

Algas-SDITM

...Innovative liquid vaporizing and gas mixing solutions

ISO 9001
Certified

Filtaire

Oil Demister

Operations & Maintenance Manual

151 South Michigan Street, Seattle, Washington, USA 98108
Tel: 206-789-5410 Fax: 206-789-5414 Web: www.algas-sdi.com

WARNING

Read the OPERATION MANUAL before operating this equipment.

- **NOTE:** Algas-SDI reserves the right to use alternate manufacturers' components as vendor delivery applicability dictates. Vendors have supplied literature contained in the Operation Manual. Please check to be sure supplied data matches your configuration. Contact Algas-SDI if any questions exist.
- This equipment uses LPG-a flammable fuel handled under pressure. Inherent hazards exist and a thorough understanding of the equipment is required to allow safe operation and maintenance.
- Allow only a TRAINED and FULLY QUALIFIED PERSON to service this equipment.
- Any time a component must be replaced, use the same type, model, etc. DO NOT SUBSTITUTE! The consequence from such actions are unpredictable and may lead to dire consequences. When components are replaced with components not approved for use in our FM/CSA listed equipment, the FM/CSA listing becomes void for that unit.

Warranty Registration

Fill out the Warranty Registration information on the last page of this manual. Refer to the nameplate on the unit to fill out the product registration. Then make a photocopy and mail to the address shown at the bottom.

Warranty and Copyrights

WARRANTY

Algas-SDI International, LLC (ASDI) warrants that the equipment is free of defects in materials and workmanship under normal use and service. ASDI agrees to repair or replace, at our option, without charge f.o.b. factory, any part which has proven defective to the satisfaction of Algas-SDI International, LLC within one (1) year from the date of the original installation or within 18 months from the date of shipment, whichever is earlier. Equipment, which in the opinion of ASDI, has been damaged by improper installation or operation, or has been abused or tampered with in any way, will not be accepted for return under warranty.

Algas-SDI International, LLC will not accept back charges for work performed by others upon or in conjunction with ASDI equipment, unless prior authorization is given by means of an Algas-SDI International, LLC purchase order. Algas-SDI International, LLC will not be liable by reason of shutdown, non-operation or increased expense of operation of other equipment, or any other loss or damage of any nature, whether direct or consequential, arising from any cause whatsoever.

Algas-SDI International, LLC makes NO other warranty of any kind, whatsoever expressed or implied; and all warranties of merchantability and fitness for a particular purpose are hereby disclaimed by Algas-SDI International, LLC and excluded from these terms of sale. No person has any authority to bind Algas-SDI International, LLC to any representation or warranty other than this warranty.

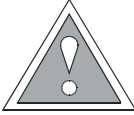
COPYRIGHT

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Symbols and Conventions

Special symbols are used to denote hazardous or important information. You should familiarize yourself with their meaning and take special notice of the indicated information. Please read the following explanations thoroughly.

GENERAL WARNING OR CAUTION



This symbol indicates hazards or unsafe practices, which can result in damage to the equipment or cause personal injury. Use care and follow the instructions given.

FLAMMABLE GAS HAZARD



This symbol indicates a potential hazard, which can result in severe personal injury or death. Use extreme care and follow the instructions given.

PARTS AND PRICES

For parts and prices contact your Algas-SDI distributor or check our web site to locate your authorized distributor.

Internet: <http://www.algas-sdi.com>

ASDI CONTACT NUMBERS

If you have questions, need help with your equipment, or want information on other products, contact Algas-SDI at:

Telephone: 206.789.5410

Facsimile: 206.789.5414

Email: sales@algas-sdi.com

Internet: <http://www.algas-sdi.com>

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<i>Drawing 2101-6005</i>	<i>F24 Standard Filtaire</i>
<i>Drawing 2101-6007</i>	<i>F0.5 Standard Filtaire</i>

Warranty Registration - Refer to the nameplate on the unit to fill out the product registration. Then Photo copy and mail to address shown.

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Introduction

1

DESCRIPTION

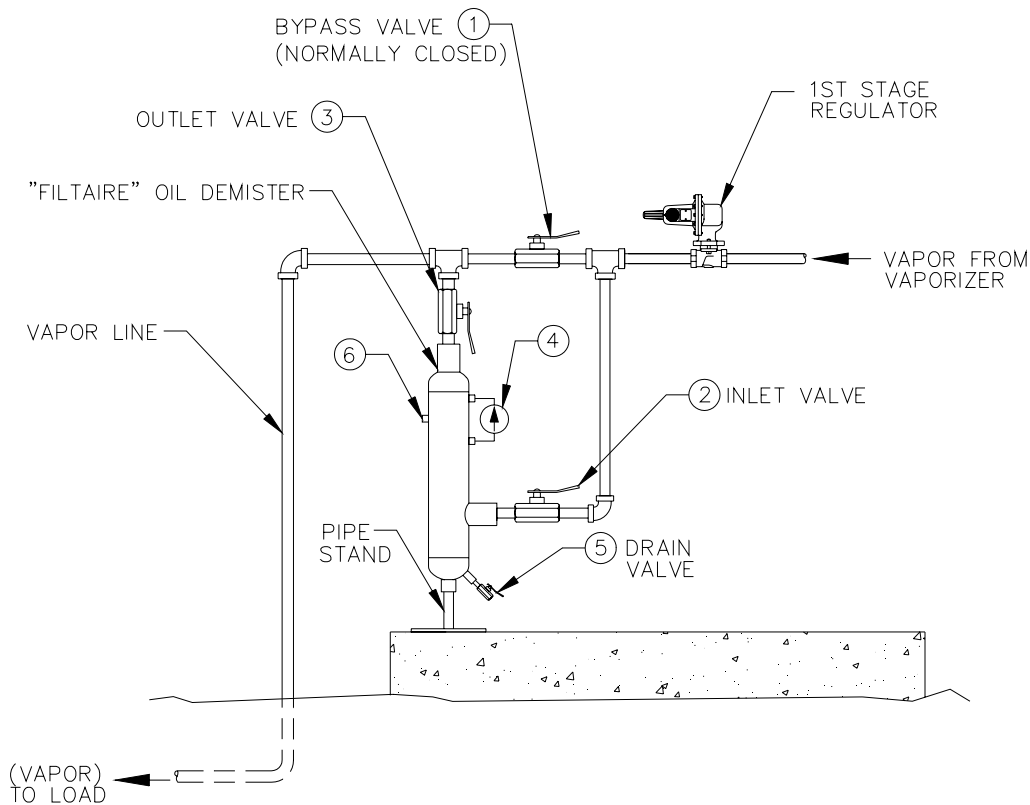
The **FILTAIRE** is a filtering device designed to trap heavy hydrocarbons commonly present in LPG gas vapor. It also traps other materials, which may be in the gas due to storage conditions and internal condition of the equipment.

Impurities are collected in the system and periodically removed through the system blow down drain. Residual heavy end hydrocarbons with boiling points higher than pure LPG are trapped by the filter and fall to the bottom for removal.

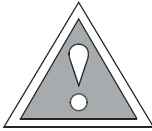
A complete **FILTAIRE** system consists of inlet and outlet connections, a blow-down drain (5), a differential pressure gauge (4), a vent which is normally plugged (6), and a bypass valve system for cleaning (1, 2, and 3). The bypass valves enable the system to continue operating when the **FILTAIRE** is removed for cleaning (see Figure 1).

Note: Items 4,5 and 6 are included with **FILTAIRE** assemblies.

