



1470 Don Street • Naples, Florida 34104

Telephone: (239) 643-1711  
Fax: (239) 643-6081  
Customer Service: (800) 944-1711

**Installation & Operation Manual  
For ENERGENICS 007 Control  
In-Line Space Saver Lint Filters**

<u>Descriptions</u>		<u>Page</u>
Table of Contents		1
Description of Lint Filter Operation		2
Receiving and Installation		3
Important Installation Considerations		4
Warnings/Cautions		5
Dimensional Table		6
Dimensional Drawing		7
Utilities Installation		8
Sheet Metal Installation		9
Compressed Air Requirements		10
Fire Suppression Water System (optional)		11
Proper Application with Booster Fans & Barometric Dampers		12
007 Control Installation Instructions:		
UL® Control Schematic & Wiring Diagram		13
Connection Requirement	9002.5	14
Connection Requirement (Side View)	9002.6	15
Maintenance Requirements		16

## DESCRIPTION OF LINT FILTER OPERATION

Your new Energenics Lint Filter operated with a UL approved control represents the most advanced features available in the laundry industry to date. The following list the functions and mode of operation:

Blowdown (cleaning) – The Lint Filter will monitor the system backpressure and automatically initiate the blowdown cycle. As the screen loads with lint the lint, the back pressure will increase and will result in an automatic blowdown (cleaning) when the backpressure reaches a set reference (default is .5" w.c.). The lint filter will also blowdown every 30 minutes to insure complete screen cleaning when dryers are turned off. The setting can be adjusted by the operator by changing program values in the PLC. 70% of the lint will be removed from the screen even though the dryer(s) may be operating. During the timed blowdown with dryers off, 100% of the lint will be removed from the screen. A manual blowdown can also be done by depressing the button on the bottom of the Lint Filter control. **Note that automatic blowdown cannot occur within 3 minutes of a prior blowdown.** This is done to allow the compressed air supply to fully recover.

Optional Excess Pressure Alarm – If for any reason the Lint Filter has not blown down properly (i.e.: compressor turned off) the system will sense a higher backpressure than normal. The excess light on the filter control and the siren and the strobe light both activate. The Filter control will attempt to blowdown every 3 minutes until the excess backpressure condition has terminated. If this condition persist a manual inspection of the lint screen and observation of proper blowdown must be done.

Optional Fire Control System – A normally open sensor located inside of the filter at the top of the inlet will close at 360 degrees F. The control will open the water solenoid, illuminate the strobe as well as energize the siren. The Alarm will be active until 30 seconds after the temperature has dropped below 360 degrees F. After 30 seconds the alarm will automatically reset. Inside the control box is a Fire Control test button. Depress the button and the Fire Control will be activated for 30 seconds. The function of the test button is to check the circuit. It does not test the sensor itself. Using a propane torch to the sensor will test the complete system.

## Receiving and Installation

### **Before you sign the Bill of Lading:**

1. Receiving- Inspect units inside and out for signs of damage  
Verify all components are delivered per the Bill of Materials.

**Report damage to the carrier IMMEDIATELY.**

**Note ALL damage on the Bill of Lading.**

**This is your responsibility and you must file all claims.**

**The filter is fully assembled and ready for installation. The control, valves, and lint bag are in the cardboard box.**

2. Installation- Follow instructions herein:

Determine the location with reference to minimum duct work from the dryer and ease of access for inspection.

If using a lint drop pipe allow enough room for lint to travel down 4' before the first bend. Max bend angle is 30 degrees.

If using lint bag or container make sure adequate clearance is allowed.

Conduit or Sealtight between filter junction boxes should be  $\frac{3}{4}$  inch.

Dependant on options ordered, not all outputs will have connected components.

If the Fire Control Option is NOT ordered the installer must supply a junction box to connect the wires from the solenoid valve to the Control Box.

When mounting the filter overhead, mount the control below the filter where it can be easily accessed.

## Important Installation Considerations

All Energenics Lint Collectors can be mounted indoors or outdoors. If it is mounted outdoors we recommend our Side Discharge or a field installed swept radius elbow (Gooseneck). Do not use a conical cap on the filter exhaust discharge. All solenoid valves should be located inside the building. Also, mount the supplied air pressure gauge at the blowdown pipe on top of the filter.

### **\*NO BIRDSCREENS ON DRYER EXHAUST\***

All solenoids should be mounted as close to the filter as possible, but ALWAYS inside the building. This will allow most of the air and water (if equipped with optional Fire Control) piping to remain pressure charged for most efficient operation.

All wiring should be a minimum of 18 gauge for proper operation.

The Filter Control box should be located in a position to be easily seen and in close proximity to personnel. In other words if the Filter Control is located outdoors, 20 feet in the air or in another room away from the laundry personnel, this would be the **wrong** location. Lint Filter controls should never be mounted outdoors.

Since the Filter uses compressed air it is important that the air receiver (if equipped) be located as close to the filter as possible. The longer the pipe runs the more restrictive. You will need to increase the pipe diameter if the run is very long (e.g.: 60 feet).

If the installation is a multi-dryer/multi-duct installation it may be necessary to use backdraft dampers to prevent lint backflow into the ducts of turned off dryers. Most dryers have them available as standard equipment or can be ordered to add on.

After everything is mounted and utilities turned on press the manual blowdown button located on the bottom of the Filter Control. The rotor on the inside the lint filter should spin. Make sure that the air pressure at the filter starts out at 100 and ends at about 60 at the end of the blowdown cycle. If it is too low the rotor won't turn.

If the Filter is equipped with Fire Suppression, the test button is on the inside of the Filter Control. It is on the inside to keep people from pushing the button as they walk by. When the button is pushed the strobe and siren will go on along with the water solenoid valve. The system operates until the button is no longer depressed.

## **Warning and Caution**

You have purchased the finest lint filter available for your facility. Please follow these instructions to ensure a safe long life for your filter and facility.

**FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN AN UNSAFE OPERATING CONDITION, INCLUDING THE POSSIBILITY OF FIRE.**

**DO NOT OPERATE ANY DRYER CONNNECTED TO THIS FILTER WITHOUT BEING CERTAIN THE FILTER STARTUP HAS BEEN COMPLETED AND THE FILTER IS IN OPERATING CONDITION.**

Insure it is installed in compliance with local codes.

