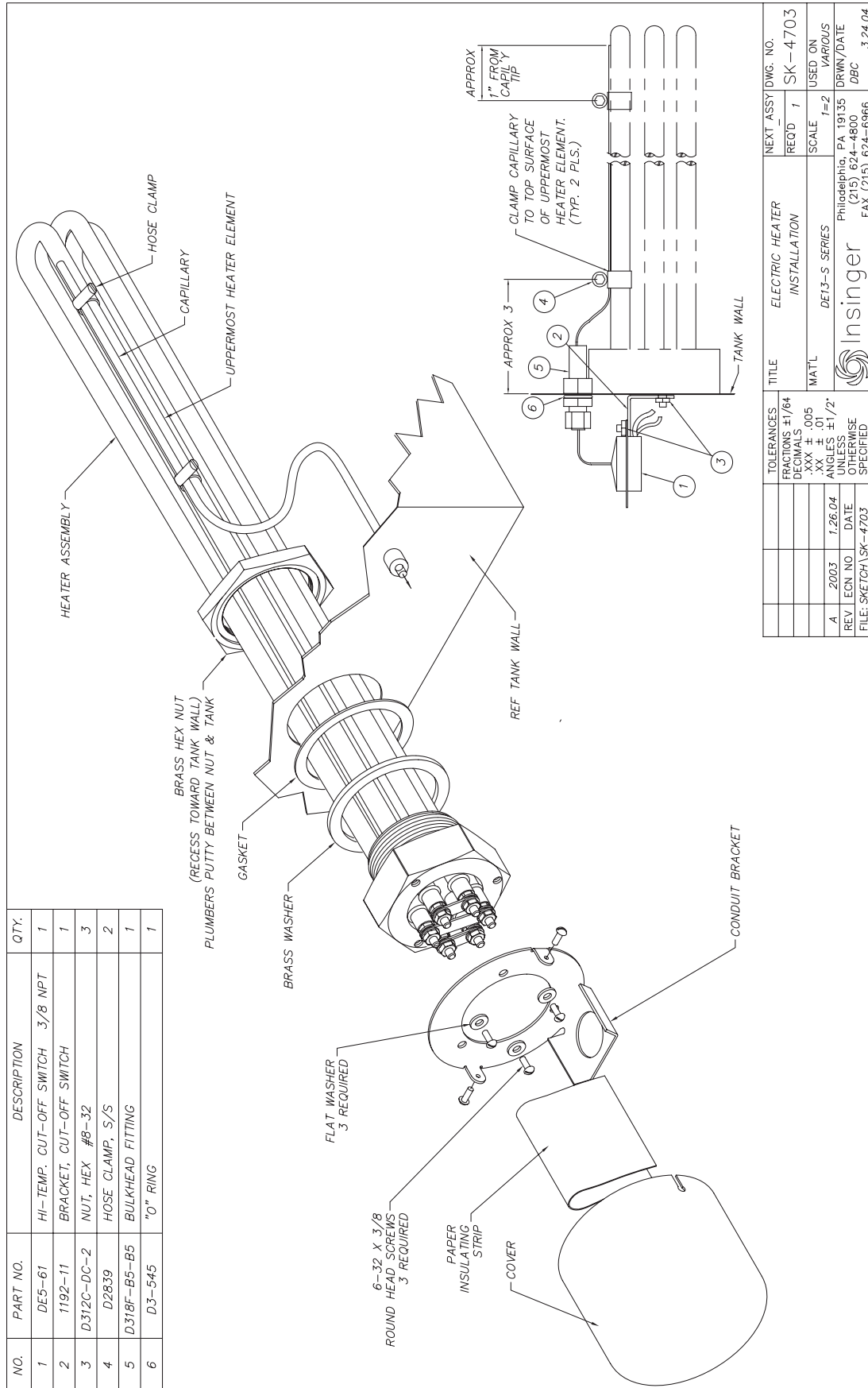


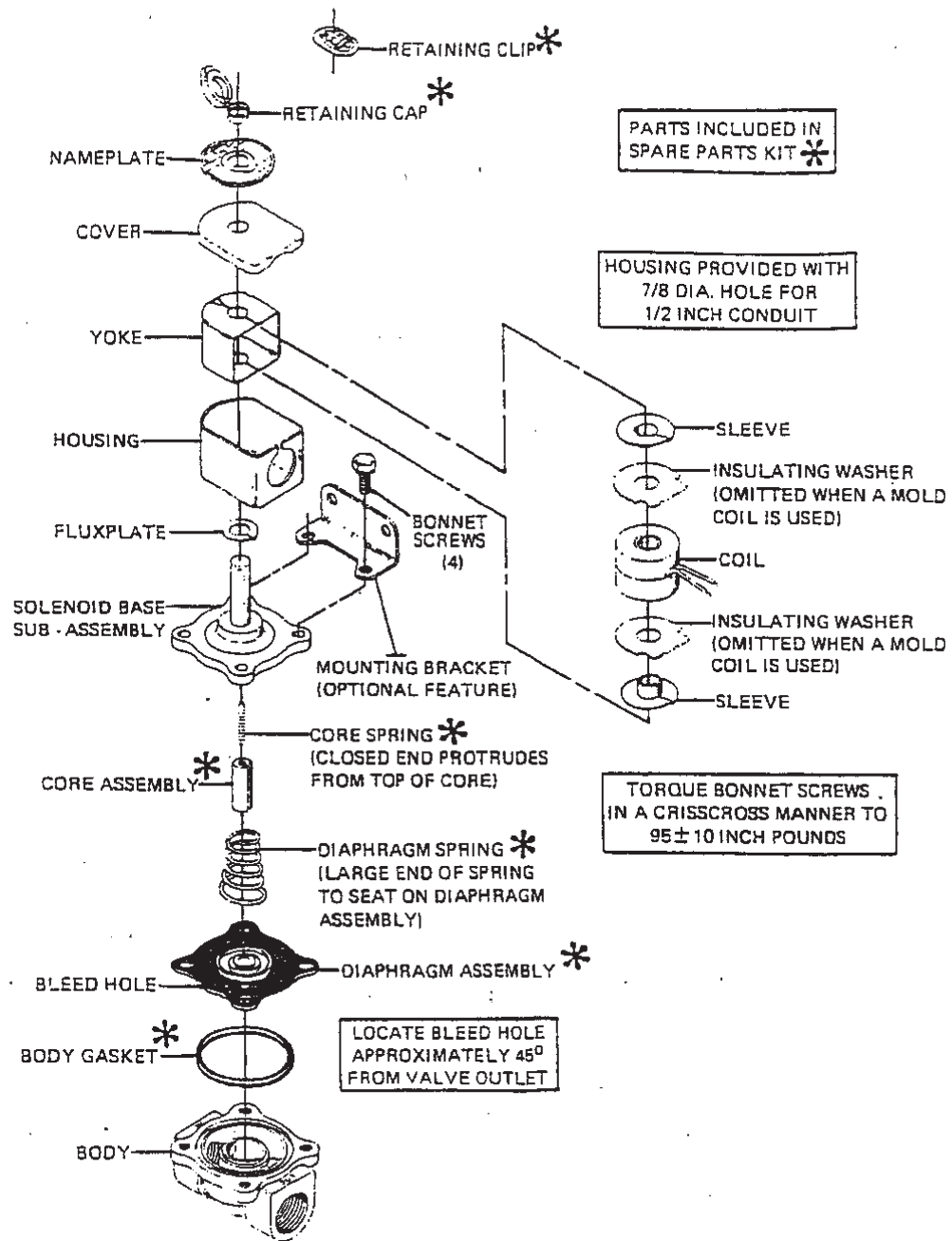
#### NOTE:

Dirty level floats will cause the tank heat to energize with no water in the tanks. LEVEL FLOATS MUST BE CLEANED DAILY.

TO CHANGE FROM MANUAL TO AUTO RESET:



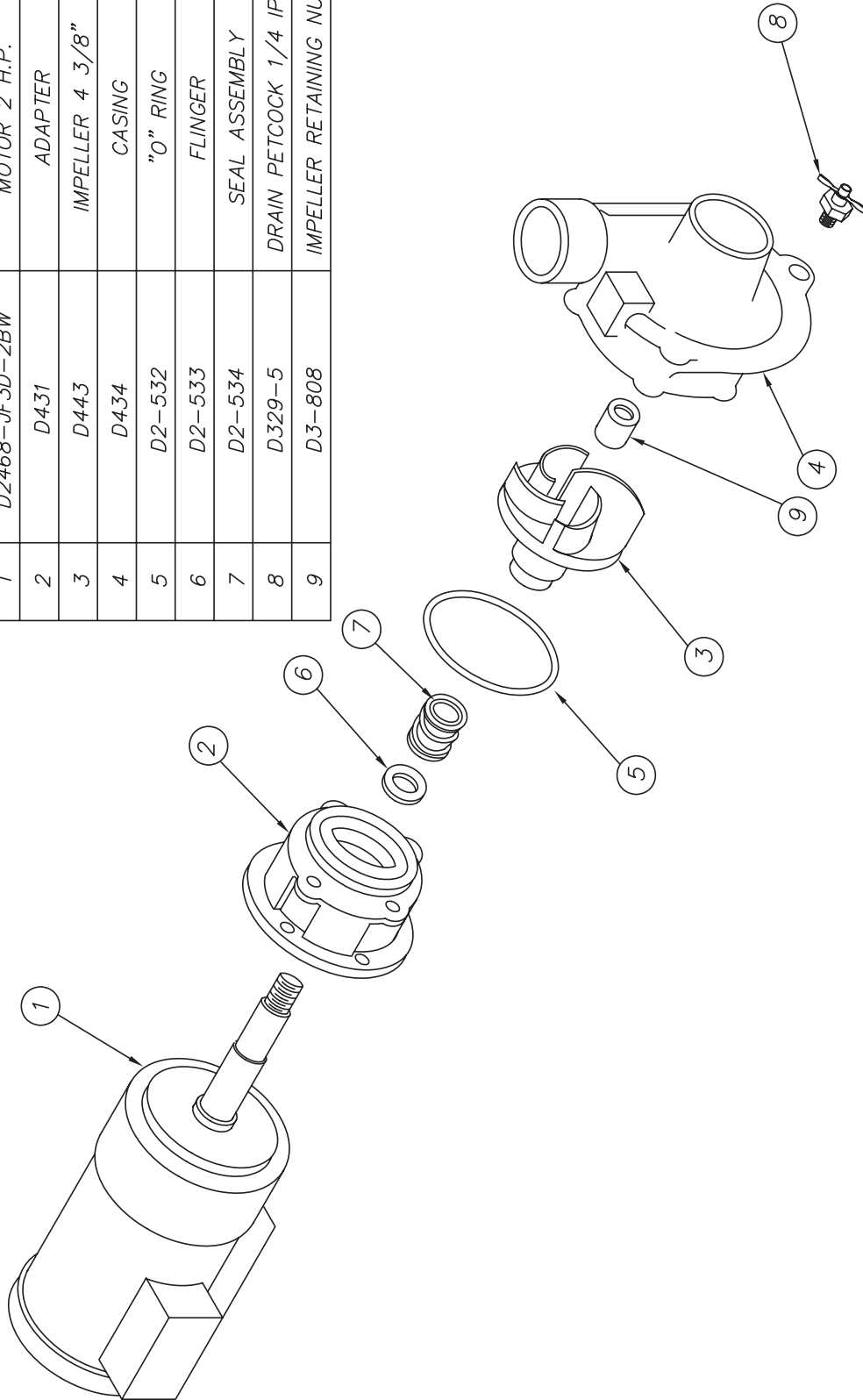




SOLENOID VALVE  
FINAL RINSE  
6-17

SKETCHA\SK-4692

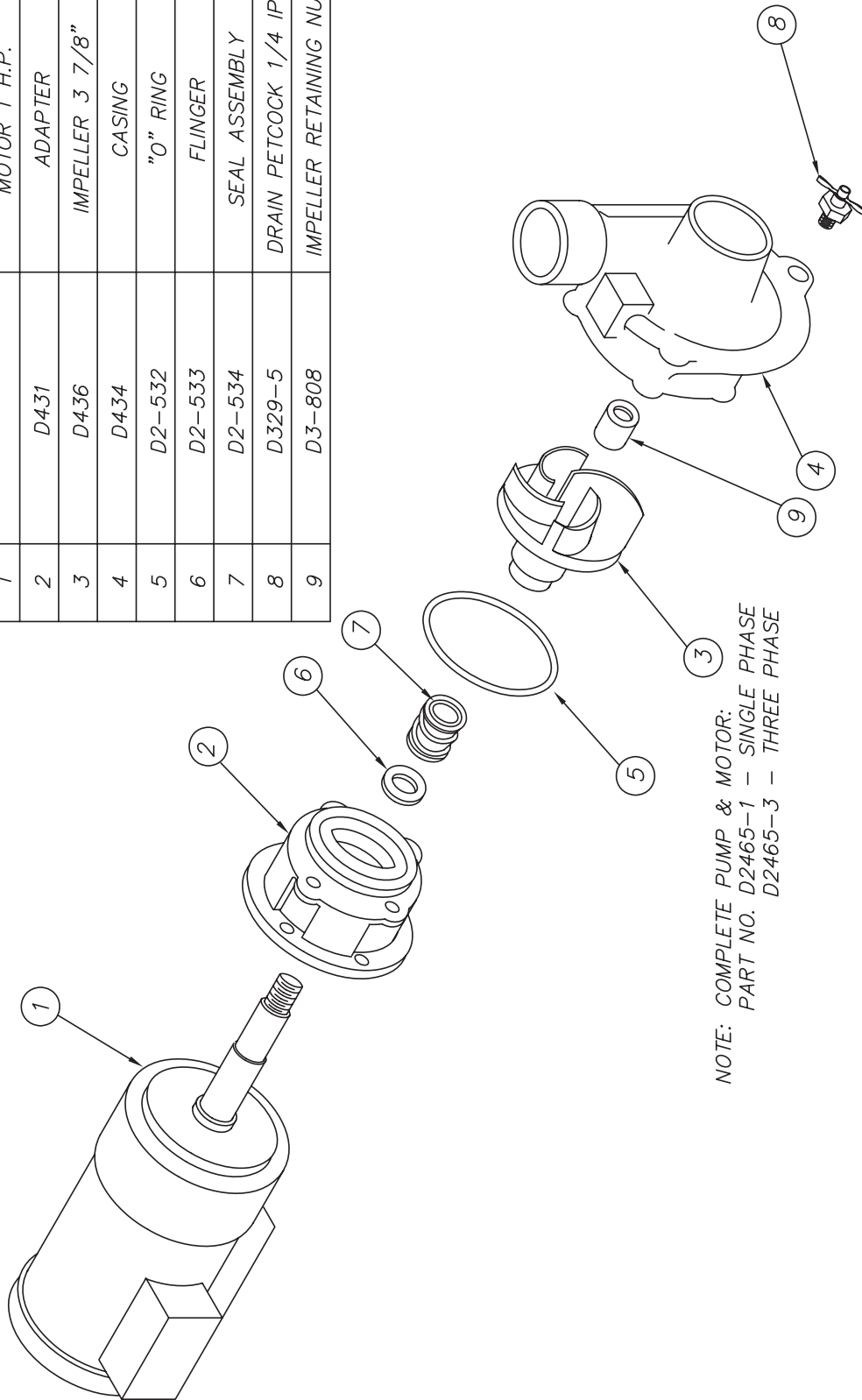
ITEM	PART NO.	DESCRIPTION	QTY.
1	D2468-JF3D-2BW	MOTOR 2 H.P.	1
2	D431	ADAPTER	1
3	D443	IMPELLER 4 3/8"	1
4	D434	CASING	1
5	D2-532	"O" RING	1
6	D2-533	FLINGER	1
7	D2-534	SEAL ASSEMBLY	1
8	D329-5	DRAIN PETCOCK 1/4 IPS	1
9	D3-808	IMPELLER RETAINING NUT	1



TOLERANCES		TITLE	PARTS LIST	NEXT ASSY DWG. NO.
FRACTIONS	±1/64			
DECIMALS	.XXX ± .005	MAT'L	SCALE	USED ON
	.XX ± .01			VARIOUS
ANGLES	±1/2°			
UNLESS OTHERWISE SPECIFIED				
REV	ECN NO	DATE	Philadelphica, PA 19135	
B	966	10.29.93	(215) 624-4800	
A			MAM	
FILE: SKETCHA \ SK-2923		Insinger		11.11.93
		FAX (215) 624-6966		

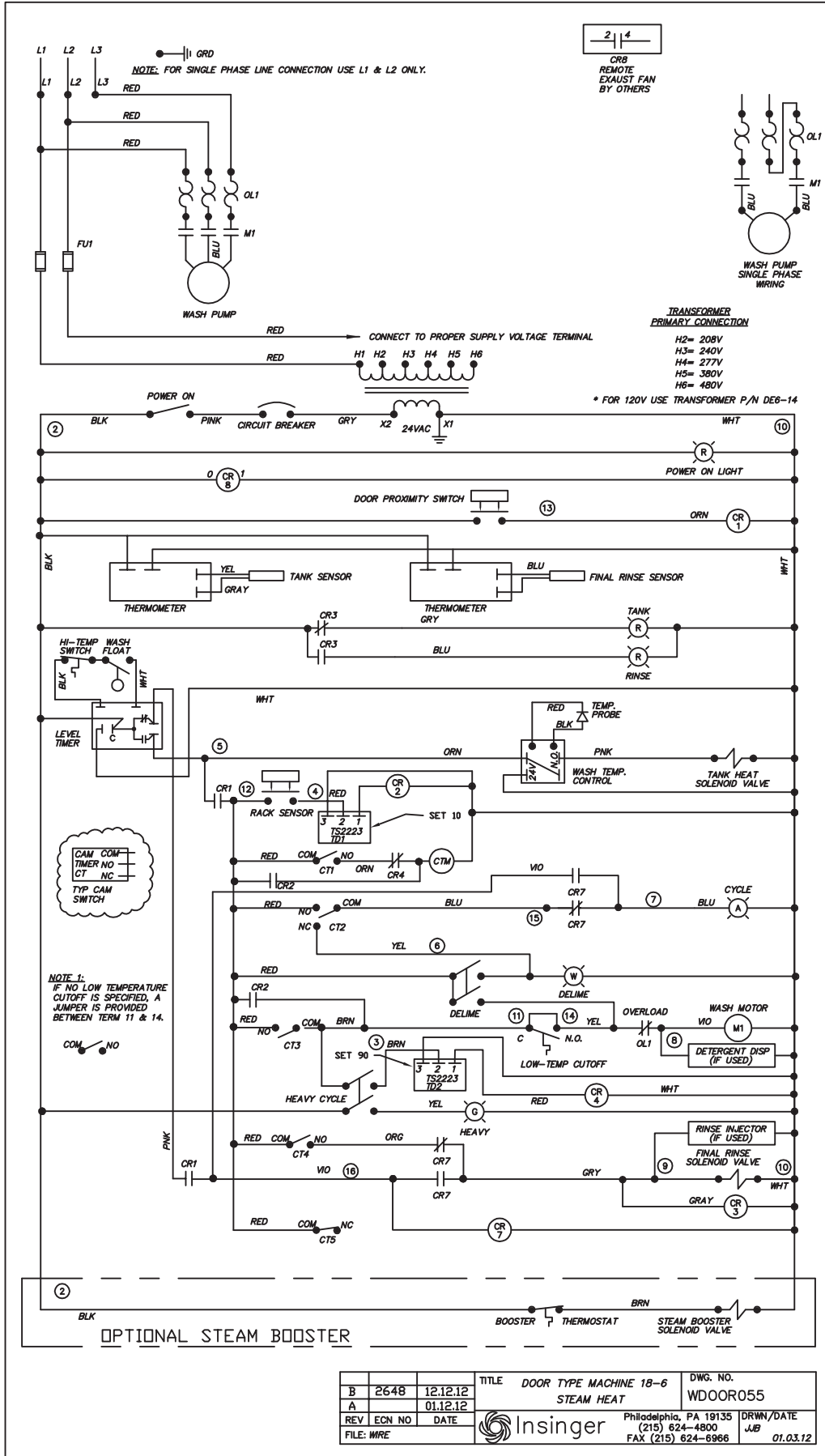


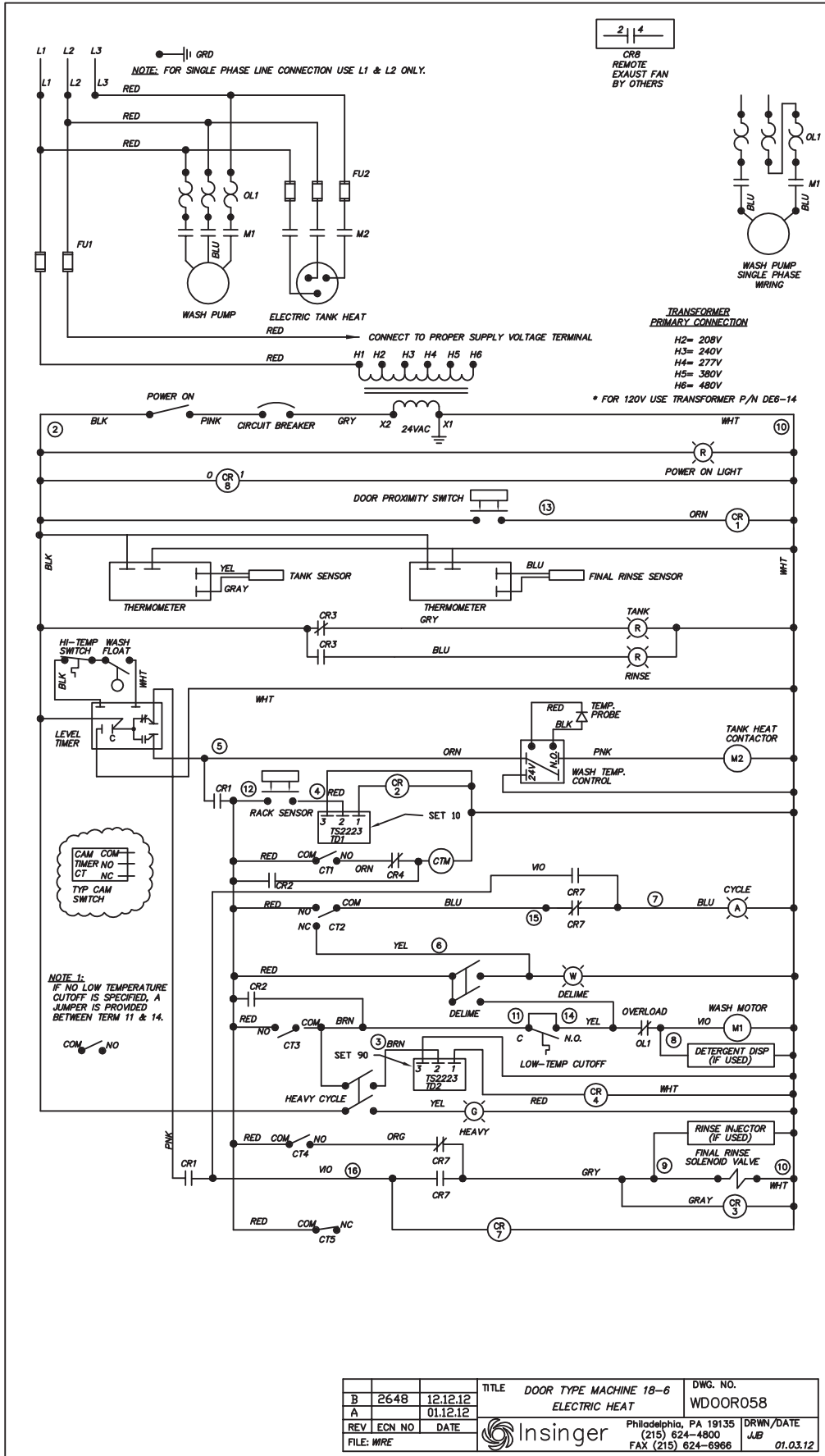
ITEM	PART NO.	DESCRIPTION	QTY.
1		MOTOR 1 H.P.	1
2	D431	ADAPTER	1
3	D436	IMPELLER 3 7/8"	1
4	D434	CASING	1
5	D2-532	"O" RING	1
6	D2-533	FLINGER	1
7	D2-534	SEAL ASSEMBLY	1
8	D329-5	DRAIN PETCOCK 1/4 IPS	1
9	D3-808	IMPELLER RETAINING NUT	1

