



Automated Fuel Maintenance System

The ACS Fuel Maintenance System (part number FMS-4.3) is a fully automated, stand-alone, self-contained system designed for tanks up to 8,000 gallons. It cleans and reconditions stored fuels, eliminating the problems associated with the water, sludge and other contaminants that develop in fuel storage tanks over time. The system's automatic cleaning program will provide a constant clean fuel supply that will assure the reliable operation of your emergency power utility whenever it is needed.

The FMS-4.3, operated by LCD backlit display controller, will periodically circulate your stored fuel through a Racor fuel/water separator to remove water and particulate contaminants. It will keep your stored fuel in clean, like new condition, preventing clogged engine filters, injection system repairs and the need for periodic fuel replacement or tank cleaning due to fuel contamination and the resulting degradation.

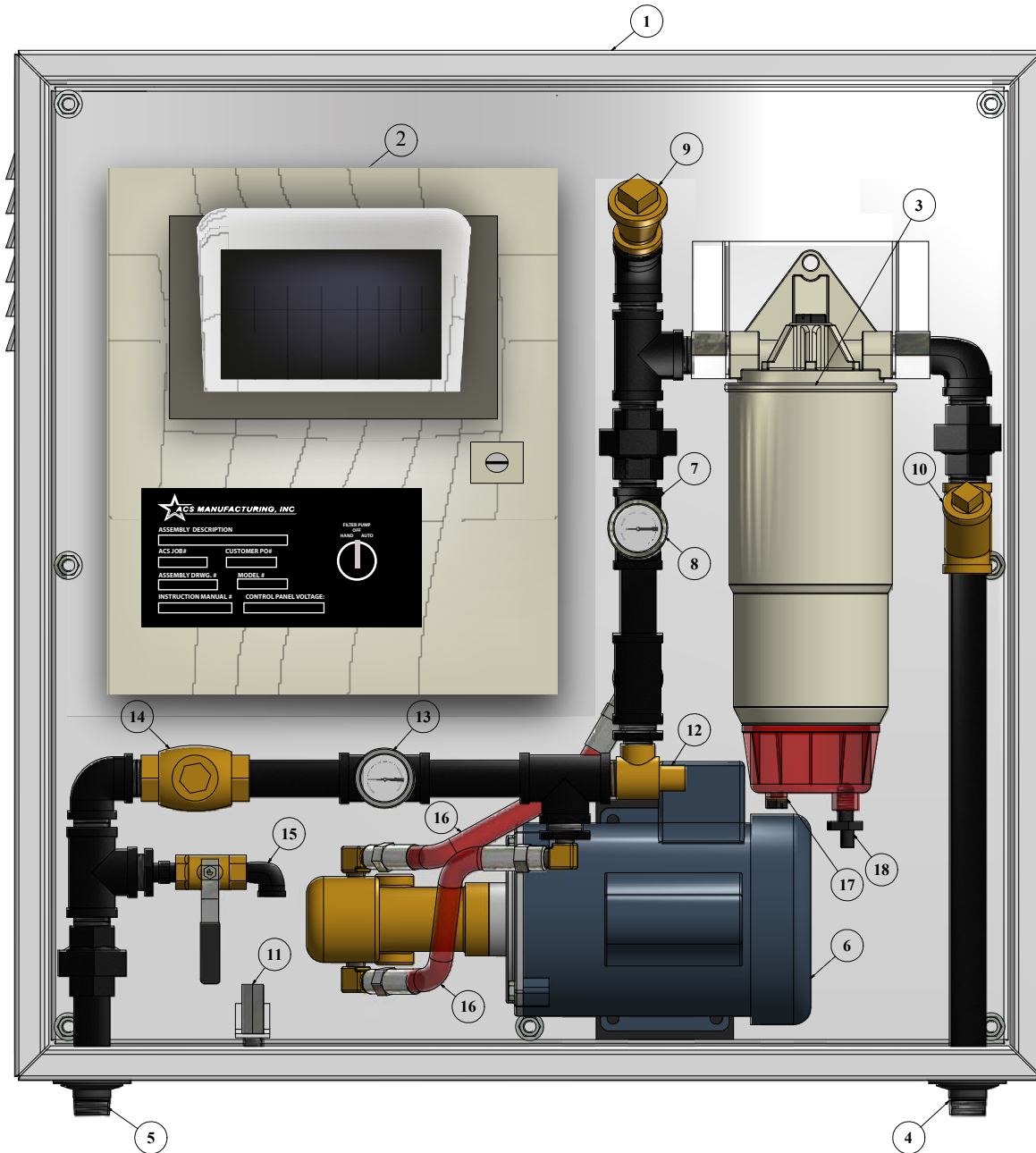
The system is fully monitored and alarmed for safety. Alarms can be sounded at the unit or communicated off site via an optional MODBUS (RS 485) serial and Ethernet TCP/IP connection. Two (2) dry contacts for pump running and common alarm are available for customer use. The system will alarm and can be shut down automatically for any or all of the following conditions:

1. Hi-vacuum at the primary filter, indicating a filter change out is needed
2. Hi-water in the separator, indicating the need for it to be drained.
3. Equipped with an in-cabinet drip tray, a leak detector in the tray will sound an alarm and shut the system down on detection of any liquid, which may indicate an internal system leak.

Incoming power requirements: 120 VAC, 1 Phase, 20 Amp Circuit

Additional Features:

- UL 508A Labeled Control Panel
- Push button emergency stop located on the outside of the cabinet (remote mount is optional)
- 3 Position selector switch, Pump-Hand / Off / Auto
- Control logic short circuit protection, 1 A / 1-Pole



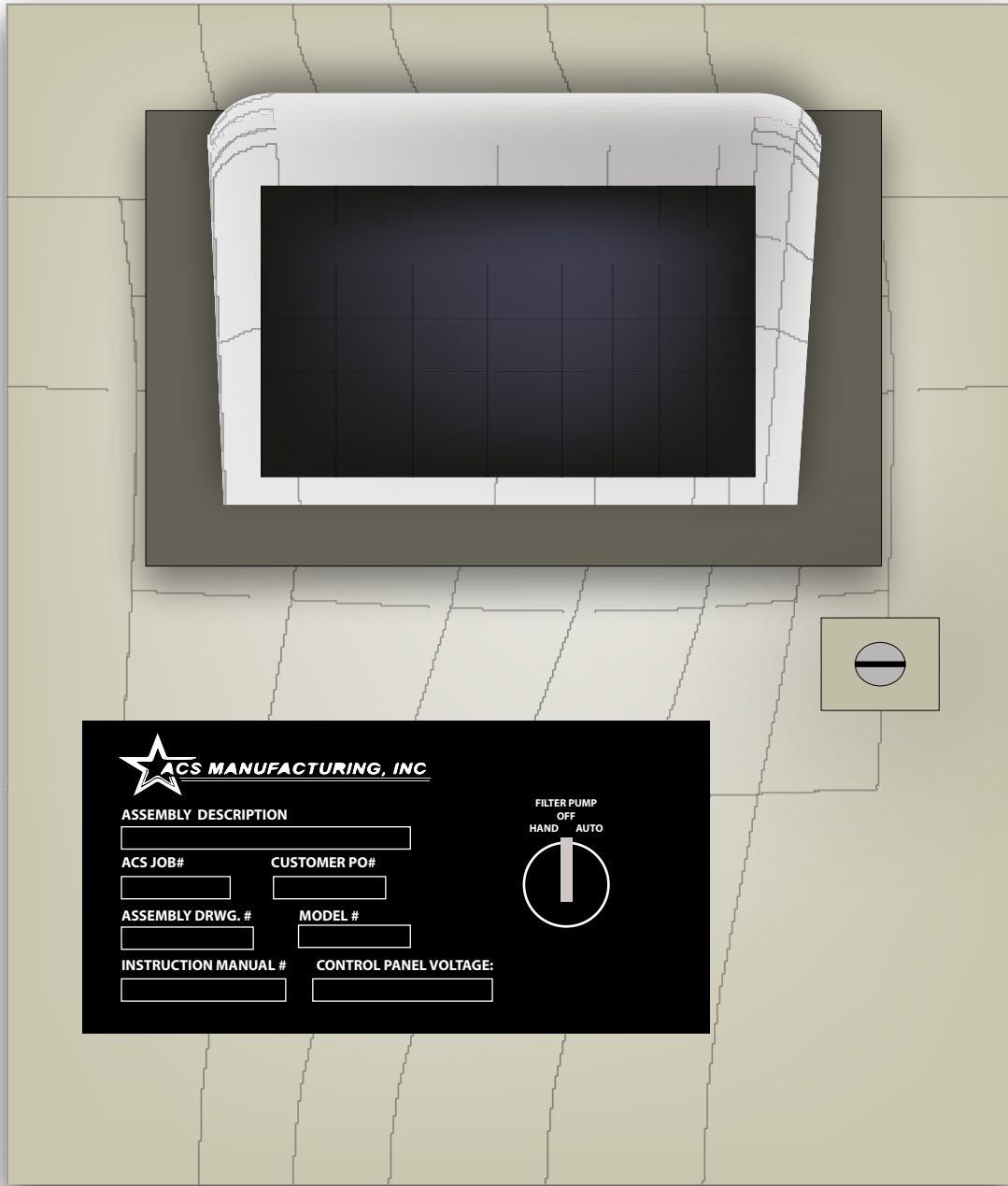
PARTS LIST	
ITEM	DESCRIPTION
1	CABINET NEMA 3R - 30" X 30" X 12"
2	FUEL MAINTENANCE CONTROLLER - (U.L. 508A)
3	FUEL WATER SEPARATOR WITH 10 MICRON FILTER
4	FUEL IN - 3/4" MNPT
5	FUEL OUT - 3/4" MNPT
6	1/3 H.P. - 4 G.P.M. PUMP
7	VACUUM GAUGE
8	VACUUM SWITCH
9	1" PRIMING PORT
10	"Y" STRAINER
11	LEAK DETECTOR
12	PRESSURE RELIEF VALVE
13	PRESSURE GAUGE
14	CHECK VALVE
15	FUEL TEST SAMPLE PORT W/ BALL VALVE
16	FLEX HOSE
17	WATER SENSOR
18	WATER DRAIN