**Step 1. Install the compressed air (Fire suppression plumbing if ordered), and piping system(s) including solenoid valves. If the filter is in position, make all final connections.**

**Step 2. Mount the 007 control in a visible location on a solid vibration free surface and connect all components.**

**Step 3. Provide dedicated electrical service to the transformer and test all systems.**

**Step 4. Install sheet metal and ducting.**

## **START UP AND OPERATION INSTRUCTIONS**

Inspect the filter installation. Is it complete? Review the entire installation requirements prior to startup.

- 1. Verify the 007 control wiring.**
- 2. Test the blow down cycle (push manual button on control). Watch the pressure gauge. It should start at 100psi and should not drop below 80psi during the 6-10 second cycle.**

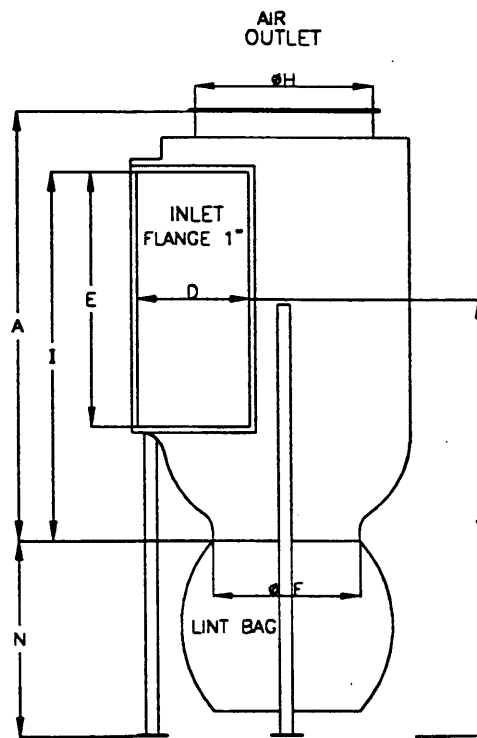
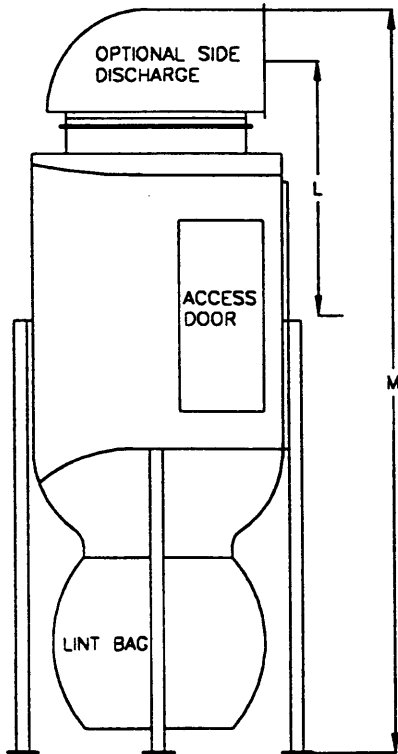
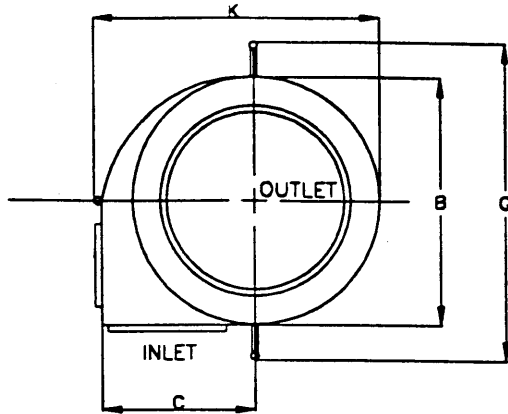
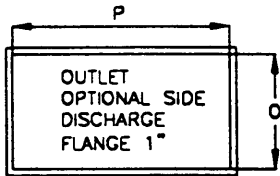
The rotor should turn 6-12 times during blow down. The rotor propulsion is adjustable by increasing the number of horizontal holes on the top horizontal portion of the rotor end.