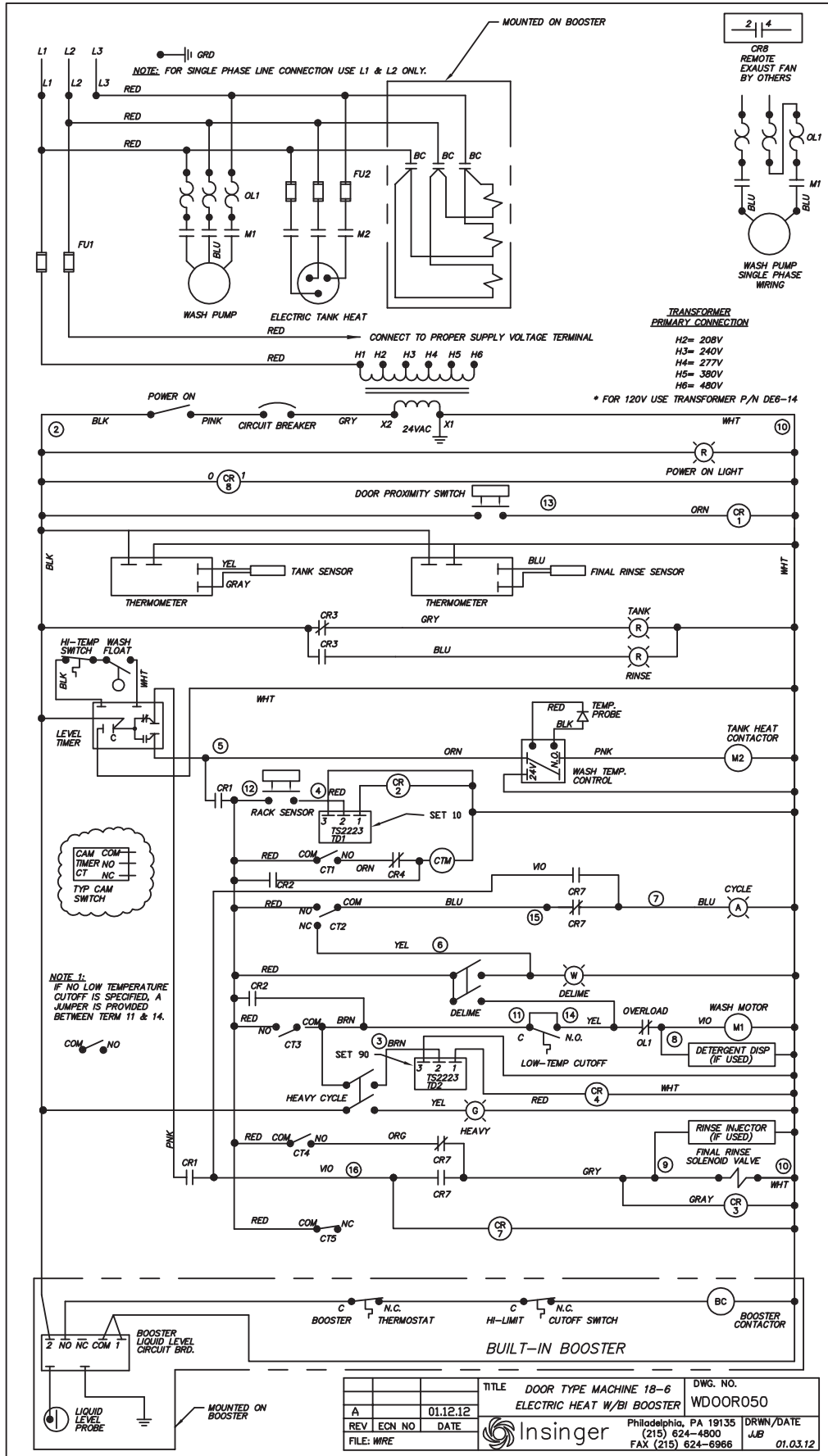


NOTE: COMPLETE PUMP & MOTOR:  
PART NO. D2465-1 - SINGLE PHASE  
D2465-3 - THREE PHASE

TOLERANCES		TITLE		NEXT ASSY DWG. NO.	
FRACTIONS	±1/64	PARTS LIST		REQ'D	SK-2462
DECIMALS	.XXX ± .005	1 HP PUMP		SCALE	USED ON
.XX ± .01		MAT'L	-		VARIOUS
ANGLES	±1/2°	Insinger			DRWN/DATE
UNLESS OTHERWISE SPECIFIED		Philadelphia, PA 19135			MAM
		Insinger logo			11.11.93
REV	ECN NO	FILE: SKETCHA \ SK-2462			
	DATE				







ITEM	DESCRIPTION	PART NO.	QTY	ITEM	DESCRIPTION	PART NO.	QTY	ITEM	DESCRIPTION	PART NO.	QTY
12	DIN RAIL (35 mm)	DE9-84	1	8	TIMER	DE7-12	2	1	COMPONENT MTG PLATE (13.5 x 12.69)	SK-3749	1
13	DIN RAIL (15 mm)	DE3-42	1	8A	POTENTIOMETER FOR DE7-12	DEB-43	2	2	TRANSFORMER (100 VA, 24 VAC)	DEG-6	1
14	TERMINAL SECTION	DE3-39	14	9	STANDARD UNIT	DE2-37	5	5	ALL VOLTAGES EXCEPT 120 V	DEB-14	1
15	TERMINAL END COVER PLATE	DE3-40	1	9	RELAY BASE	DE3-43	5	5	120 V	DE9-163	2
16	TERMINAL END CLAMP	DE9-251	2	10	RELAY	DE2-37	5	5	FUSE BLOCK KIT (100 VA XFMR) FOR DEG-6	DE9-191	1
17	TEMPERATURE CONTROL BOARD	DE7-42	1	11	RELAY HOLD DOWN SPRING	DE2-38	6	6	FUSE (100 VA TRANSFORMER PRIMARY)	DE9-166	2
18	CAM TIMER STD UNIT 5 CAMS	DE7-42	1	9	VAPORGUARD UNIT	DE3-43	5	5	460 V FNO-R-.75	DE9-166	2
		DE7-43	1	10	RELAY BASE	DE2-37	6	6	380 V FNO-R-.75	DE9-168	2
				11	RELAY HOLD DOWN SPRING	DE3-43	6	6	220 - 230 V FNO-R-1.4	DE9-200	2
									208 V FNO-R-1.5	DE9-201	2
									115 V FNO-R-2.8		
									OVERLOAD RELAY (1 HP PUMP)		
									460/3/60 1.6-2.5 A	DE2-52	1
									380/3/50 1.6-2.5 A	DE2-52	1
									230/3/60 2.5-4 A	DE2-53	1
									220/3/50 2.5-4 A	DE2-53	1
									220/1/60 5.5-8 A	DE2-55	1
									208/3/60 2.5-4 A	DE2-53	1
									115/1/60 12-18 A	DE2-58	1
									OVERLOAD RELAY (2 HP PUMP)		
									460/3/60 2.5-4 A	DE2-53	1
									380/3/50 2.5-4 A	DE2-53	1
									230/3/60 4-6 A	DE2-54	1
									220/3/50 4-6 A	DE2-54	1
									220/1/60 9-13 A	DE2-57	1
									208/3/60 5.5-8 A	DE2-55	1
									115/1/60 16-24 A	DE2-61	1
									CONTACTOR (PUMP) SP4	DE1-93	1
									CONTACTOR (ELECT TANK HEAT, 3, 5 OR 6 KW)		
									ALL 3 PHASE 30 A RES	DE1-109	1
									ALL 220-240 V, 1 PH 40 A RES	DE1-110	1
									115-120 V, 1 PH 3 KW 30 A RES	DE1-109	1
									5 KW 50 A RES	DE1-110	1
									6 KW 65 A RES	DE1-111	1

ITEM	DESCRIPTION	PART NO.	QTY	ITEM	DESCRIPTION	PART NO.	QTY
1	DIN RAIL (35 mm)	DE9-84	1	8	TIMER	DE7-12	2
2	DIN RAIL (15 mm)	DE3-42	1	8A	POTENTIOMETER FOR DE7-12	DEB-43	2
3	TERMINAL SECTION	DE3-39	14	9	STANDARD UNIT	DE2-37	5
4	TERMINAL END COVER PLATE	DE3-40	1	9	RELAY BASE	DE3-43	5
5	TERMINAL END CLAMP	DE9-251	2	10	RELAY	DE2-37	5
6	TEMPERATURE CONTROL BOARD	DE7-42	1	11	RELAY HOLD DOWN SPRING	DE2-38	6
7	CAM TIMER STD UNIT 5 CAMS	DE7-42	1	9	VAPORGUARD UNIT	DE3-43	5
8	CAM TIMER 16 UNIT 6 CAMS	DE7-43	1	10	RELAY BASE	DE2-37	6
9				11	RELAY HOLD DOWN SPRING	DE3-43	6

38(39) 3 PHASE W/SCB  
DR

40(41) 1 PHASE W/SCB  
SEE NOTE 1

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8 6A

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5 OR 6 SWITCHES

48

REPLACES 45,46,47 ON NON VAPORGUARD UNITS

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**NOTES:**

1. A FUSE BLOCK FOR TANK HEATERS (ITEM 38 OR 40) IS USED ONLY WHEN A SELF CONTAINED BOOSTER IS PROVIDED.

ITEM	DESCRIPTION	PART NO.	QTY	ITEM	DESCRIPTION	PART NO.	QTY	ITEM	DESCRIPTION	PART NO.	QTY
19	DATA DECAL	SK-4973	1	31	GROUNDING STUD, 1/4-20	D309C-GC-4G	1	40	FUSE BLOCK, 2 POLE (W/ 1 PH SCB)	DE9-185	1
20	TIMER (LIQUID LEVEL)	DE7-35	1	32	LOCKWASHER, 1/4	D313C-G5	1	41	FUSE (W/ 1 PH SCB)	DE9-207	2
21	TERMINAL BLOCK END STANDARD UNITS	DE3-9B	1	33	HEX NUT, 1/4-20	D312C-GC-2	1	42	OVERLOAD BASE	DE2-60	1
	TERMINAL BLOCK SECTION	DE3-9A	3	34	CONTROL BOX 16"	1089-223	1	43	LABEL, WASH TEMPERATURE	SK-4975	1
	VAPORGUARD UNITS	DE3-9A	7	35	CONTROL BOX COVER 16"	1089-193P	1	44	LABEL, FINAL RINSE TEMPERATURE	SK-4976	1
22	TERMINAL BLOCK ASSY	DE3-3	1	36	GASKET	9007-001	1	45	RELAY BASE 5A	DE2-95	1
	208-460 V, 3 PHASE	DE3-3	1	37	NUT	D312C-EF-5	4	46	RELAY 5A	DE2-96	1
	240 SINGLE PHASE	DE3-154	1	38	FUSE BLOCK, 3 POLE (W/ 3 PH SCB)	DE9-186	1	47	RELAY HOLD DOWN SPRING FOR DE2-95	DE3-164	1
	240 SINGLE PHASE W/SCB	DE3-152	3	39	FUSE (W/ 3 PH SCB)		3	48	RELAY REMOTE EXHAUST FAN BY OTHERS	DE9-284	1
	EXTRA HIGH W/SCB	DE3-152			460 V	KTK-R-10					
	VAPORGUARD UNITS	DE3-152			380 V	KTK-R-10					
23	DECAL- COMMANDER SERIES FRT CNT BOX	SK-4974	1		230 V	KTK-R-15					
24	SWITCH WITH LIGHT RED, (POWER ON)	DE5-84	1		208V	KTK-R-20					
25	SWITCH WITH LIGHT WHITE, (DELINE)	DE5-85	1								
26	SWITCH WITH LIGHT GREEN (HEAVY CYCLE)	DE5-83	1								
27	PILOT LIGHT (AMBER)	DE5-86	1								
28	CIRCUIT BREAKER (SA)	DE9-43	1								
29	INDICATOR LIGHTS RED	DE9-294	2								
30	DIGITAL THERMOSTAT DISPLAY	DE9-295	2								

ITEM	DESCRIPTION	PART NO.	QTY
18-6	QTY	1	1
	KW	5	1
	PART#	DE13-SD23	DE13-SD43
	PART#	DE13-SD23	DE13-SD43
18-6C	QTY	1	1
	KW	5	1
	PART#	DE13-SD23	DE13-SD43
	PART#	DE13-SD23	DE13-SD43
18-6H	QTY	1	1
	KW	5	1
	PART#	DE13-SD23	DE13-SD43
	PART#	DE13-SD23	DE13-SD43
18-6HC	QTY	1	1
	KW	5	1
	PART#	DE13-SD23	DE13-SD43
	PART#	DE13-SD23	DE13-SD43

NOT SHOWN

TEMPERATURE SENSOR FOR DE9-251

TEFLON SEAL NUT FOR DE9-252

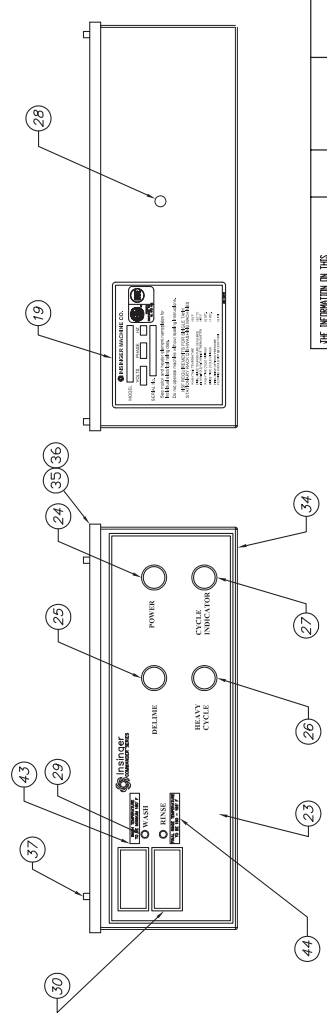
TEMP SENSOR FOR DIGITAL DISPLAY DE9-295

COMPRESSION FITTING FOR DE9-296

D317F-B2-B5

D317F-B2-B5

ELECTRIC IMMERSION HEATER



TOLERANCES	FILE: SKETCH	DATE	REV	DATE
AE 2648	12.12.12			
AD 2644	11.21.12			
AC 2551	07.03.12			
AB 2384	08.10.09			
AA 2310	04.02.09			
REV	EON	NO		
DATE	FILE: SKETCH			

TITLE	CONTROL PANEL LAYOUT	18-6	FINISH	USED ON
WEIGHT: LBS				
BLANK SIZE				
PROGRAM No:				
SCALE:	1:4			
DRW/DATE				
A.S.				
REV				
SHEET				
2				
AE				

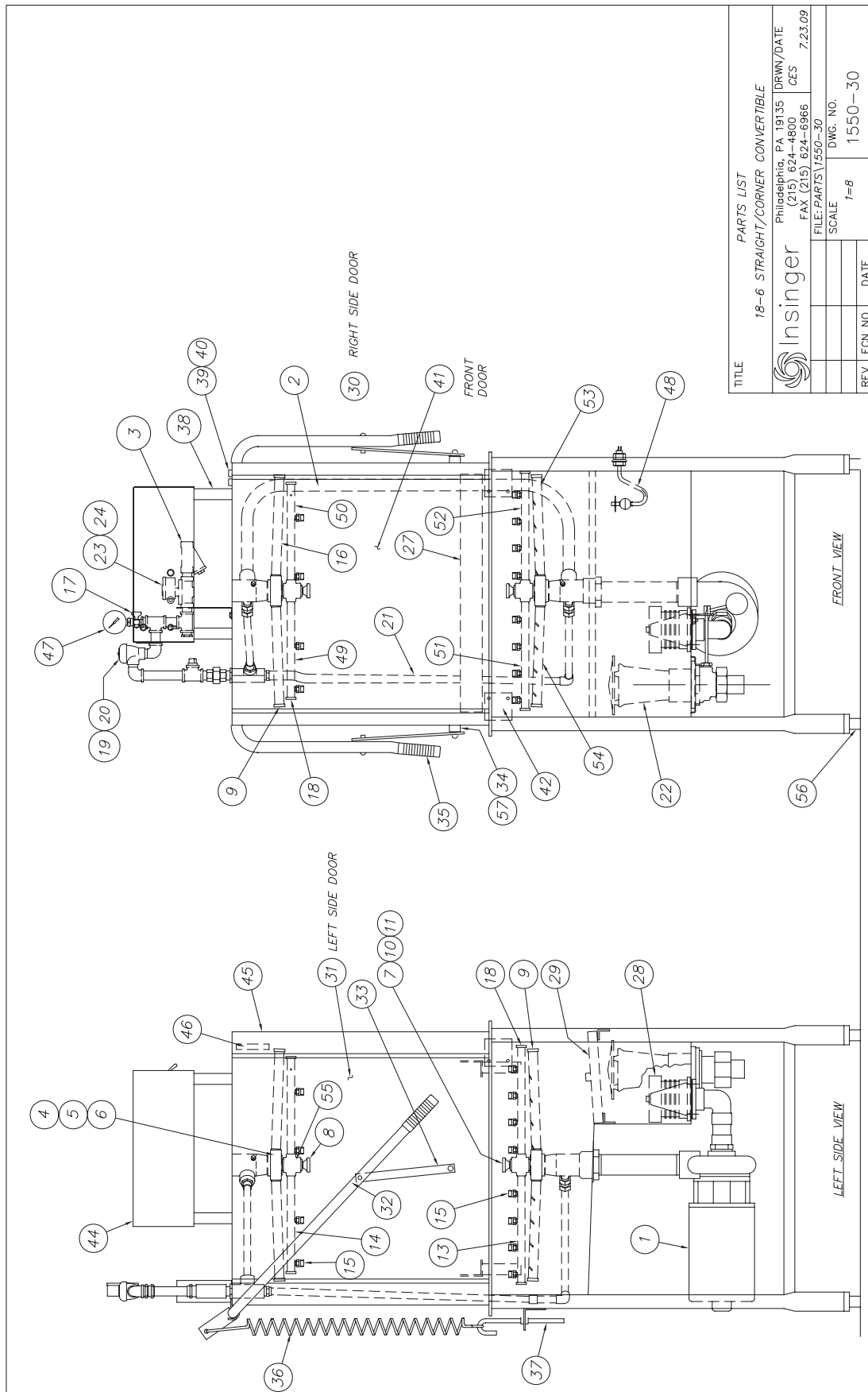
  

REV	DATE	BY	APP
1	12.12.12	AE	
2	11.21.12	AD	
3	07.03.12	AC	
4	08.10.09	AB	
5	04.02.09	AA	

Philadelphia, PA 19125  
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 FAX (215) 624-6966

**Insinger**



TITLE		PARTS LIST	
18-6 STRAIGHT/CORNER CONVERTIBLE		Philadelphia, PA 19135   DRWN/DATE	
Insinger		(215) 624-4800   CES	
FILE: PARTS\1550-30		FAX (215) 624-6966   7.23.09	
SCALE		DWG. NO.	
1=8		1550-30	
REV	ECN NO	DATE	

ITEM	MACHINE	PART No.	DESCRIPTION	REQ.
1	18-6, CS-6	1089-19	PUMP & MOTOR ASS'Y (1 H.P. - SPECIFY VOLTAGE)	1
2		1551-23	DOOR WEAR STRIPS	6
3		D2483A	"Y" STRAINER, 1/2 (OMIT W/BUILT-IN BOOSTER)	1
4		1084-76	SPRAY HUB - WASH	2
5		D2-563	O-RING	2
6		952-27	BUSHING, PLASTIC (WASH ARM HUB)	2
7		1089-178	BUSHING, PLASTIC (RINSE ARM HUB)	1
8		1463-29	SUPPORT ASS'Y UPPER HUB	1
9		D2-554-2A	PLUG, 3/4-10 UNC-2A (WASH ARM)	4
10		D2-584	LOCKING SCREW	1
11		1084-22	HUB-LOWER RINSE ARM	1
12				
13		1434-9	LOWER SPRAY PIPE ASS'Y. - RINSE	1
14		1434-8	UPPER SPRAY PIPE ASS'Y. - RINSE	1
15		D3035	SPRAY NOZZLE - UPPER & LOWER RINSE ARM	12
16		1434-5	UPPER WASH PIPE	2
17		D2497	PETCOCK	1
18		D2-554-1A	PLUG, 9/16-12 UNC-2A (RINSE ARM)	4
19		D2241A	VACUUM BREAKER, 1/2	1
20		D2914RK	VACUUM BREAKER REPAIR KIT	1
21		1551-31	FINAL RINSE ASSEMBLY (W/ PARTS LIST)	1
22		SK-3028	DRAIN ASSEMBLY ( W/PARTS LIST)	1
23		D2606	SOLENOID VALVE, 1/2 (OMIT W/BUILT-IN BOOSTER)	1
24		D2641	SOLENOID VALVE REPAIR KIT	1
25				1
26				1
27		1550-28	TRACK ASS'Y	1
28		D2-541	SUCTION STRAINER	1
29		1550-22	SCRAP SCREEN	2
30		1550-15R	DOOR - RIGHT SIDE	1
31		1550-15L	DOOR - LEFT SIDE	1
32		1084-25	DOOR ARM	1
33		1084-38	LINK, ARM-DOOR	2
34		957-26	SPACER, DOOR LINK	2
35		D2245	GRIP - DOOR HANDLE	2
36		SK-2294A-001	SPRING	2
37		957-27	SPRING EXTENSION - LOWER	2
38		1440-7	POST - CONTROL BOX	4
39		DE5-37	SWITCH, MAGNETIC	1
40		DE5-37A	MAGNET	1
41		1550-17	DOOR - FRONT	1
42		1550-16	DOOR CONNECTOR	2
43				
44		SK-3490	CONTROL BOX ASS'Y	1
45		1550-6R or L	CORNER POST COVER (specify left or right)	2
46		1551-9	RETAINER BAR - CORNER POST COVER	2
47		SK-1433	PRESSURE GAUGE	1
48		DE5-60	LIQUID LEVEL FLOAT ASSEMBLY	1
49		1434-7A	UPPER RINSE PIPE	1
50		1434-7B	UPPER RINSE PIPE	1
51		1434-7C	LOWER RINSE PIPE	1
52		1434-7D	LOWER RINSE PIPE	1
53		1089-23A	LOWER WASH PIPE	1
54		1089-23B	LOWER WASH PIPE	1
55		1463-25	RINSE HUB UPPER	1 EA
56		D2874	BULLET FOOT	4
57		D3099	DOOR PIVOT NUT 3/8-16 THIN SEALNUT	2

REV. ECU NO. DATE  
FILE: PARTS\1350-30

TOLERANCES  
FRACTIONS ±1/64  
DECIMALS ±.005  
ANGLES ±1/2°  
UNLESS OTHERWISE SPECIFIED

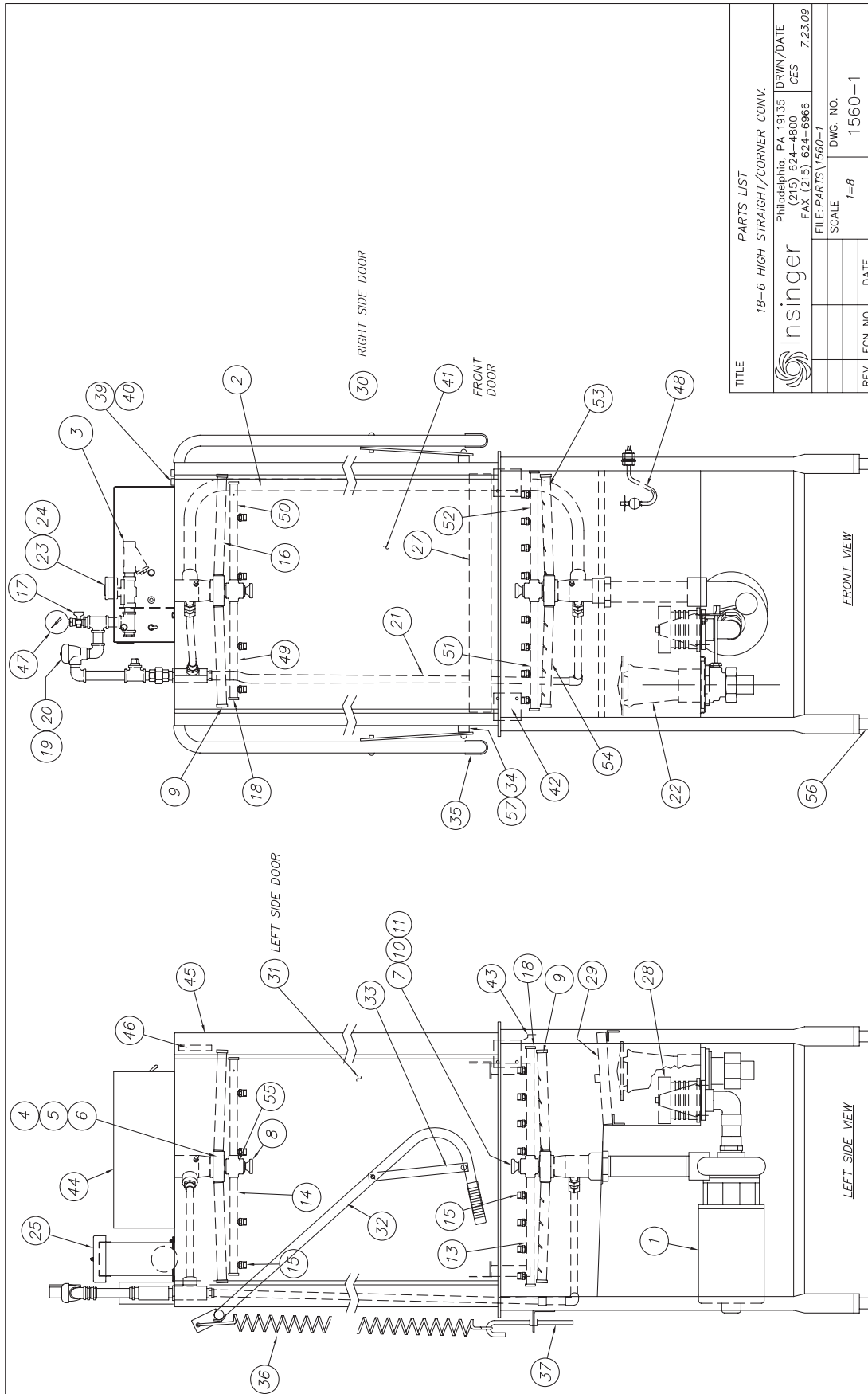
INSINGER  
Philadelphia, PA 19135  
(215) 624-4800  
FAX (215) 624-6966