FILTRATION STAGES	
LEVEL	DESCRIPTION
1	80 MESH STRAINER
2	WATER REMOVAL
3	PARTICULATE REMOVAL

CABINET PAINT SPECIFICATIONS	
COLOR	DESCRIPTION
	WASH & PHOSPHATE UNDERCOAT
WHITE	POLYESTER POWDER FINISH INSIDE
WHITE	POLYESTER POWDER FINISH OUTSIDE

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TITLE: ACS - FMS - 4.3		DATE: 6/25/10
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U.L. 508 CONTROL CABINET ENCLOSES THE FOLLOWING
DESCRIPTION
INCORPORATED LCD SCREEN INCLUDING PLC
PROMMABLE 7 DAY CONTROLLER
POWER SUPPLY
MOTOR CONTACTOR (NEMA SIZE 1) AND MOTOR OVERLOAD RELAY
TERMINAL BLOCKS
LOCKABLE DISCONNECT SWITCH
GENERAL / COMMON ALARM AND PUMP RUNNING FORM "C" DRY CONTACTS AVAILABLE FOR CUSTOMER USE
OPTIONAL MODBUS (RS 485) SERIAL AND ETHERNET TCP/IP CONNECTION

THE FOLLOWING DEVICES ARE LOCATED ON THE OUTSIDE OF THE CABINET
DESCRIPTION
"ON-OFF" AUTO SELECTOR SWITCH
PIEZOELECTRIC ALARM HORN
ALARM LIGHTS - HIGH VACUUM, HIGH WATER, HIGH PRESSURE, & LEAK DETECTED
LIGHTED PUSH BUTTON EMERGENCY STOP
LOCKABLE DISCONNECT SWITCH

