

Installation Manual



Automated Fuel Maintenance System

FTI-5A



FUEL TECHNOLOGIES INTERNATIONAL LLC

Replacement Manuals Available on Website: www.fueltechnologiesinternational.com

Installation

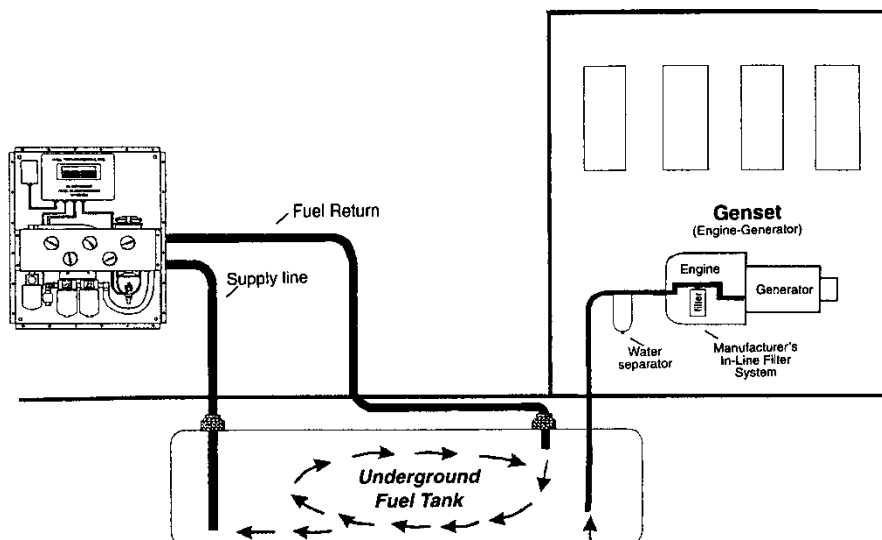
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OVERVIEW

1. The complete automated diesel fuel maintenance system with cabinet shall be designed for wall or pedestal mounting
 - a. The **supply** or suction line shall be installed at the **sump**, or low end of the Diesel Fuel storage tank, with a **Foot Valve**, 1" from the bottom.
 - b. The return line to be installed to the opposite end of the storage tank.
 - c. The return line shall be installed to the opposite end of the storage tank.
 - d. Caution should be taken **not to exceed the 15-ft. lift** capability of the fuel circulation pump. Should vertical suction lift exceed 15 ft., the circulation pump in the FTI cabinet will be removed.
 - e. The installer will provide & install a submersible pump. The pump voltage must match the FTI control panel voltage as ordered.
 - f. Submersible pump will be wired to the FTI control panel.
 - g. A flow control valve and a flow meter (included) will be installed in the FTI cabinet to adjust the flow to 5 GPM.
(Low Flow will be monitored by the low set point on the pressure switch gauge)
2. Stabilizer to be added to the existing fuel tank, and proportionally when additional fuel is added to the storage tank.
3. .Biocide to be added to stored diesel fuel annually.
4. **System Inlet Connection: 3/4" NPT**
5. **System Outlet Connection: 3/4" NPT**
6. **Minimum Suggested Supply Line Pipe Size: 1"**

HOW IT WORKS



INSTALLATION NOTES

1. FTI systems operate on either above ground or underground tanks. Any installation should be completed by a qualified plumbing contractor and qualified electrician.
2. Wall mount or pedestal mount should be bolted into place.
3. 120V AC, Single Phase, 20 Amp. Power supply must be available at system location.
4. A Disconnect switch is provided on the FTI control panel for power shut off.
5. Pipe plugs were installed in the supply and return line for shipping purposes only, and must be removed prior to installation.
6. Holes will need to be added in cabinet for electrical, Fuel supply line, and Fuel return line.
7. All FTI models are factory tested using lightweight oil. Some of this fluid may remain in the unit. It will not interfere with the performance of the system.
8. On initial start up, if the system does not fill with fluid, the pump may require priming.
(see priming port location on next page)

INSTALLATION PRECAUTIONS:

IF POWER TO THE FTI CONTROL PANEL IS TO BE TURNED OFF AFTER IT IS INSTALLED, THEN THE INSTALLER SHALL PROVIDE FOR THERMAL EXPANSION PROTECTION.

