



TECHNICAL MANUAL
Commander 18-6 Addendum

Commander 18-6VG™
Model VG-1

Installation, Operation and Maintenance Instructions

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

800-344-4802
Fax 215-624-6966



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



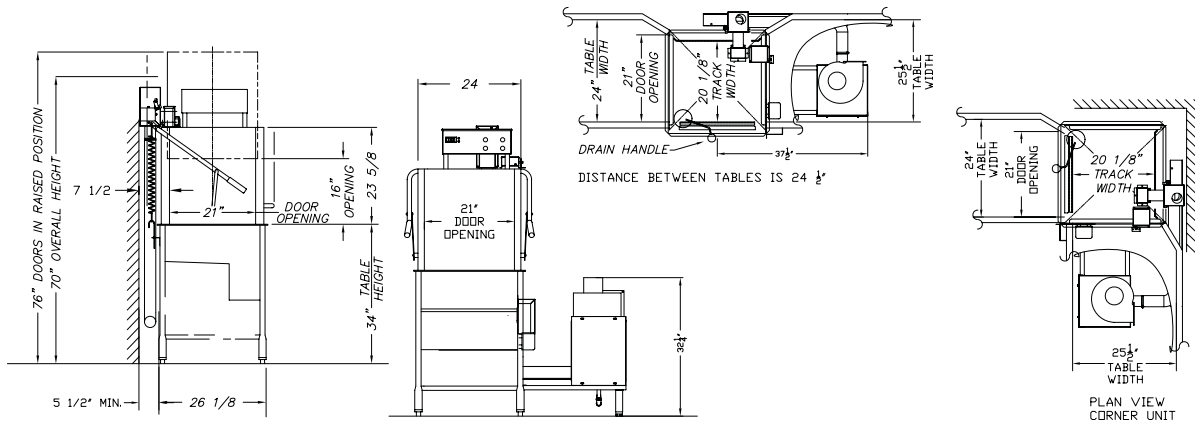
*Patent Pending

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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 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.	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	78.2
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. 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.

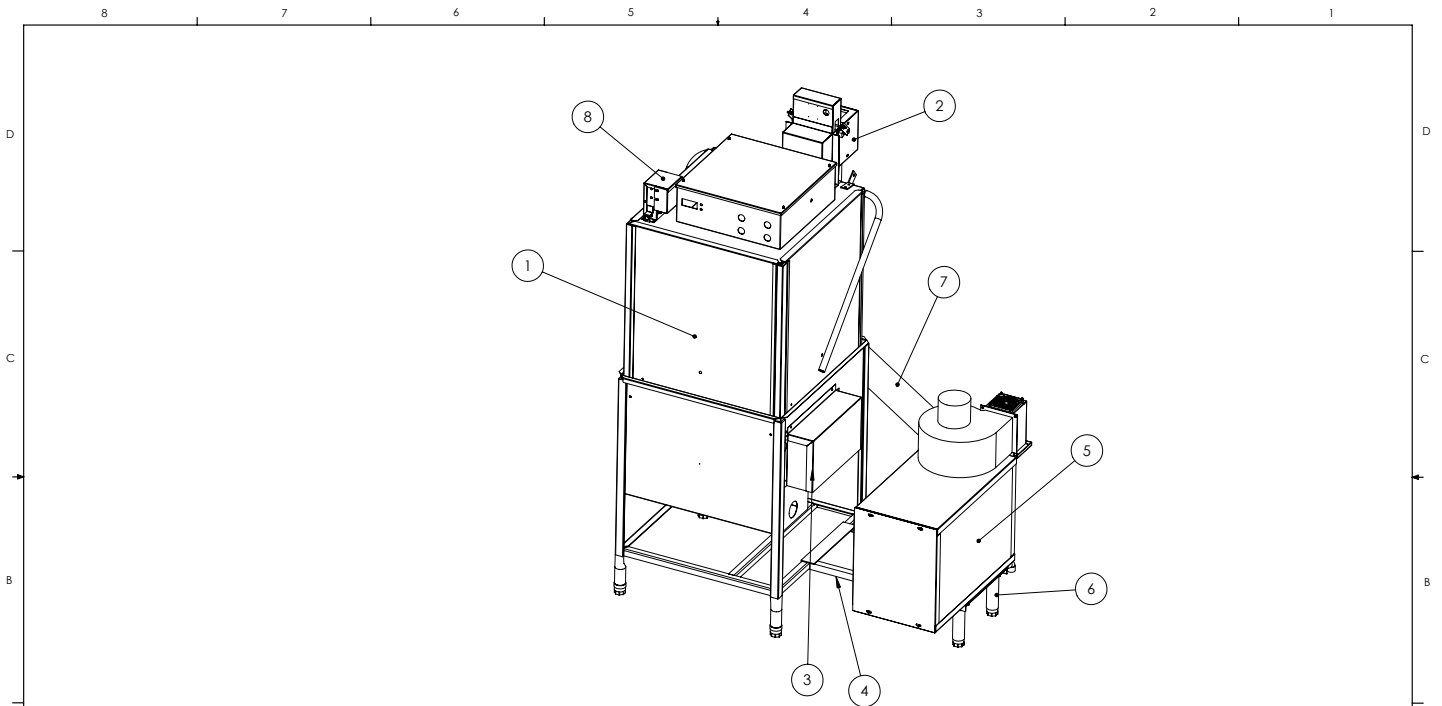
Risk of electric shock.

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.