PARTS LIST  
18-6 STRAIGHT/CORNER CONV.  
SCALE 1=8  
USED ON 18-6  
DRAWN/DATE CES 7.23.09

1550-30  
NEXT ASSY DWG. NO.  
1550-30

SHT 2 OF 2



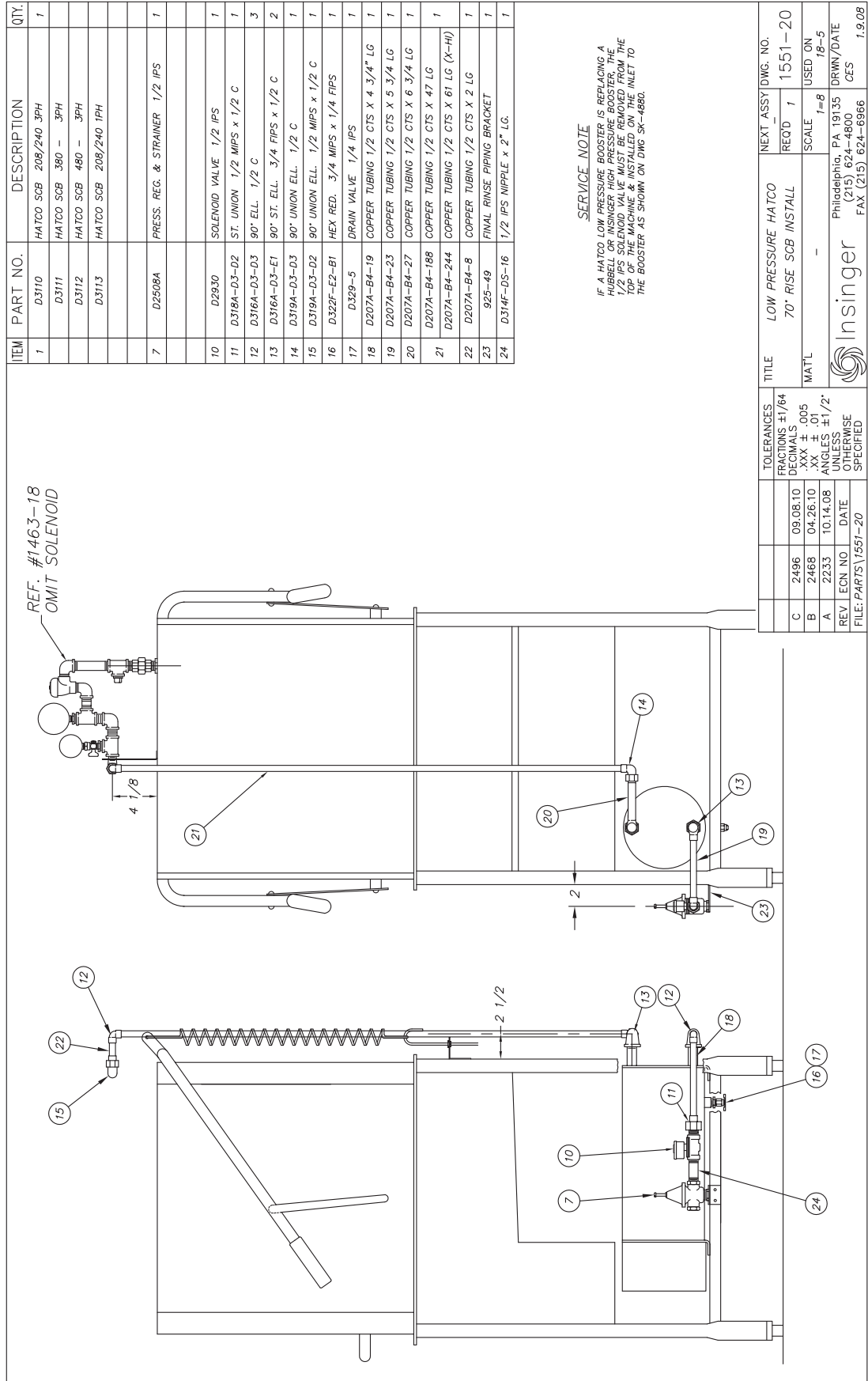


TITLE		PARTS LIST	
18-6 HIGH STRAIGHT/CORNER CONV.		Insinger	
Philadelphia, PA 19135		DRWN/DATE	
(215) 624-4800		CES	
FAX (215) 624-6966		7.23.09	
FILE:PARTS\1560-1		SCALE	
DWG. NO.		1560-1	
REV	ECN NO	DATE	

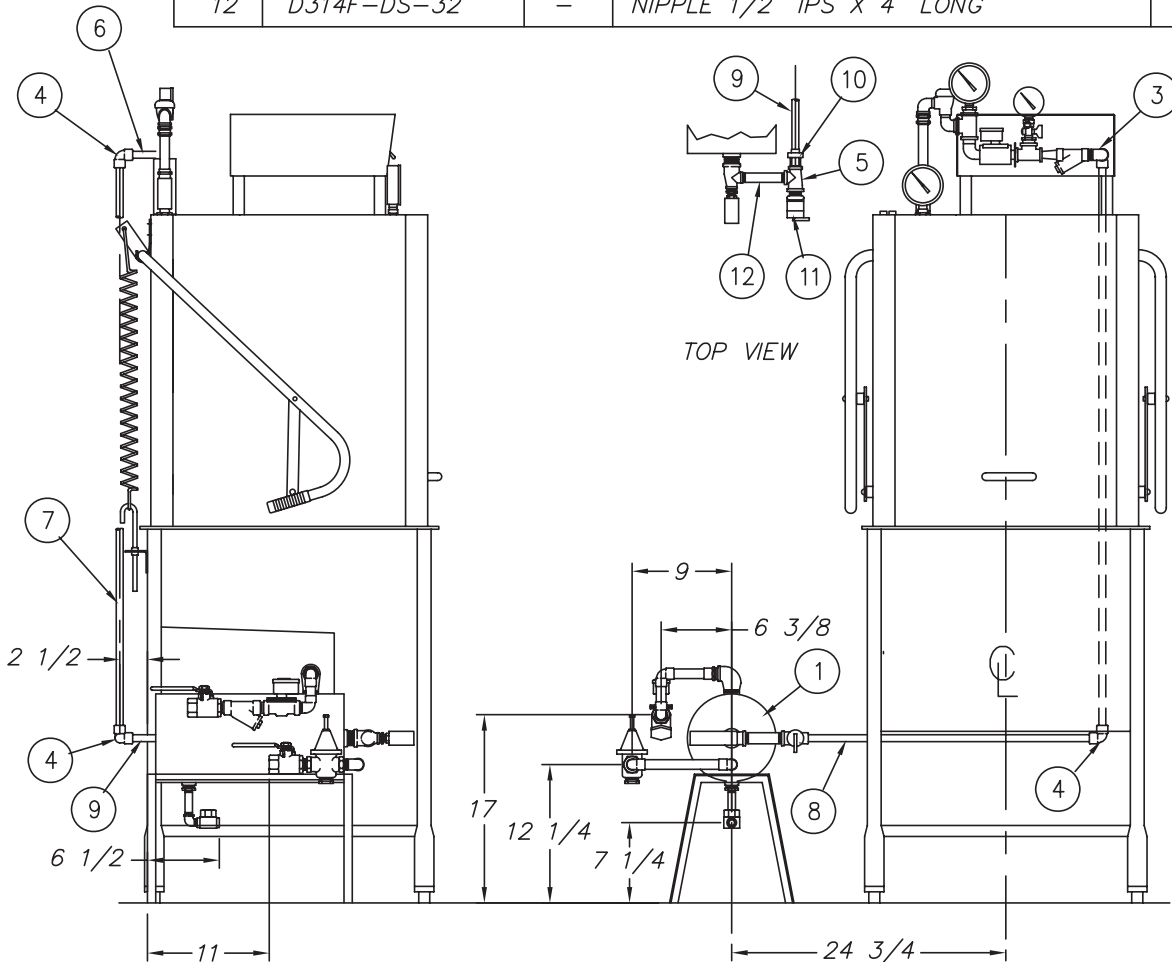
ITEM	MACHINE	PART No.	DESCRIPTION	REQ.
1	18-6H, 18-6HC	1089-19	PUMP & MOTOR ASS'Y (2 H.P. - SPECIFY VOLTAGE)	1
2		1172-97	DOOR WEAR STRIPS	6
3		D2483A	"Y" STRAINER, 1/2 (OMIT W/BUILT-IN BOOSTER)	1
4		1084-76	SPRAY HUB - WASH	2
5		D2-563	O-RING	2
6		952-27	BUSHING, PLASTIC (WASH ARM HUB)	2
7		1089-178	BUSHING, PLASTIC (RINSE ARM HUB)	1
8		1463-29	SUPPORT ASS'Y UPPER HUB	1
9		D2-554-2A	PLUG, 3/4-10 UNC-2A (WASH ARM)	4
10		D2-584	LOCKING SCREW	1
11		1084-22	HUB-LOWER RINSE ARM	1
12				
13		1434-9	LOWER SPRAY PIPE ASS'Y. - RINSE	1
14		1434-8	UPPER SPRAY PIPE ASS'Y. - RINSE	1
15		D3035	SPRAY NOZZLE - UPPER & LOWER RINSE ARM	12
16		1434-5	UPPER WASH PIPE	2
17		D2497	PETCOCK	1
18		D2-554-1A	PLUG, 9/16-12 UNC-2A (RINSE ARM)	4
19		D2241A	VACUUM BREAKER, 1/2	1
20		D2914RK	VACUUM BREAKER REPAIR KIT	1
21		1551-31	FINAL RINSE ASSEMBLY (W/ PARTS LIST)	1
22		SK-3028	DRAIN ASSEMBLY ( W/PARTS LIST)	1
23		D2606	SOLENOID VALVE, 1/2 (OMIT W/BUILT-IN BOOSTER)	1
24		D2641	SOLENOID VALVE REPAIR KIT	1
25		1560-25	HOOD TOP VENT ASSEMBLY	1
26				1
27		1550-28	TRACK ASS'Y	1
28		D2-541	SUCTION STRAINER	1
29		1550-22	SCRAP SCREEN	2
30		1560-15R	DOOR - RIGHT SIDE	1
31		1560-15L	DOOR - LEFT SIDE	1
32		1560-24	DOOR ARM	1
33		1463-8	LINK, ARM-DOOR	2
34		1463-7	SPACER, DOOR LINK	2
35		D2245	GRIP - DOOR HANDLE	2
36		SK-2294A-001	SPRING (3 DOOR - STRAIGHT)	3
			SPRING (2 DOOR - CORNER)	2
37		957-27	SPRING EXTENSION - LOWER (3 DOOR - STRAIGHT)	3
			SPRING EXTENSION - LOWER (2 DOOR - CORNER)	2
38				
39		DE5-37	SWITCH, MAGNETIC	1
40		DE5-37A	MAGNET	1
41		1560-17	DOOR - FRONT	1
42		1550-16	DOOR CONNECTOR	2
43		1560-18	DOOR GUTTER	2
44		SK-3490	CONTROL BOX ASS'Y	1
45		1560-6R or L	CORNER POST COVER (specify left or right)	2
46		1551-9	RETAINER BAR - CORNER POST COVER	2
47		SK-1433	PRESSURE GAUGE	1
48		DE5-60	LIQUID LEVEL FLOAT ASSEMBLY	1
49		1434-7A	UPPER RINSE PIPE	1
50		1434-7B	UPPER RINSE PIPE	1
51		1434-7C	LOWER RINSE PIPE	1
52		1434-7D	LOWER RINSE PIPE	1
53		1089-23A	LOWER WASH PIPE	1
54		1089-23B	LOWER WASH PIPE	1
55		1463-25	RINSE HUB UPPER	1 EA
56		D2874	BULLET FOOT	4
57		D3099	DOOR PIVOT NUT 3/8-16 THIN SEALNUT	2

REV. ECN NO. DATE  
 FILE:PARTS\1560-1  
 TOLERANCES  
 FRACTIONS ±1/64  
 DECIMALS .XXX ±.005  
 ANGLES ±1/2°  
 OTHERS AS SPECIFIED  
 TITLE  
 18-6 HIGH STRAIGHT/CORNER  
 PARTS LIST  
 MATL  
 SCALE  
 1-8  
 USED ON  
 18-6H  
 DRWN/DATE  
 CCS  
 7.23.09  
 Insinger  
 Philadelphia, PA 19135  
 (215) 624-4800  
 FAX (215) 624-8966

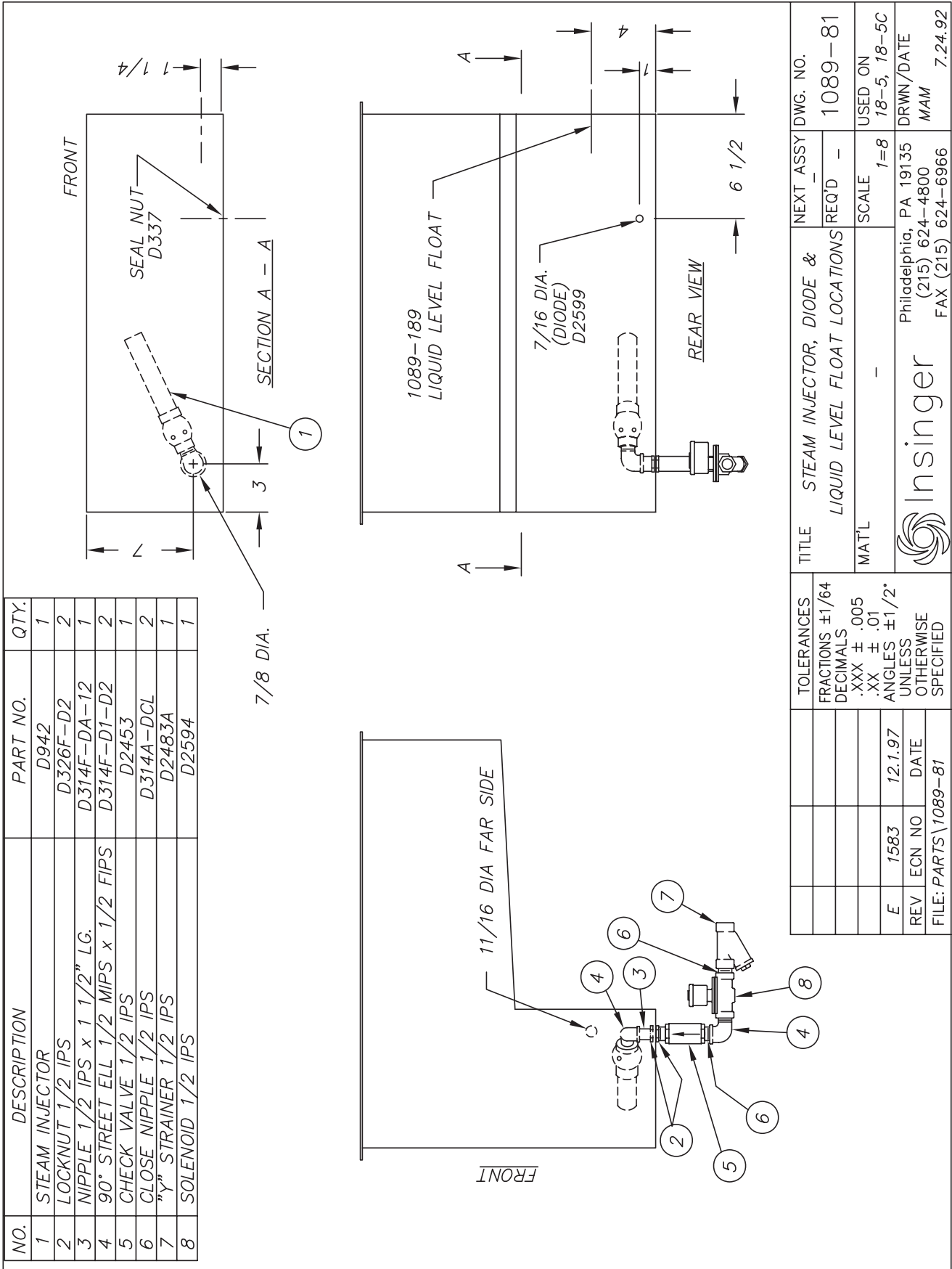
SHT 2  
OF 2



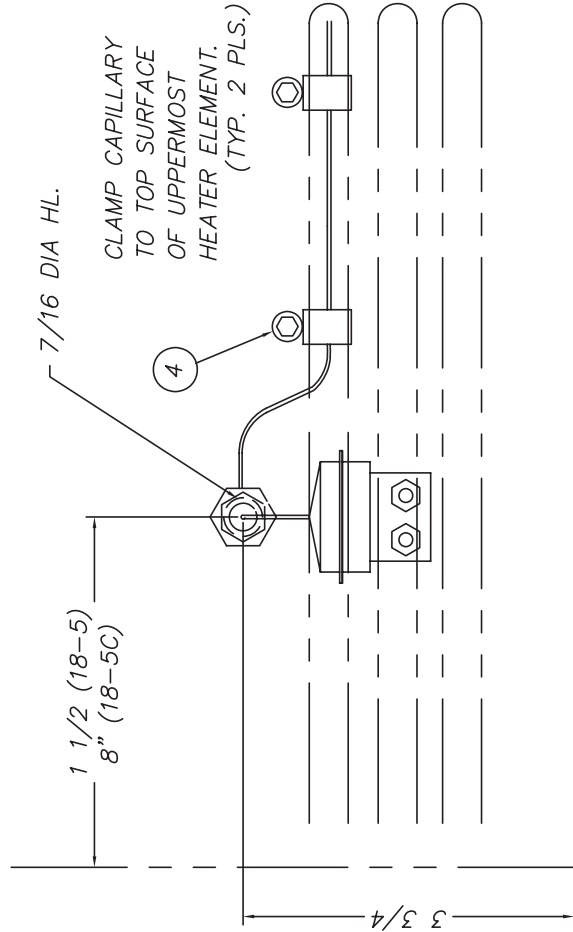
ITEM	PART NO.	SIZE	DESCRIPTION	QTY.
1	1394-1	B	BOOSTER ASSEMBLY	1
2	D319A-D3-D3	-	90° UNION ELBOW 1/2" C	1
3	D319A-D3-D2	-	90° UNION ELBOW 1/2" C X 1/2" MIPS	1
4	D316A-D3-D3	-	90° ELBOW 1/2" C	3
5	D317A-D3-D2	-	ADAPTER 1/2" C X 1/2" MIPS	1
6	D207A-K4-12	-	COPPER TUBING 1/2" CTS X 3" LONG	1
7	D207A-K4-172	-	COPPER TUBING 1/2" CTS X 43" LONG	1
8	D207A-K4-86	-	COPPER TUBING 1/2" CTS X 21 1/2" LG	1
9	D207A-K4-72	-	COPPER TUBING 1/2" CTS X 18" LONG	1
10	D320FE1D1E1	-	TEE 3/4 FIPS X 1/2 FIPS X 3/4 FIPS	1
11	D2507	-	PRESSURE RELIEF VALVE 3/4 MIPS	1
12	D314F-DS-32	-	NIPPLE 1/2" IPS X 4" LONG	1



REV	ECN NO	DATE	TOLERANCES	TITLE	NEXT ASSY	DWG. NO.
B	1916	2.22.02	FRACTIONS ±1/64	SIDE MOUNT STEAM BOOSTER TO FINAL RINSE PIPING ASS'Y	REQ'D 1	1089-179
A	1761	6.19.00	DECIMALS		SCALE	USED ON 18-5 50-20N2-NSU
FILE: PARTS\1089-179			.XXX ± .005	MAT'L	1/16	DRWN/DATE
			.XX ± .01	NOTED		RFN
			ANGLES ±1/2°	 Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966	6-5-90	
			UNLESS OTHERWISE SPECIFIED			



NO.	PART NO.	DESCRIPTION	QTY.
1	DE5-61	HI-TEMP. CUT-OFF SWITCH 3/8 NPT	1
2	1192-11	BRACKET, CUT-OFF SWITCH	1
3	D312C-DC-2	NUT, HEX #8-32	3
4	D2839	HOSE CLAMP, S/S	2
5	D318F-B5-B5	BULKHEAD FITTING	1
6	D3-545	"O" RING	1



VIEW FROM BACK

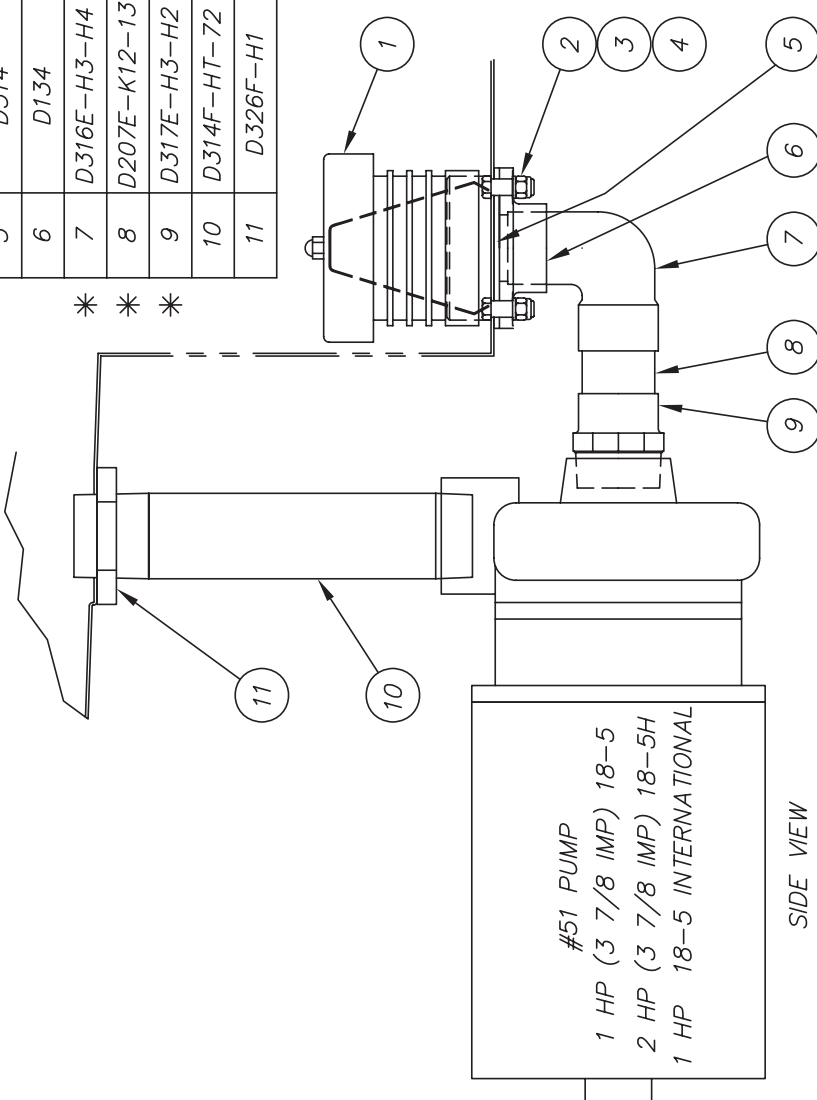
TOLERANCES	TITLE	NEXT ASSY DWG. NO.
FRACTIONS ±1/64	HI-TEMP CUT-OFF SWITCH INSTALLATION	1433-3
DECIMALS .XXX ± .005	MAT'L	REQ'D 1
.XX ± .01		SCALE 1:2
ANGLES ±1/2°		USED ON 18-5/18-5C
UNLESS OTHERWISE SPECIFIED		DRWN/DATE CES 11.14.03
REV	ECN NO	DATE
FILE: PARTS\1433-3		