ALL MANUAL BALL VALVES SHALL REMAIN OPEN. THIS WILL ALLOW FUEL THERMAL EXPANSION TO FLOW BACK TO THE FUEL TANK.

THE FTI CONTROL PANEL WILL AUTOMATICALLY OPEN ALL ELECTRICALLY CONNECTED VALVES WHEN THE FTI PRESSURE SWITCH GAUGE REACHES 45 PSI. THIS WILL OPEN AND CLOSE ALL TANK VALVES FOR 15 SECONDS ONE TANK AT A TIME.

THIS FEATURE OPERATES AUTOMATICALLY ONLY WHEN POWER IS ON AND THE CONTROL PANEL IS SET TO AUTO OR MANUAL OFF MODES.

THE OPENING AND CLOSING OF VALVES WILL ACTIVATE 6 TIMES IN 24 HOURS, AFTER 6 TIMES THE CONTROL PANEL WILL GO INTO OVER PRESSURE ALARM.

THIS IS A PRECAUTION TO ALERT MANAGEMENT THAT YOU HAVE A THERMAL EXPANSION PROBLEM AND IT SHOULD BE ADDRESSED.

FTI WILL NOT BE RESPONSIBLE FOR ANY THERMAL EXPANSION DAMAGE DUE TO EXCESSIVE PRESSURE.

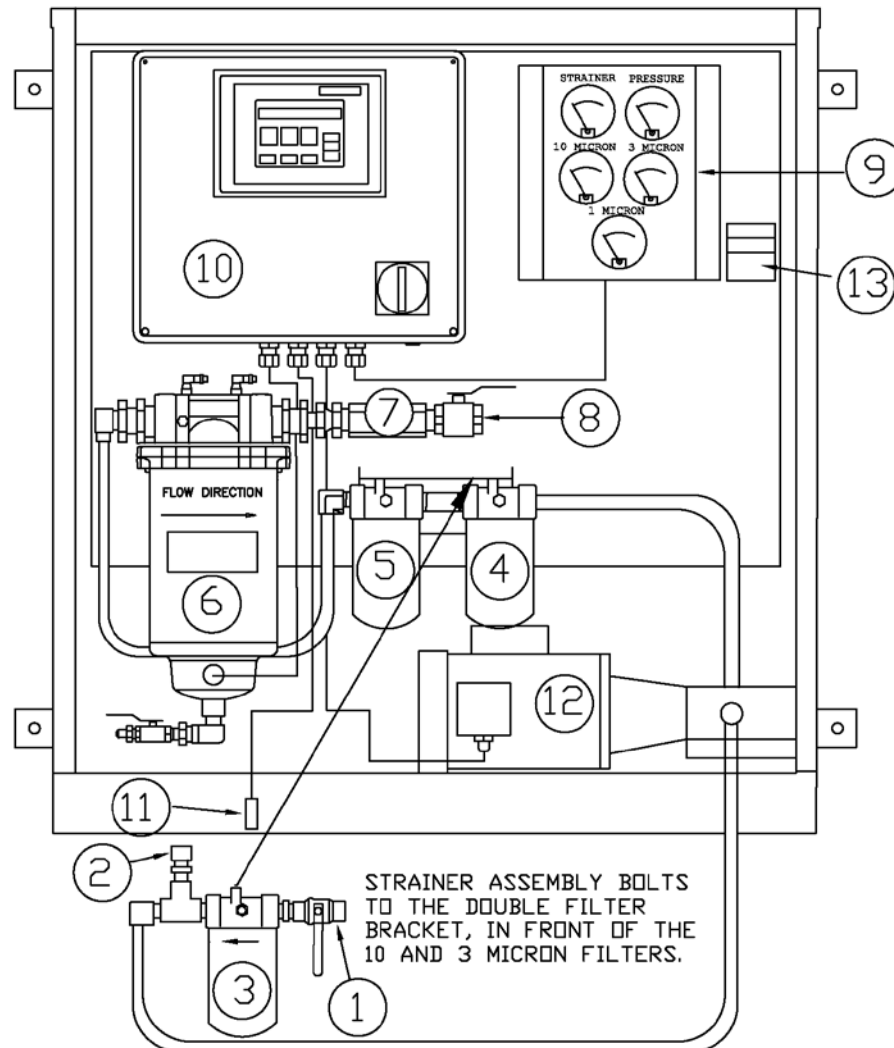
DO NOT RUN LONGER THAN THREE MINUTES WITHOUT FLUIDS

To *prime the pump, close the supply line ball valve and fill with fuel at the priming tee.* Remove the Priming Tee Cap and fill. Restart the system.