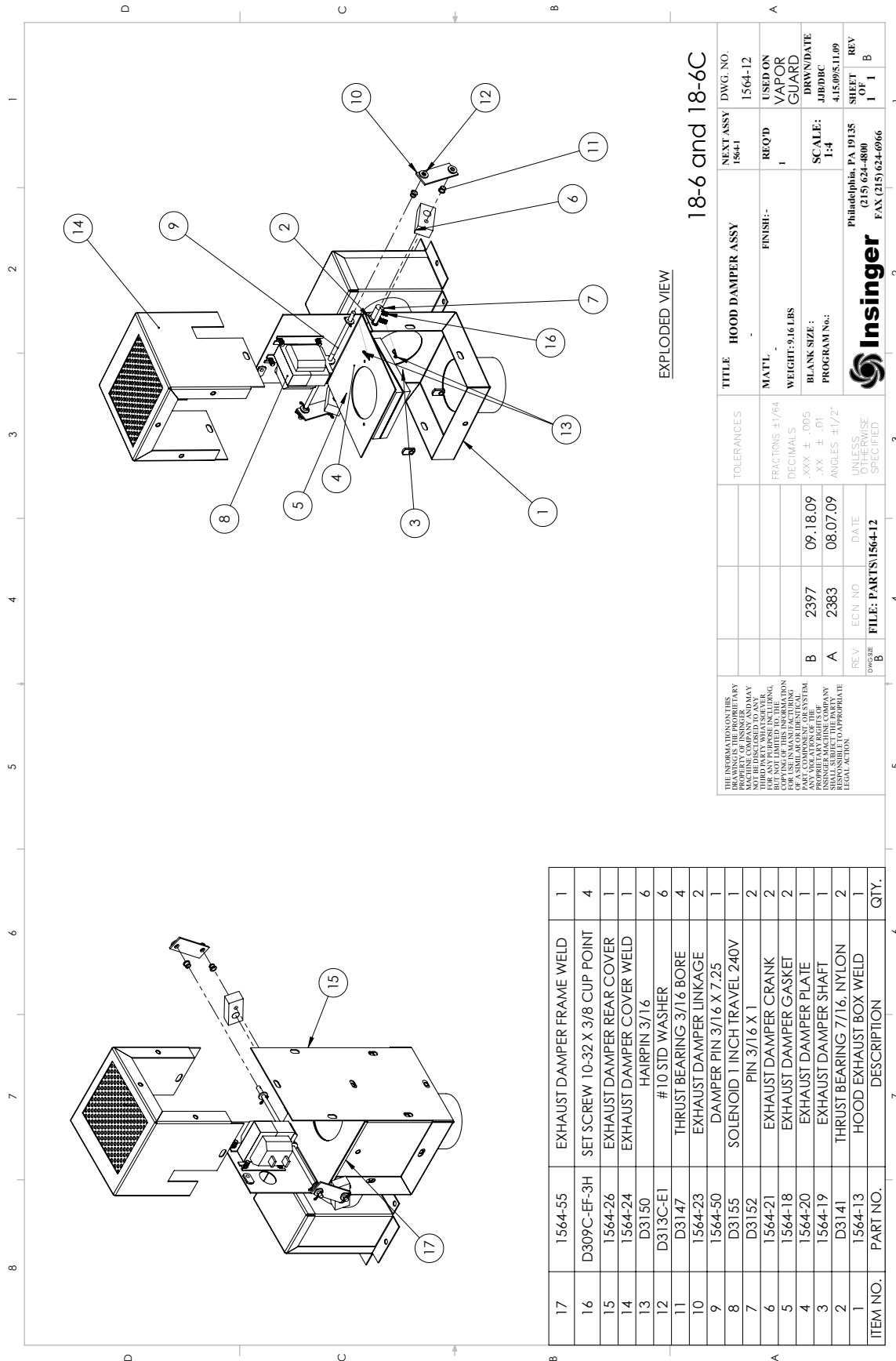
TROUBLESHOOTING		
Problem	Cause	Remedy
Blower not running	No power Motor failed	Check power source Replace motor and blower assy
Intake damper not opening	No power Check damper linkage Check for binding Solenoid not function	Check power source Replace or adjust linkage if bent Lightly lubricate binding 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