ITEM	PART NO.	DESCRIPTION	QTY.
1	D2-541	SUCTION STRAINER	1
2	D309C-JC-9A	HEX HD. S/S SCREW 3/8-16 x 1 1/8"	4
3	D313A-J1	COPPER WASHER 3/8	4
4	D312C-JC-5	LOCKNUT 3/8-16	4
5	D514	GASKET, PUMP FLANGE	1
6	D134	PUMP FLANGE	1
7	D316E-H3-H4	ELBOW 90° 1 1/2"C X 1 1/2 C FTG	1
8	D207E-K12-13	1 1/2 CU TUBE X 3 1/4 LG	1
9	D317E-H3-H2	ADAPTER 1 1/2"C X 1 1/2"M	1
10	D314F-HT-72	NIPPLE 1 1/2 IPS x 9" LG. LOE	1
11	D326F-H1	LOCKNUT 1 1/2 IPS	1


\* ELECTROLESS NICKEL PLATE REQUIRED



SIDE VIEW

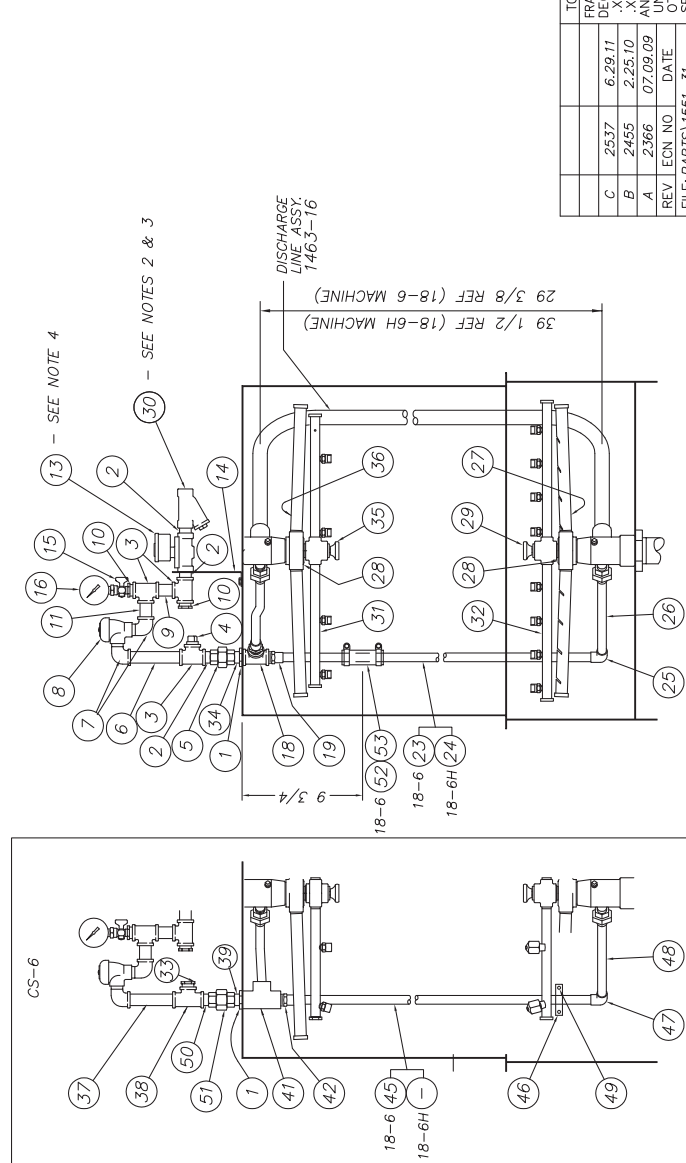
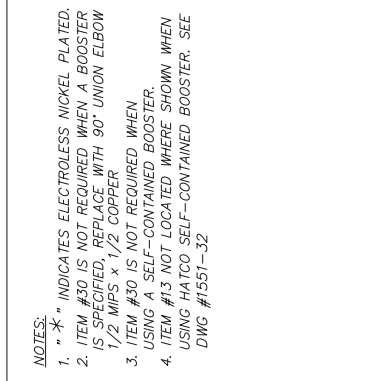
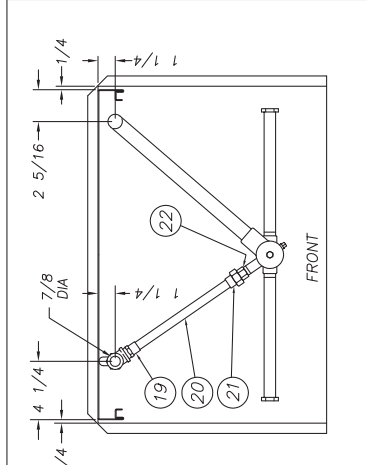
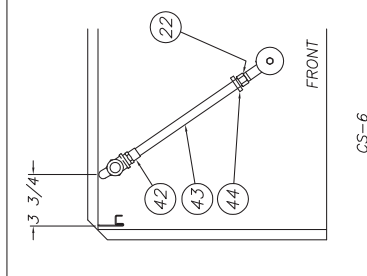
TOLERANCES	FRACTIONS ±1/64	TITLE	PUMP, MOTOR, & SUCTION ASSY
	DECIMALS .XXX ± .005	REQ'D	1
	.XX ± .01	SCALE	1=4
	ANGLES ±1/2°	NEXT ASSY DWG. NO.	1089-19
UNLESS OTHERWISE SPECIFIED		USED ON	185, CS-5
REV	ECN NO	DATE	DRWN/DATE
F	1972	3.12.03	RFN
E	1634	10.9.98	RFN
D	1458	8.30.96	RFN
FILE: PARTS\1089-19			



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9.3.91

NO.	DESCRIPTION	PART NO.	QTY.
1	LOCKNUT, HEX	D326F-D1	1
2	NIPPLE, CLOSE	D314F-DC-00	4
3	TEE	D320F-D1D1D1	3
4	PLUG, PIPE	D326F-D2A	1
5	UNION, STRAIGHT	D318F-D1-D1	1
6	NIPPLE, PIPE	D314F-DS-36	1
7	ELBOW, 90° STREET	D316F-D1-D2	2
8	BREAKER, VACUUM	D2914	1
9	NIPPLE, PIPE	D314F-DS-16	1
10	REDUCER, HEX	D322F-D2-B1	2
11	NIPPLE, PIPE	D314F-DS-14	1
12	NOT USED	---	---
13	VALVE, SOLENOID (WATER)	D2606	1
14	BRACKET, PIPING SUPPORT	951-79	1
15	PETCOCK	D2497	1
16	GAUGE, PRESSURE	SK-1433	1
18	TEE	D320J-D1D1D1	1
19	ADAPTER	D317E-D3-D2	2
20	TUBING, S/S	D207C-L5-36	2
21	UNION	D314E-DS-D1	2
22	REDUCER, FLUSH	D323J-D2-C1	2
23	FOR 18-5; TUBING, S/S	D207C-L5-112	1
24	FOR 18-5H; TUBING, S/S	D207C-L5-153	1
25	ELBOW, 90°	D318E-DS-D3	1
26	TUBING, S/S	D207C-L5-43	1
27	LOWER WASH PIPE ASSY	1089-25	2
28	O-RING	D2-563	2
29	SCREW, LOCKING	D2-584	1
30	STRAINER, "M"	D2483A	1
31	UPPER RINSE SPRAY PIPE ASSY	1434-8	1
32	LOWER RINSE SPRAY PIPE ASSY	1434-9	1
33	REDUCER, HEX	D322F-D2-A1	1
34	NIPPLE, PIPE	D314F-DA-12	1
35	SUPPORT ASSY, UPPER HUB	1463-29	1
36	UPPER WASH PIPE ASSY	1434-6	1
37	PIPE NIPPLE, S/S	D314C-DS-32	1
38	TEE, S/S	D320C-D1D1D1	1
39	PIPE NIPPLE, S/S	D314C-DA-12	1
40	---	---	---
41	TEE, CPVC	D320C-D1D1D1	1
42	ADAPTER, CPVC	D317E-DS-D2	2
43	TUBING, CPVC	D207C-B4-33	1
44	ADAPTER	D329-1	2
45	TUBING, CPVC	D207C-B4-90	1
46	CLAMP, CPVC	D2-577-1	1
47	90° ELBOW, CPVC	D316C-DS-D3	1
48	TUBING, CPVC	D207C-B4-42	1
49	WELD STUD	D309C-EC-36	2
50	NIPPLE, CLOSE, S/S	D314C-DC-00	1
51	UNION, STRAIGHT, S/S	D318C-D1-D1	1
52	5/8" ID HOSE, X 3" LG	D3219	1
53	HOSE CLAMP, ALL S/S, SIZE #10	D2876	2



TOLERANCES	TITLE	NEXT ASSY DWG. NO.
FRACTIONS ±1/64	FINAL RINSE ASS'Y 18-6	1551-31
DECIMALS .XXX ± .005	ALL EXCEPT S.C.B. (BOOSTER)	REQ'D
.XX ± .01	MAT'L	SCALE 1=8
ANGLES ±1/2°		USED ON 18-6
OTHERWISE SPECIFIED		

REV	ECN NO	DATE	OTHERWISE SPECIFIED
C	2537	6.29.11	
B	2455	2.25.10	
A	2366	07.09.09	

FILE: PARTS\1551-31

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**Insinger**

1551-31  
18-6  
1=8  
USED ON  
18-6  
1551-31  
18-6  
1=8  
USED ON  
18-6  
1551-31  
18-6  
1=8  
USED ON  
18-6

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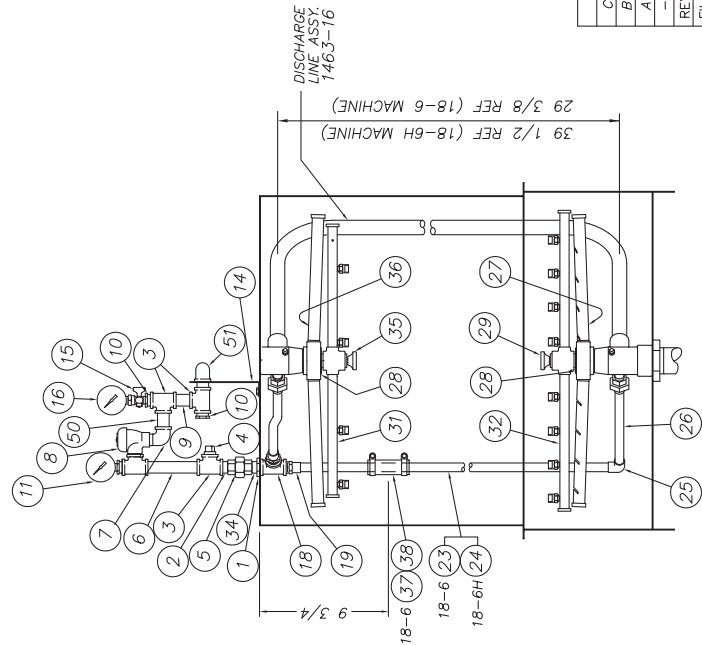
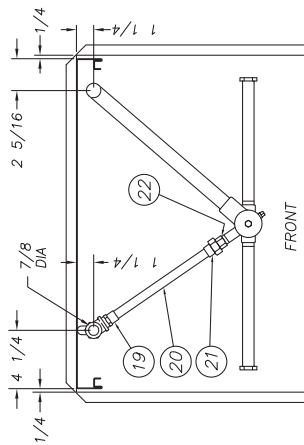
**Insinger**

1551-31  
18-6  
1=8  
USED ON  
18-6  
1551-31  
18-6  
1=8  
USED ON  
18-6

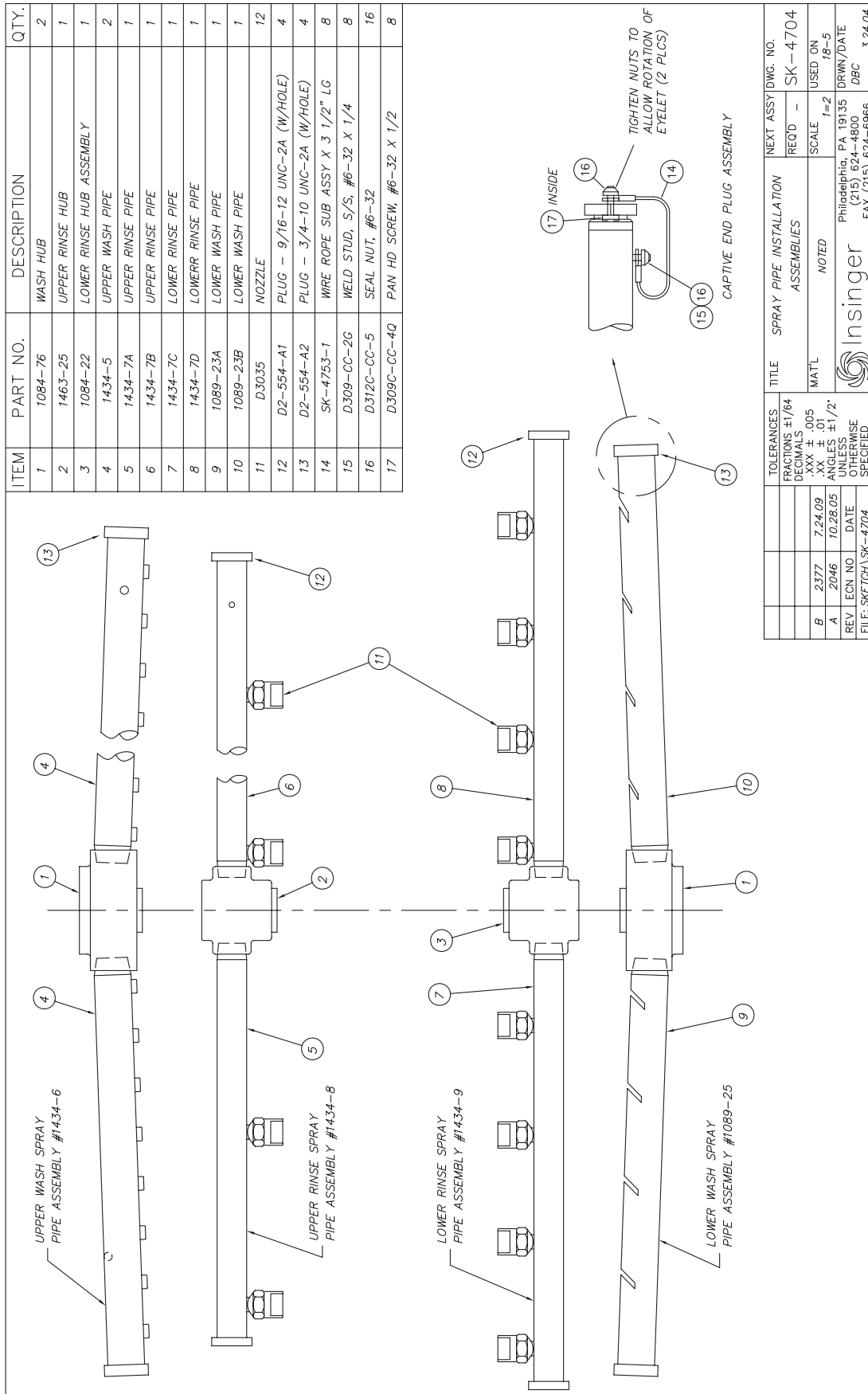


NO.	DESCRIPTION	PART NO.	QTY.
1	LOCKNUT, HEX	D326F-D1	7
2	NIPPLE, CLOSE	D314F-DC-00	2
3	TEE	D320F-D1D1D1	4
4	FLUG, PIPE	D326F-D2A	1
5	UNION, STRAIGHT	D318F-D1-D1	1
6	NIPPLE, PIPE	D314F-DS-36	1
7	ELBOW, 90° STREET	D316F-D1-D2	1
8	BREAKER, VACUUM	D3914	1
9	NIPPLE, PIPE	D314F-DS-16	1
10	REDUCER, HEX	D322F-D2-B1	3
11	GAUGE, TEMPERATURE	D2495	1
12	NOT USED		
13	NOT USED		
14	BRACKET, PIPING SUPPORT	951-79	1
15	PETCOCK	D2497	1
16	GAUGE, PRESSURE	SK-1433	1
17	ADAPTER	D320A-D1D1D1	1
18	TEE	D317E-03-02	2
19	TUBING, S/S	D207C-B4-36	1
20	REDUCER, FLUSH	D318E-03-D1	2
21	UNION	D323A-D2-C1	2
22	FOR 18-5, TUBING, S/S	D207C-B4-112	1
23	FOR 18-5H, TUBING, S/S	D207C-B4-153	1
24	FOR 18-5H, TUBING, S/S	D318E-03-D3	1
25	ELBOW, 90°	D207C-B4-39	1
26	TUBING, S/S	1089-25	1
27	LOWER WASH PIPE ASSY	D2-563	2
28	O-RING	D2-564	1
29	SCREW, LOCKING	1434-8	1
30	NOT USED	1434-8	1
31	UPPER RINSE SPRAY PIPE ASSY	1434-9	1
32	LOWER RINSE SPRAY PIPE ASSY		
33	NOT USED		
34	NIPPLE, PIPE	D314F-DA-12	1
35	SUPPORT ASSY, UPPER HUB	1463-29	1
36	UPPER WASH PIPE ASSY	1434-6	1
37	5/8" ID HOSE, 3" LG	D3219	1
38	HOSE CLAMP, ALL S/S, SIZE #10	D2876	2
39	NOT USED		
40	NOT USED		
41	NOT USED		
42	NOT USED		
43	NOT USED		
44	NOT USED		
45	NOT USED		
46	NOT USED		
47	NOT USED		
48	NOT USED		
49	NOT USED		
50	NOT USED		
51	NOT USED		

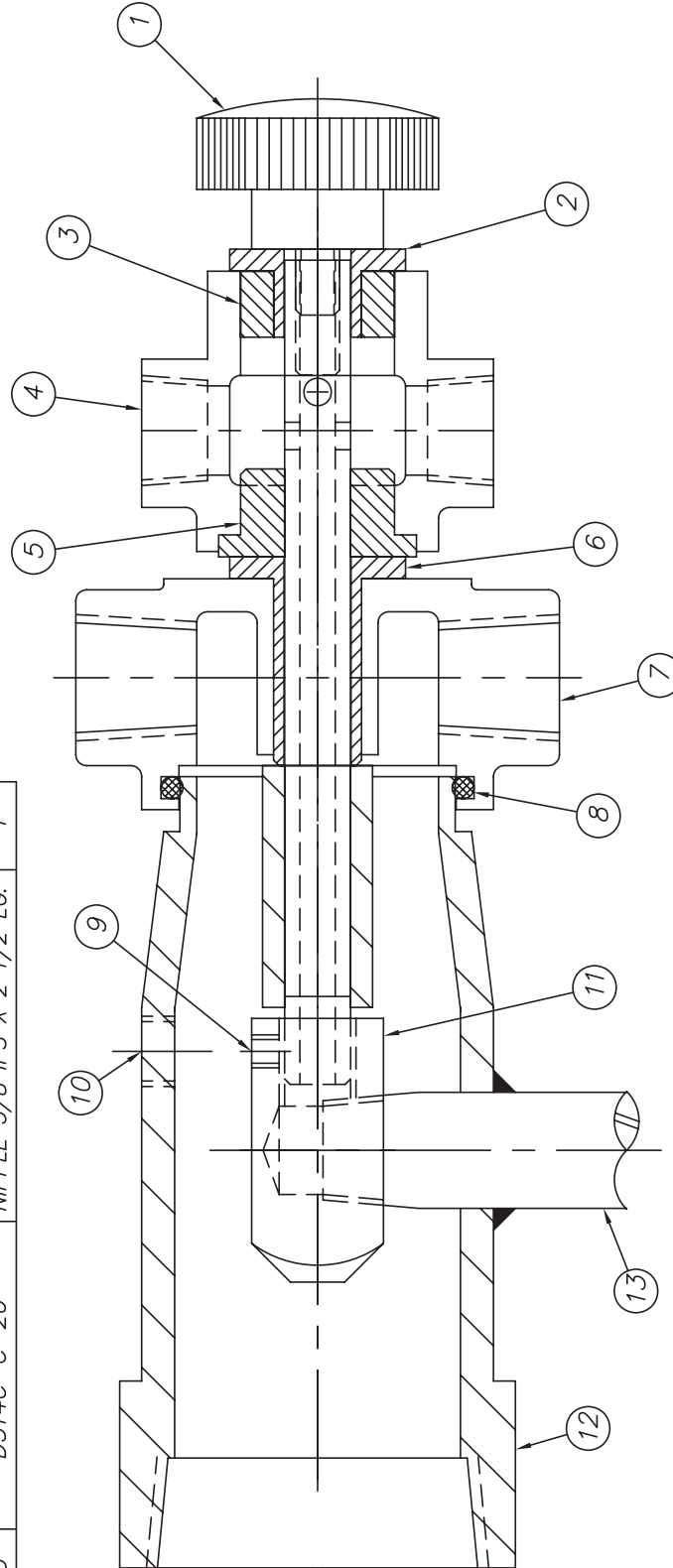
TOLERANCES	FRACTIONS ±1/64	DECIMALS .XXX ±.005	ANGLES ±.01	OTHERWISE SPECIFIED
C	2537	6.29.17	05.20.11	08.19.09
B	XXX	05.20.11	.XXX ±.005	07.20.09
A	2386	08.19.09	.XXX ±.01	07.20.09
REV	ECN NO	DATE	DATE	DATE
FILE: PARTS\1551-32				
TITLE	FINAL RINSE ASSY	NEXT ASSY DWG. NO.	1551-32	
	18-6 (W/ SELF CONTAINED BOOSTER)	REQD	USED ON	
	MAT'L	SCALE	18-6	
			I=8	
Philadelphia, PA 19135 (215) 624-4886 FAX (215) 624-6966				
DRAWN/DATE A.D.S. 07.20.09				



NOTES:  
 1. \* \* \* \* \* INDICATES ELECTROLESS NICKEL PLATED.