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ASSEMBLY DESCRIPTION

ACS JOB# CUSTOMER PO#

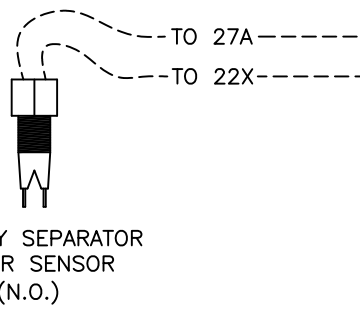
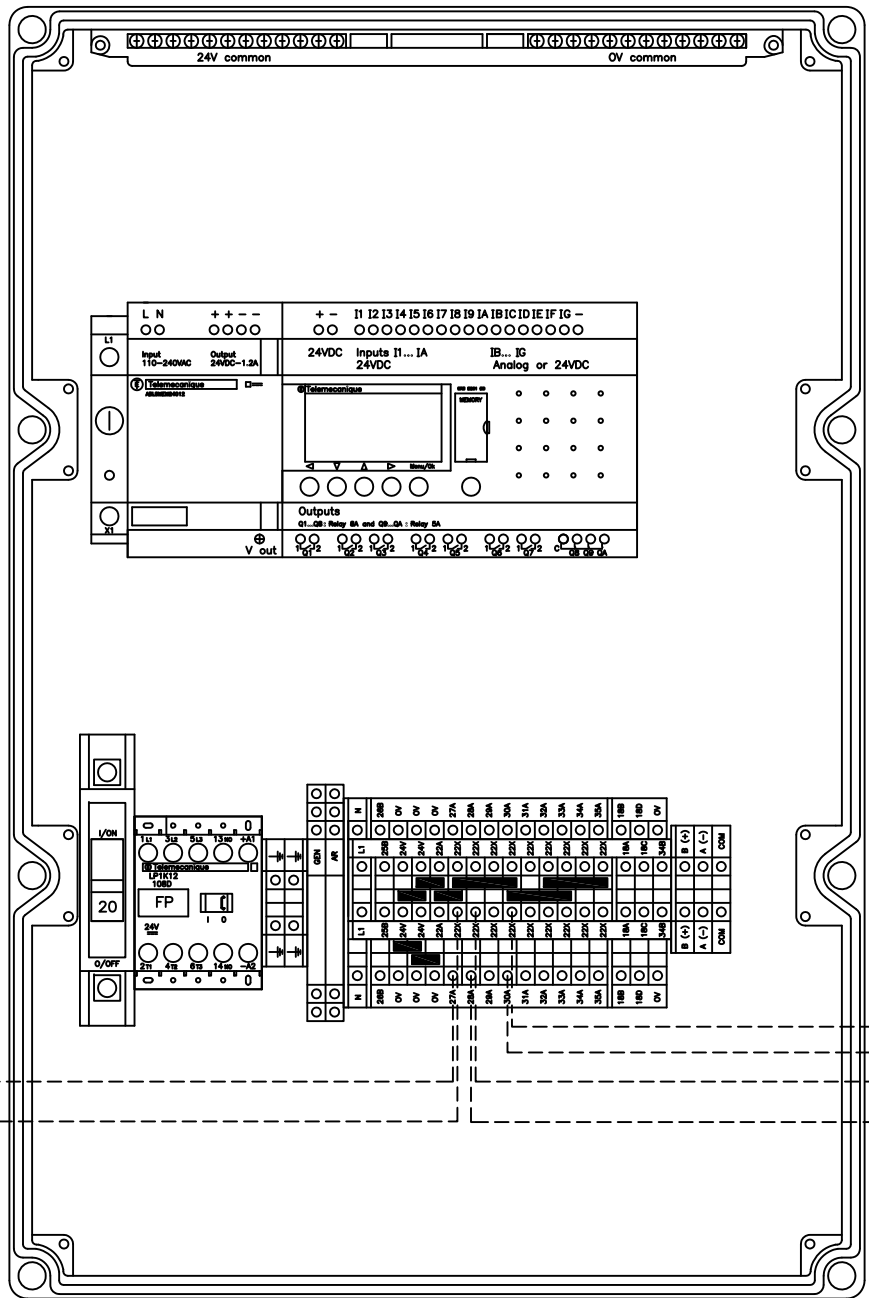
ASSEMBLY DRWG. # MODEL #

INSTRUCTION MANUAL # CONTROL PANEL VOLTAGE:

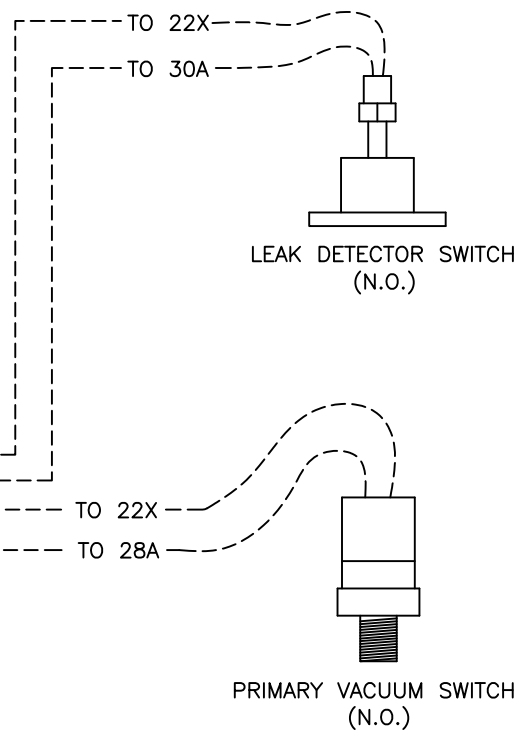
FILTER PUMP
 OFF
 HAND AUTO

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REV	ECO NUMBER	DESCRIPTION	BY	APPD	DATE	DATE	3 of 6




PRIMARY SEPARATOR
WATER SENSOR
(N.O.)



LEAK DETECTOR SWITCH
(N.O.)

PRIMARY VACUUM SWITCH
(N.O.)

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ACS MANUFACTURING, INC. DENSON, TEXAS		6/25/10
SENSOR WIRING SCHEMATIC		ACS-FMS 4.3
6/25/10		6 6