18-6H and 18-6HC UNITS

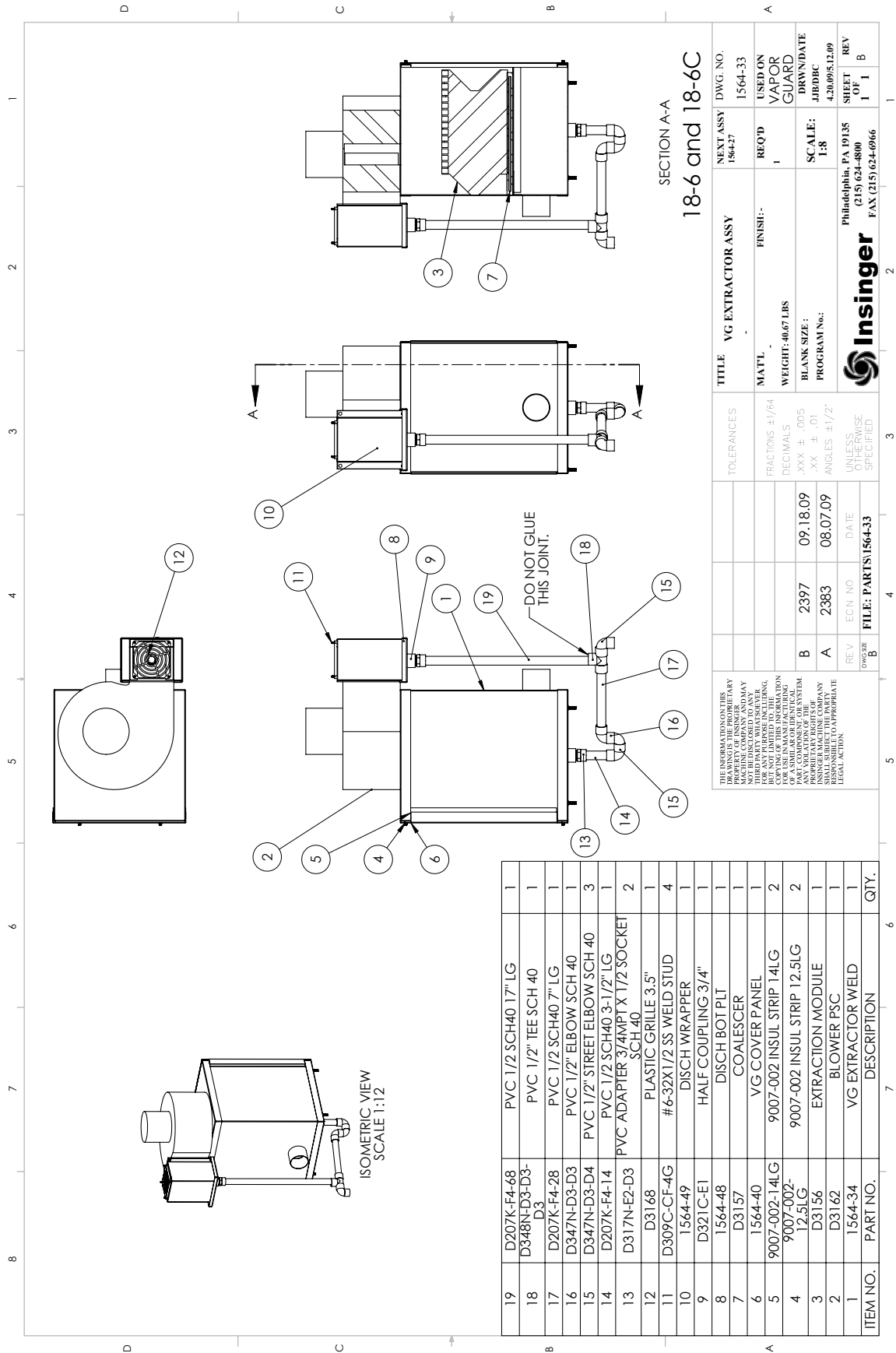
8	1564-75	DOOR LOCK ASSY	1
7	1564-89	4" FLEX HOSE	1
6	D3078	ADJUSTABLE LEG	2
5	1564-80	VG LG EXTRACTOR ASSY	1
4	1564-28	VG FRAME WELD	1
3	1564-2	TANK DAMPER ASSY	1
2	1564-56	BYPASS DAMPER ASSEMBLY	1
1	18-6H TOP LEVEL	18-6H	1
ITEM NO.	PART NO.	DESCRIPTION	QTY.

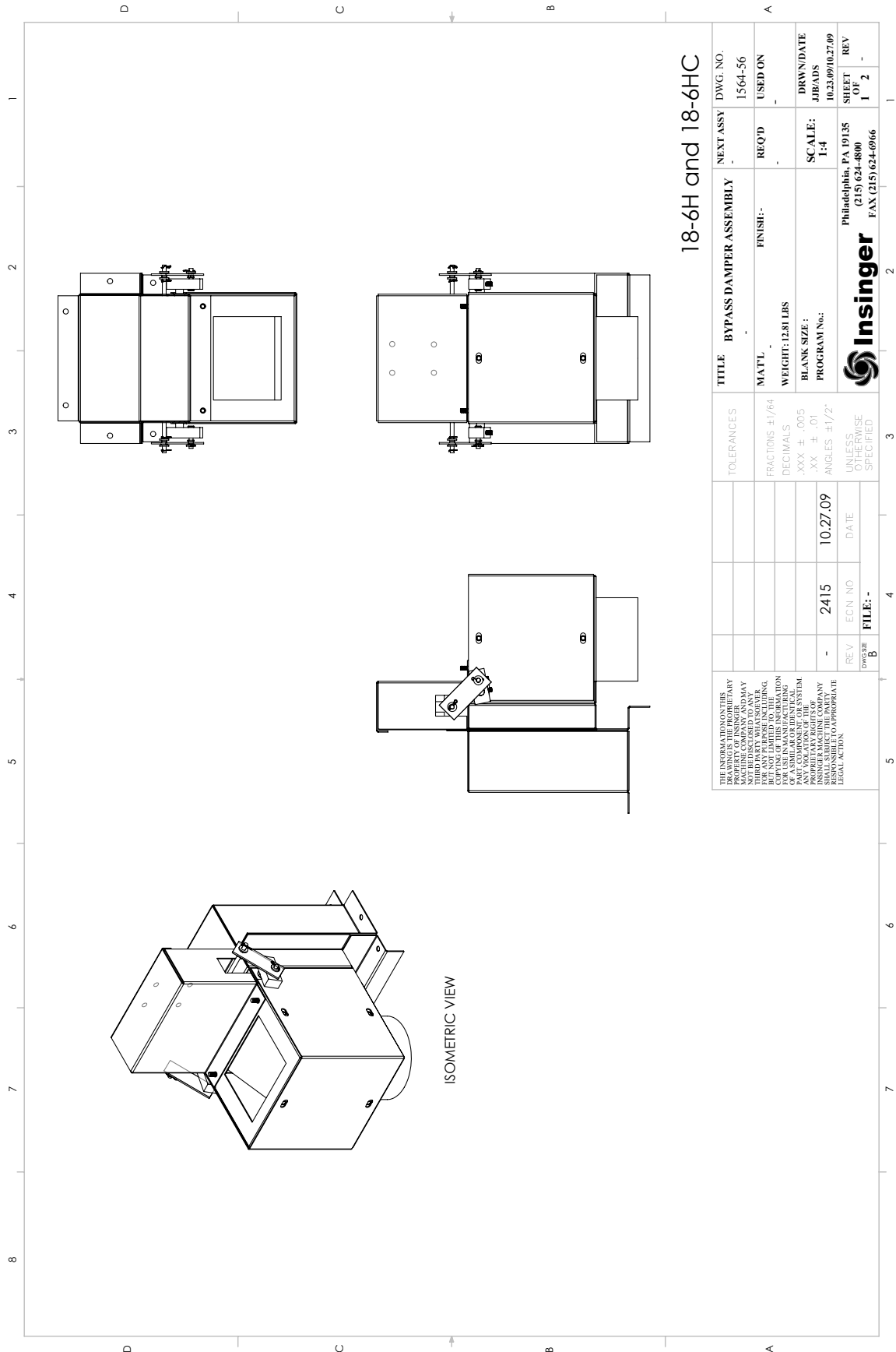
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REV B	ECN NO FILE: -	DATE	 Philadelphia, PA 19135 (215) 624-4800 FAX (215) 624-6966			