ITEM	PART NO.	DESCRIPTION	QTY.	ITEM	PART NO.	DESCRIPTION	QTY.
7	1084-76	WASH HUB	1	1	D2-584A	KNOB - LOWER	1
8	D2-563	"0" RING 1 3/4 OD X 3/32 W	1	2	1089-178	INSERT BUSHING - RINSE HUB	1
9	D309C-EF-2H	#10-32 X 1/4" SETSCREW	1	3	1089-177	BUSHING - RINSE HUB	1
10	D328A-A2	PIPE PLUG 1/8 IPS	1	4	372-52	HUB MACHINING	1
11	1084-34	SHAFT ASSEMBLY	1	5	1084-35	BUSHING - RINSE HUB	1
12	1089-16	DISCHARGE TEE - LOWER	1	6	952-27	BUSHING - WASH HUB	1
13	D314C-C-20	NIPPLE 3/8 IPS X 2 1/2 LG.	1				

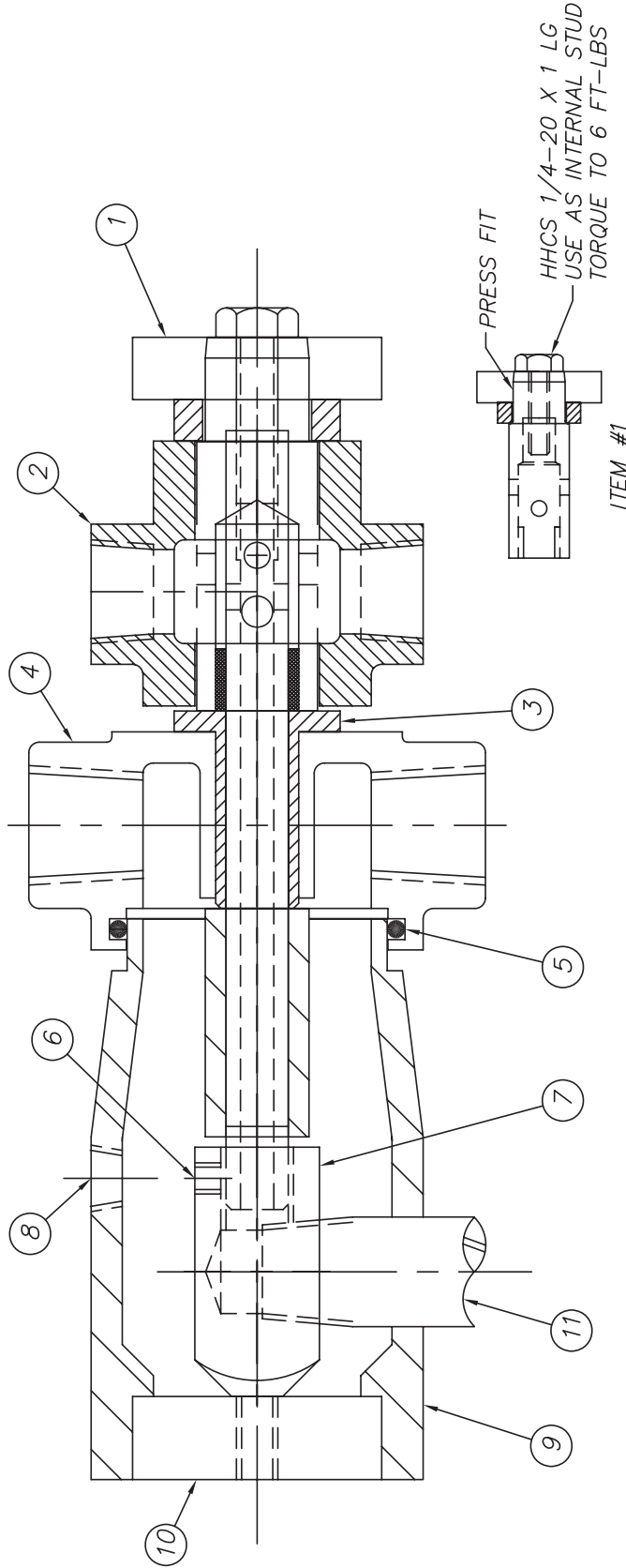


\* LOWER RINSE HUB ASSEMBLY  
#1084-22 CONSISTS OF:  
(1) #372-52 HUB MACHINING  
(1) #1084-35 BUSHING  
(1) #1089-177 BUSHING  
(1) #1089-178 BUSHING

TOLERANCES	TITLE	NEXT ASSY DWG. NO.
FRACTIONS ±1/64	18-4 & 18-5	SK-4705
DECIMALS	LOWER MANIFOLD ASSY	REQ'D -
.XXX ± .005	MAT'L	SCALE
.XX ± .01		1=1
ANGLES ±1/2°		USED ON
UNLESS OTHERWISE SPECIFIED		18-4 & 18-5
REV	ECN NO	DRWN/DATE
		DBC
FILE: SKETCHA \ SK-4703		

**Insinger**  
Philadelphia, PA 19135  
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FAX (215) 624-6966  
DRWN/DATE  
DBC  
3.24.04

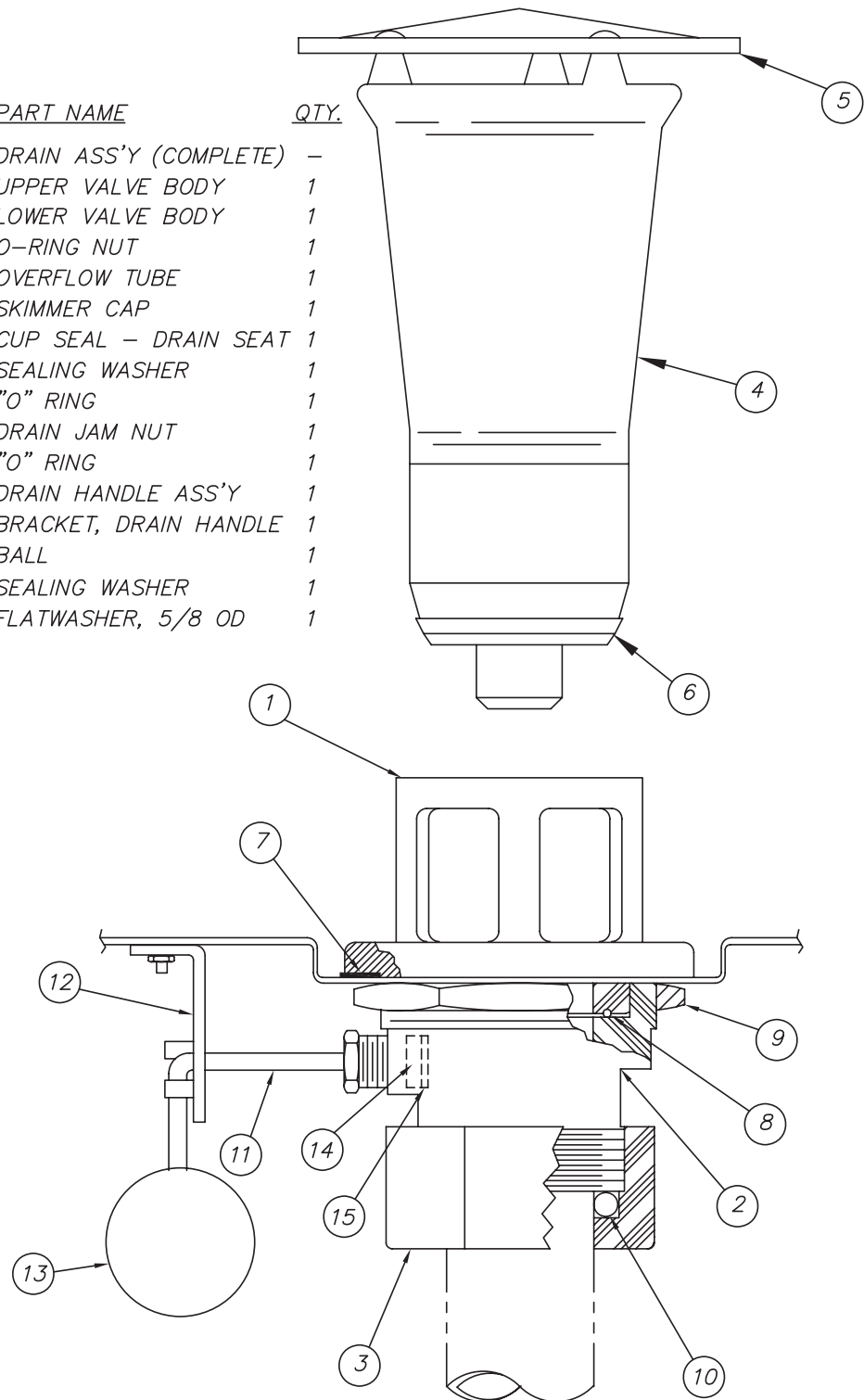
ITEM	PART NO.	DESCRIPTION	QTY.	ITEM	PART NO.	DESCRIPTION	QTY.
7	1084-34	SHAFT ASSEMBLY	1	1	1463-29	SUPPORT ASSY - UPPER HUB	1
8	D328A-A2	PIPE PLUG, 1/8 IPS	1	2	1463-25	RINSE HUB - UPPER	1
9	1089-15C	DISCHARGE TEE - UPPER	1	3	952-27	BUSHING - WASH HUB	1
10	1089-28	PLUG (PRESS FIT)	1	4	1084-76	WASH HUB	1
11	D314C-C-20	NIPPLE 3/8 IPS X 2 1/2 LG.	1	5	D2-563	"0" RING, 1 3/4 OD X 3/32 W	1
				6	D309C-EF-2H	#10-32 X 1/4" SETSCREW	1



SCALE: 1/2

* ITEM #1 SUB-ASSEMBLY CONSISTS OF: #1463-26 BEARING BOSS #1463-27 THRUST COLLAR #1463-28 KNURLED KNOB D309C-GC-8A 1/4-20 X 1 LG HHCS	TOLERANCES	FRACTIONS ±1/64	DECIMALS	.XXX ± .005 .XX ± .01	ANGLES ±1/2°	UNLESS OTHERWISE SPECIFIED	TITLE	UPPER MANIFOLD ASSEMBLY	NEXT ASSY DWG. NO.	1463-18	SK-4073	
	REV	ECN NO	DATE	A	2007	3.25.04	MAT'L	NOTED	REQ'D	1	18-5	
	FILE: SKETCHA \ SK-4073						SCALE	FULL	USED ON	18-5		
							DRWN/DATE	Philadelphica, PA 19135 (215) 624-4800 CES		11.18.98		
							Insinger Machine Company		FAX (215) 624-6966			

<u>ITEM</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>
	954-50	DRAIN ASS'Y (COMPLETE)	-
1	954-50A	UPPER VALVE BODY	1
2	954-50B	LOWER VALVE BODY	1
3	954-50C	O-RING NUT	1
4	1169-179D	OVERFLOW TUBE	1
5	D193	SKIMMER CAP	1
6	D2-557	CUP SEAL - DRAIN SEAT	1
7	954-9	SEALING WASHER	1
8	D2-549	"O" RING	1
9	D305A	DRAIN JAM NUT	1
10	D2-550	"O" RING	1
11	970-55	DRAIN HANDLE ASS'Y	1
12	954-8	BRACKET, DRAIN HANDLE	1
13	D2-507	BALL	1
14	954-7	SEALING WASHER	1
15	D3006	FLATWASHER, 5/8 OD	1



SK-3028

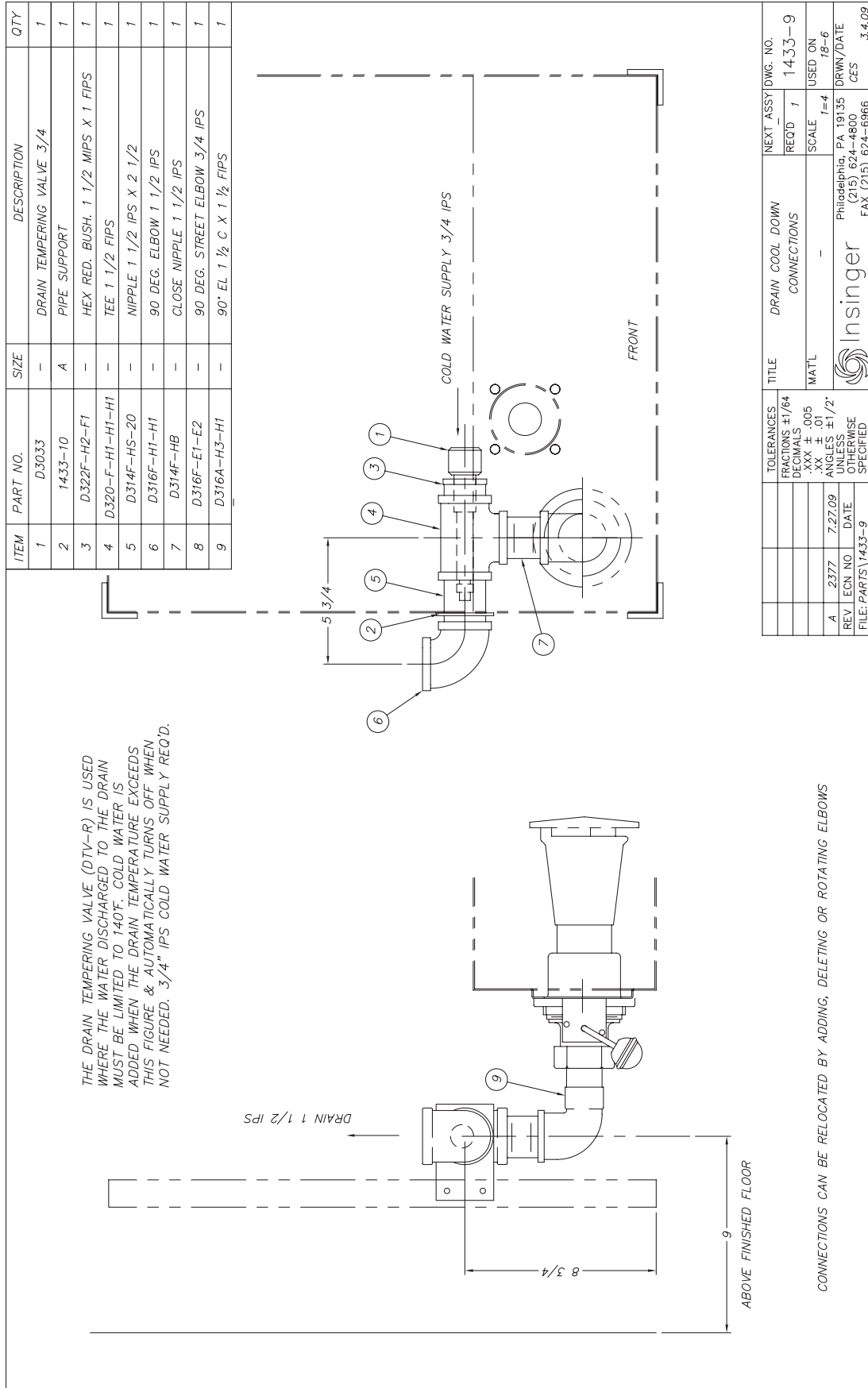
- △ ECN# 2377 7.24.09
- △ ECN# 1989 7.7.03
- △ ECN# 1761 5.5.00
- △ ECN# 1512 12.20.96

FILE: SKETCHA\SK-3028

MAM 2.11.93



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FAX (215) 624-6966



## **CONVERT 18-6 STRAIGHT TO CORNER**

### **DOOR CONVERSION**

All 3 doors open on a straight machine; only the front & right hand doors are used on a corner. The front is defined as facing the center door with the springs on the back. Remove the door connector bracket between the left & front doors. Fill the holes with the screws, flat washers & nuts. Disconnect the link between the left door stud and the handle and remove it. Back off the tension on the springs on the back of the machine. Test the operation of the doors. It may be necessary to remove the springs and turn the mounting angle upside down. Use 2 people, a 1/2 diameter rod and extreme care if disconnecting and reattaching springs. Be sure the door magnet is on an operating door.

### **TRACK CONVERSION**

Current Track Assembly #1550-28 rev A: remove item #3 Track Fence from its position on the front track & insert the studs into the holes on the left hand cross track (at the non-opening door). The angle must face toward the inside of the machine. The rack will be sliding over the surface of this angle.

Early Track Assembly #1550-28 rev 0: remove #1550-14-2 vertical and discard. Install #1550-14-3 cross track - closed end on the left (at the non-opening door). Install #1550-14-5 cross track - open end on the right (at the opening door). Track arrangement should now match the view on the left of the drawing 'CORNER SET-UP'. If any parts are missing, contact [parts@insingermachine.com](mailto:parts@insingermachine.com) or call 215-624-4800.

### **LEFT/RIGHT CONFIGURATION**

See Installation Drawing 18-6C. Note how the machine is positioned in a left hand corner. It is rotated 90 degrees clockwise for installation into a right hand corner. This constitutes the conversion procedure.



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 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:

TECHNICAL SERVICE CONTACTS	
Toll-Free	800-344-4802
Fax	215-624-6966
e-mail	service@insingermachine.com
Web site	www.insingermachine.com

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


## COMMANDER 18-6VG

### Automatic Single Tank Door Type Dishwasher

#### DESIGN

- Automatic door type, single tank dishwasher with timed wash and rinse cycle
- 0.8 Gallons/rack
- Capacity is 40- 20" x 20" racks per hour or 1000 dishes per hour
- Fully automatic operation
- RackAware™ Automatic Rack Sensing System\* only runs a cycle when a rack is present
- VaporGuard™ Condensate Removal System\*
- Selectable 2 minute extended wash cycle
- Field convertible straight through to corner
- Single Digital Temperature indicator for wash and rinse temperature

#### STANDARD FEATURES

- SureFire® Start-Up & Check-Out Service
- Non-proprietary commercially available pump motor and parts
- "Easy Clean" front-mounted wash tank
- Single scrap screen design
- Tank heat: 5 Kw electric immersion heater or steam tank coils
- Top-mounted NEMA 12 control panel
- Single point electrical connection: motor, controls, heater and built-in booster
- Door safety switch
- Low water protection
- Override switch for delimiting or extended wash cycle on front control panel
- Easy-glide doors
- Detergent connection provision
- Manifold cleanout brush
- S/S frame, legs and feet
- S/S front panel
- End caps/pipe plugs secured to prevent loss



RackAware™ Automatic Rack Sensing System\* only runs a cycle when a rack is present

#### OPTIONS

- Pressure reduction valve and line strainer
- Stainless steel steam coil tank heat
- Steam booster
- Built-in electric booster
- Remote electric booster
- Totally enclosed motor
- Door activated drain closer
- Plastic 20" x 20" racks (plate or silver)
- Drain quench system



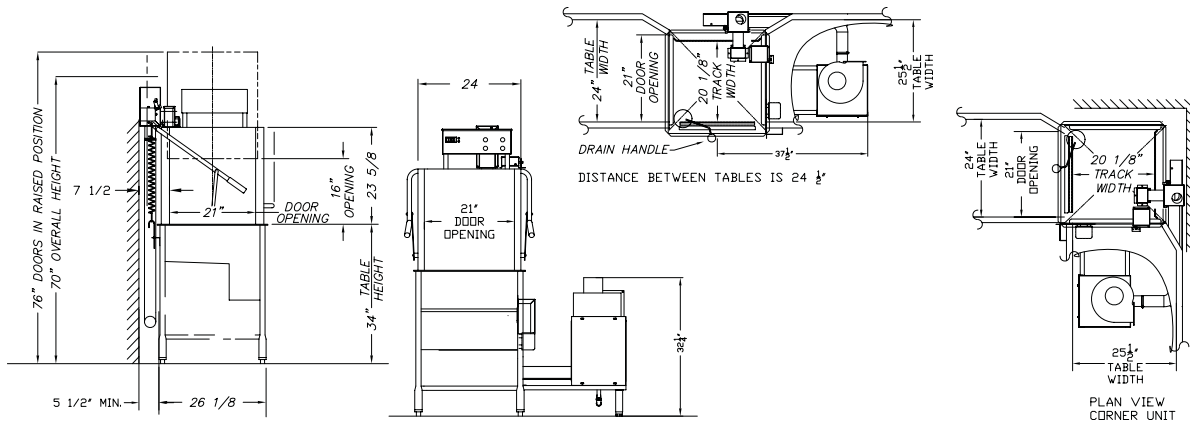
\*Patent Pending

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## COMMANDER 18-6VG

### Automatic Single Tank Door Type Dishwasher



**Note:** For all rough in connections see installation and layout detail drawing.

Capacity Per Hour	40 racks 1000 dishes 50-100 meals		
Tank Capacity	6.4 gallons		
Motor Size	1 hp (wash)		
Electric Usage	3.8 Kw 208v		
	5.0 Kw 240v		
	3.1 Kw 380v		
	5.0 Kw 480v		
	Built-in booster 40° or 70° rise		
	10.1 Kw 208v		
Steam Consumption at 20 psi min.	11 lbs./hour tank		
	22 lbs./hour booster 40° rise		
	43 lbs./hour booster 70° rise		
Final Rinse Peak Flow at 20 psi min.	4.3 gallons/minute		
Final Rinse Consumption at 20 psi min.	32 gallons/hour 0.8 gallons/rack		
Peak Rate Drain Flow	9 gallons/minute		
Shipping Weight	400 lbs.		
Current Draw Amps	Steam	Electric w/o booster	Electric w/ built-in booster
	208/1/60	11.1	29.4
208/3/60	6.9	17.4	45.5
240/1/60	9.7	30.5	86.8
240/3/60	5.8	17.8	50.3
380/3/50	3.9	8.6	29.2
480/3/60	3.1	9.1	25.3

## SPECIFICATIONS

**CONSTRUCTION-** Hood and tank constructed of 16 gauge type 304 S/S. Hood unit of all welded seamless construction. S/S frame, legs and feet. All internal castings are non-corrosive lead free nickel alloy or bronze.

**DOORS-** Three (both sides and front) simultaneously opening doors. Operating doors have fingertip control, balanced by externally mounted springs. (Corner installations have two simultaneously opening doors at right angles.) All doors have easy-glide strips. Extra large die formed type 304 S/S doors ride in all S/S channels. A triple ply leading edge on the door channels made of S/S.

**PUMP-** Centrifugal type "packless" pump with a brass petcock drain. Construction includes ceramic seal and a balanced cast impeller on a precision ground stainless steel shaft, extension or sleeve. All working parts mounted as an assembly and removable as a unit without disturbing pump housing. One 1 HP motor, standard horizontal C-face frame, drip proof, internally cooled with ball-bearing construction.

**CONTROLS-** Top mounted control cabinet, NEMA 12 rated, housing motor controls and overload protection, transformer, contactors and all dishwasher integral controls. Integrated rack sensing system.

**SPRAY SYSTEM-** Wash and rinse spray systems made of type 304 stainless steel pipe threaded into cast hub assemblies. Upper and lower wash and rinse spray assemblies are removable without the use of tools.

**WASH-** 2 power spinning wash arms above and 2 power spinning wash arms below. On top, each wash arm is designed with 8 nozzles (16 total). On the bottom, each wash arm is designed with 4 slots (8 total). The slots are precision milled for water control and produce a fan spray.

**FINAL RINSE-** 2 power spinning rinse arms above and 2 power spinning wash arms below. On top, each rinse arm is designed with 2 nozzles (4 total). On the bottom, each rinse arm is designed with 4 nozzles (8 total). The nozzles produce a fan spray reducing water consumption, maximizing heat retention.

**DRAIN-** Drain valve externally controlled. Overflow assembly with skimmer cap is removable without the use of tools for drain line inspection. Heater is protected by low water level control.

Note: Due to product improvement we reserve the right to change information and specifications without notice.

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**COMMANDER 18-6VG DOOR TYPE  
DISHWASHER****INTRODUCTION****Purpose**

The purpose of this technical manual addendum 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 Insinger VG-1 VaporGuard™.

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](mailto: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.

**INSTALLATION AND CONNECTION**

The VaporGuard™ system is a factory installed option and is shipped attached to the warewasher.

Refer to Warewasher installation instructions.

**Check Electrical Connections**

Warewasher to VaporGuard™ Inlet damper solenoid

Warewasher to VaporGuard™ Bypass damper solenoid

Warewasher to VaporGuard™ Blower motor

Note these connections are 208/240VAC.

**Setting Up and Alignment:**

The machine must be completely level when installed.

Adjust the machine's feet to compensate for any unevenness of the floor.

Check and retighten connections of exhaust hose/duct to bypass damper and to VaporGuard™

Check exhaust hose/duct to ensure that it does not extend below the VaporGuard™ box inlet at any point along its path. Adjust as required.

**Connection to the Drain:**

The unit is equipped with a 1/2" PVC drain connection and is normally connected to the same drain that the warewasher is connected to. The drain must be connected to a drain capable of handling an additional 1.0 gal/min flow. A proper air gap must be supplied between the unit and the building drain connections. Failure to provide air gap will result in improper or inconsistent draining of unit and potential overflow condition.

**OPERATING INSTRUCTIONS****OPERATING INSTRUCTIONS for VaporGuard™**

Always refer to the Warewasher's operation instruction for performance of the Warewasher.

These instructions only pertain to the VaporGuard™

**START-UP AND CHECK**

Before proceeding with the start up verify the following:

Open the front panel to the VaporGuard™ and verify that any packaging materials and tie downs have been removed. Confirm that the water removal panels are laying flat.

**SEQUENCE of OPERATION****1. NORMAL OPERATION of WAREWASHER**

- a. Follow steps in the Warewasher manual.
- b. Warewasher tank doors locked closed
- c. Intake damper closed to the warewasher
- d. Bypass damper closed to the warewasher, open to room air
- e. VaporGuard™ fan ON

**2. END of WAREWASHER NORMAL OPERATION.****3. START OF VaporGuard™ CYCLE.**

- a. Warewasher tank doors locked closed
- b. Intake damper open to the warewasher
- c. Bypass damper open to the warewasher, closed to room air
- d. VaporGuard™ fan ON
- e. Warewasher cycle light ON

**4. END of VaporGuard™ CYCLE**

- a. Warewasher tank doors unlocked.
- b. Intake damper closed to the warewasher
- c. Bypass damper closed to the warewasher, open to room air
- d. VaporGuard™ fan OFF
- e. Warewasher cycle light OFF

**5. Doors can be opened and rack unloaded.**

**TROUBLESHOOTING**

Faults where it is not necessary to call Insinger. You can rectify minor faults yourself following the steps described in the table below.

If you are unable to rectify the fault, contact Insinger service (1-800-344-4802.)

Do not open any panels or expose any parts of the machine if tools are necessary to do so.