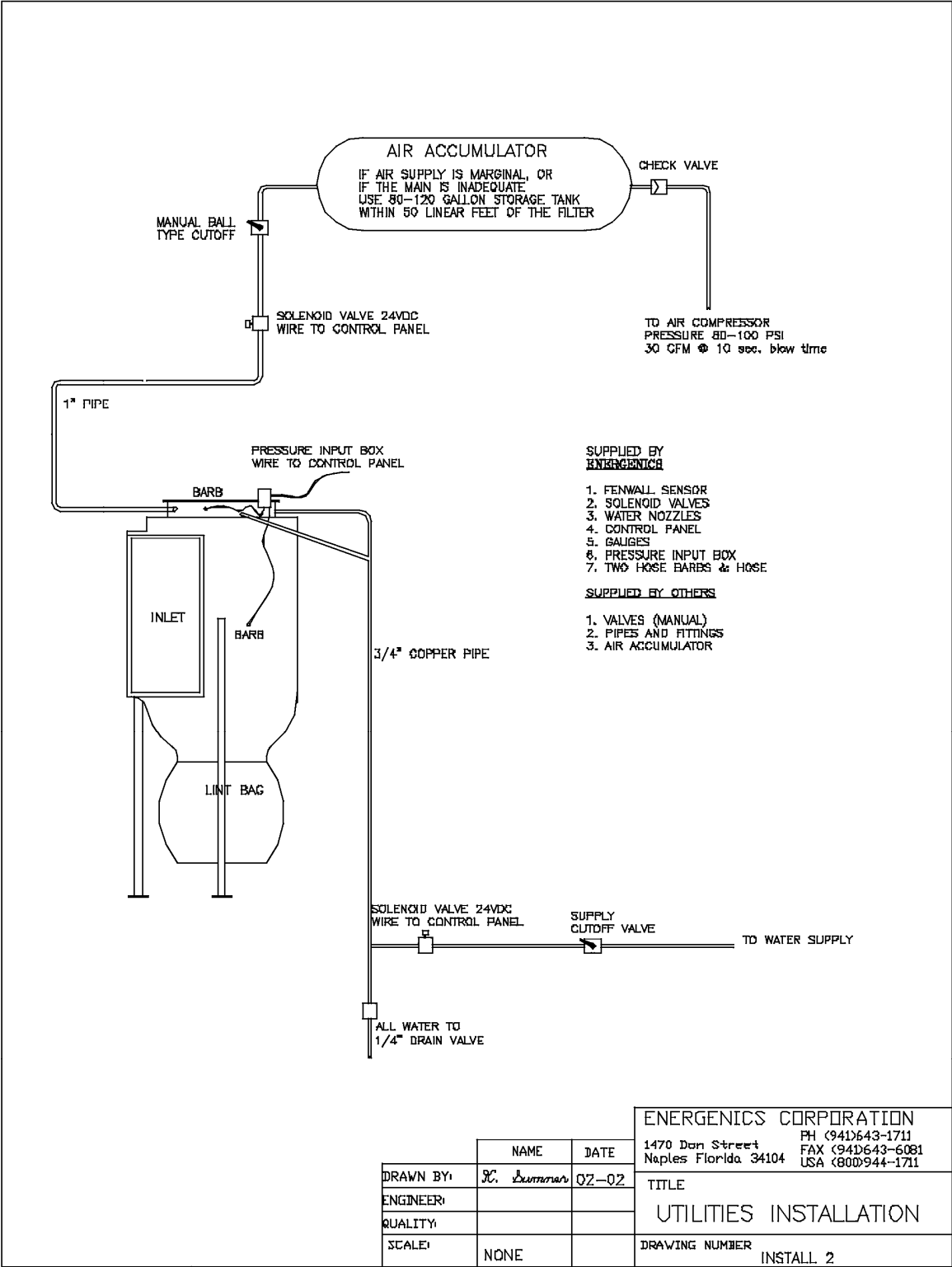
- 3. Review maintenance requirements and establish a regular PM schedule.**

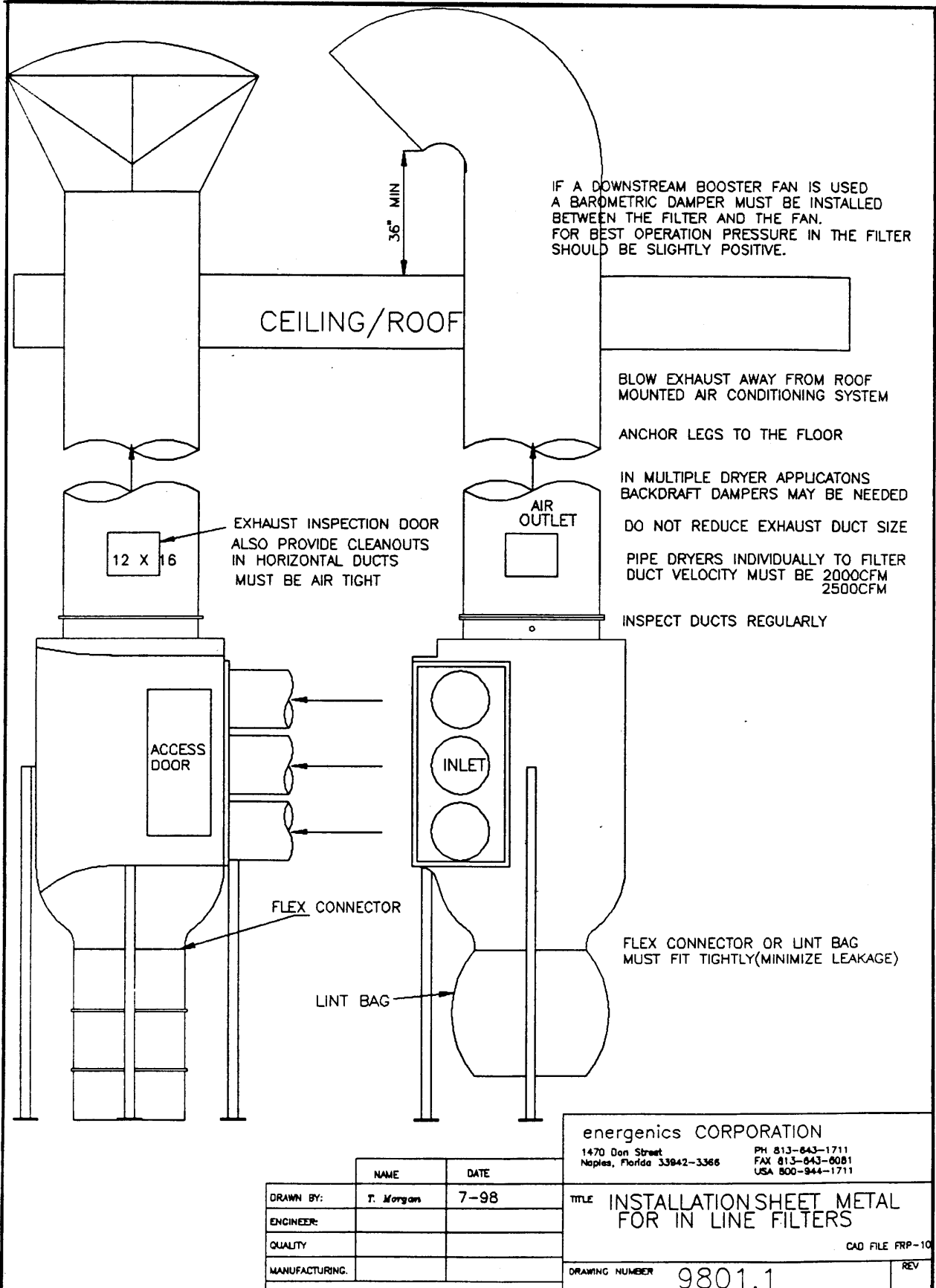
**CAUTION - DO NOT OPERATE FILTER WITH BOOSTER FAN WITHOUT BAROMETRIC DAMPER!!!!!!!**