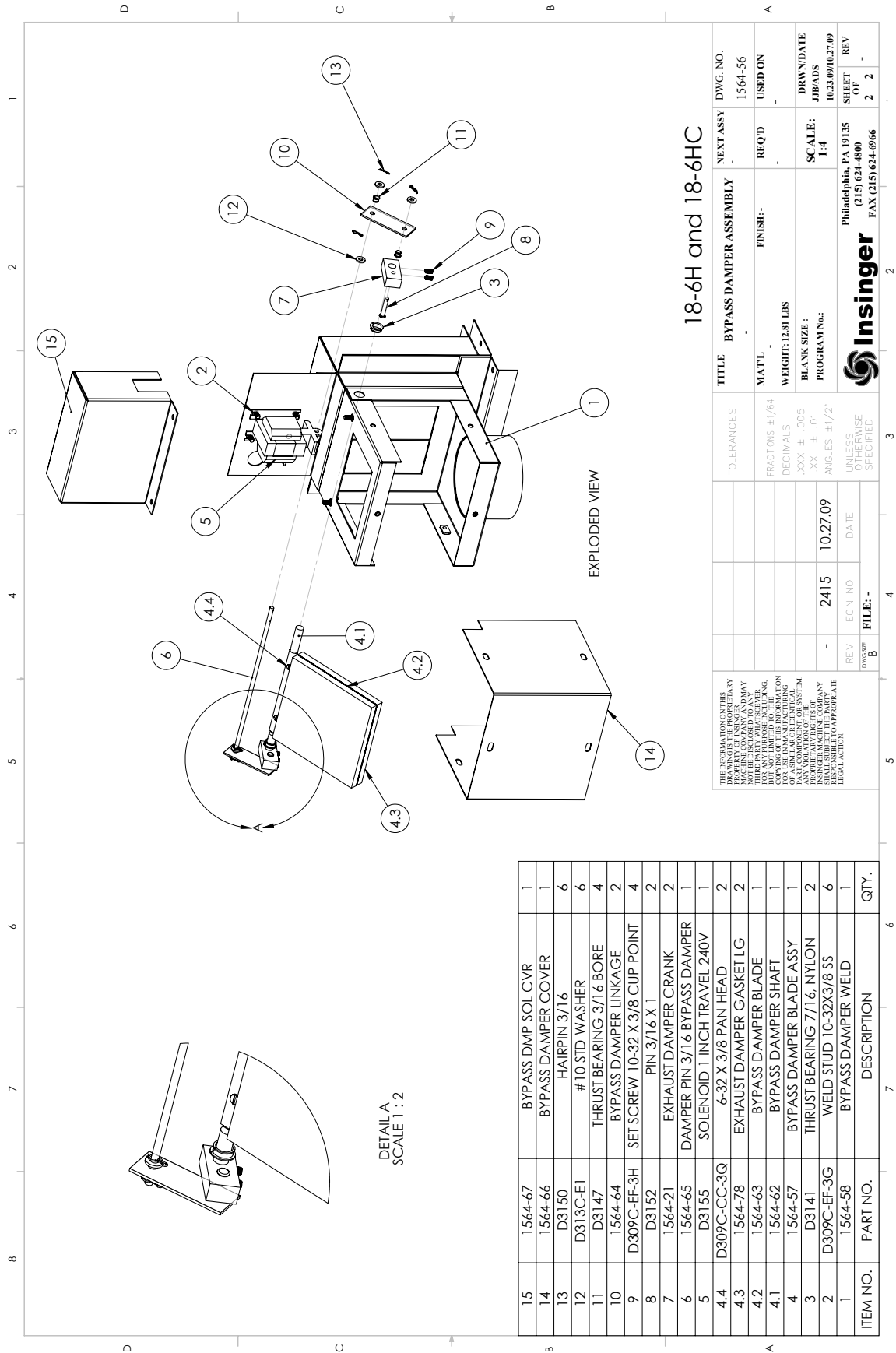
<p>THE INFORMATION ON THIS DRAWING IS THE PROPRIETARY PROPERTY OF INSINGER MACHINE COMPANY AND MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF INSINGER MACHINE COMPANY. ANY VIOLATION OF THIS POLICY IS SUBJECT TO APPROPRIATE LEGAL ACTION.</p>		<p>TOLERANCES</p> <p>FRACTIONS ±1/64</p> <p>DECIMALS</p> <p>.XXX ± .005</p> <p>.XX ± .01</p> <p>ANGLES ±1/2°</p> <p>UNLESS OTHERWISE SPECIFIED</p>	<p>TITLE</p> <p>HOOD DAMPER ASSY</p>	<p>NEXT ASSY</p> <p>1564-1</p>	<p>DWG. NO.</p> <p>1564-12</p>
<p>MAT'L</p> <p>WEIGHT: 9.16 LBS</p>	<p>FINISH:-</p>	<p>RECD</p> <p>1</p>	<p>USED ON</p> <p>VAPOR GUARD</p>	<p>DRW DATE</p> <p>4.15.09/5.11.09</p>	<p>REV</p> <p>1</p>
<p>B</p> <p>2397</p> <p>09.18.09</p>	<p>A</p> <p>2383</p> <p>08.07.09</p>	<p>SCALE:</p> <p>1:4</p>	<p>PROGRAM No.:</p> <p>JJB/DBC</p>	<p>Philadelphia, PA 19135</p> <p>(215) 624-8000</p>	<p>SHEET</p> <p>1</p>
<p>REV</p> <p>DATE</p>	<p>ECN NO</p>	<p>FILE: PARTS\1564-12</p>	<p>INSINGER</p>	<p>FAX (215) 624-6966</p>	<p>OF</p> <p>1</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