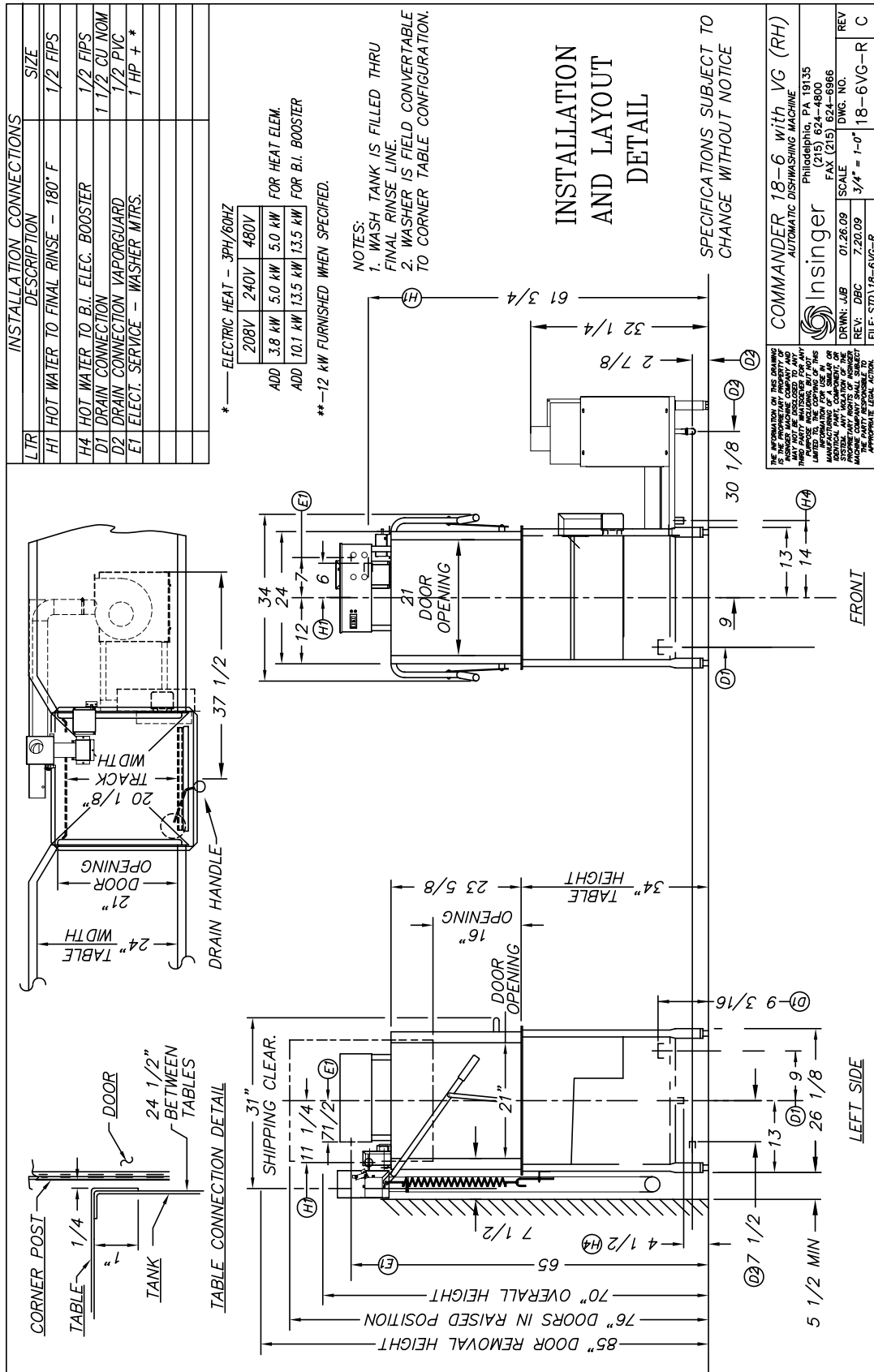
Risk of electric shock.

Work on the electrical equipment should only be performed by service personnel.

First disconnect the washer from the main power.

Do not switch the washer on again until the cause of the fault has been identified.

<b>TROUBLESHOOTING</b>		
<b>Problem</b>	<b>Cause</b>	<b>Remedy</b>
Blower not running	No power Motor failed	Check power source Replace motor and blower assy
Intake damper not opening	No power Check damper linkage Check for binding Solenoid not function	Check power source Replace or adjust linkage if bent Lightly lubricate binding point Replace solenoid
Bypass damper not opening	No power Check damper linkage Check for binding Solenoid not function	Check power source Replace or adjust linkage if bent Lightly lubricate binding point Replace solenoid
Water coming out of box corners	Drain line clogged	Unclog drain



BE THE PROPRIETOR OF THIS DRAWING. ANY REVISIONS TO THIS DRAWING SHALL BE MADE BY THE ORIGINAL DRAWING ENGINEER OR HIS AUTHORIZED REPRESENTATIVE. ANY REVISIONS MADE BY ANY OTHER PARTY WITHOUT THE WRITTEN CONSENT OF THE ORIGINAL DRAWING ENGINEER SHALL BE AT THE USER'S RISK AND WITHOUT LIABILITY TO THE ORIGINAL DRAWING ENGINEER.

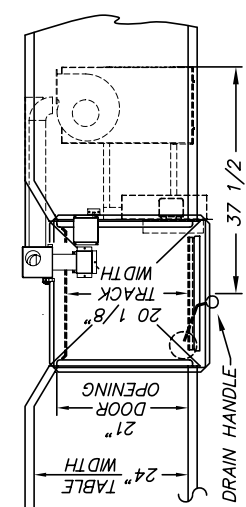
COMMANDER 18-6 with VG (RH)  
AUTOMATIC DISHWASHING MACHINE  
Philadelphia, PA 19135  
(215) 624-4800  
FAX (215) 624-6866

Insinger  
DRWN: JAB 01.26.09 SCALE  
REV: DEC 2.20.09 3/4" = 1'-0" DWG. NO. 18-6VG-R C

FILE: STD\18-6VG-R

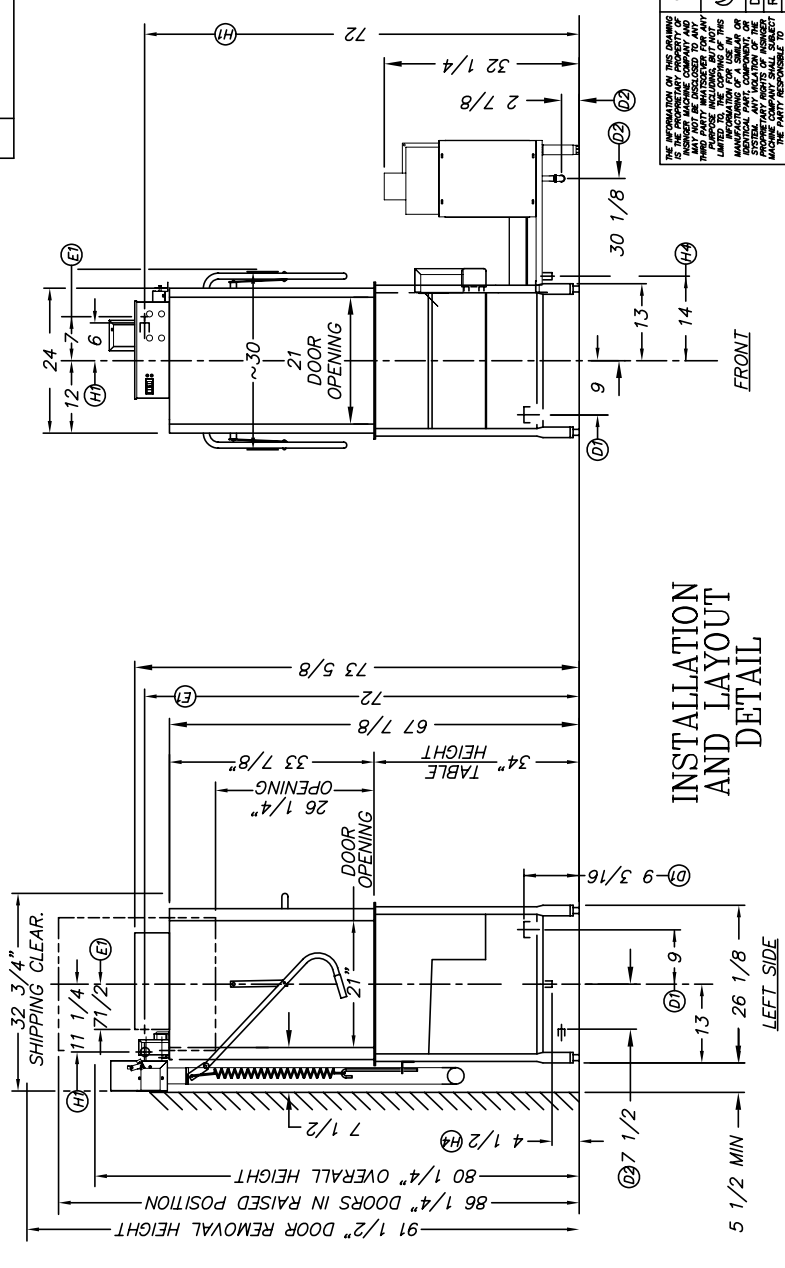
LTR	INSTALLATION CONNECTIONS	SIZE
	DESCRIPTION	
H1	HOT WATER TO FINAL RINSE - 180° F	1/2 FIPS
H4	HOT WATER TO BI. ELEC. BOOSTER	1/2 FIPS
D1	DRAIN CONNECTION	1 1/2 CU NOM
D2	DRAIN CONNECTION VAPORGUARD	1/2 PVC
E1	ELECT. SERVICE - WASHER MTRS.	1 HP + *



**TABLE CONNECTION DETAIL**

CORNER POST 1/4"  
TABLE 1"  
TANK 24 1/2" BETWEEN TABLES  
DRAIN HANDLE  
DRAIN TRACK 20 1/8"  
DOOR WIDTH 24"  
DOOR OPENING 21"  
TABLE WIDTH 24"



**INSTALLATION AND LAYOUT DETAIL**

**FRONT**

**LEFT SIDE**

91 1/2" DOOR REMOVAL HEIGHT  
86 1/4" DOORS IN RAISED POSITION  
80 1/4" OVERALL HEIGHT  
7 1/2"  
4 1/2" (H4)  
9 3/16" (H3)  
9"  
13"  
26 1/8"  
5 1/2" MIN

SHIPPING CLEAR. 32 3/4"  
11 1/4"  
71 1/2" (E)  
21"  
DOOR OPENING  
26 1/4"  
DOOR OPENING  
33 7/8"  
TABLE HEIGHT  
67 7/8"  
72"  
73 5/8"  
34" TABLE  
32 1/4"  
2 7/8"  
30 1/8"  
14" (H4)  
13"  
9"  
72"

**ELECTRIC HEAT - 3PH/60HZ**

208V	240V	480V
5 KW	5.0 KW	5.0 KW
10.1 KW	13.5 KW	13.5 KW

FOR HEAT ELEM.  
FOR BI. BOOSTER

\*\* 12 KW FURNISHED WHEN SPECIFIED.

**NOTES:**

1. WASH TANK IS FILLED THRU FINAL RINSE LINE.
2. WASHER IS FIELD CONVERTABLE TO CORNER TABLE CONFIGURATION.

**APPROVAL**

PLEASE SIGNATURE AND DATE OF THE DRAWING ENGINEER OR THE MANUFACTURER'S REPRESENTATIVE.

- AS SHOWN (CHECK & CHECKED BY OWNER)  
 - AS NOTED (CHECK & CHECKED BY OWNER)  
 - RETURN FOR CORRECTIONS AS SHOWN

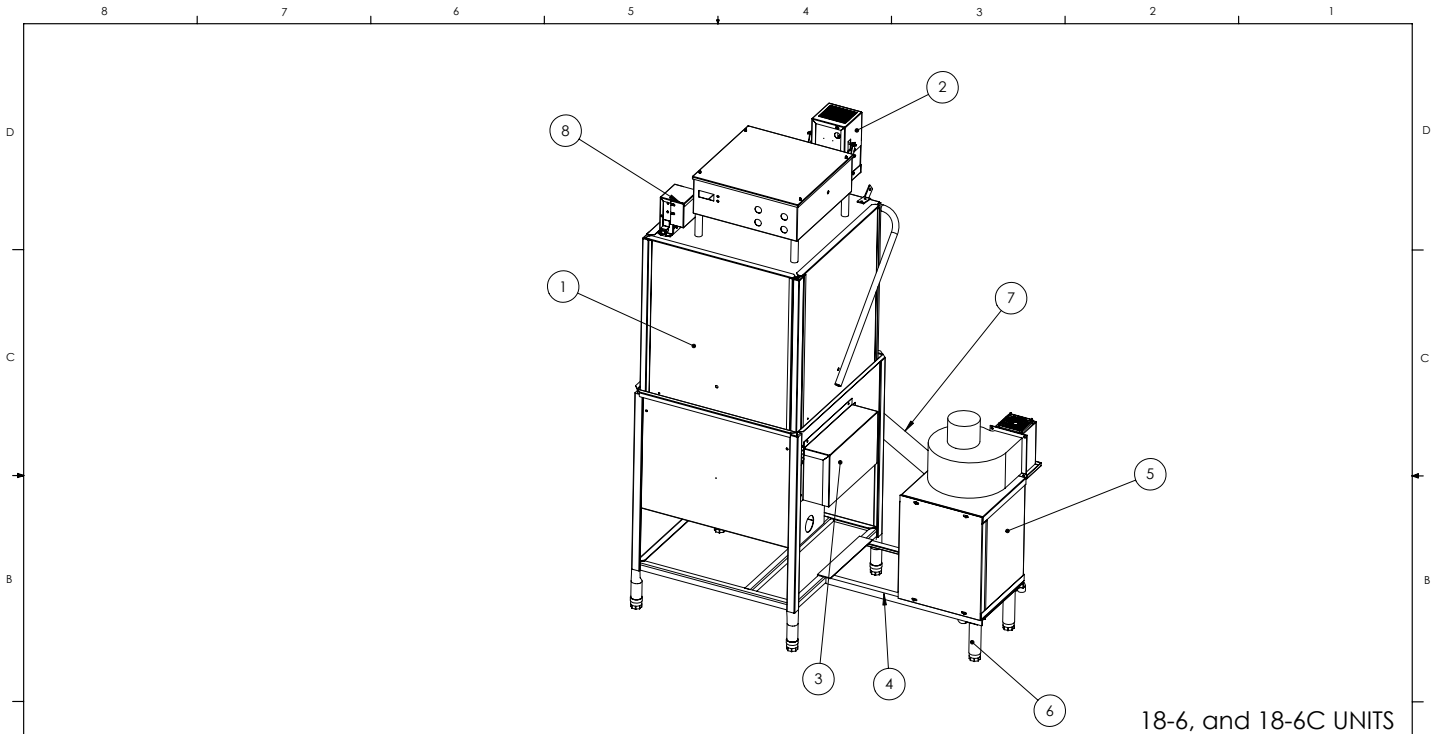
DRAWN: \_\_\_\_\_ DATE: \_\_\_\_\_  
 TITLE: \_\_\_\_\_  
 COMPANY NAME: \_\_\_\_\_

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

**COMMANDER 18-6H with VG (RH)**  
**INSINGER AUTOMATIC DISHWASHING MACHINE**  
 Philadelphia, PA 19135  
 (215) 624-4800  
 FAX (215) 624-6966

DRWN: A.D.S. 08.13.09 SCALE: 1-0" = 18-6HVG-R  
 REV: \_\_\_\_\_ DWG. NO. 18-6HVG-R  
 FILE: STD\18-6HVG-R




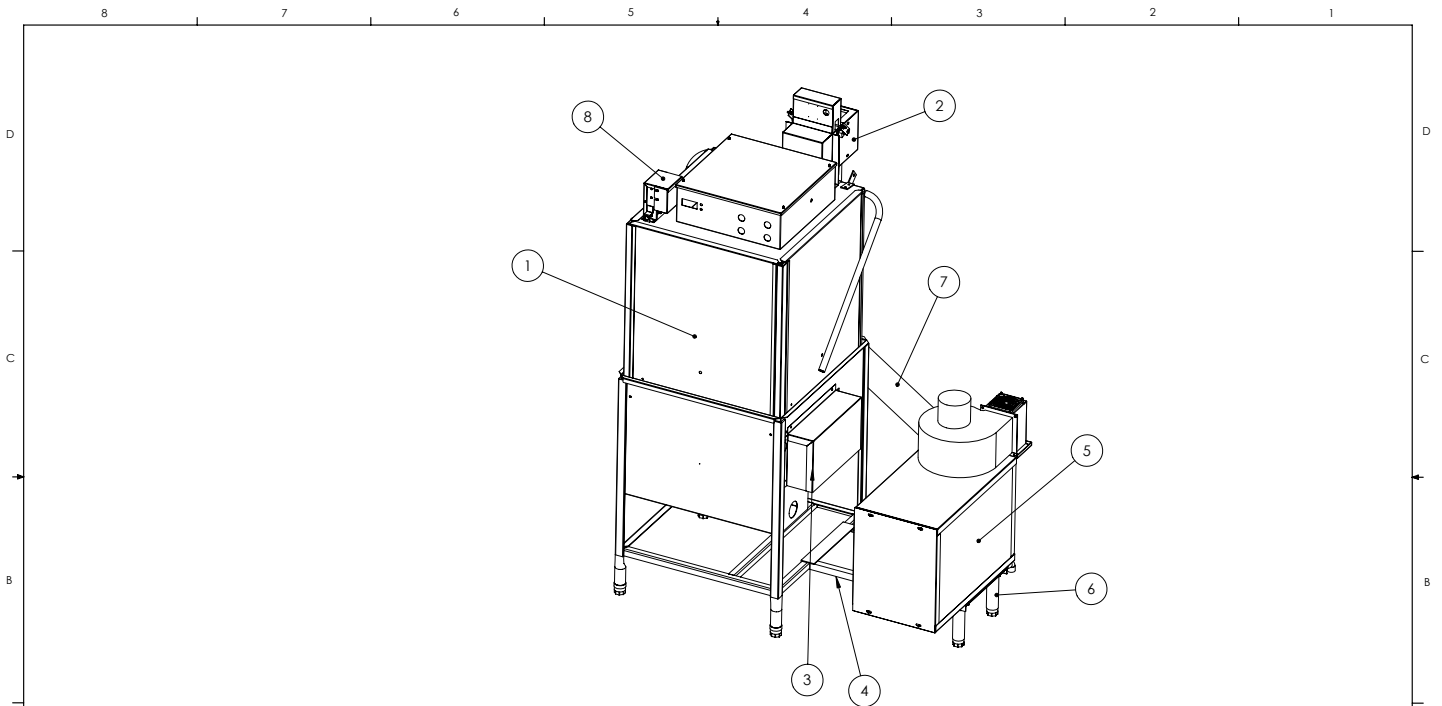


18-6, and 18-6C UNITS

8	1564-75	DOOR LOCK ASSY	1
7	9002 VG	2 1/2" FLEX HOSE	1
6	D3078	ADJUSTABLE LEG	2
5	1564-33	VG EXTRACTOR ASSY	1
4	1564-28	VG FRAME WELD	1
3	1564-2	TANK DAMPER ASSY	1
2	1564-12	HOOD DAMPER ASSY	1
1	18-6 TOP LEVEL	18-6 UNIT	1
ITEM NO.	PART NO.	DESCRIPTION	QTY.

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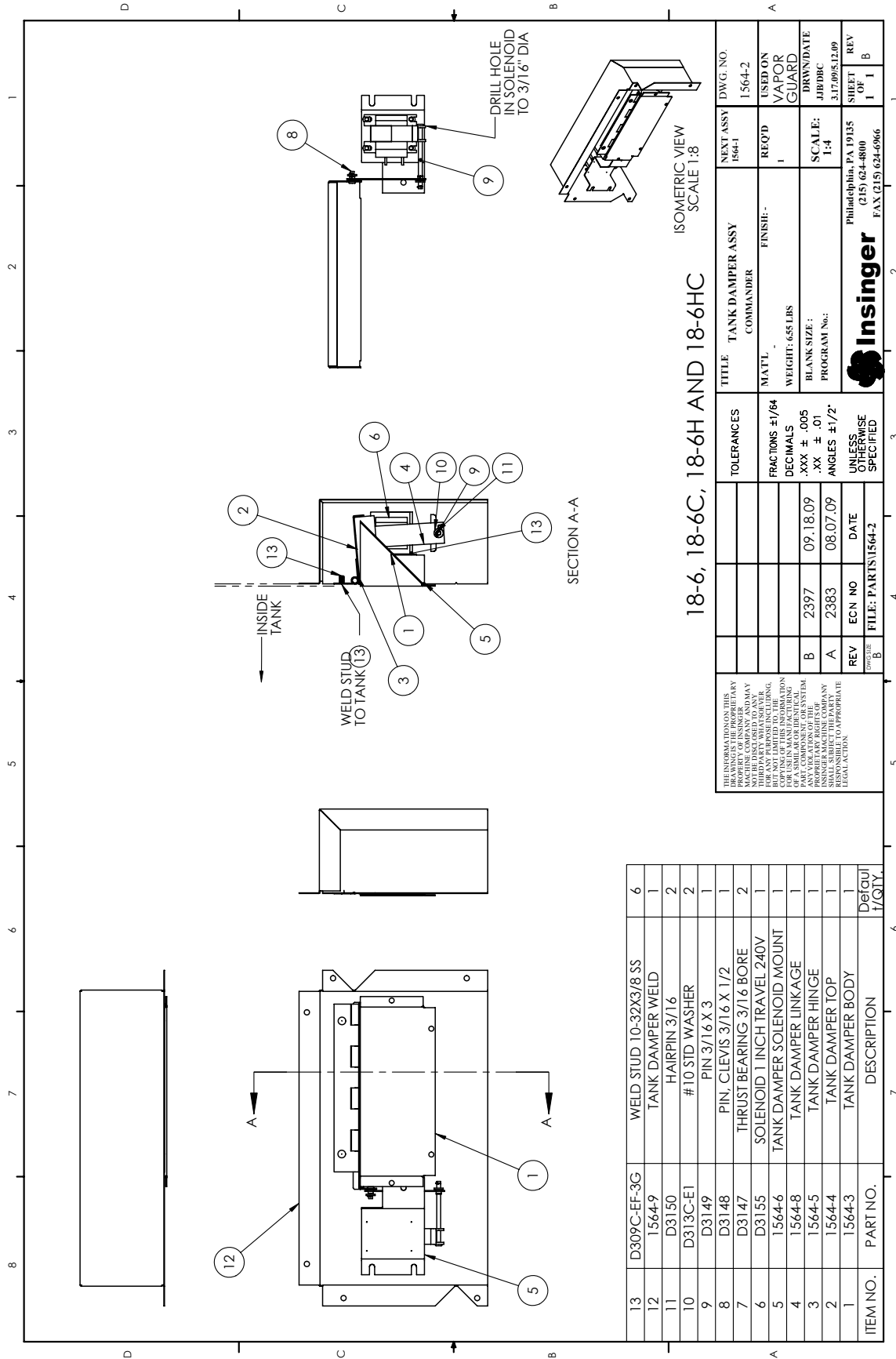
REV	ECN NO	DATE	TOLERANCES	TITLE	NEXT ASSY	DWG. NO.
001						18-6VG REVA
			FRACTIONS ±1/64 DECIMALS .XXX ± .005 .XX ± .01 ANGLES ±1/2°	MATT'L - FINISH - WEIGHT: 225.41 LBS BLANK SIZE: PROGRAM No.:	REQ'D - SCALE: 1:12	USED ON - DRWN/DATE -
			UNLESS OTHERWISE SPECIFIED	 Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966		
						SHEET OF 1 1 REV -



18-6H and 18-6HC UNITS

8	1564-75	DOOR LOCK ASSY	1
7	1564-89	4" FLEX HOSE	1
6	D3078	ADJUSTABLE LEG	2
5	1564-80	VG LG EXTRACTOR ASSY	1
4	1564-28	VG FRAME WELD	1
3	1564-2	TANK DAMPER ASSY	1
2	1564-56	BYPASS DAMPER ASSEMBLY	1
1	18-6H TOP LEVEL	18-6H	1
ITEM NO.	PART NO.	DESCRIPTION	QTY.