**(CONSULT PAGE 12)**

Model #	S-4	FRP-6	S-6	FRP-8	FRP-10	S-10	FRP-15	S-15	FRP-20	S-20	FRP-25	S-25	FRP-30	S-30
CFM	4,000	6,000	6,000	8,000	10,000	10,000	15,000	15,000	20,000	20,000	25,000	25,000	30,000	30,000
Screen Area Sq. Feet	18	20	20	40	36	30	40	37	49	51	86	86	96	96
Oper. Wt. Lbs.	130	180	300	200	170	370	210	410	450	750	475	750	475	775
Ship Wt. Lbs.	160	220	350	260	280	400	350	490	530	850	555	875	585	895
A	52.0	54.0	52.0	94.5	67.0	59.0	63.0	61.0	80.0	75.0	88.0	88.0	88.0	88.0
B	27.0	32.0	30.0	30.0	44.0	40.0	52.0	48.0	56.0	56.0	84.0	84.0	84.0	84.0
C	15.0	22.0	22.0	18.0	30.0	29.0	39.0	33.0	46.0	40.0	45.0	45.0	45.0	45.0
D	12.0	20.0	12.0	12.0	24.0	16.0	32.0	24.0	36.0	24.0	48.0	48.0	48.0	48.0
E	30.0	30.0	36.0	56.0	40.0	46.0	40.0	46.0	50.0	58.0	58.0	58.0	58.0	58.0
F	27.0	27.0	30.0	27.0	23.0	20.0	29.5	24.0	24.0	24.0	30.0	30.0	30.0	30.0
G	30.0	35.0	35.0	34.0	50.0	46.0	58.0	52.5	64.0	64.0	94.0	94.0	94.0	94.0
H	16.0	20.0	20.0	26.0	28.0	24.0	30.0	30.0	34.0	34.0	48.0	48.0	48.0	48.0
I	42.0	35.0	42.0	62.0	57.0	53.5	52.0	56.0	72.0	70.0	70.0	70.0	70.0	70.0
J	51.0	44.0	48.0	36.0	61.0	54.5	56.0	57.0	52.0	65.0	65.0	65.0	65.0	65.0
K	28.0	38.0	37.0	33.0	48.0	49.0	52.0	57.0	67.0	68.0	94.0	94.0	94.0	94.0
L	34.0	43.0	37.0	69.0	40.0	38.5	41.0	38.0	51.0	48.0	61.0	61.0	61.0	61.0
M	92.0	94.0	92.0	134.0	109.0	101.0	105.0	103.0	131.0	125.0	140.0	140.0	140.0	140.0
N	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
O	14.0	14.0	14.0	14.0	16.0	16.0	16.0	16.0	24.0	24.0	28.0	28.0	28.0	28.0
P	24.0	24.0	24.0	30.0	39.0	39.0	40.0	40.0	48.0	48.0	60.0	60.0	60.0	60.0







IF A DOWNSTREAM BOOSTER FAN IS USED  
 A BAROMETRIC DAMPER MUST BE INSTALLED  
 BETWEEN THE FILTER AND THE FAN.  
 FOR BEST OPERATION PRESSURE IN THE FILTER  
 SHOULD BE SLIGHTLY POSITIVE.

BLOW EXHAUST AWAY FROM ROOF  
 MOUNTED AIR CONDITIONING SYSTEM

ANCHOR LEGS TO THE FLOOR

IN MULTIPLE DRYER APPLICATIONS  
 BACKDRAFT DAMPERS MAY BE NEEDED

DO NOT REDUCE EXHAUST DUCT SIZE

PIPE DRYERS INDIVIDUALLY TO FILTER  
 DUCT VELOCITY MUST BE 2000CFM  
 2500CFM

INSPECT DUCTS REGULARLY

EXHAUST INSPECTION DOOR  
 ALSO PROVIDE CLEANOUTS  
 IN HORIZONTAL DUCTS  
 MUST BE AIR TIGHT

FLEX CONNECTOR OR LINT BAG  
 MUST FIT TIGHTLY(MINIMIZE LEAKAGE)

energenics CORPORATION  
 1470 Don Street  
 Naples, Florida 33942-3366  
 PH 813-643-1711  
 FAX 813-643-6081  
 USA 800-944-1711