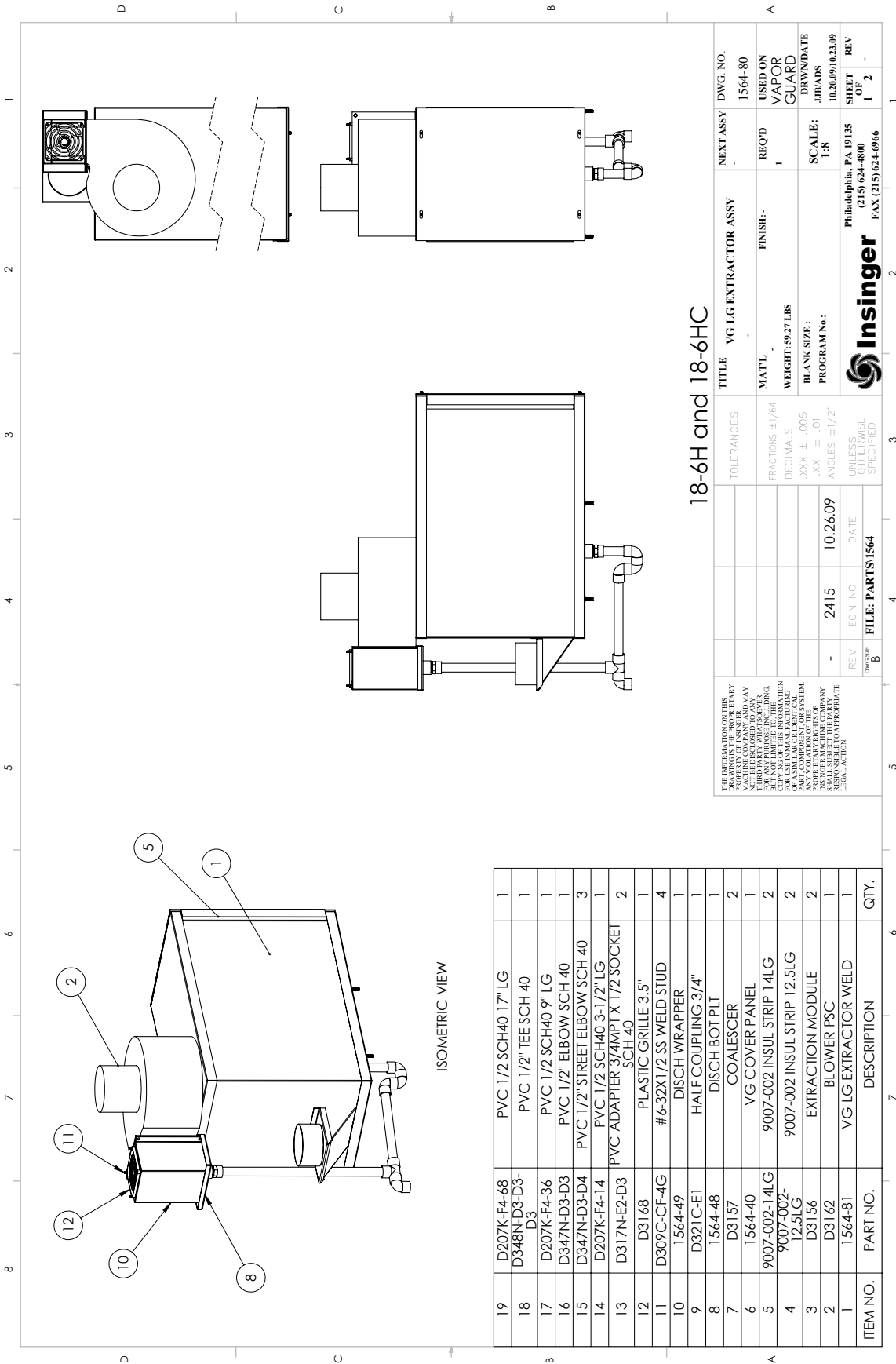
<small>THE INFORMATION ON THIS DRAWING IS THE PROPRIETARY PROPERTY OF INSINGER MACHINE COMPANY AND MAY BE USED BY ANY OTHER PARTY WITHOUT THE WRITTEN PERMISSION OF INSINGER MACHINE COMPANY. ANY VIOLATION OF THE ABOVE IS CONSIDERED A VIOLATION OF THE PATENT RIGHTS OF INSINGER MACHINE COMPANY AND IS SUBJECT TO APPROPRIATE LEGAL ACTION.</small>	REV	ECN NO	DATE	TOLERANCES FRACTIONS ±1/64 DECIMALS .XXX ± .005 .XX ± .01 ANGLES ±1/2° UNLESS OTHERWISE SPECIFIED		TITLE BYPASS DAMPER ASSEMBLY FINISH:- WEIGHT: 1281 LBS BLANK SIZE: PROGRAM No:	NEXT ASSY REQ'D SCALE: 1:4 DRW/DATE JJB/ADS 10.23.09/10.27.09	DWG. NO. 1564-56 USED ON
	-	2415	10.27.09					
	size	B	FILE:-					
						Philadelphia, PA 19135 (215) 624-8000 Insinger FAX (215) 624-6966		