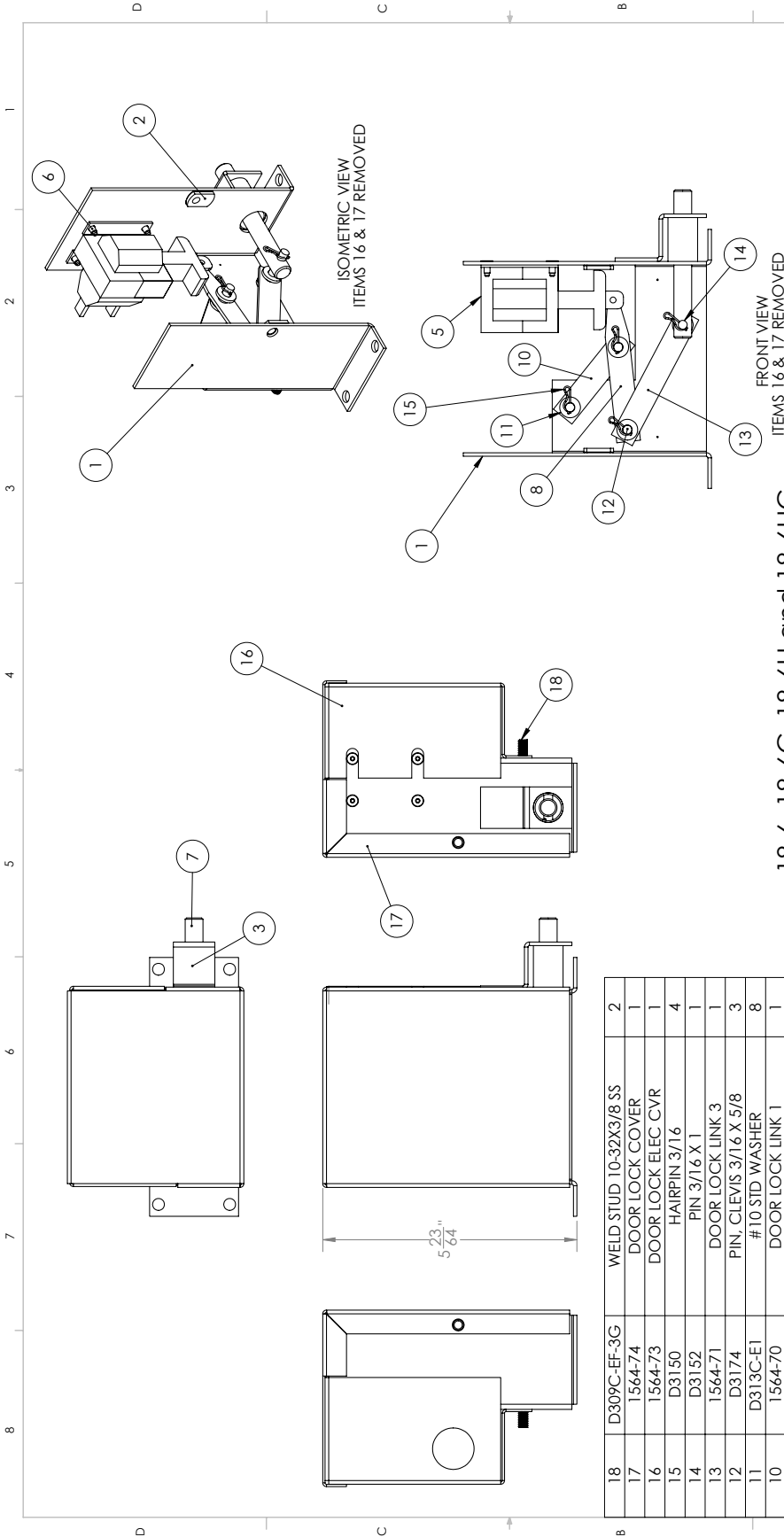
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REV B FILE: -	ECN NO DATE	INSINGER Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966	REV OF 1 1	REV OF 1 1	



ITEM NO.	PART NO.	DESCRIPTION	Default Qty.
13	D309C-EF-3G	WELD STUD 10-32X3/8 SS	6
12	1564-9	TANK DAMPER WELD	1
11	D3150	HAIRPIN 3/16	2
10	D313C-E1	# 10 STD WASHER	2
9	D3149	PIN 3/16 X 3	1
8	D3148	PIN, CLEVIS 3/16 X 1/2	1
7	D3147	THRUST BEARING 3/16 BORE	2
6	D3155	SOLENOID 1 INCH TRAVEL 240V	1
5	1564-6	TANK DAMPER SOLENOID MOUNT	1
4	1564-8	TANK DAMPER LINKAGE	1
3	1564-5	TANK DAMPER HINGE	1
2	1564-4	TANK DAMPER TOP	1
1	1564-3	TANK DAMPER BODY	1
		DESCRIPTION	Default Qty.

**18-6, 18-6C, 18-6H AND 18-6HC**

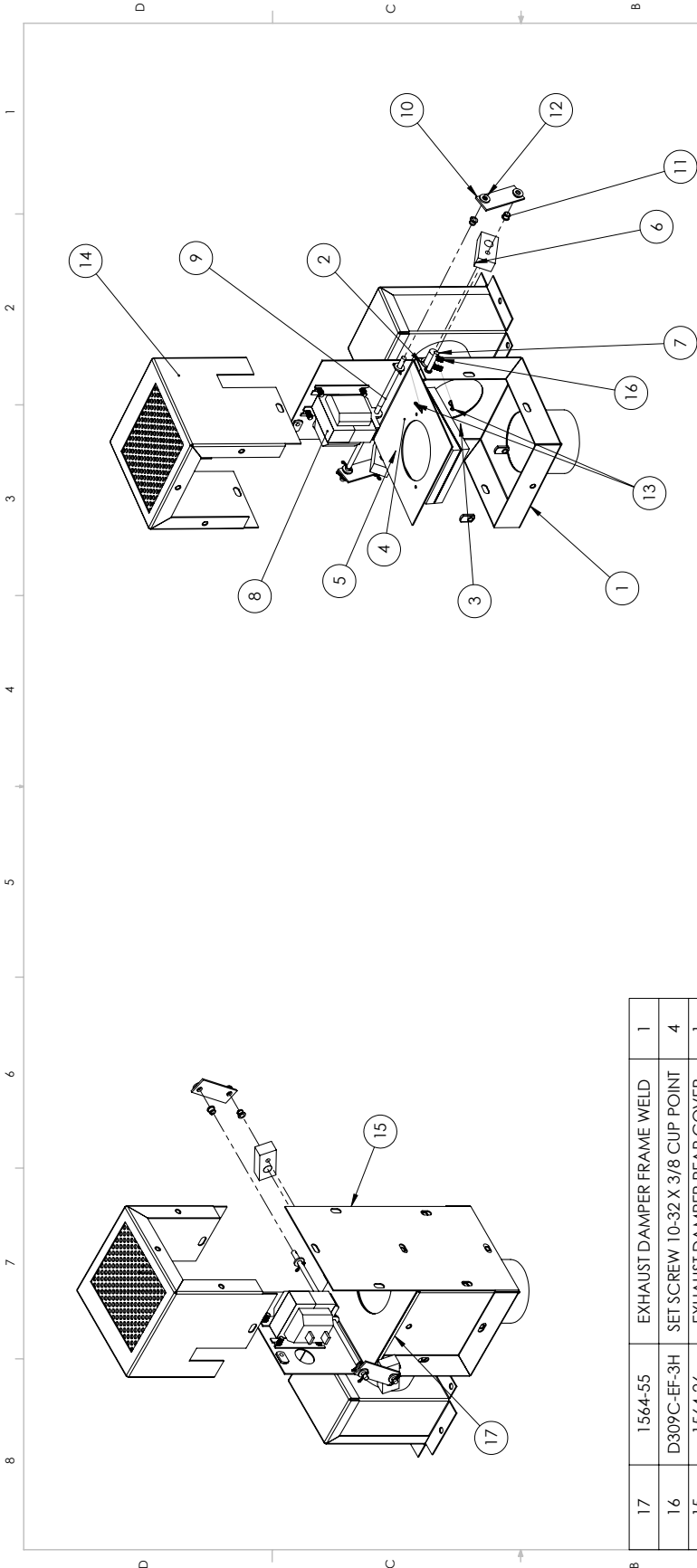
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<p>TOLERANCES</p> <p>FRACTIONS ±1/64</p> <p>DECIMALS .XXX ± .005</p> <p>.XX ± .01</p> <p>ANGLES ±1/2°</p>	<p>TITLE TANK DAMPER ASSY</p> <p>MATL. FINISH-</p> <p>WEIGHT: 6.55 LBS</p> <p>BLANK SIZE: .XX ± .01</p> <p>PROGRAM No.:</p>	<p>PHILADELPHIA, PA 19135</p> <p>(215) 624-4800</p> <p>FAX (215) 624-6966</p>	<p>PHILADELPHIA, PA 19135</p> <p>(215) 624-4800</p> <p>FAX (215) 624-6966</p>	<p>PHILADELPHIA, PA 19135</p> <p>(215) 624-4800</p> <p>FAX (215) 624-6966</p>	<p>PHILADELPHIA, PA 19135</p> <p>(215) 624-4800</p> <p>FAX (215) 624-6966</p>
<p>FRAC. DEC. ANG. UNLESS OTHERWISE SPECIFIED</p>	<p>FRAC. DEC. ANG. UNLESS OTHERWISE SPECIFIED</p>	<p>FRAC. DEC. ANG. UNLESS OTHERWISE SPECIFIED</p>	<p>FRAC. DEC. ANG. UNLESS OTHERWISE SPECIFIED</p>	<p>FRAC. DEC. ANG. UNLESS OTHERWISE SPECIFIED</p>	<p>FRAC. DEC. ANG. UNLESS OTHERWISE SPECIFIED</p>
<p>FRAC. DEC. ANG. UNLESS OTHERWISE SPECIFIED</p>	<p>FRAC. DEC. ANG. UNLESS OTHERWISE SPECIFIED</p>	<p>FRAC. DEC. ANG. UNLESS OTHERWISE SPECIFIED</p>	<p>FRAC. DEC. ANG. UNLESS OTHERWISE SPECIFIED</p>	<p>FRAC. DEC. ANG. UNLESS OTHERWISE SPECIFIED</p>	<p>FRAC. DEC. ANG. UNLESS OTHERWISE SPECIFIED</p>



**18-6, 18-6C, 18-6H and 18-6HC**

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		2415	10.23.09		FRACTIONS ±1/64 DECIMALS .XXX ± .005 .XX ± .01 ANGLES ±1/2° UNLESS OTHERWISE SPECIFIED	2415	1:2	1	9.15.09/10.23.09	1564-75
ITEM NO.	PART NO.	FILE: -			DOOR LOCK ASSY	FINISH:-	RECD	USED ON	REV	
		B					1	VAPOR GUARD	1	
		B						GUARD	1	
		B						JIB/ADS	1	
		B						SHEET	1	
		B						OF	1	
		B						SHEET	1	
		B						REV	1	
		B						1		

ITEM NO.	PART NO.	DESCRIPTION	Qty.
18	D309C-EF-3G	WELD STUD 10-32X3/8 SS	2
17	1564-74	DOOR LOCK COVER	1
16	1564-73	DOOR LOCK ELEC CVR	1
15	D3150	HAIRPIN 3/16	4
14	D3152	PIN 3/16 X 1	1
13	1564-71	DOOR LOCK LINK 3	1
12	D3174	PIN, CLEVIS 3/16 X 5/8	3
11	D313C-E1	# 10 STD WASHER	8
10	1564-70	DOOR LOCK LINK 1	1
9	D3147	THRUST BEARING 3/16 BORE	4
8	1564-69	DOOR LOCK LINK 2	1
7	1564-77	PIN, 3/8 X 3-1/8	1
6	D310-8	POP RIVET SS 1/8	4
5	D3139	SOLENOID 3/4 INCH TRAVEL 240V	1
4	1564-79	DOOR LOCK SLIDE TUBE	1
3	1564-72	DOOR LOCK HOLDER	1
2	D3128	WELD NUT 10-32 TAB OFFSET	2
1	1564-68	DOOR LOCK BASE	1
		DESCRIPTION	Default
			1/QUY.



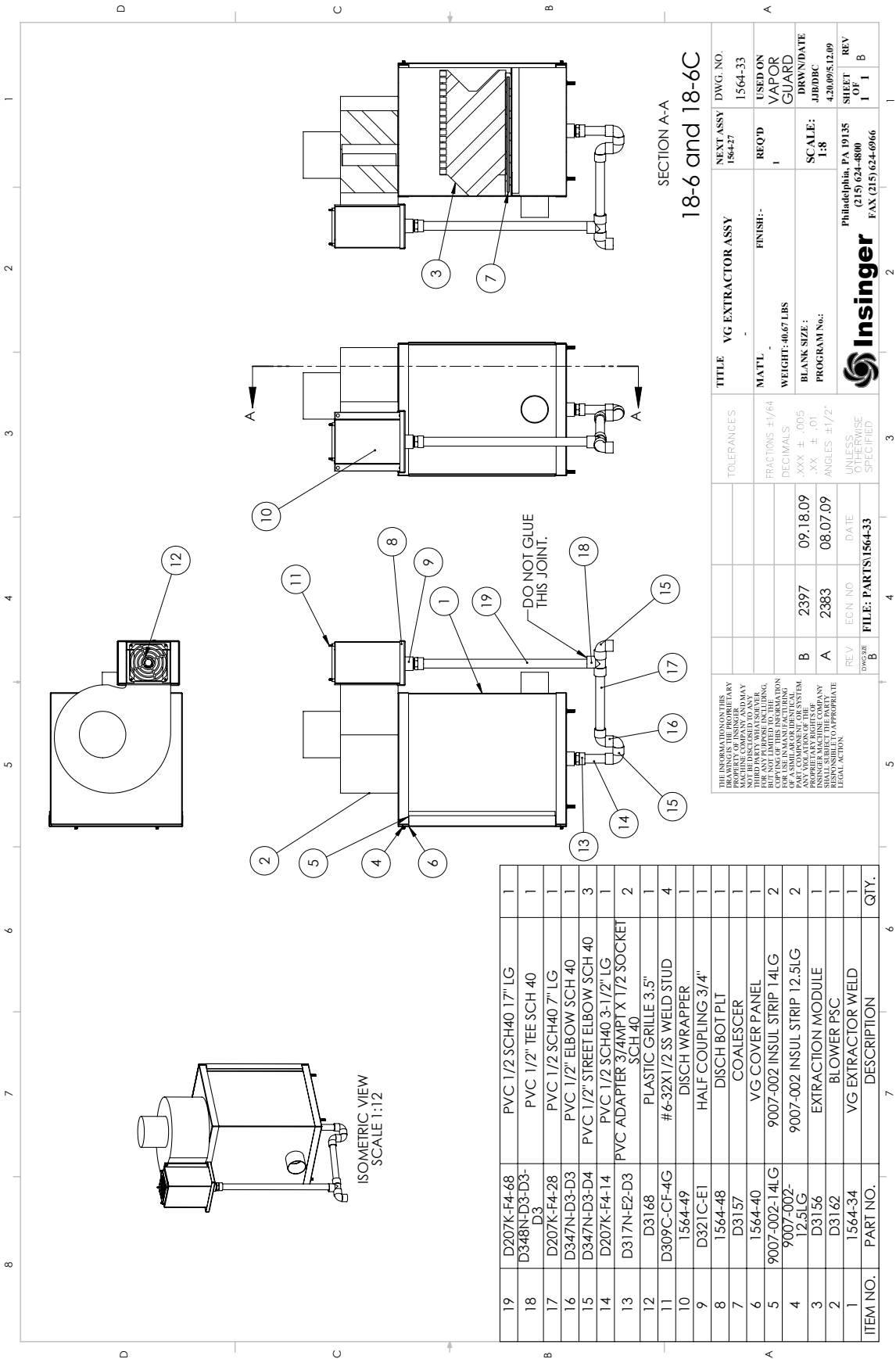
**18-6 and 18-6C**

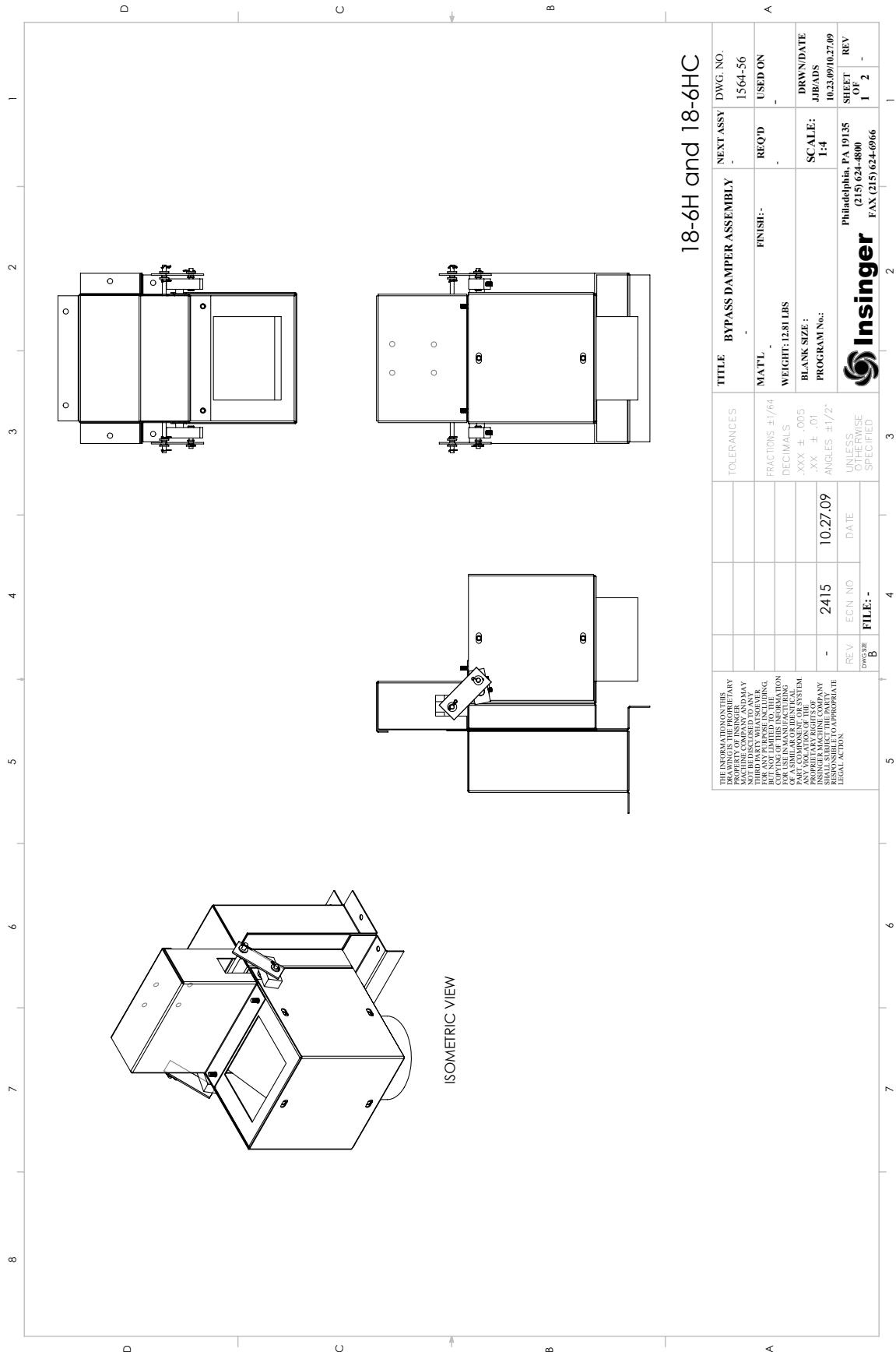
**EXPLODED VIEW**

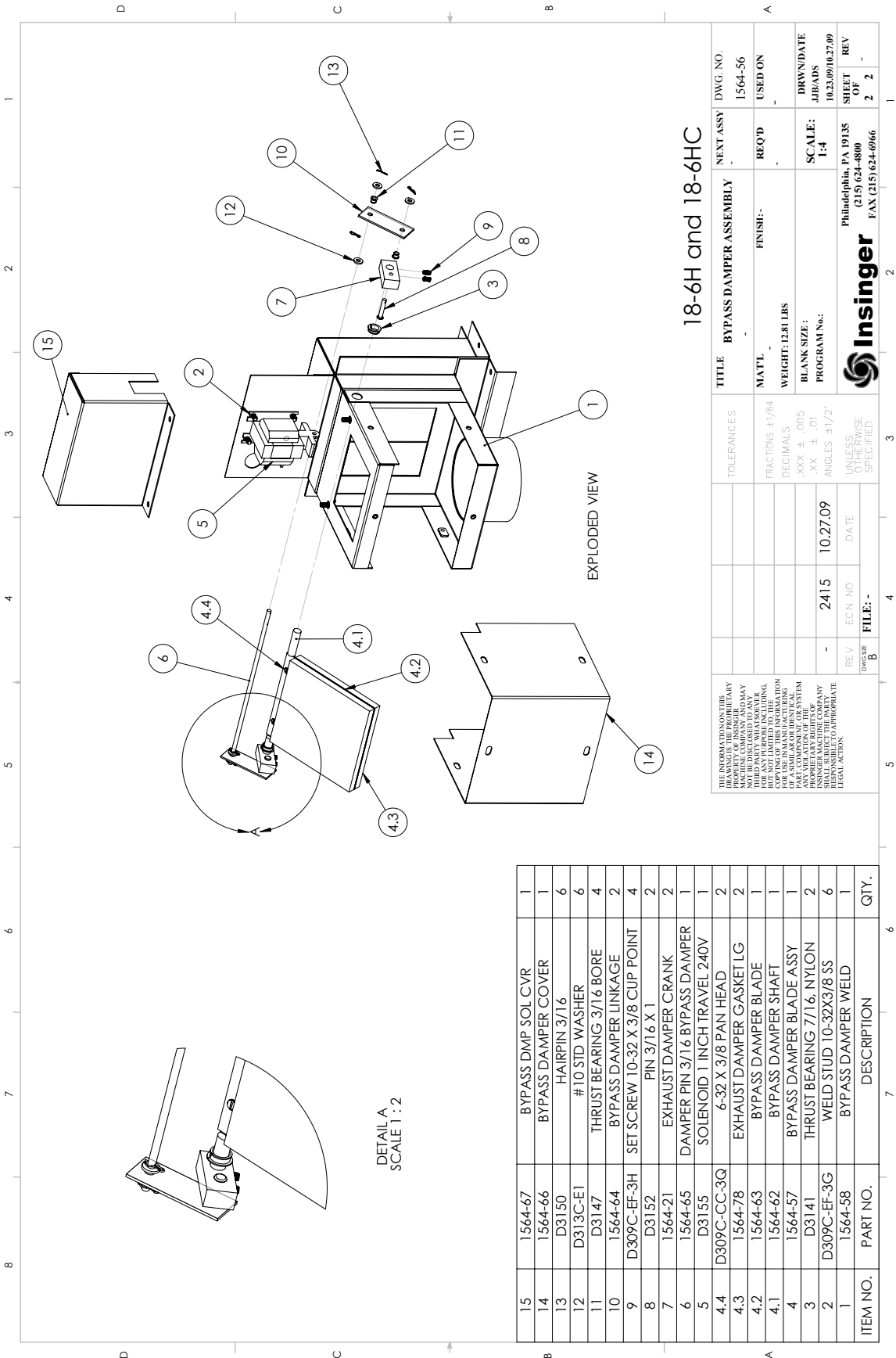
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<p>FRACTIONS ±1/64</p>		<p>HOOD DAMPER ASSY</p>		<p>1564-1</p>		<p>DWG. NO.</p>	
<p>DECIMALS</p>		<p>FINISH:-</p>		<p>1564-12</p>		<p>USED ON</p>	
<p>.XXX ± .005</p>		<p>WEIGHT: 9.16 LBS</p>		<p>1</p>		<p>VAPOR</p>	
<p>.XX ± .01</p>		<p>BLANK SIZE:</p>		<p>SCALE: 1-4</p>		<p>GUARD</p>	
<p>ANGLES ±1/2°</p>		<p>PROGRAM No.:</p>		<p>JJB/DBC</p>		<p>DRW DATE</p>	
<p>UNLESS OTHERWISE SPECIFIED</p>		<p>REV. ECN. NO. DATE</p>		<p>Philadelphia, PA 19135</p>		<p>SHEET</p>	
<p>UNLESS OTHERWISE SPECIFIED</p>		<p>FILE: PARTS1564-12</p>		<p>(215) 624-8000</p>		<p>OF</p>	
<p>UNLESS OTHERWISE SPECIFIED</p>		<p>REV. B</p>		<p>1</p>		<p>1</p>	
<p>UNLESS OTHERWISE SPECIFIED</p>		<p>DATE</p>		<p>1</p>		<p>B</p>	



ITEM NO.	PART NO.	DESCRIPTION	QTY.
17	1564-55	EXHAUST DAMPER FRAME WELD	1
16	D309C-EF-3H	SET SCREW 10-32 X 3/8 CUP POINT	4
15	1564-26	EXHAUST DAMPER REAR COVER	1
14	1564-24	EXHAUST DAMPER COVER WELD	1
13	D3150	HAIRPIN 3/16	6
12	D313C-E1	# 10 STD WASHER	6
11	D3147	THRUST BEARING 3/16 BORE	4
10	1564-23	EXHAUST DAMPER LINKAGE	2
9	1564-50	DAMPER PIN 3/16 X 7.25	1
8	D3155	SOLENOID 1 INCH TRAVEL 240V	1
7	D3152	PIN 3/16 X 1	2
6	1564-21	EXHAUST DAMPER CRANK	2
5	1564-18	EXHAUST DAMPER GASKET	2
4	1564-20	EXHAUST DAMPER PLATE	1
3	1564-19	EXHAUST DAMPER SHAFT	1
2	D3141	THRUST BEARING 7/16, NYLON	2
1	1564-13	HOOD EXHAUST BOX WELD	1