Figure 1- Description of Operation



FILTAIRE FIGURE-1.WMF



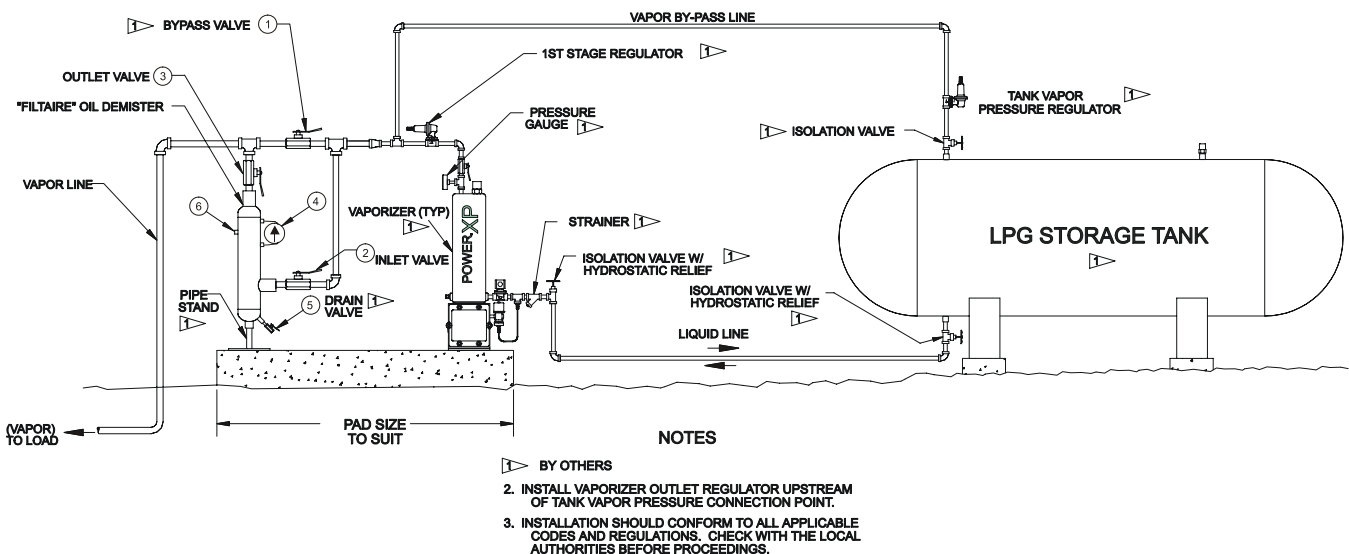
WARNING

The equipment described in this manual is designed to operate with LP-gas, a flammable fuel under pressure. The nature of the application involves inherent hazards that could result in injury. ONLY a trained and fully qualified person should service this equipment.

INSTALLATION PROCEDURE

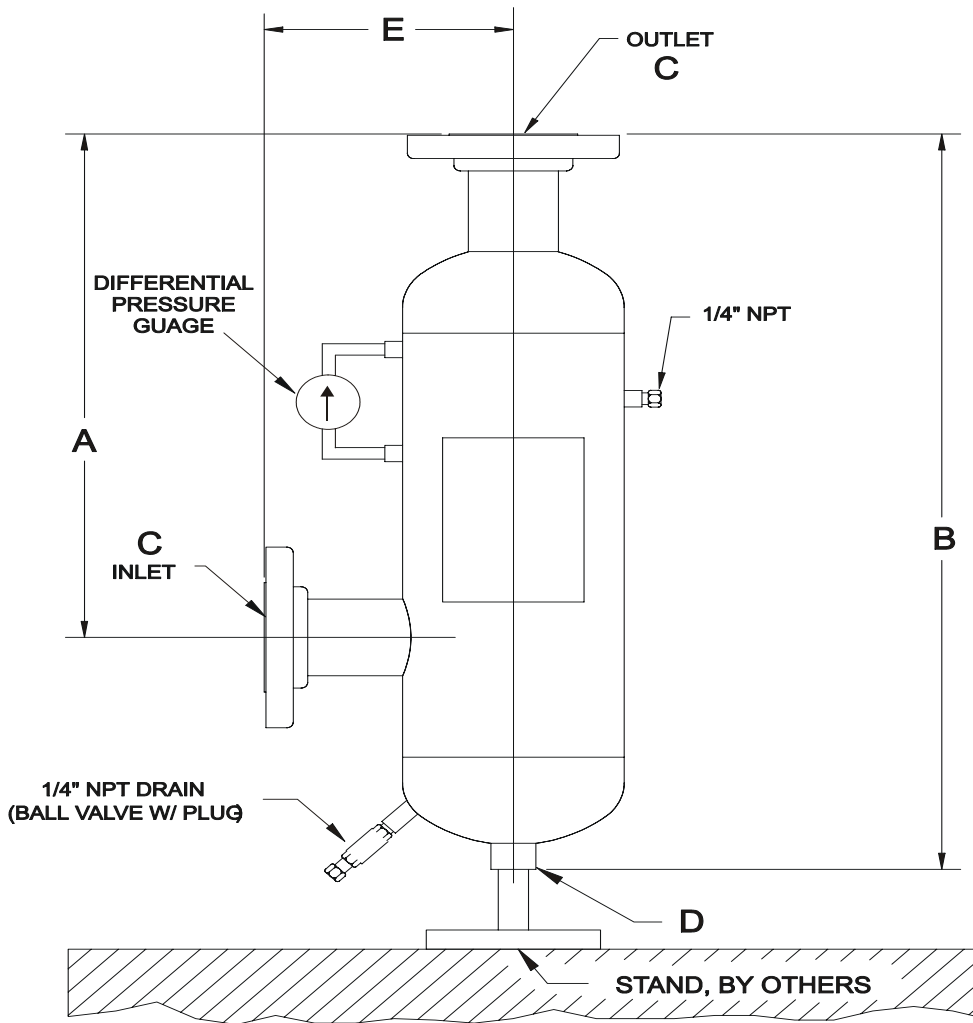
1. Gas must pass through the **FILTAIRE** for it to work properly. Mount it downstream of the vaporizer and the first stage regulator. Mount it level for the filter to work efficiently.
2. Insulation may be required depending on gas pressure, outside temperature and system requirements.
3. The **FILTAIRE** must have a bypass around the filter with shut-off valves for removal and cleaning. See the accompanying diagram.
4. The filtered impurities must be drained to proper containers. Make provisions for draining and disposing of the material safely.

Figure 2 – Installation



Installation.wmf

Figure 3 - General Equipment



MODEL	F2	F4	F6	F8	F10	F12	F14	F16
A	17"	19"	20 1/2"	23"	25"	27"	33"	35"
B	22 1/2"	27 1/4"	30 1/4"	33 1/2"	37 1/2"	41 1/4"	48 3/4"	51 3/4"
C	*1" MNPT	**1 1/2" NPT	***2" NPT	3" 300# FLANGE	4" 300# FLANGE	6" 300# FLANGE	6" 300# FLANGE	6" 300# FLANGE
D	1/2"	3/4"	1"	1"	1 1/2"	2"	3"	3"
E	5 1/4"	5"	6 1/4"	9 1/4"	10 3/8"	11 3/8"	12"	13"
****WEIGHT	52	52	100	145	230	335	385	435

* SCREWED CONNECTIONS (1" SCH 80 PIPE X 4 1/2" LONG, T.O.E.) MODEL F2

** SCREWED CONNECTIONS (1 1/2" FULL COUPLING, 3000# F.S.) MODEL F4

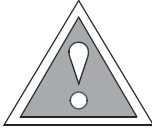
*** SCREWED CONNECTIONS (2" FULL COUPLING, 3000# F.S.) MODEL F6

**** APPROXIMATE WEIGHT

NOTES:

1. DESIGN PRESSURE: 250 PSIG @ 650F.

General Equip.wmf



WARNING

The equipment described in this manual is designed to operate with LP-gas, a flammable fuel under pressure. The nature of the application involves inherent hazards that could result in injury. ONLY a trained and fully qualified person should service this equipment.

PERIODIC DRAINING

During normal operation the **FILTAIRE** should be drained periodically to remove the material deposited in the bottom. The schedule for draining depends on the quality of LPG gas and the usage of the entire system. Those using the system must establish the draining schedule.