For starting system see the Operations Manual

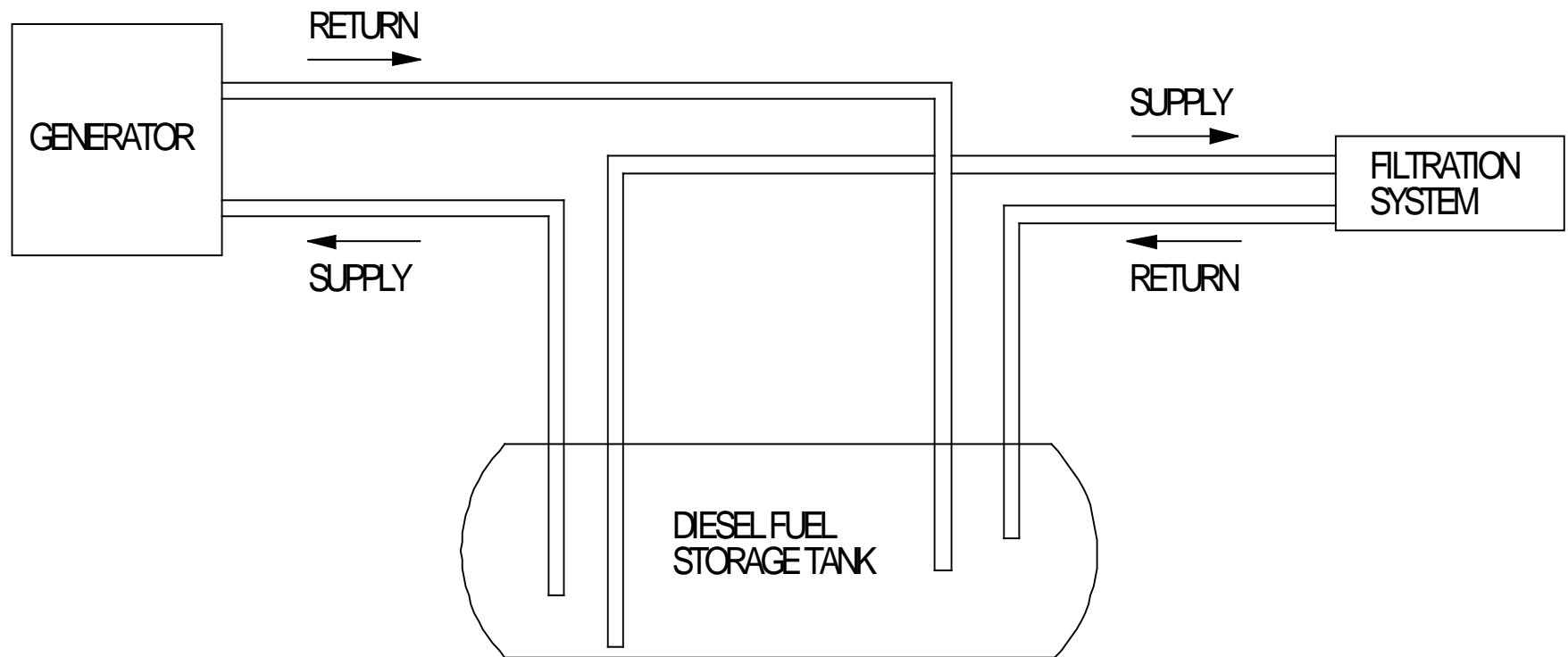
IDENTIFYING PARTS

FT-I-5A



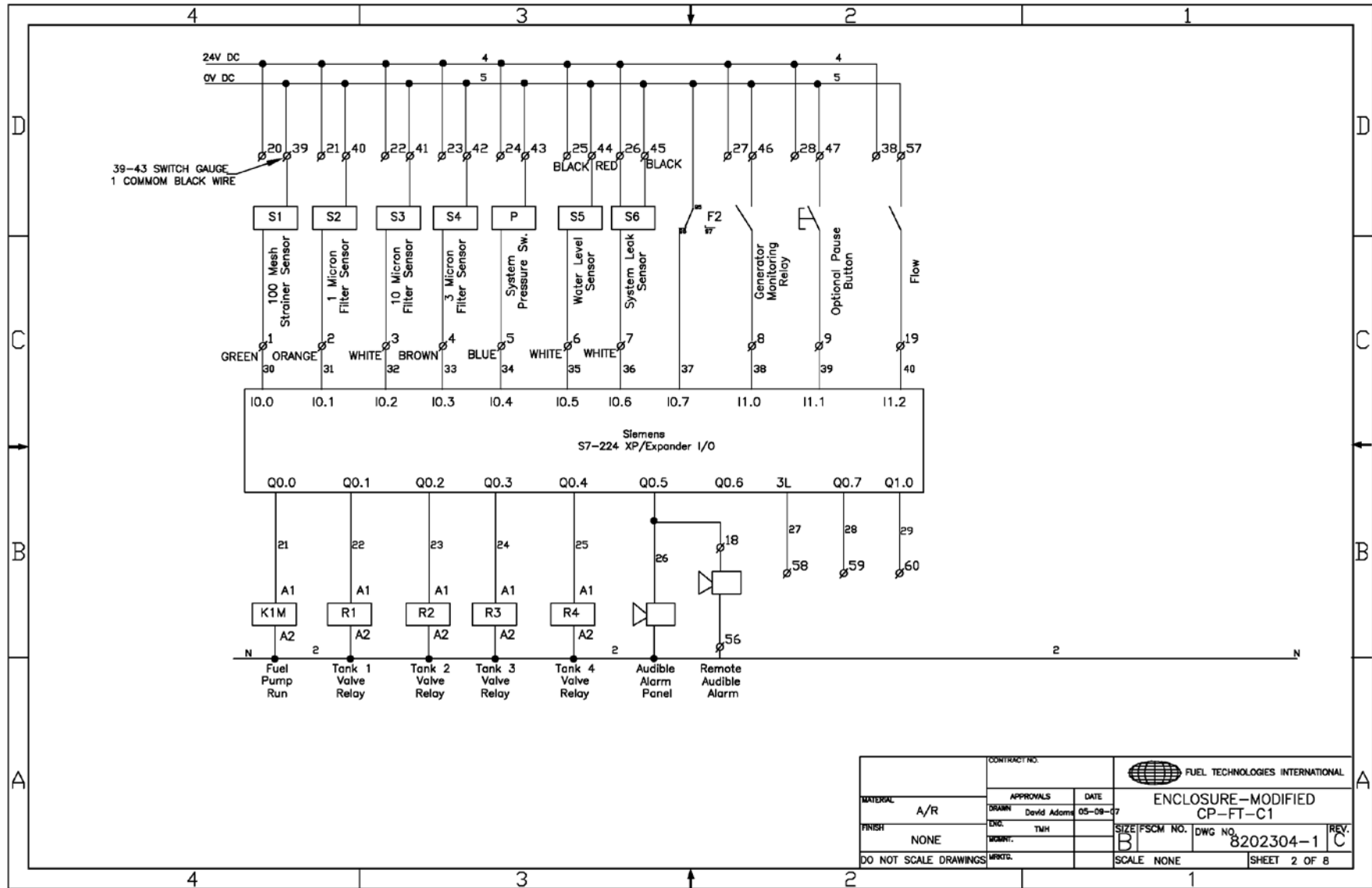
- 1) Supply Line Connection - 3/4" NPT
- 2) Priming Port (Remove Cap and fill with Fuel to prime pump)
- 3) Strainer – Spin on Type with 100 Mesh, 149 Micron Element
- 4) 10 Micron Pre Filter, Spin On Type
- 5) 3 Micron Pre Filter, Spin On Type
- 6) 1 Micron Element and Water Separator
- 7) Site Glass
- 8) Return line Connection – 3/4" NPT
- 9) Switch Gauge Panel
- 10) Controller
- 11) Leak Detector
- 12) Pump / Motor Assembly
- 13) Serial Number, Model Number, FM Approved Tags