	NAME	DATE
DRAWN BY:	T. Morgan	7-98
ENGINEER:		
QUALITY		
MANUFACTURING		

TITLE INSTALLATION SHEET METAL  
 FOR IN LINE FILTERS

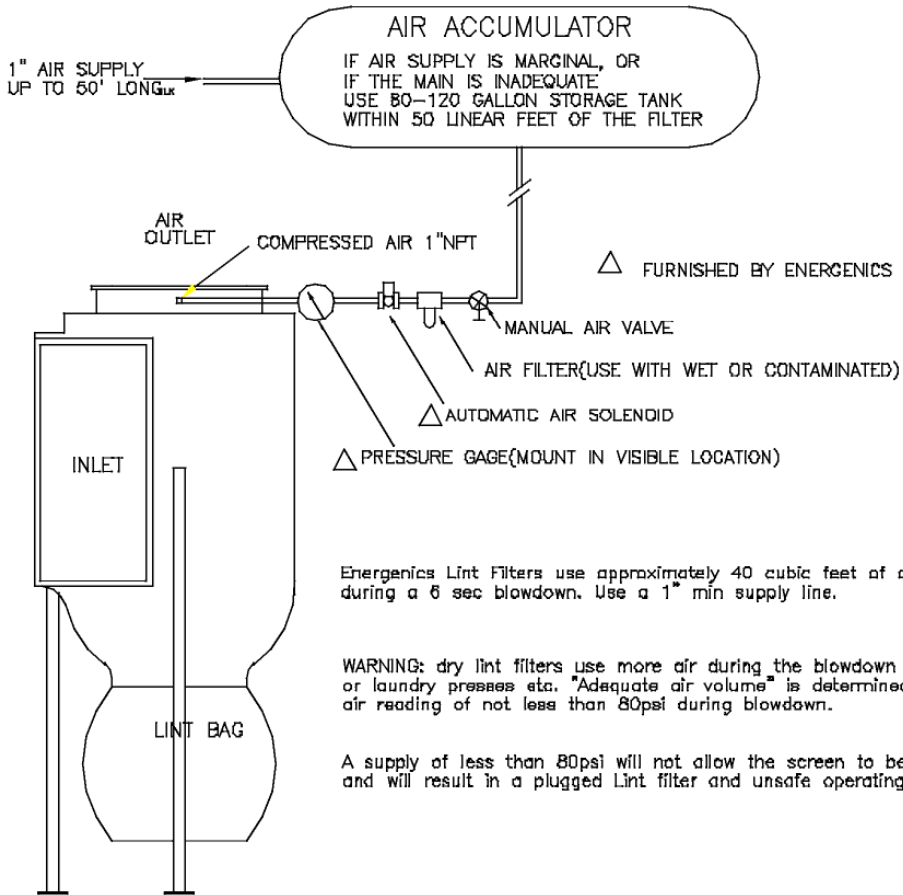
DRAWING NUMBER 9801.1

CAD FILE FRP-10

REV

# COMPRESSED AIR REQUIREMENTS

AIR SHOULD BE SUPPLIED TO THE FILTER AT 100psi  
AND SHOULD NOT DROP BELOW 80psi AFTER THE 6 sec blowdown



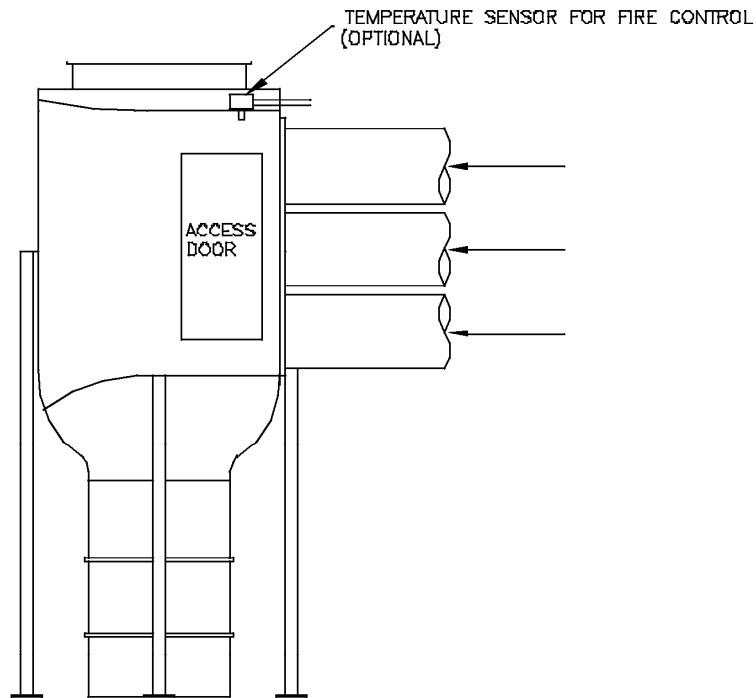
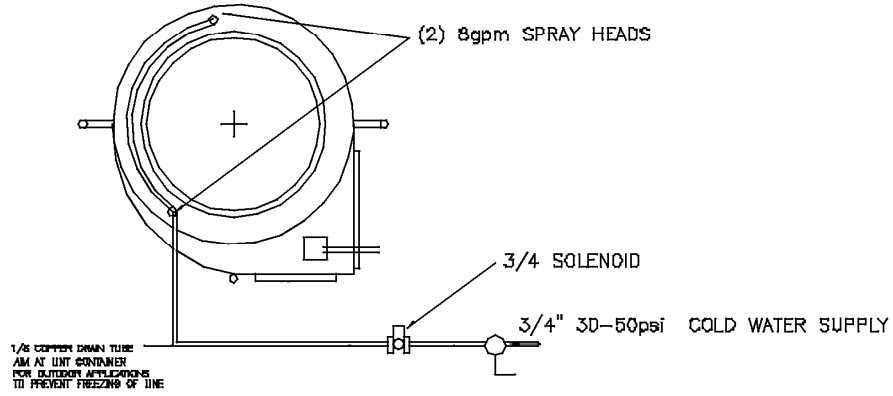
Energenics Lint Filters use approximately 40 cubic feet of compressed air at 100psi during a 6 sec blowdown. Use a 1" min supply line.

WARNING: dry lint filters use more air during the blowdown than washers or laundry presses etc. "Adequate air volume" is determined by a compressed air reading of not less than 80psi during blowdown.

A supply of less than 80psi will not allow the screen to be cleaned automatically and will result in a plugged Lint filter and unsafe operating conditions.

			energenics CORPORATION 1470 Dorr Street Naples, Florida 33942-3388 PH 813-843-1711 FAX 813-843-8081 USA 800-844-1711	
	NAME	DATE	TITLE COMPRESSED AIR REQUIREMENTS CAD FILE FRP-10 DRAWING NUMBER 9801.2 REV	
DRAWN BY:	E. Morgan	7-98		
ENGINEER:				
QUALITY				
MANUFACTURING:				

# PLUMBING FOR FIRE SUPPRESSION OPTION 41



energenics CORPORATION

147D Den Street  
Naples, Florida 34102-3388

PH 813-843-1711  
FAX 813-843-8081  
USA 800-844-1711

	NAME	DATE
DRAWN BY:	<i>S. Morgan</i>	7-98
ENGINEER:		
QUALITY		
MANUFACTURING:		

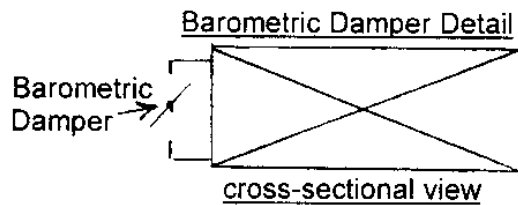
TITLE	FIRE SUPPRESSION WATER SYSTEM CAD FILE FRP-10
DRAWING NUMBER	9801.3
REV	

**PROPER APPLICATION OF LINT FILTER ON SMALL DRYERS WITH BOOSTER FANS**

**Introduction:** Sets of 35lb. /150lb. Dryers are normally installed with only the lint drawer underneath the dryer, which does not collect all of the lint. The lint which bypasses the drawer collects in the ductwork and becomes a fire hazard. This hazard can be eliminated by adding an Energenics Lint Filter as shown below, with a booster-blower to overcome the resistance of the long ductwork and barometric dampers to relieve any vacuum inside the lint Filter.