NOTE:

If the filter is too dirty the differential pressure will increase.

CLEANING THE FILTER

A known flow rate must be established when the system is started and the filter is clean. When the operation is first started, establish a known flow rate of gas through the **FILTAIRE** and note the pressure differential. The flow rate should be at least half of the regular operating flow rate. The initial rate will establish the normal operating pressure drop through the **FILTAIRE**. A dirty filter causes a larger pressure drop than normal. A pressure drop two to three times greater than the normal operating pressure differential indicates the **FILTAIRE** must be cleaned.

EXAMPLE:

If a 1 PSI (0.07 kg/cm²) pressure drop is the normal pressure drop for the system at a particular flow rate, a 3 PSI (0.211 kg/cm²) pressure drop indicates the filter is dirty and the system must be cleaned.

CLEANING SCHEDULE:

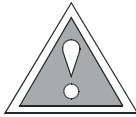
Drainage and cleaning of the **FILTAIRE** is determined by use. Once it is noted how often cleaning is necessary, a maintenance schedule can be established. A maintenance form is provided to help you establish a schedule.

Cleaning the Filter (refer to Figure 1)

When the pressure differential reaches the determined amount, the unit is dirty and must be drained and cleaned. For proper cleaning, the stainless steel filter must be soaked and reverse flushed.

RECOMMENDED PROCEDURE

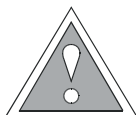
1. Open the bypass valve, close the Filtaire inlet and outlet valves.
2. When bleeding the **FILTAIRE**, connect a hose or drainpipe from the drain valve to a safe container with a vent. Make a good connection and bleed the material to the container



CAUTION

PRESSURE MUST BE ZERO FOR THE FILTAIRE TO BE REMOVED. CONTENTS UNDER PRESSURE ARE DANGEROUS.

3. Close the drain valve.
4. Remove Filtaire from the system and place in a cleaning area.
5. Cap the inlet.
6. Fill the unit with kerosene or a similar light solvent and allow it to soak for 24 hours.
7. Reverse-flush the unit (flush from outlet flange) with kerosene until the Kerosene is clear and no residue is left.
8. After flushing, allow the kerosene or solvent to drain completely and let the unit dry. Air can be pumped through the unit to dry it thoroughly. Kerosene or solvent must not enter the propane system.
9. Remove the inlet cap.
10. Re-install the unit. Connect the inlet and outlet. Close the blow-down drain.
11. Open the Filtaire inlet and outlet valves and close the bypass valve.
12. The **FILTAIRE** is operational.
13. Check the pressure differential to determine if the unit is operating properly.
14. A maintenance is form is provided to note maintenance dates and operation pressures.



CAUTION

THE CONTENTS OF THE FILTAIRE ARE FLAMMABLE NEVER CLEAN THE UNIT WHEN THERE IS A SOURCE OF IGNITION IS PRESENT - ELECTRICAL SPARK OR FLAME.

AUTOMATIC MAINTENANCE OR HIGH LIQUID WARNING

Optional liquid level switches can be installed in the Filtaire to warn maintenance that the Filtaire requires draining due to the accumulation of liquid in the reservoir. Provisions for single or dual liquid level switches can be made during manufacturing. One switch allows a warning when the reservoir needs draining. A second switch can be used to shut down the system if liquid continues to increase in the reservoir. This same system can be used to provide an additional safety that will prevent liquid propane from getting into consuming equipment if a failure allows liquid to pass through the vaporizer.

Figure 4 shows the physical location of the liquid level switches. Contact the factory for any special design requirements or applications.

Figure 5 has electrical drawings of suggested connections of the liquid level switch to provide an alarm and a control output. Maximum current through the liquid level switch is ¼ amp so an interposing relay is required for larger loads.

Options

Figure 4 - Options (A)

MODEL	F4	F6	F8	F10	F12	F14	F16
A	20"	21"	23"	25"	27"	33"	35"
B	40"	45"	47"	49"	56 1/2"	65"	66"
C	*1 1/2"	**2"	3"	4"	6"	6"	6"
D	2"	2"	2"	2"	3"	3"	3"
E	5"	6 1/4"	9 1/4"	10 3/8"	11 3/8"	12"	13"
***WEIGHT	52	100	145	230	335	385	435

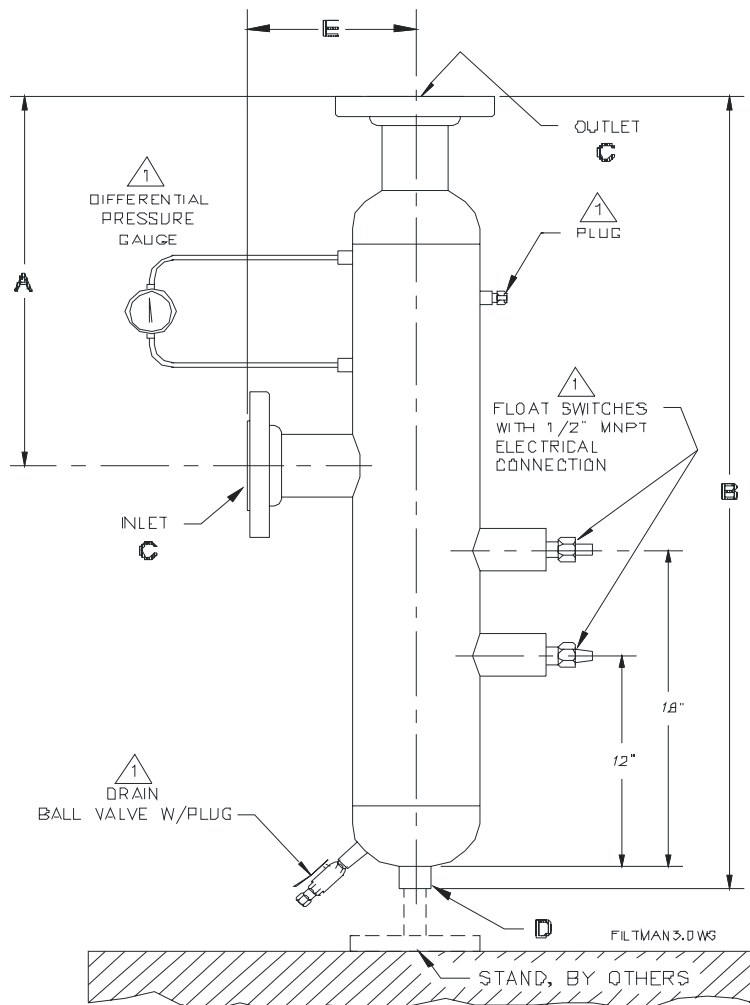
* SCREWED CONNECTIONS (1 1/2" SCH 80 PIPE X 4 1/2" LONG, T.O.E.) MODEL F4