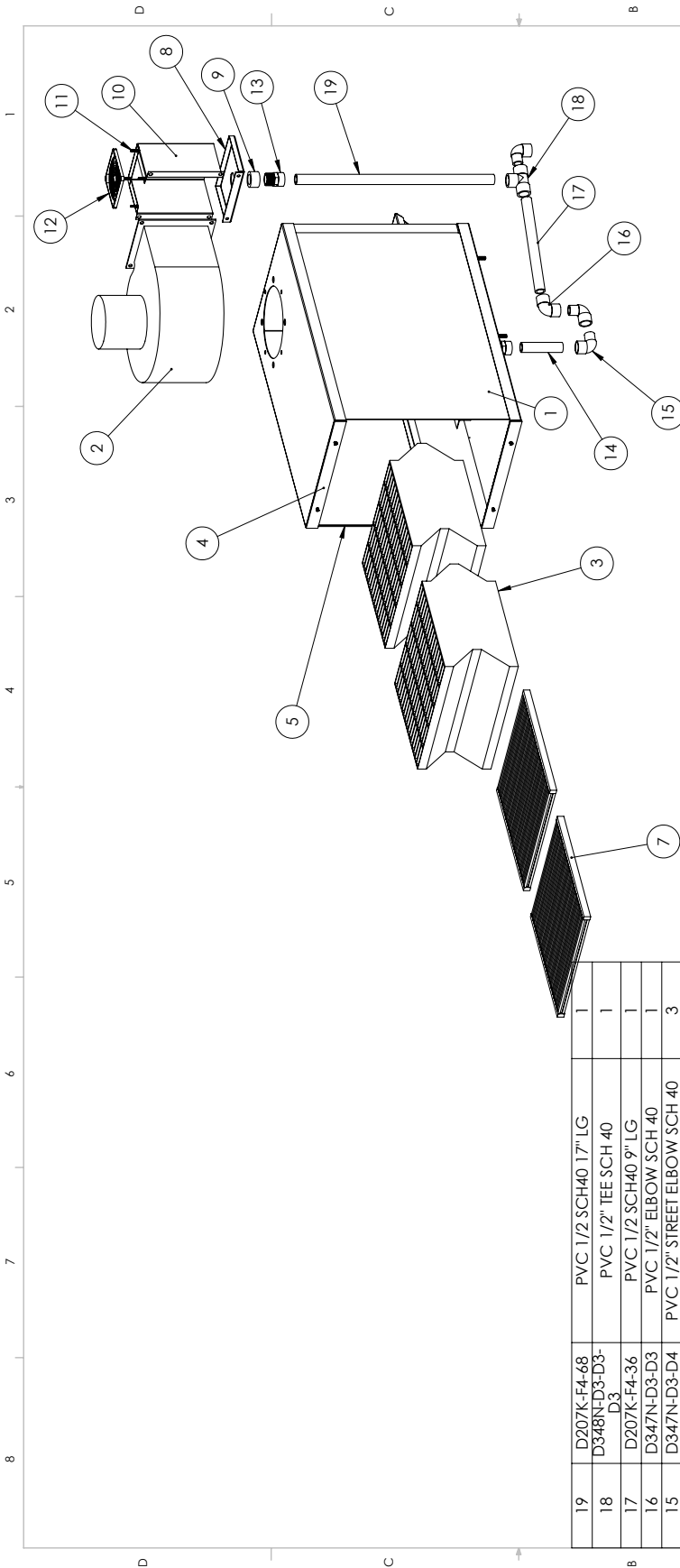

18-6H and 18-6HC

TITLE BYPASS DAMPER ASSEMBLY		FINISH:-	REQ'D	NEXT ASSY	DWG. NO.
MAT'L		WEIGHT: 12.81 LBS			1564-56
BLANK SIZE:		PROGRAM No.:	SCALE:	DRW/DATE	USED ON
.XXX ± .005			1-4	JJB/ADS	
.XX ± .01				10.23.09/10.27.09	
ANGLES ±1/2°					
UNLESS OTHERWISE SPECIFIED					
REV. ECN NO. DATE		2415 10.27.09		Philadelphia, PA 19135	
DRAWING SIZE B		FILE: -		(215) 624-8000	
				FAX (215) 624-6966	