PREFERRED STAND ALONE INSTALLATION

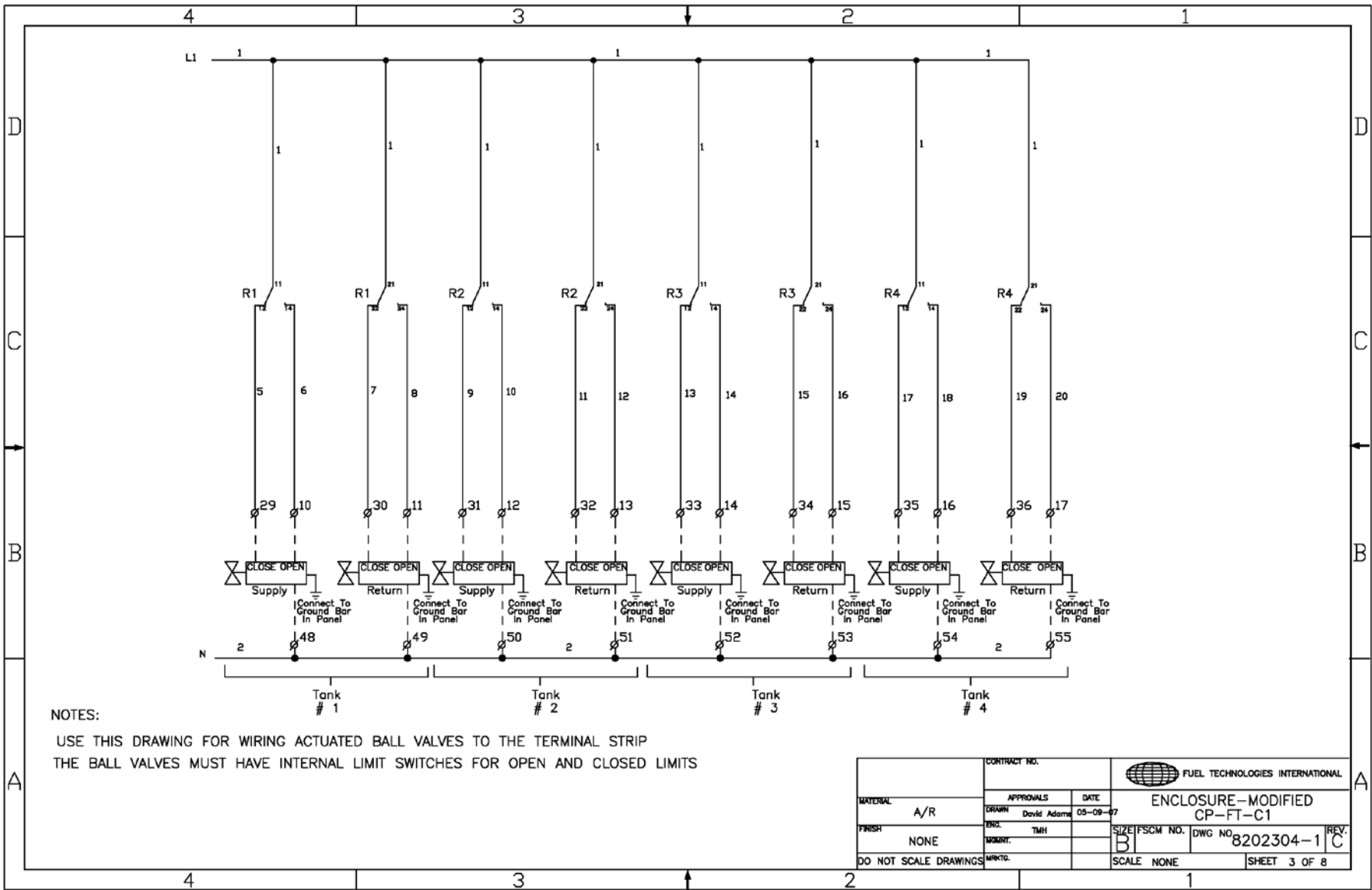


Notes:

1. FTI supply line should be installed 1" from bottom of storage tank, at sump end.
2. A foot valve must be installed on supply line to keep system primed.