** SCREWED CONNECTIONS (2" SCH 80 PIPE X 4 1/2" LONG, T.O.E.) MODEL F6

*** APPROXIMATE WEIGHT

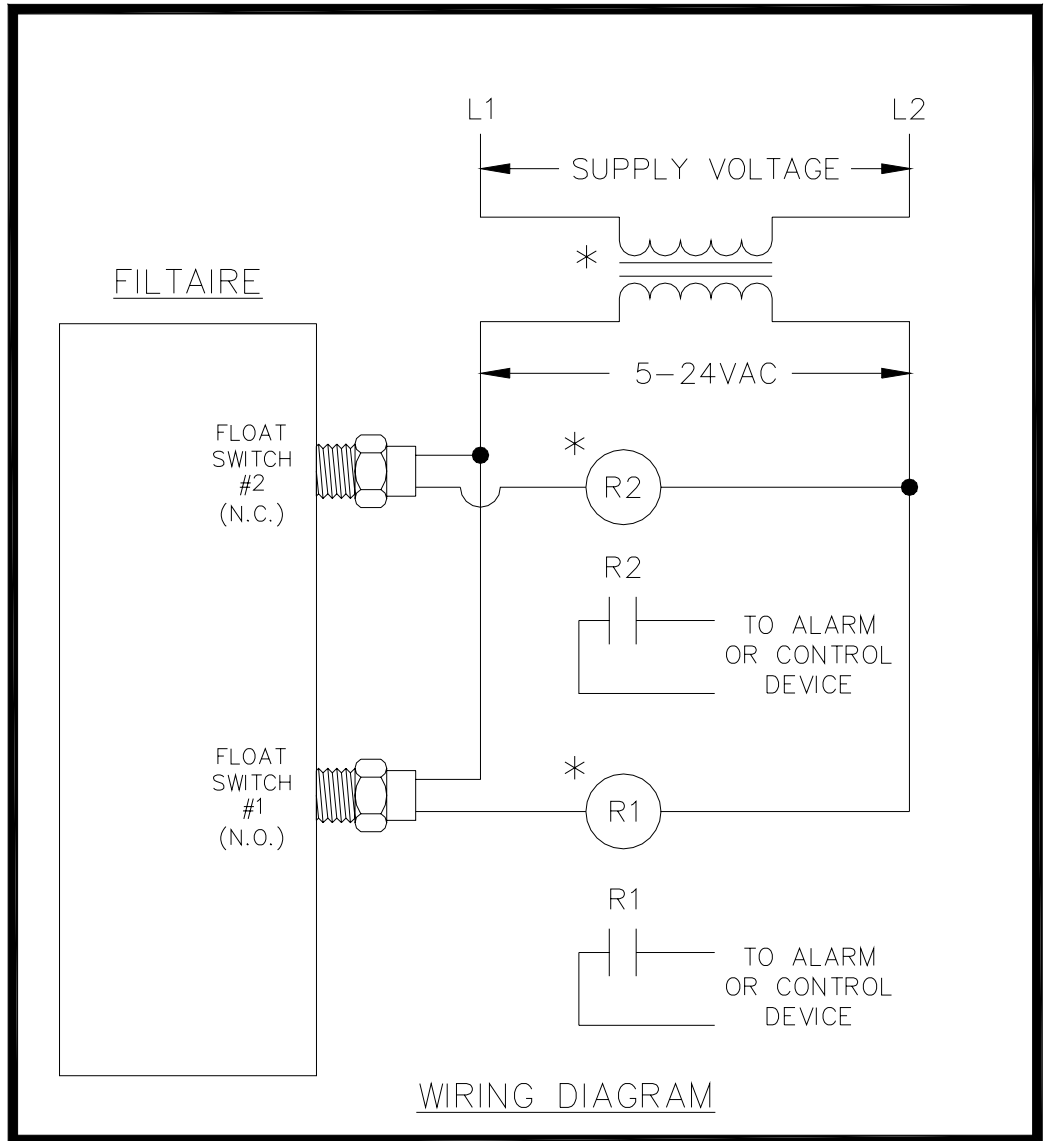
NOTES:

1. ITEMS SHIPPED LOOSE.
2. DESIGN PRESSURE: 250 PSIG @ 650°F.



Options (A).emf

Figure 5 - Options (B), 2101-7001B1C.WMF



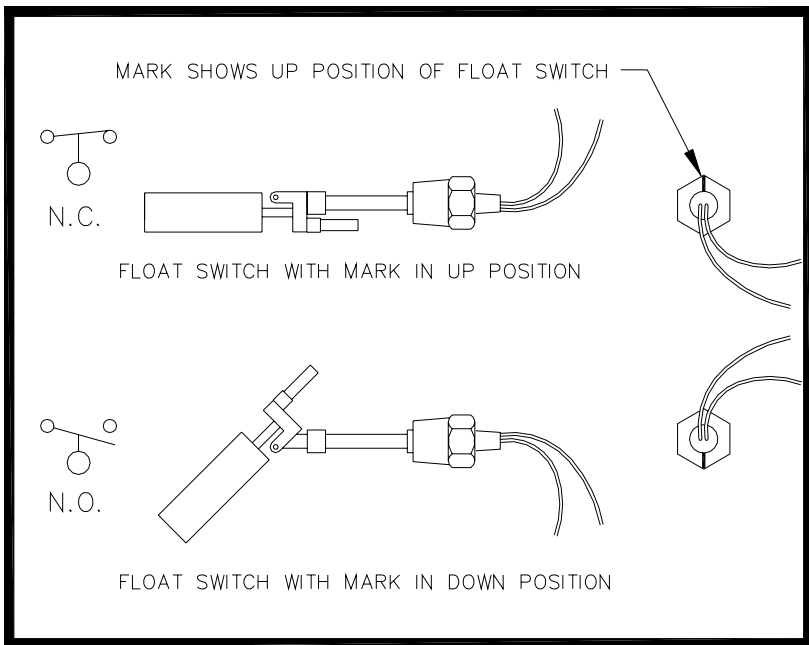
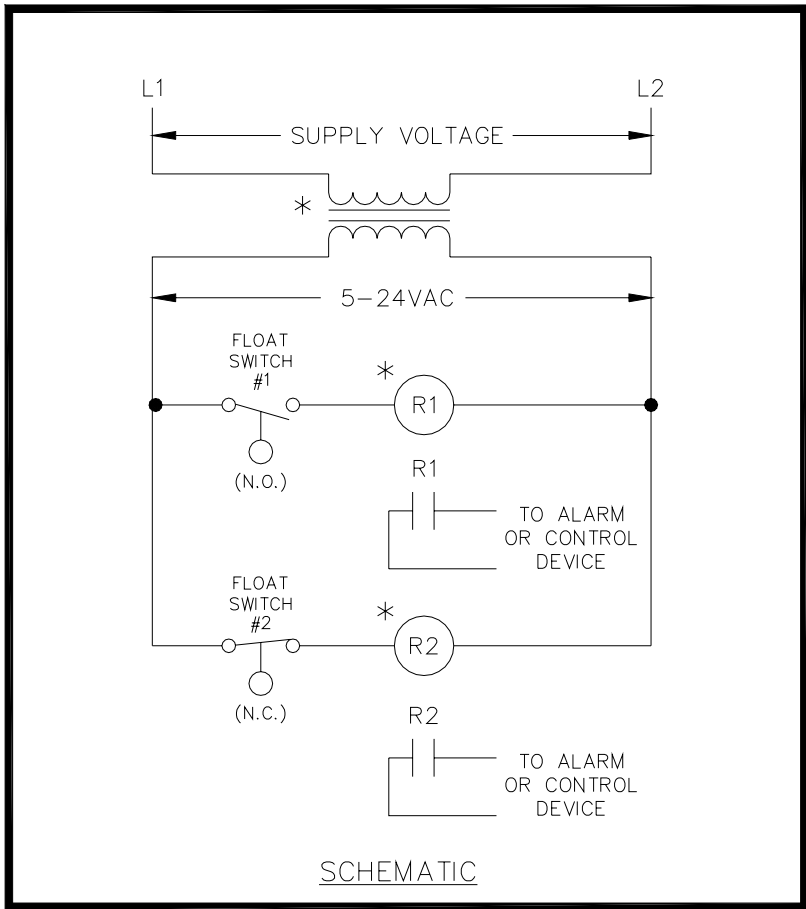
* SUPPLIED BY INSTALLER