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



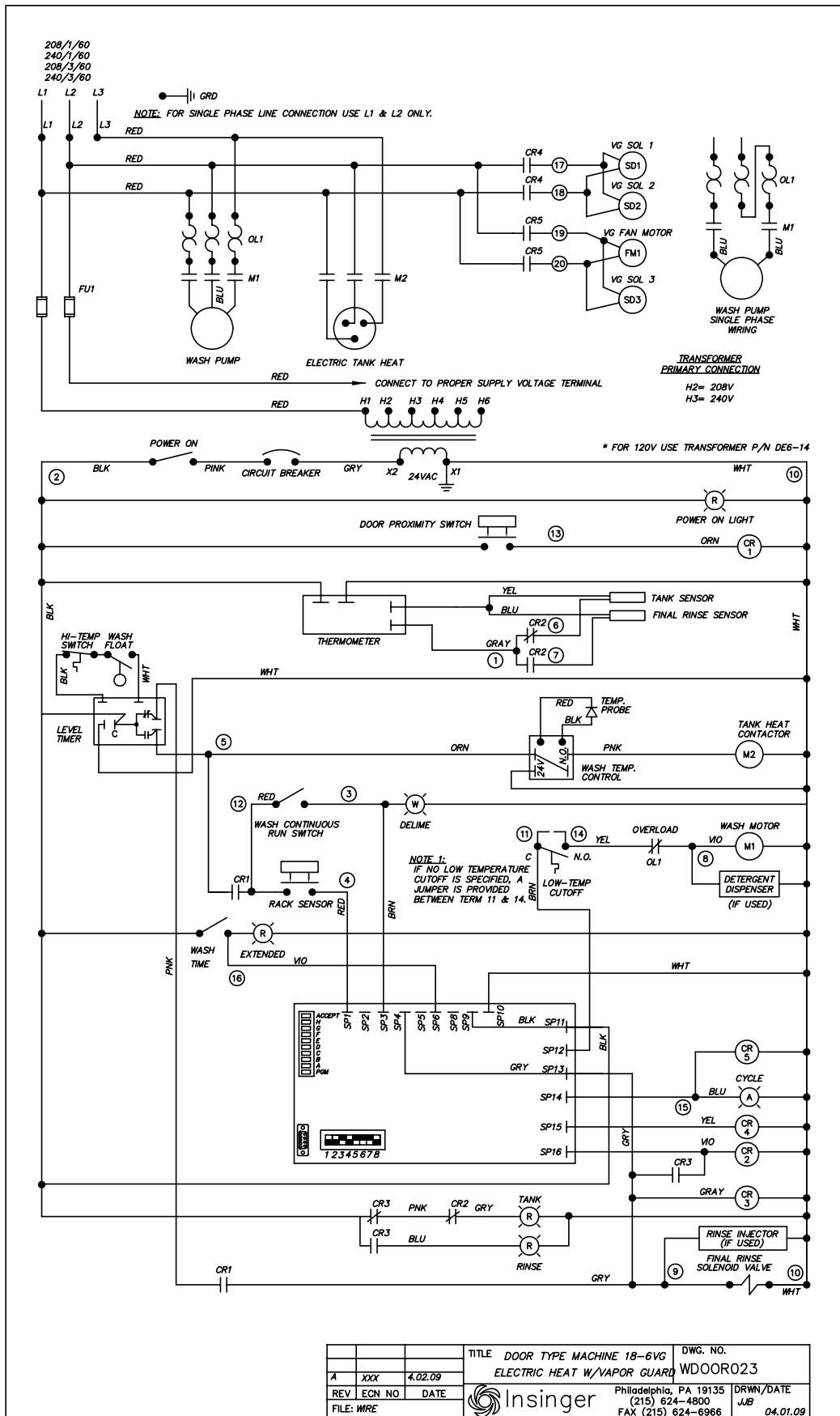

EXPLODED VIEW
18-6H and 18-6HC

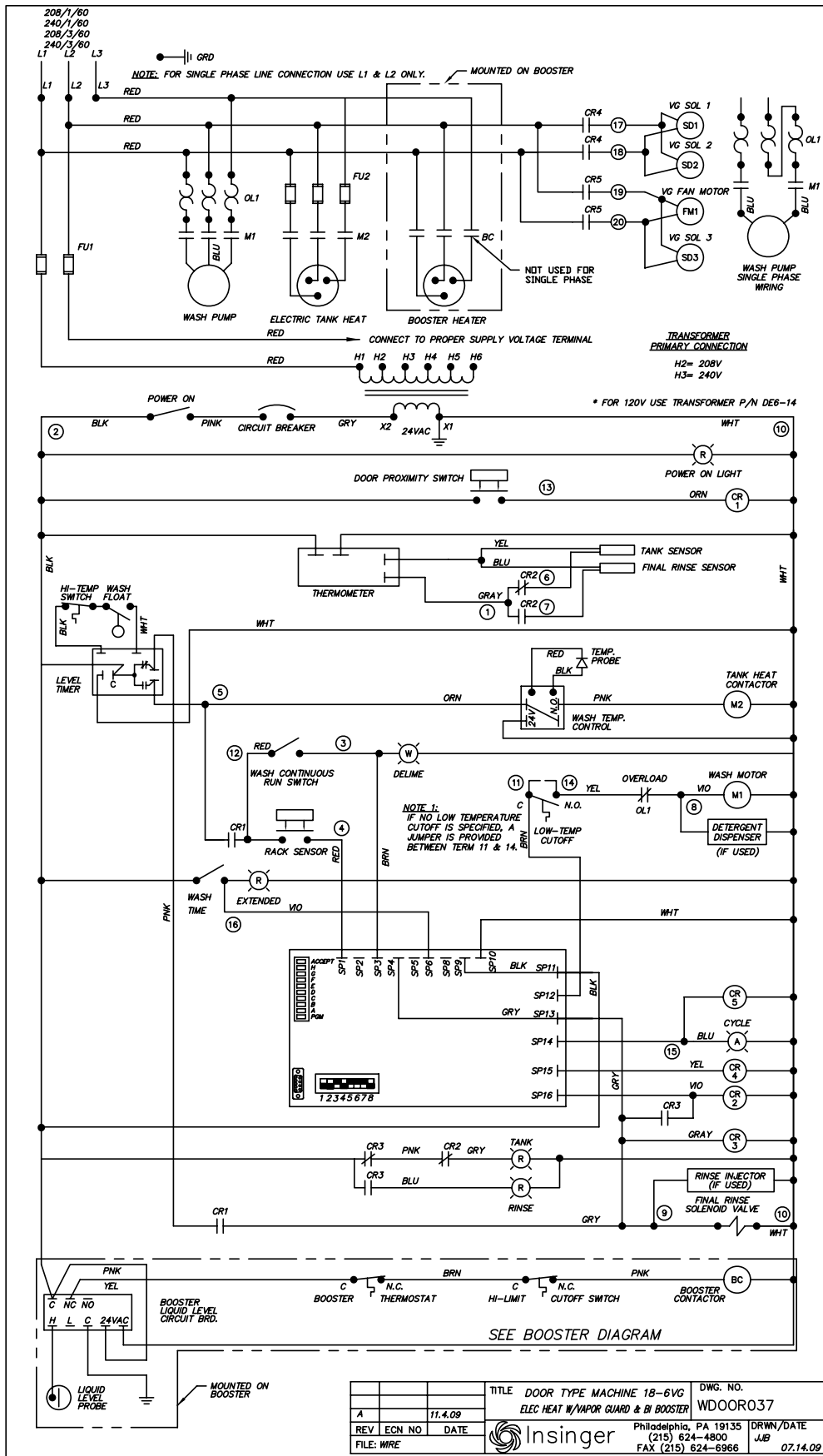
ITEM NO.	PART NO.	DESCRIPTION	QTY.
19	D207K-F4-68 D348N-D3-D3-D3	PVC 1/2 SCH40 17" LG	1
18	D207K-F4-36	PVC 1/2" TEE SCH 40	1
17	D207K-F4-36	PVC 1/2 SCH40 9" LG	1
16	D347N-D3-D3	PVC 1/2" ELBOW SCH 40	1
15	D347N-D3-D4	PVC 1/2" STREET ELBOW SCH 40	3
14	D207K-F4-14	PVC 1/2 SCH40 3-1/2" LG	1
13	D317N-E2-D3	PVC ADAPTER 3/4MPT X 1/2 SOCKET SCH 40	2
12	D3168	PLASTIC GRILLE 3.5"	1
11	D309C-CF-4G	#6-32X1/2 SS WELD STUD	4
10	1564-49	DISCH WRAPPER	1
9	D321C-E1	HALF COUPLING 3/4"	1
8	1564-48	DISCH BOT PLT	1
7	D3157	COALESCER	2
6	1564-40	VG COVER PANEL	1
5	9007-002-14LG	9007-002 INSUL STRIP 14LG	2
4	9007-002-12.5LG	9007-002 INSUL STRIP 12.5LG	2
3	D3156	EXTRACTION MODULE	2
2	D3162	BLOWER PSC	1
1	1564-81	VG LG EXTRACTOR WELD	1