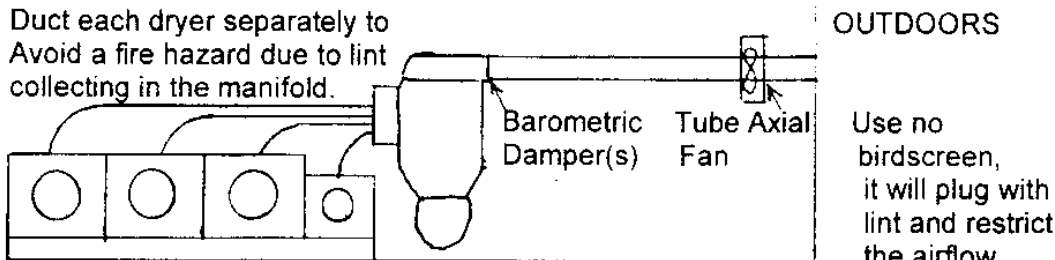
**Application:** Provide a booster fan if the ductwork is excessive. Balance the airflow through the systems with all dryers running (i.e. slight positive pressure on the outlet of the lint filter). This will allow the rated airflow through each dryer and each dryer will run well (one can measure the actual airflow with a pitot tube, if necessary). This will allow the dryers to work as designed and the lint to fall off the lint screen, as designed.

<u>Number Of Dryers "on"</u>	<u>static pressure on Lint Filter inlet</u>
4	+
3	+
2	+
1	0
	(never negative)



boss to keep damper from opening into the airstream

Duct each dryer separately to Avoid a fire hazard due to lint collecting in the manifold.



Several dryers ducted separately To one lint filter

Locate Lint Filter as near as possible to the dryers to collect all the lint before it accumulates in the duct system, to keep the duct system free of lint.

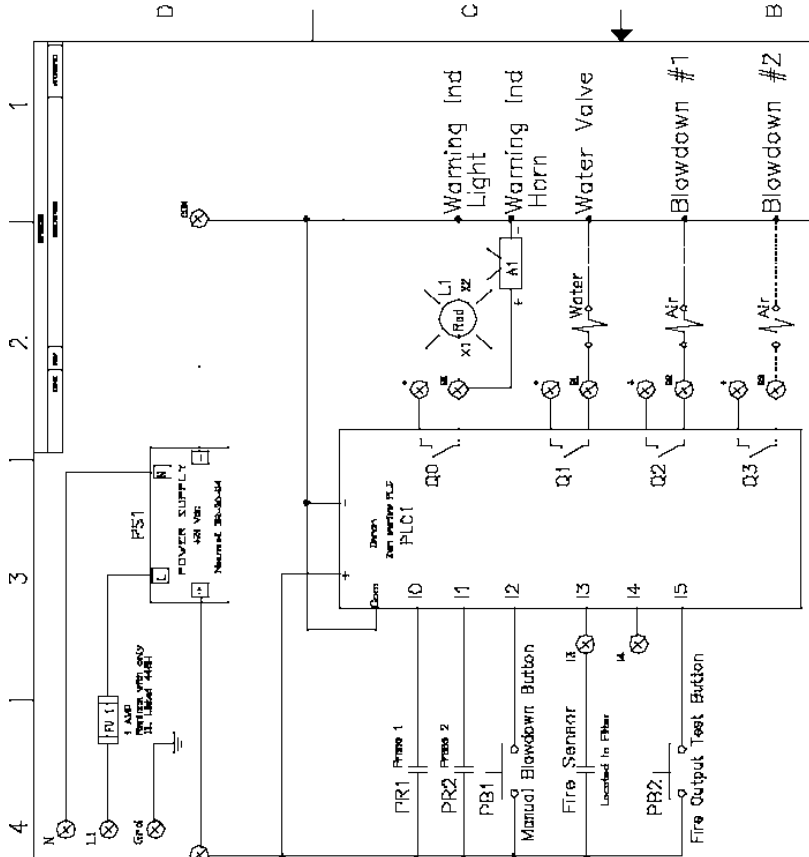
AS BUILT DWG

Branch Circuit Protection  
Provided by Others  
and is mounted external  
to the control panel

CONTROL PANEL BILL OF MATERIAL

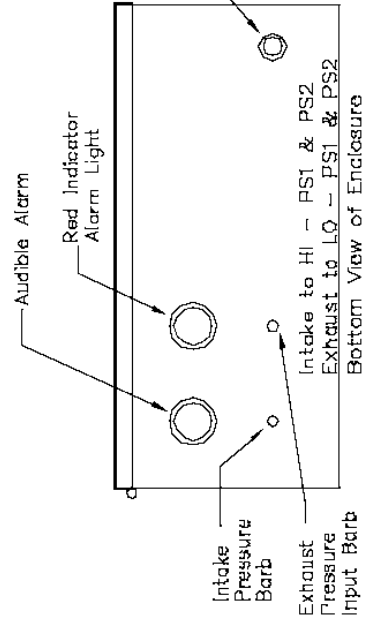
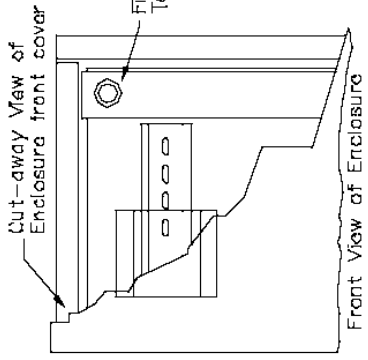
Qty	Part #	Description	Manufacturer
1	12126SM	Enclosure 12X12X6 W/ MODS	Austin
1	ZEN-PLC	ZEN-10C1DR-D-V2	Omron
1	DR-30-24	Power supply	Meanwell
16	3004362	LUKEN TERMINAL BLOCK	Phoenix
3	3003020	END COVER	Phoenix
4	0800886	END STOP	Phoenix
1	0441504	USLKG5 GROUND BLOCK	Phoenix
2	1061003	LUKEN blank marker strips	Phoenix
1	0202250	FAIRING Slumber bridge	Phoenix
0-33	0801733	DIN RAIL NS357.5 (2 METER LENGTH)	Phoenix
1	3004171	Fuseholder	Phoenix
3	T1-1010-G	WIREFWAY 2 OH X1.5W (6 FT LENGTH)	ibeco
1	B13E-24Vdc	Audible alarm	Sigma works
1	KL3BRDR-D2S	30MM 24VDC RED PILOT LIGHT	Sigma works
2	MDA-111	Pressure Transducer	Dwyer Inst
2	5403K333	T1-Hose barb 1/8"	Master Carr
2	EG 2021-ND	Momentary Switch	Mcm-Co
2	1/4 BK-3	1/8" thru panel hose barb fitting with hardware	Mcm-Co
2	SMB18A	Pressure Transducer mtd bracket	Banner