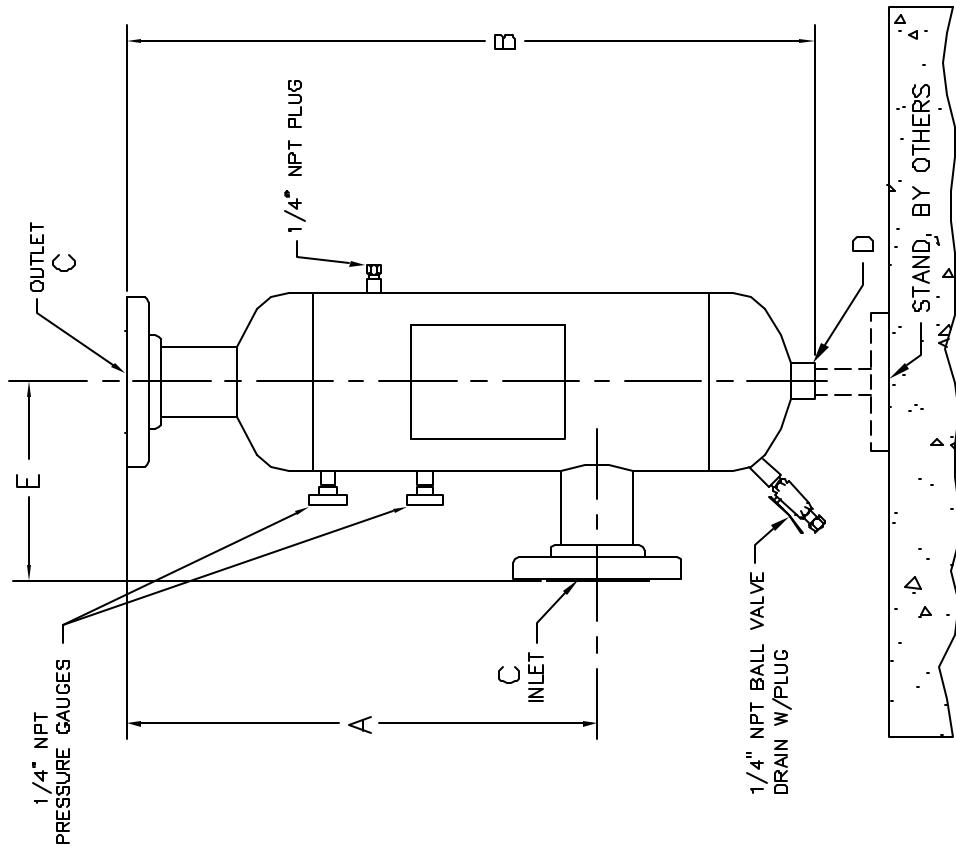
NOTES:

1. THE MAXIMUM ALLOWABLE CURRENT THROUGH EACH FLOAT SWITCH IS 0.25A.

Options

Figure 5 - Options (B), 2101-7001B1C.WMF CONTINUED





MODEL	F2	F4	F6	F8	F10	F12	F14	F16
A	17"	19"	20 1/2"	23"	25"	27"	33"	35"
B	22 1/2"	27 1/4"	30 1/4"	33 1/2"	37 1/2"	41 1/4"	48 3/4"	51 3/4"
C	*1" MNPT	**1 1/2" NPT	***2" NPT	3" 300# FLANGE	4" 300# FLANGE	6" 300# FLANGE	6" 300# FLANGE	6" 300# FLANGE
D	1"	1"	1"	1"	2"	2"	3"	3"
E	5 1/4"	5"	6 1/4"	9 1/4"	10 3/8"	11 3/8"	12"	13"
***WEIGHT	52	52	100	145	230	335	385	435

* SCREWED CONNECTIONS (1" SCH 80 PIPE X 4 1/2" LONG, T.O.E.) MODEL F2
 ** SCREWED CONNECTIONS (1 1/2" FULL COUPLING, 3000# F.S.) MODEL F4
 *** SCREWED CONNECTIONS (2" FULL COUPLING, 3000# F.S.) MODEL F6
 **** APPROXIMATE WEIGHT

NOTES:

1. DESIGN PRESSURE: 250 PSIG @ 650°F.
2. EXTERIOR PAINT: BLACK PER A.S.D.I. PAINT SPEC. PS-10.
3. OPTIONAL ASME STAMP

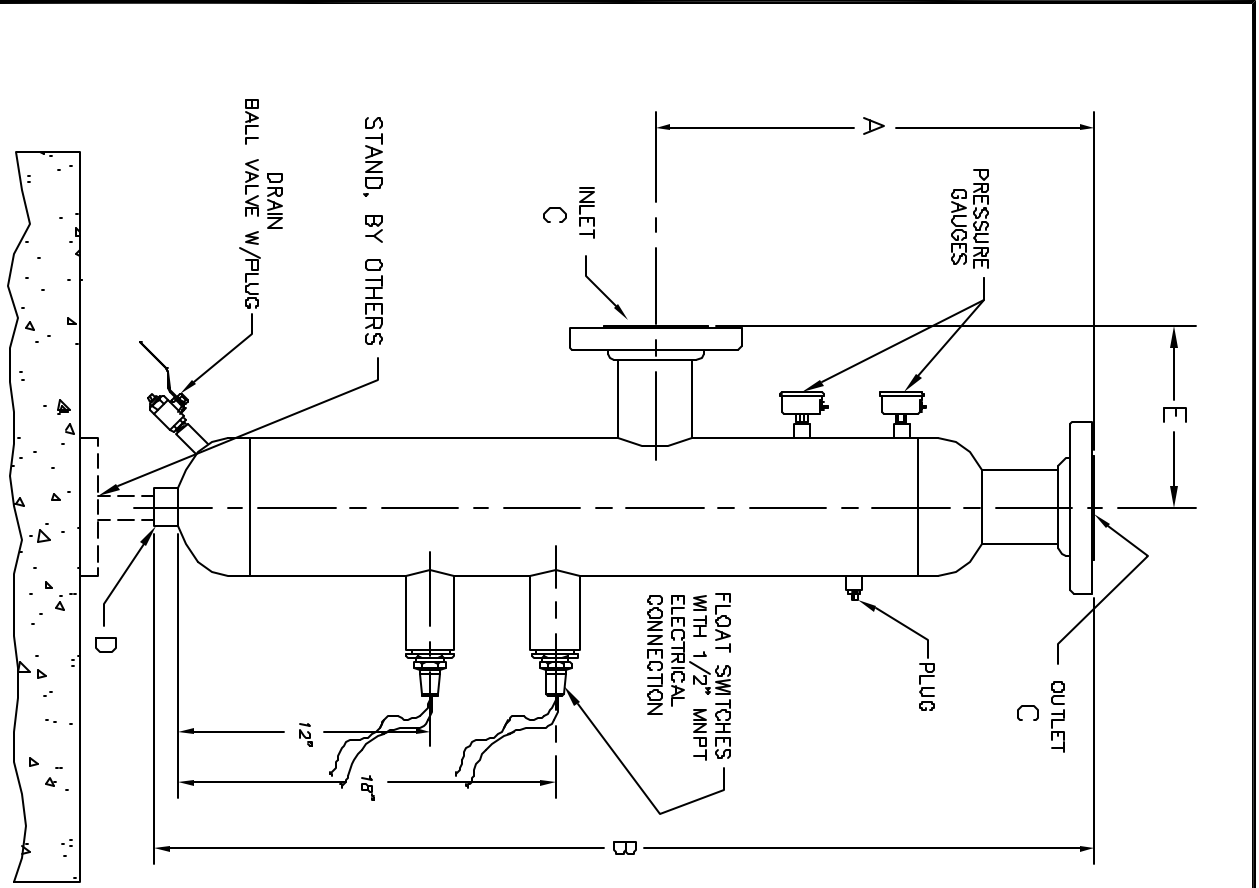


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 Tel: (206) 789-5414 Fax: (206) 789-5414

Drawn By	BRISSON	Date	12-8-93
Checked By		Scale	NONE
Approved By		Job No.	A.S.D.I. STD.