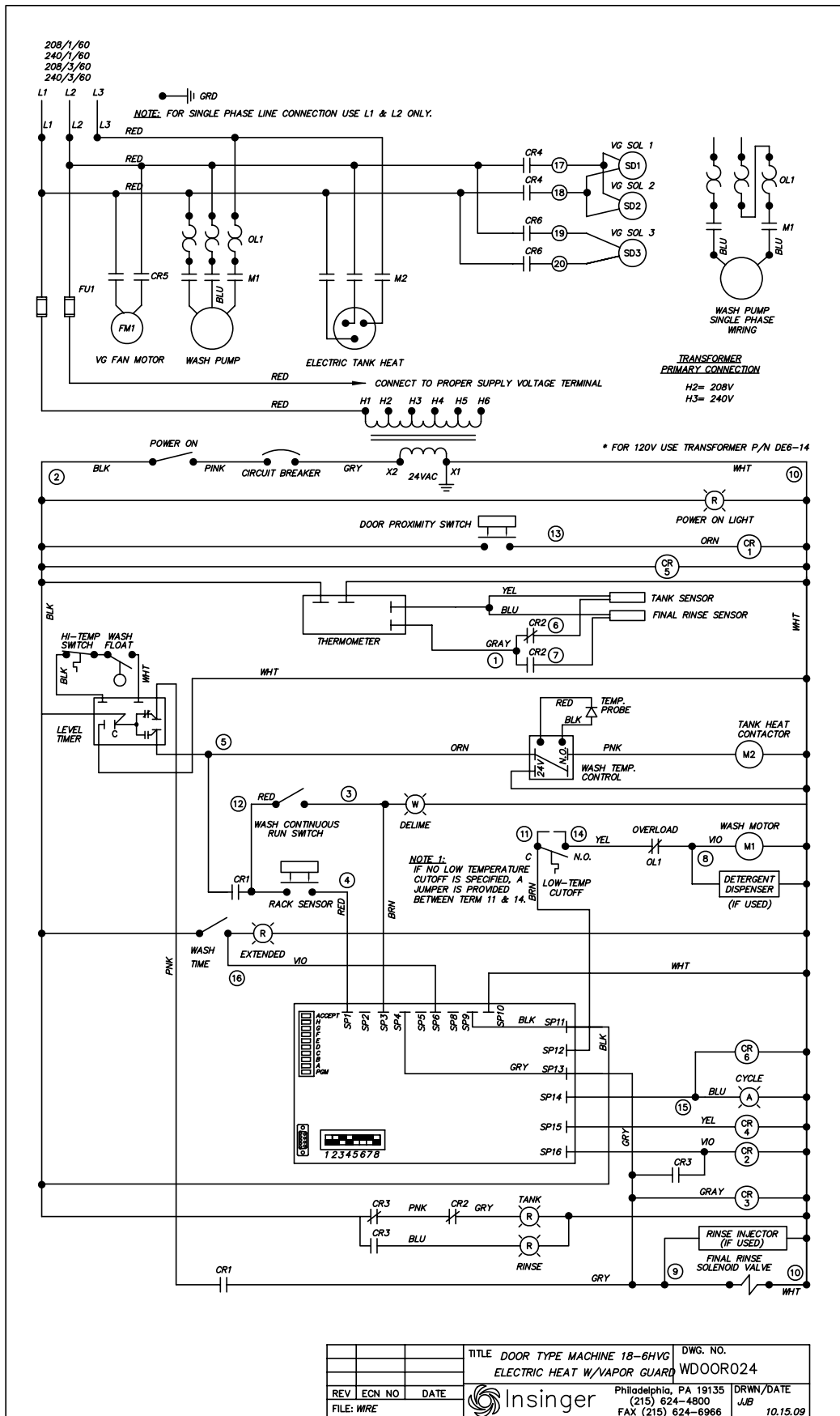
TITLE	VG LG EXTRACTOR ASSY	NEXT ASSY	DWG. NO.
MATL	FINISH:-	REQ'D	1564-80
WEIGHT: 59.27 LBS		VAPOR GUARD	
BLANK SIZE:	SCALE: 1:8	DATE	10.20.09/10.23.09
PROGRAM No.:		J/E/ADS	
		REV	2
		REV	2

REV	ECN NO	DATE	FILE: PARTS1564
0		10.26.09	
1			
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