NOTE:  
FIELD WIRING TERMINALS  
USE COPPER, 60 DEG C MINIMUM WIRE  
TORQUE ALL FIELD WIRING TERMINALS  
TO 7 IN-LBS

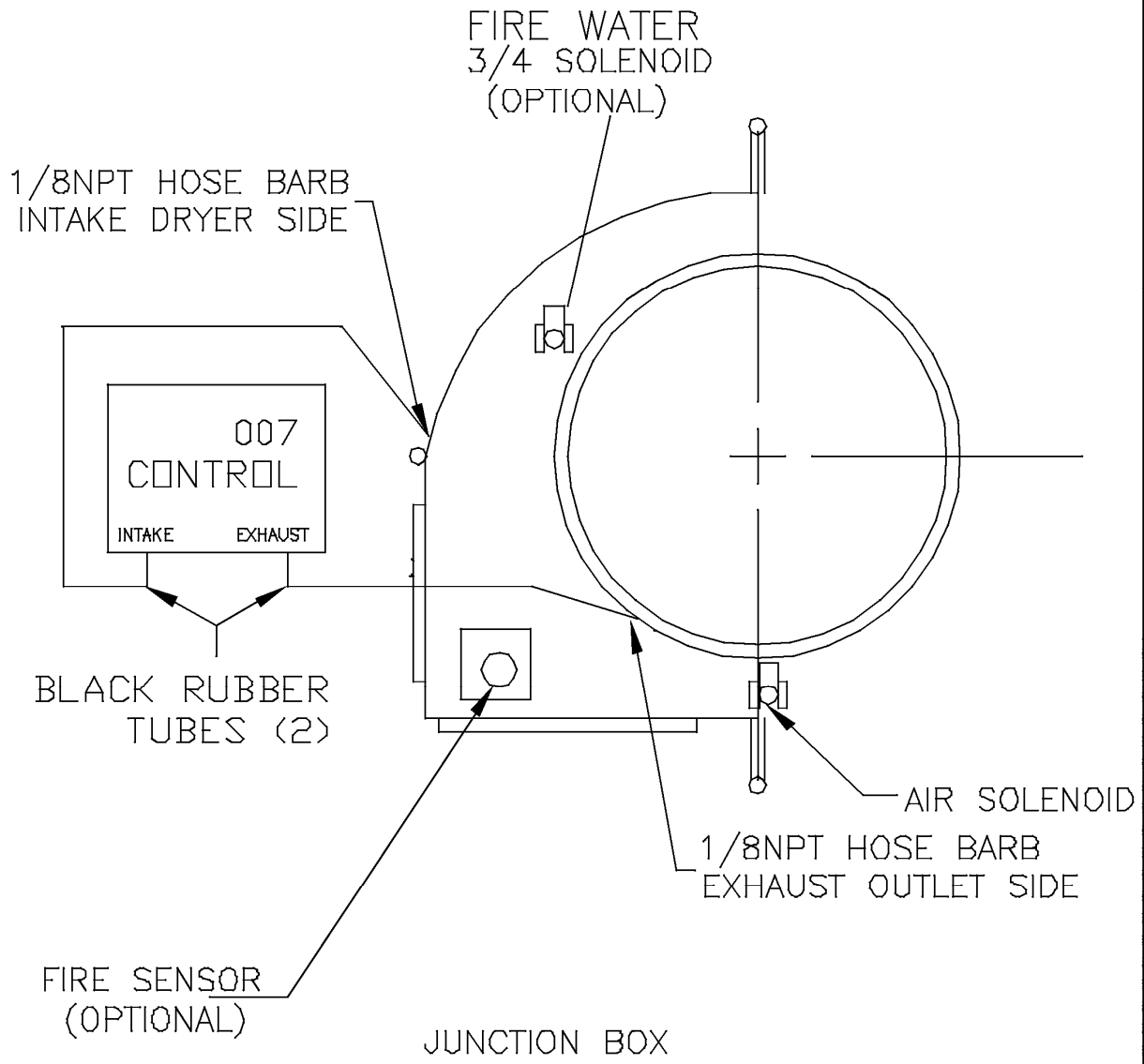


ISC  
Integrated Systems & Controls, Inc.  
Panel built by ISC, Inc.  
Voltage - 120vac 1-phase  
Total FLA - 1 amp  
Frequency - 60Hz  
Type 1