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Title		2101-6004	
Description		FILTAIRE MODELS F2 THRU F16 EQUIPMENT DRAWING	
Part No.	Rev	Shk. No.	Rev
B	1 of 1		F



MODEL	F2	F4	F6	F8	F10	F12	F14	F16
A	19 1/4"	20"	21"	23"	25"	27"	33"	35"
B	39 1/4"	40"	45"	47"	49"	56 1/2"	65"	66"
C	*1"	*1 1/2"	*2"	3" 300# FLANGE	4" 300# FLANGE	6" 300# FLANGE	6" 300# FLANGE	6" 300# FLANGE
D	1"	1"	1"	1"	2"	2"	3"	3"
E	4 1/4"	5"	6 1/4"	9 1/4"	10 3/8"	11 3/8"	12"	13"
**WEIGHT	52	52	100	145	230	335	385	435

* FNPT COUPLING CONNECTION
 ** APPROXIMATE WEIGHT

- NOTES:
1. OPTIONAL ASME STAMP
 2. DESIGN PRESSURE: 250 PSIG @ 650F.
 3. EXTERIOR PAINT: BLACK PER A.S.D.I. PAINT SPEC. PS-10

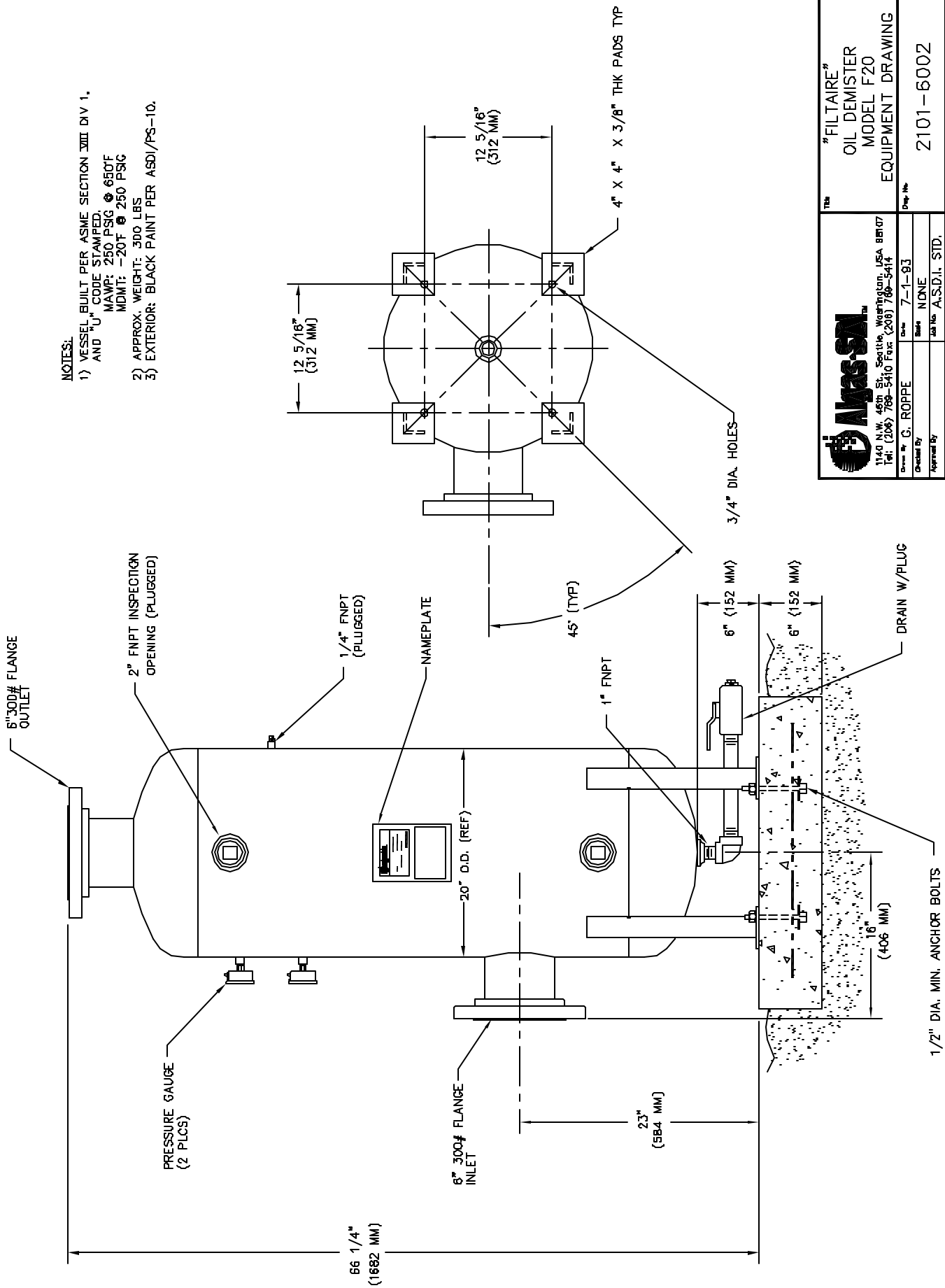


1140 N.W. 46th St. Seattle, Washington, USA 98107
 Tel: (206) 789-5410 Fax: (206) 789-5414

THE
 FILTAIRE MODELS
 F2 THRU F16
 WITH DUAL FLOAT
 SWITCHES

Drawn By	BRISSON	Date	5-11-92	Drawg. No.	2101-8001
Checked By	NONE	Scale	NONE	Sheet No.	1 of 1
Approved By	A.S.D.I. STD.	Part Number		Rev	G

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NOTES:

- 1) VESSEL BUILT PER ASME SECTION VIII DIV 1, AND "U" CODE STAMPED.
MAWP: 250 PSIG @ 650F
MDMT: -20F @ 250 PSIG
- 2) APPROX. WEIGHT: 300 LBS
- 3) EXTERIOR: BLACK PAINT PER ASDI/PS-10.