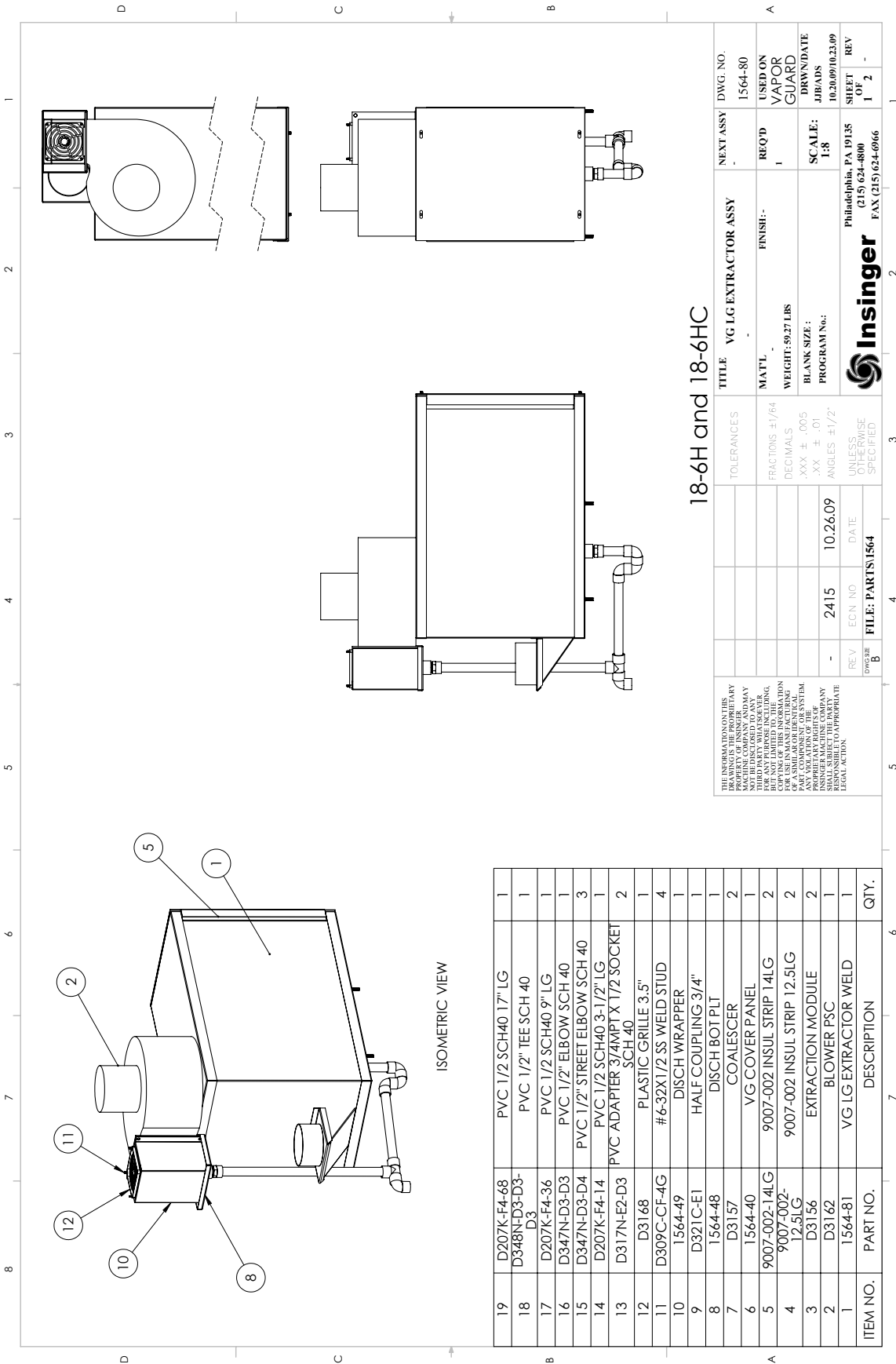


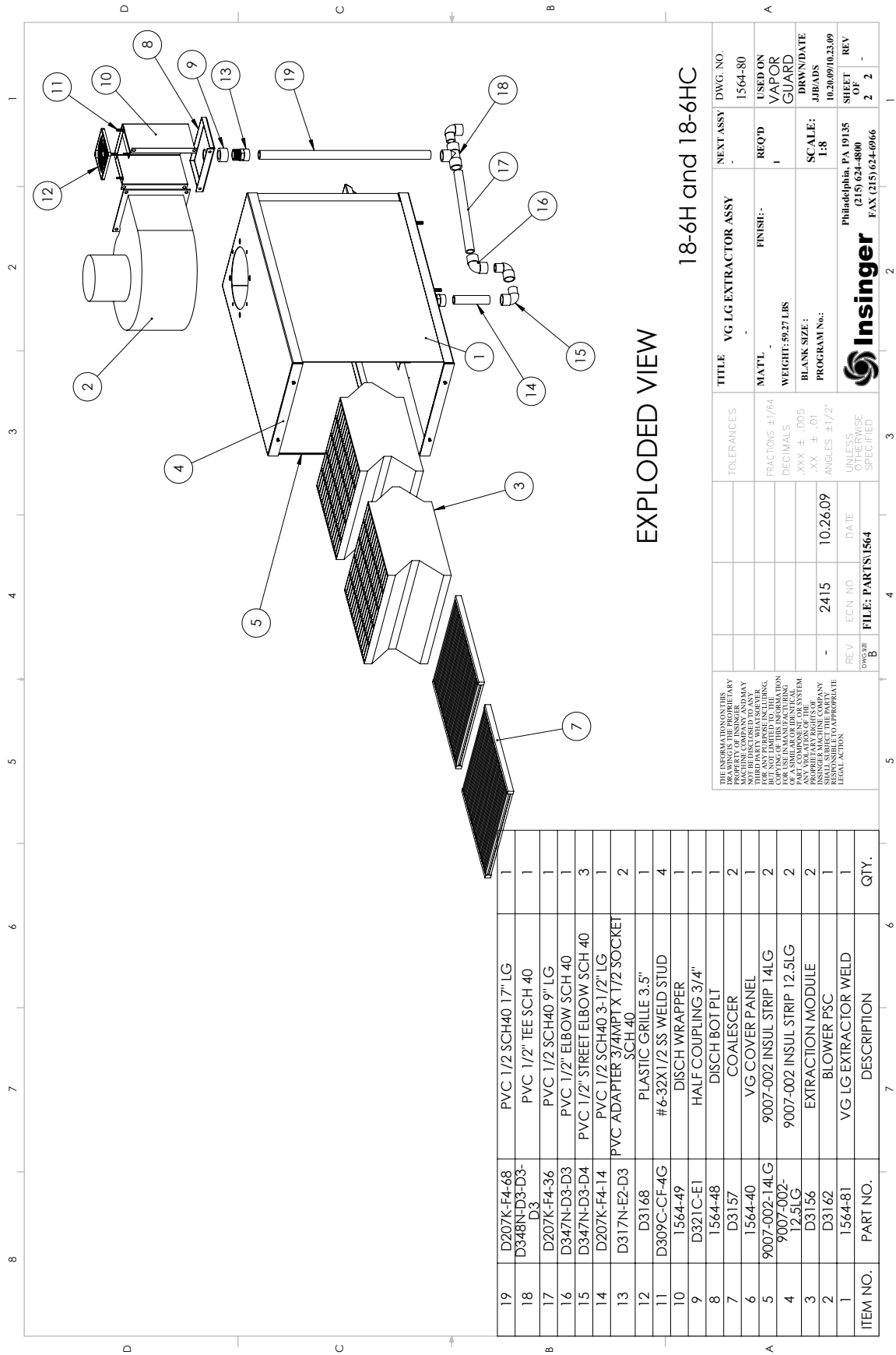

**18-6H and 18-6HC**

<b>TITLE</b>	<b>BYPASS DAMPER ASSEMBLY</b>	<b>NEXT ASSY</b>	<b>DWG. NO.</b>
<b>MAT'L</b>	<b>FINISH:-</b>	<b>REQ'D</b>	1564-56
<b>WEIGHT: 1281 LBS</b>			<b>USED ON</b>
<b>BLANK SIZE:</b>		<b>SCALE:</b>	<b>DRW/DATE</b>
<b>PROGRAM No.:</b>		1-4	JJB/ADS
			10.23.09/10.27.09
			<b>REV</b>
			2 2
		Philadelphia, PA 19135	
		(215) 624-8000	
		<b>Insinger</b>	
		FAX (215) 624-6966	
		UNLESS OTHERWISE SPECIFIED	
<b>TOLERANCES</b>	<b>FRACTIONS ±1/64</b>	<b>DECIMALS</b>	<b>ANGLES ±1/2°</b>
	.XXX ± .005	.XX ± .01	
<b>REV</b>	<b>ECN NO</b>	<b>DATE</b>	
	2415	10.27.09	
<b>FILE:-</b>			

ITEM NO.	PART NO.	DESCRIPTION	QTY.
15	1564-67	BYPASS DMP SOL CVR	1
14	1564-66	BYPASS DAMPER COVER	1
13	D3150	HAIRPIN 3/16	6
12	D313C-E1	# 10 STD WASHER	6
11	D3147	THRUST BEARING 3/16 BORE	4
10	1564-64	BYPASS DAMPER LINKAGE	2
9	D309C-EF-3H	SET SCREW 10-32 X 3/8 CUP POINT	4
8	D3152	PIN 3/16 X 1	2
7	1564-21	EXHAUST DAMPER CRANK	2
6	1564-65	DAMPER PIN 3/16 BYPASS DAMPER	1
5	D3155	SOLENOID 1 INCH TRAVEL 240V	1
4.4	D309C-CC-3Q	6-32 X 3/8 PAN HEAD	2
4.3	1564-78	EXHAUST DAMPER GASKET LG	2
4.2	1564-63	BYPASS DAMPER BLADE	1
4.1	1564-62	BYPASS DAMPER SHAFT	1
4	1564-57	BYPASS DAMPER BLADE ASSY	1
3	D3141	THRUST BEARING 7/16 NYLON	2
2	D309C-EF-3G	WELD STUD 10-32X3/8 SS	6
1	1564-58	BYPASS DAMPER WELD	1







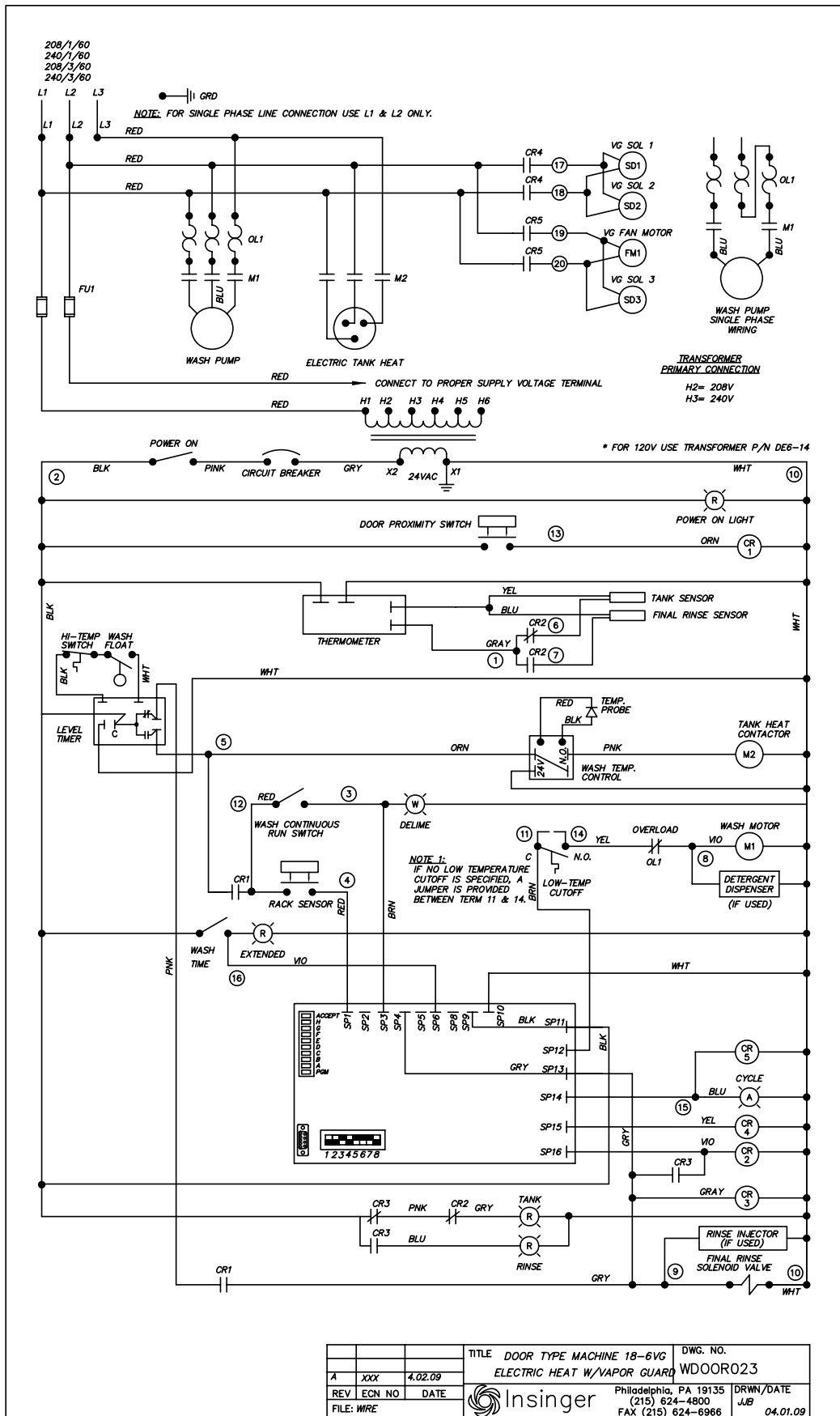
TITLE	VG 1G EXTRACTOR ASSY	NEXT ASSY	DWG. NO.
MATL	FINISH:-	REQ'D	1564-80
WEIGHT: 59.27 LBS		USED ON	VAPOR GUARD
BLANK SIZE:	SCALE: 1:8	DRWN DATE	JJB/ADS
PROGRAM No.:	1-8	10.20.09/10.23.09	
		REV	2
		SHEET	2
		OF	2
		REV	-

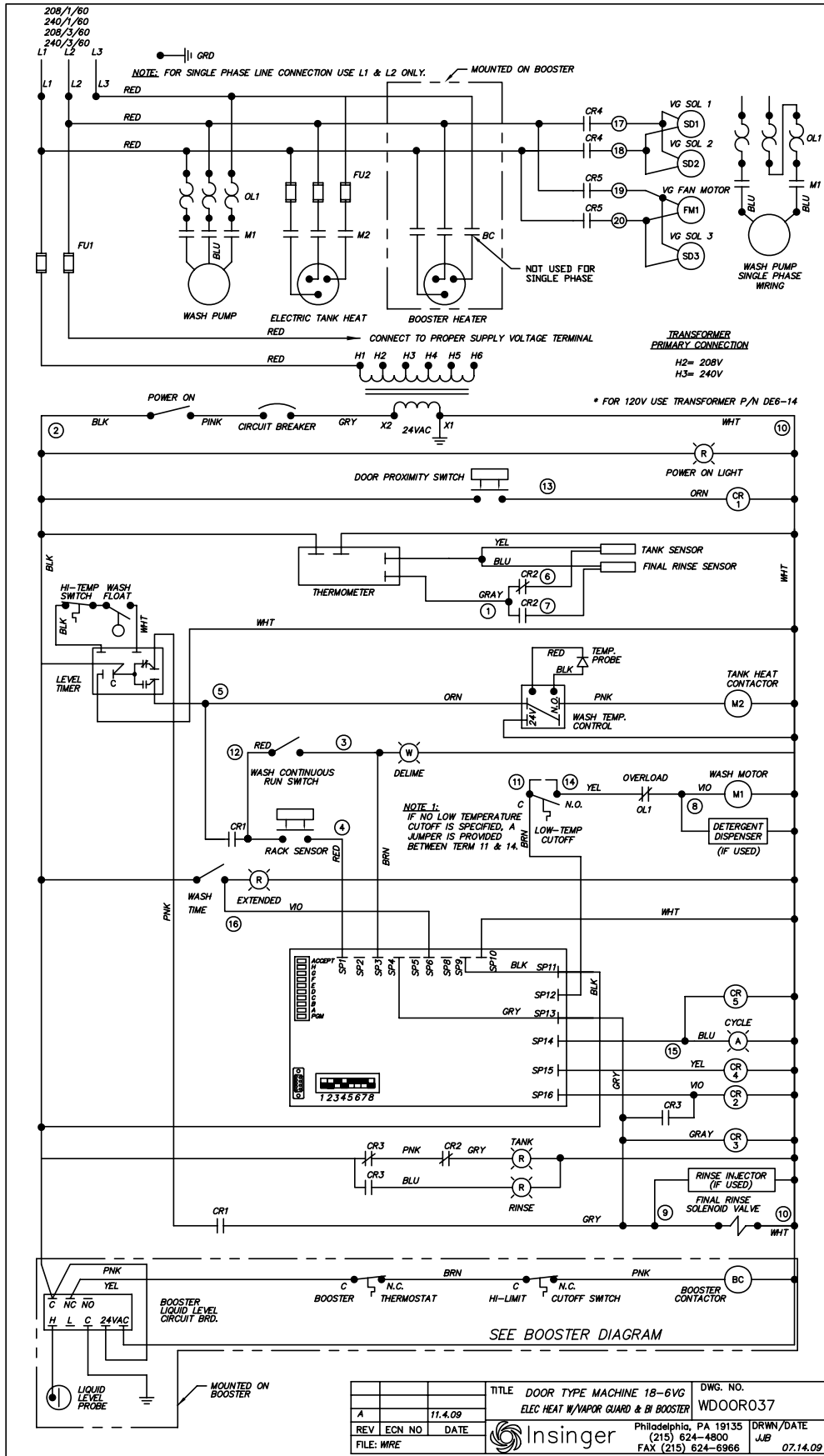
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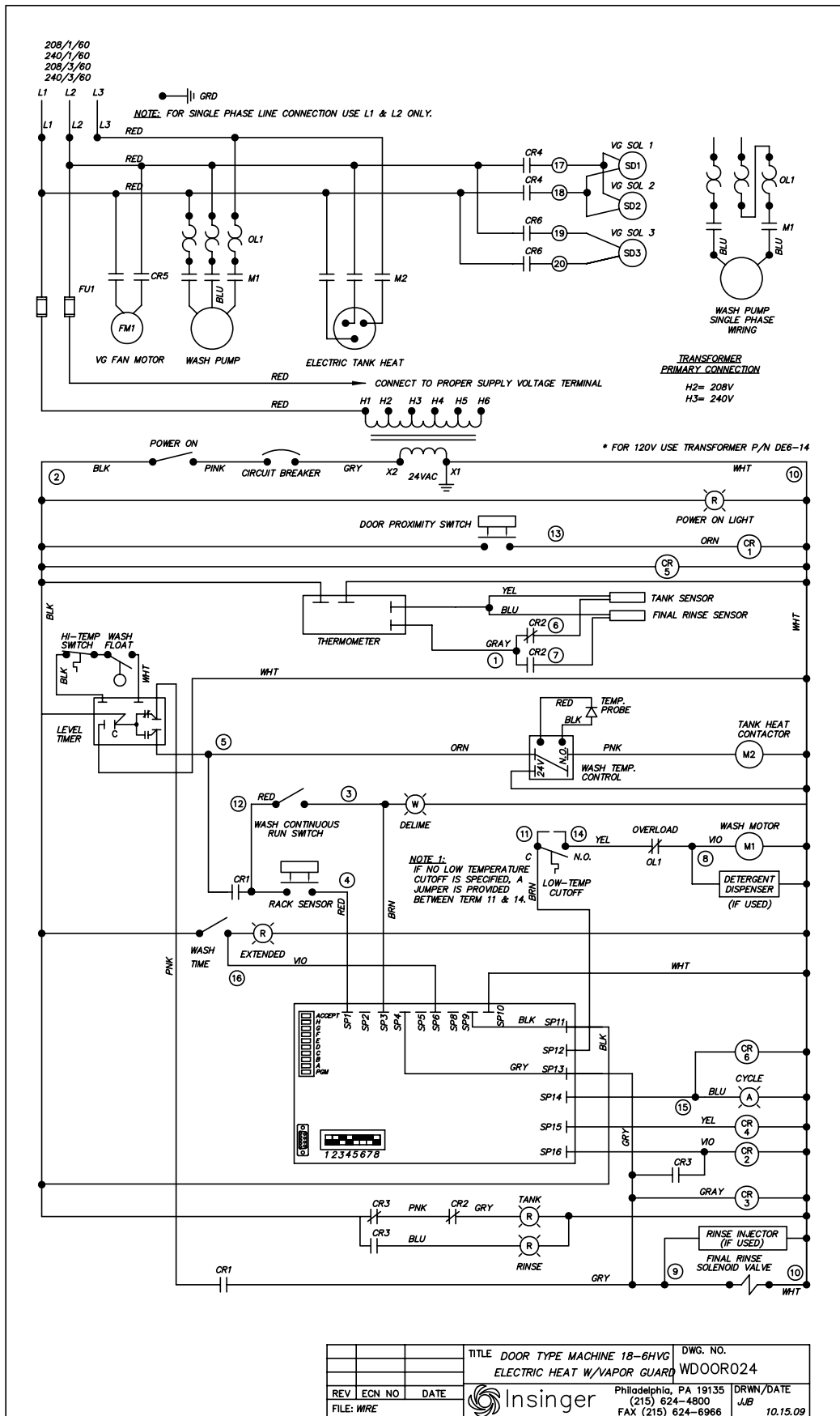
TOLERANCES	FRACTIONS ± 1/64
	DECIMALS .XXX ± .005
	.XX ± .01
	ANGLES ± 1/2°
	UNLESS OTHERWISE SPECIFIED
REV	ECN NO DATE
001	B
FILE: PARTS1564	FILE: PARTS1564

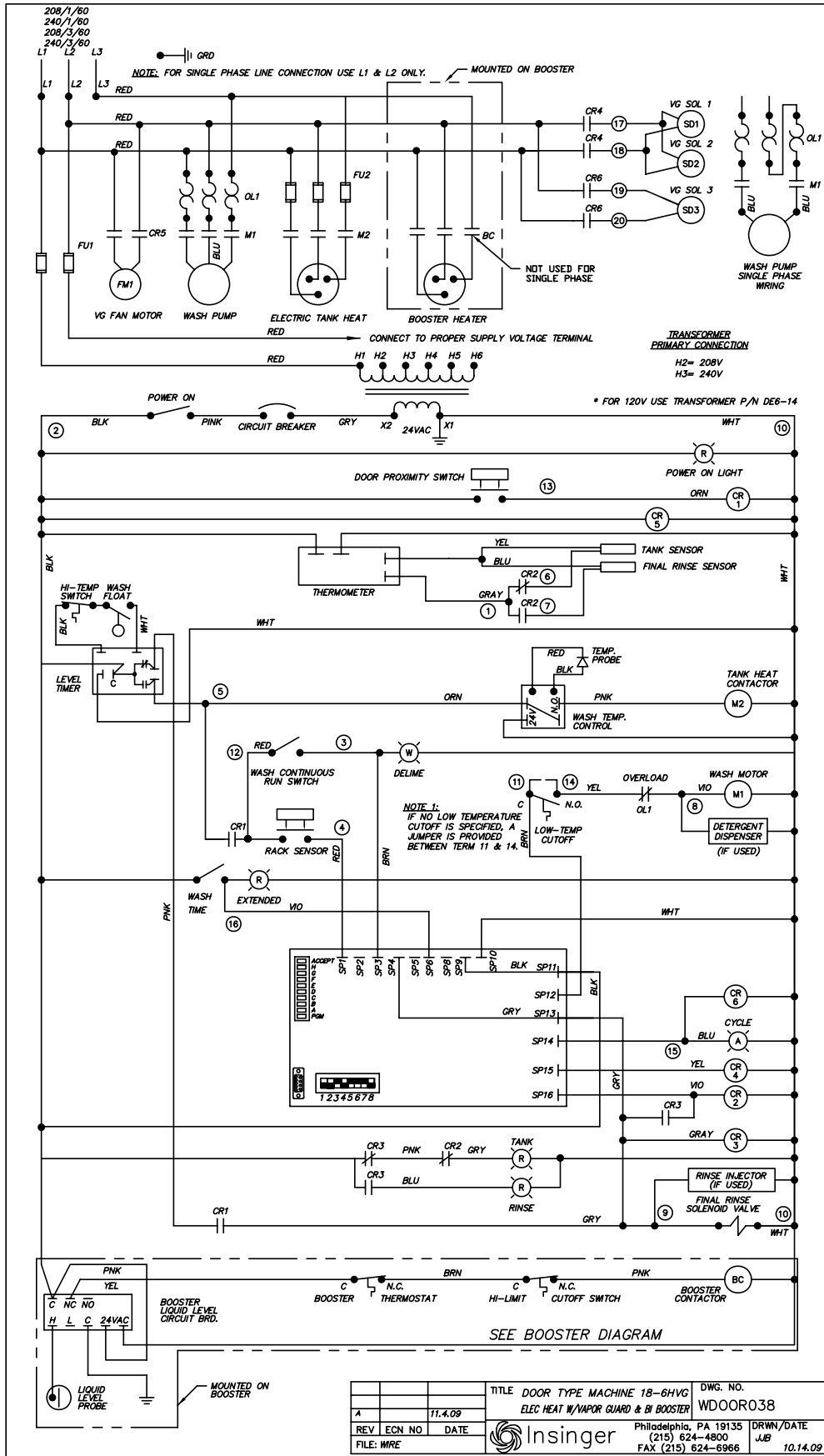


Philadelphia, PA 19135  
(215) 624-8000  
FAX (215) 624-6966











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

**800-344-4802**  
Fax 215-624-6966