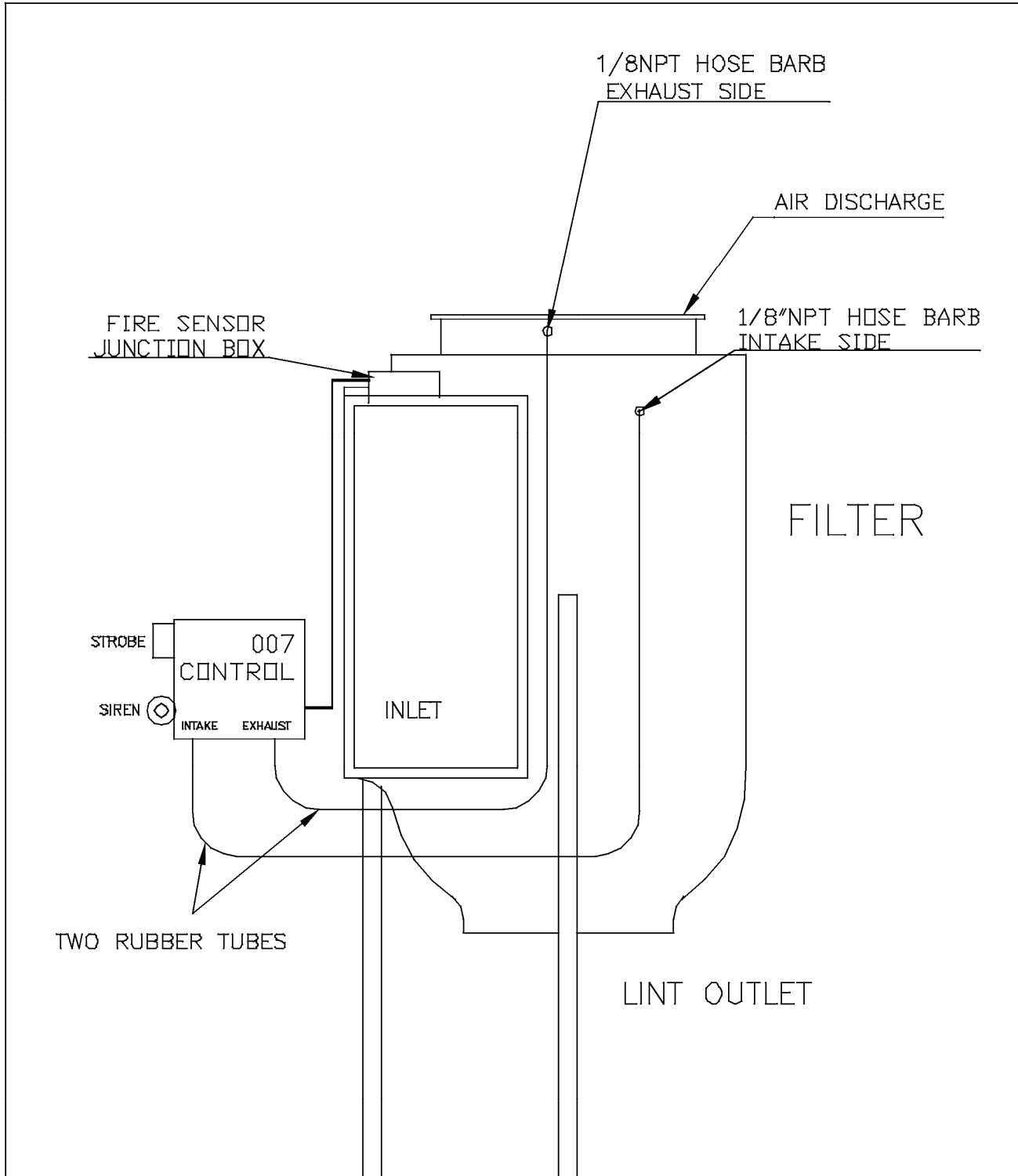
Energencies Inc.  
Filter Control Panel  
ELECT PANEL SCHEDULE 120 volt  
ENER-F-0001C  
PAGE 1 OF 1



# CONNECTION REQUIREMENT



			ENERGENICS CORPORATION	
			1470 Don Street Naples Florida 34104	PH (941)643-1711 FAX (941)643-6081 USA (800)944-1711
	NAME	DATE	TITLE	
DRAWN BY:	D. A. 1773	7-07	CONNECTION REQUIREMENT	
ENGINEER:				
QUALITY:				
SCALE:			DRAWING NUMBER	9002.5



			ENERGENICS CORPORATION	
			1470 Don Street Naples Florida 34104	
			PH (941)643-1711 FAX (941)643-6081 USA (800)944-1711	
DRAWN BY:		NAME	DATE	TITLE CONNECTION REQUIREMENT (SIDE VIEW) DRAWING NUMBER 9002.6B
ENGINEER:				
QUALITY:				
SCALE:				

## Maintenance Requirements

The frequency of your maintenance requirements depends upon the number of hours of operation and upon variances in your product output. For a single-shift operation, without special problems, the frequency recommended below should suffice. You should set your own schedule based on your experience.

### 1. WEEKLY

Visually inspect the filter inside and outside, its controls and their operation. At time of such inspection, note and correct any discrepancies from normal operation.

### 2. MONTHLY

Check the static pressure. Disconnect the lower pressure hose, and then use a magnehelic gauge, manometer, or U-tube to measure and record the resistance. This will show the pattern of operation of your system. If pressure exceeds 1 inch W.C., insure the rotor is correctly turning and cleaning the screen.

Watch the air pressure gauge on the filter. Record the drop in pressure during the blow down cycle. A normal pressure is from 100psi at the start to 80psi after six seconds. The minimum pressure is 80psi. Any less will not reliably clean the screen. If the pressure were to fall from 100psi to 40psi, the air supply is inadequate or obstructed.

### 3. QUARTERLY

On filters using fire protection control, carefully test the Fenwall fire sensor accessed through the inspection door. First disconnect the initiator/solenoid leads from the panel and connect a 24 VDC bulb to initiator terminals in the control unit. Heat the Fenwall fire sensor with a heat lamp or other convenient source. When the bulb in the control unit changes state, remove heat source and allow Fenwall fire sensor to cool. Reset control unit. Test lamp must change state and stay changed after system is reset. Do not reconnect initiator/solenoid leads until all Fenwall fire sensors have cooled below set point as indicated by test lamp.

## FILTER SCREEN MAINTENANCE

Chemicals present in the laundry uniforms, shop towels or other linen may eventually clog the filter screen. When this occurs, try the following:

1. Spray with an engine degreaser like GUNK. Allow soaking per the instructions for cleaning an auto engine. Spray clean with water.
2. Operate one dryer without a load to blow hot air through the filter to dry it.
3. Restart the dryer. Operation should be perfectly normal. It should not be necessary to replace the screen unless it is punctured.