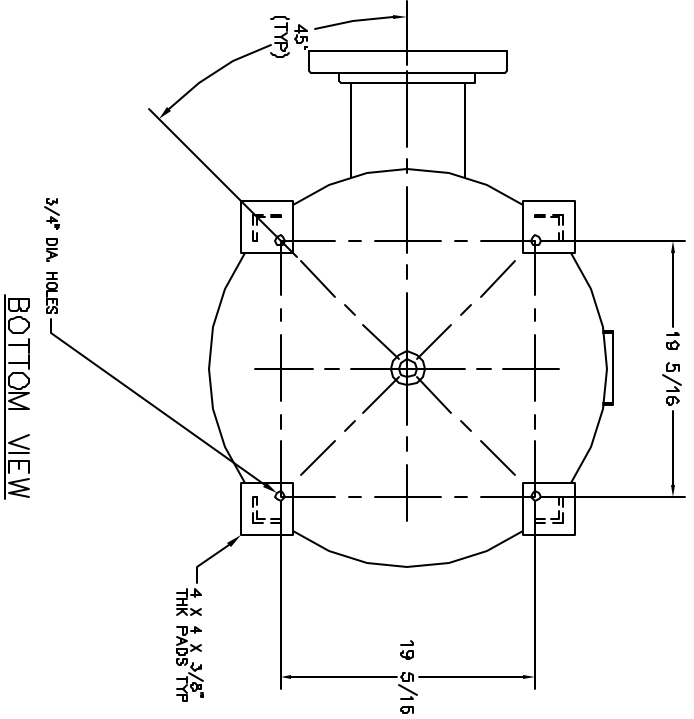
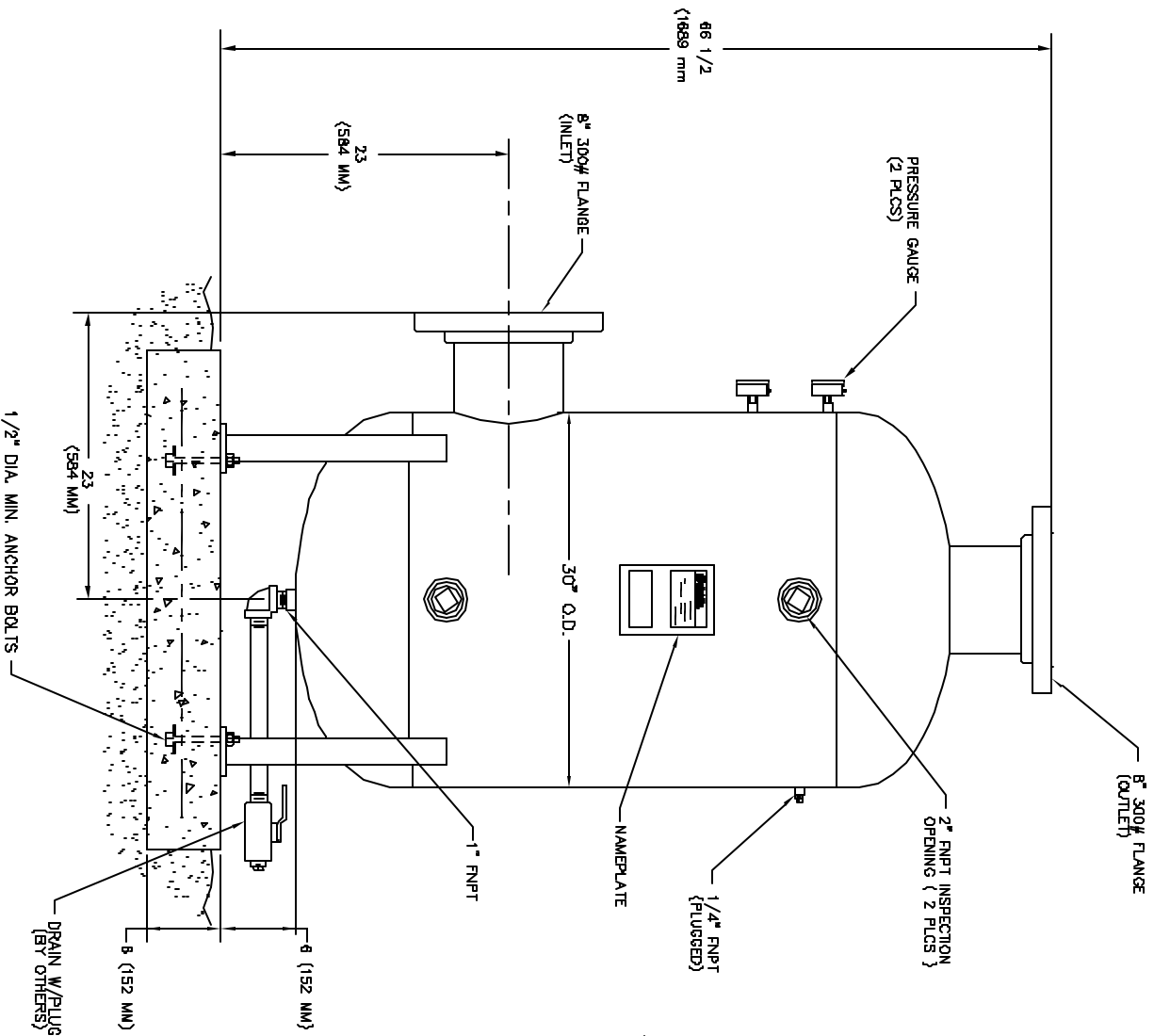


1140 N.W. 45th St. Seattle, Washington, USA 98107
Tel: (206) 769-5410 Fax: (206) 769-5414

FILTAIRE[®]
OIL DEMISTER
MODEL F20
EQUIPMENT DRAWING

Drawn By: C. ROPPE	Date: 7-1-83
Checked By: NONE	Scale: NONE
Approved By: A.S.D.I. STD.	Job No. A.S.D.I. STD.
Part Number:	Doc. No. C
Rev. No. 1 of 1	Rev. F

1/2" DIA. MIN. ANCHOR BOLTS

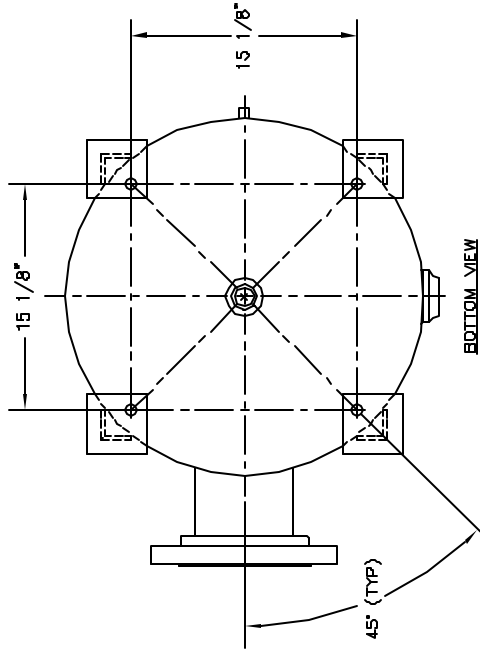
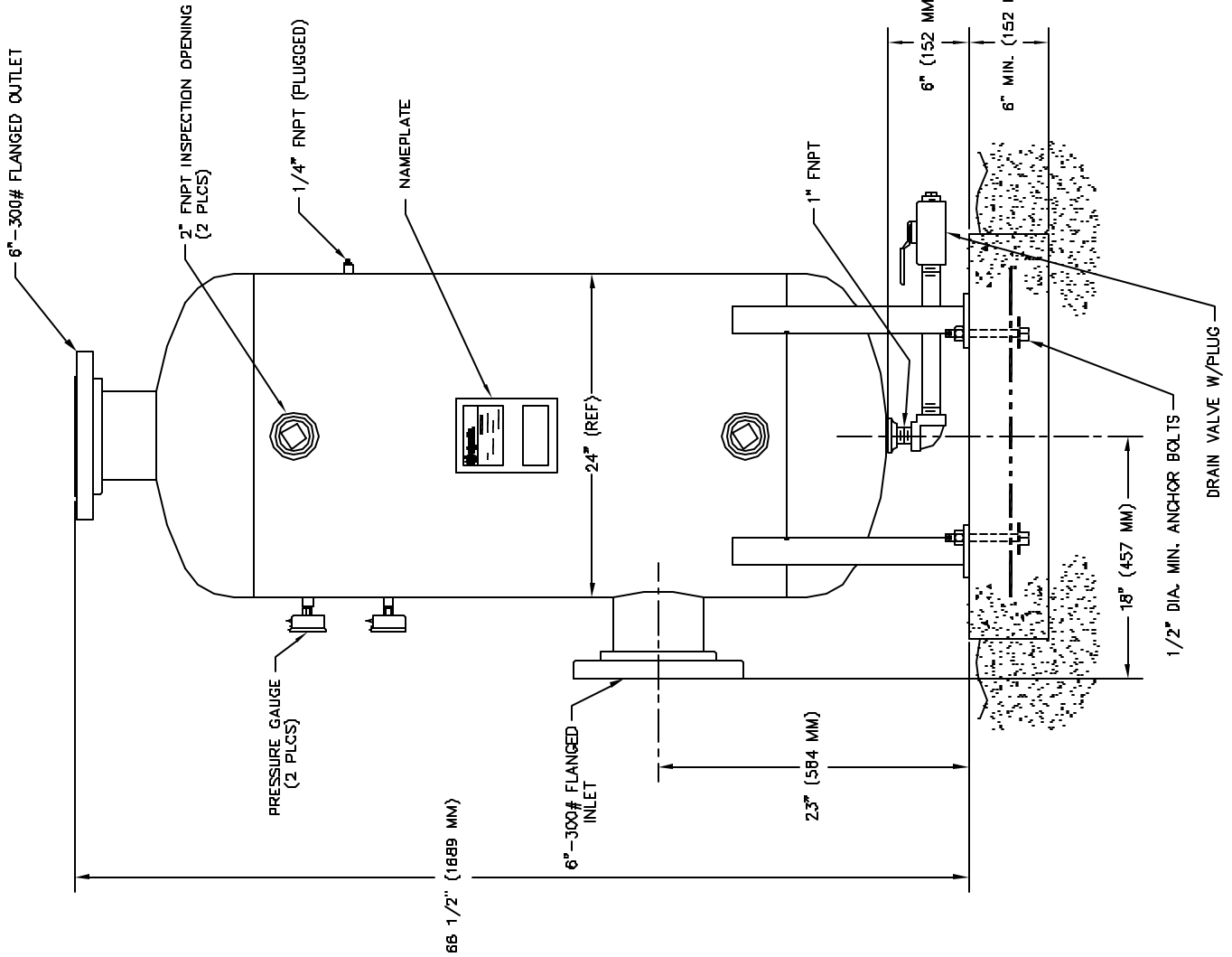


- NOTES:
- 1) VESSEL CONSTRUCTED TO ASME SECTION VIII DIV 1 AND U-1 CODE STAMPED.
NAME: 250 PSIG @ BSOT
MOMT: -20F @ 250 PSIG
 - 2) APPROX. WEIGHT: 800 LBS
 - 3) EXTERIOR PAINT: BLACK PER PAINT SPEC. ASDI/PS-10.

		11800 HWY 44th SE, Poulsbo, Washington, USA 98107 TEL: (206) 789-5410 FAX: (206) 789-5414	
Order By	G. ROPPE	Order No.	10-1-85
Quoted By		Quoted No.	NONE
Approved By		App. No.	A.S.D.I. STD.
Part Number	20543	Draw. No.	
		Rev. No.	
		1 of 1	
			E

"FILTAIRE"
OIL DEMISTER
MODEL F30
EQUIPMENT DRAWING

2101-6003



NOTES

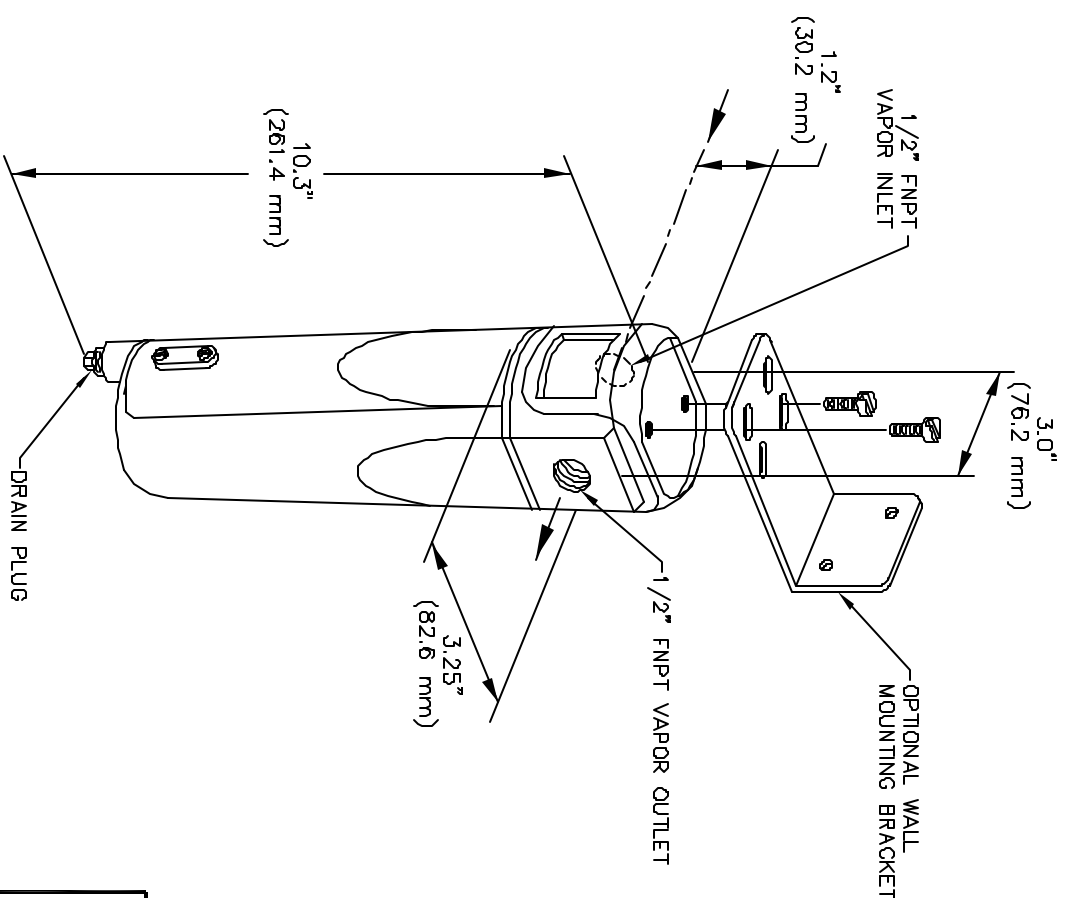
1. VESSEL BUILT PER ASME SECTION VIII DIV. 1 AND "U" CODE STAMPED.
2. MAWP: 250 PSIG @ 650F
MDMT: -20F @ 250 PSIG
3. APPROXIMATE WEIGHT: 450 LBS
4. EXTERIOR: BLACK, PER ASDI/PS-10




1140 N.W. 46th St. Seattle, Washington, USA 98107
Tel: (206) 758-3110 Fax: (206) 758-5414

Drawn By	BRISSON	Date	1-16-95
Checked By		Scale	NONE
Approved By		Std. No.	A.S.D.I. STD.
Part Number		2101-6005	
Sheet		1 of 1	
Rev		C	

"FILTAIRE"
OIL DEMISTER
MODEL F24
EQUIPMENT DRAWING



- NOTES:**
1. 250 PSIG SERVICE
 2. CE APPROVED
 3. 0.01 μm @99.99% EFFICIENCY RATE
 4. 6.3 cfm @ 100 PSIG

 <p>1140 N.W. 46th St., Seattle, Washington, USA 98107 Tel: (206) 789-5410 Fax: (206) 789-5414</p>		<p>TBL#</p> <p>FO.5 "FILTALIRE" EQUIPMENT DRAWING</p>	
Drawn By	G. ROPPE	Date	7-11-03
Checked By		Scale	NONE
Approved By		Std. No.	A.S.D.I. STD.
<p>This drawing is the property of Algas, SDI and is not to be reproduced nor used in any form without the written consent of Algas, SDI.</p>		Pat. Number	205556
Drawn By	B	Shl. No.	1 of 1
Rev			B

2101-6007



Innovative Liquid Vaporizing and Gas Mixing Solutions

WARRANTY REGISTRATION

Type of Equipment: _____ Serial Number: _____
 ASDI Sales Order #: _____ Order Date: _____
 Purchased By: _____

To help us give you better service, please fill out this warranty registration form and return it to ASDI to register your purchase and for follow up on the performance of ASDI equipment. We are dedicated to producing a quality product and if a problem occurs, ASDI wants to know about it.

Please help us with a small amount of information about your company and how the equipment will be used. When contacting ASDI, please have the type of equipment and the serial number handy so we can give you accurate information. If you have had any kind of problem with this equipment, or you have any comments, please attach a separate sheet to this form. Keep a copy for your records.

End Customer/Company Name: _____
 Address: _____ Tel: _____
 City: _____ Fax: _____
 State: _____ Zip: _____

Name of individual to contact for follow up information: _____
 Title: _____

Usage - Circle one: Base Load Standby System Peak Shaving
 Other: _____

In what application is the equipment being used? _____
 When was the equipment put in service? _____/_____/_____

Note: If you have more than one piece of ASDI equipment, fill out one warranty sheet and staple the others to it, ASDI will do the rest.

Algas-SDI International, LLC
151 South Michigan Street
Seattle, Washington 98108
USA

Ph.: 1.206.789.5410
Fax.: 1.206.789.5414

www.algas-sdi.com