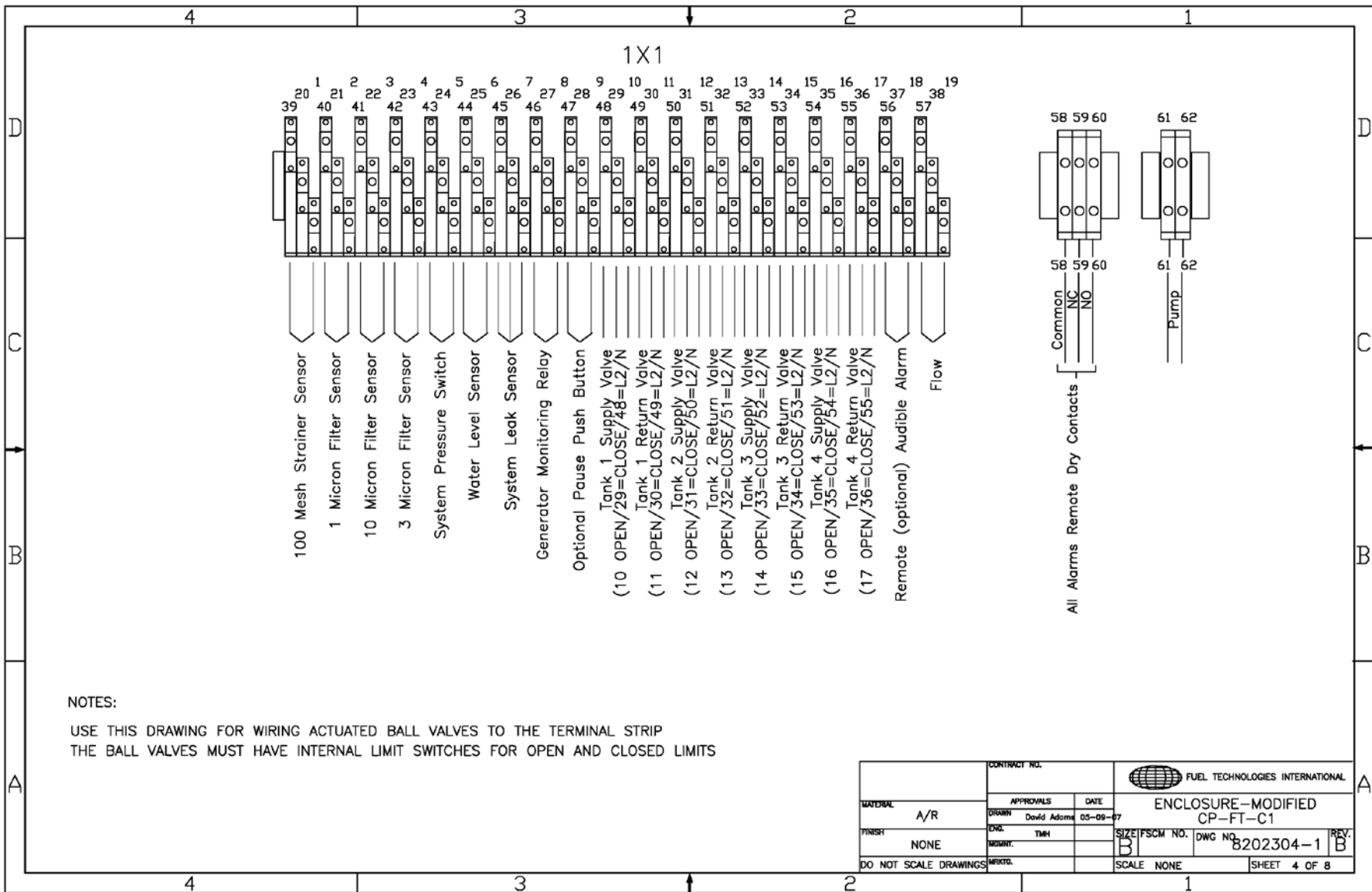


CONTRACT NO.		FUEL TECHNOLOGIES INTERNATIONAL	
MATERIAL	APPROVALS	DATE	ENCLOSURE-MODIFIED
A/R	DRAWN David Adams	05-08-07	CP-FT-C1
FINISH	DRWN: TMH	SIZE/FSCM NO.	DWG NO. 8202304-1
DO NOT SCALE DRAWINGS	DRWN:	SCALE NONE	REV. C
			SHEET 2 OF 8



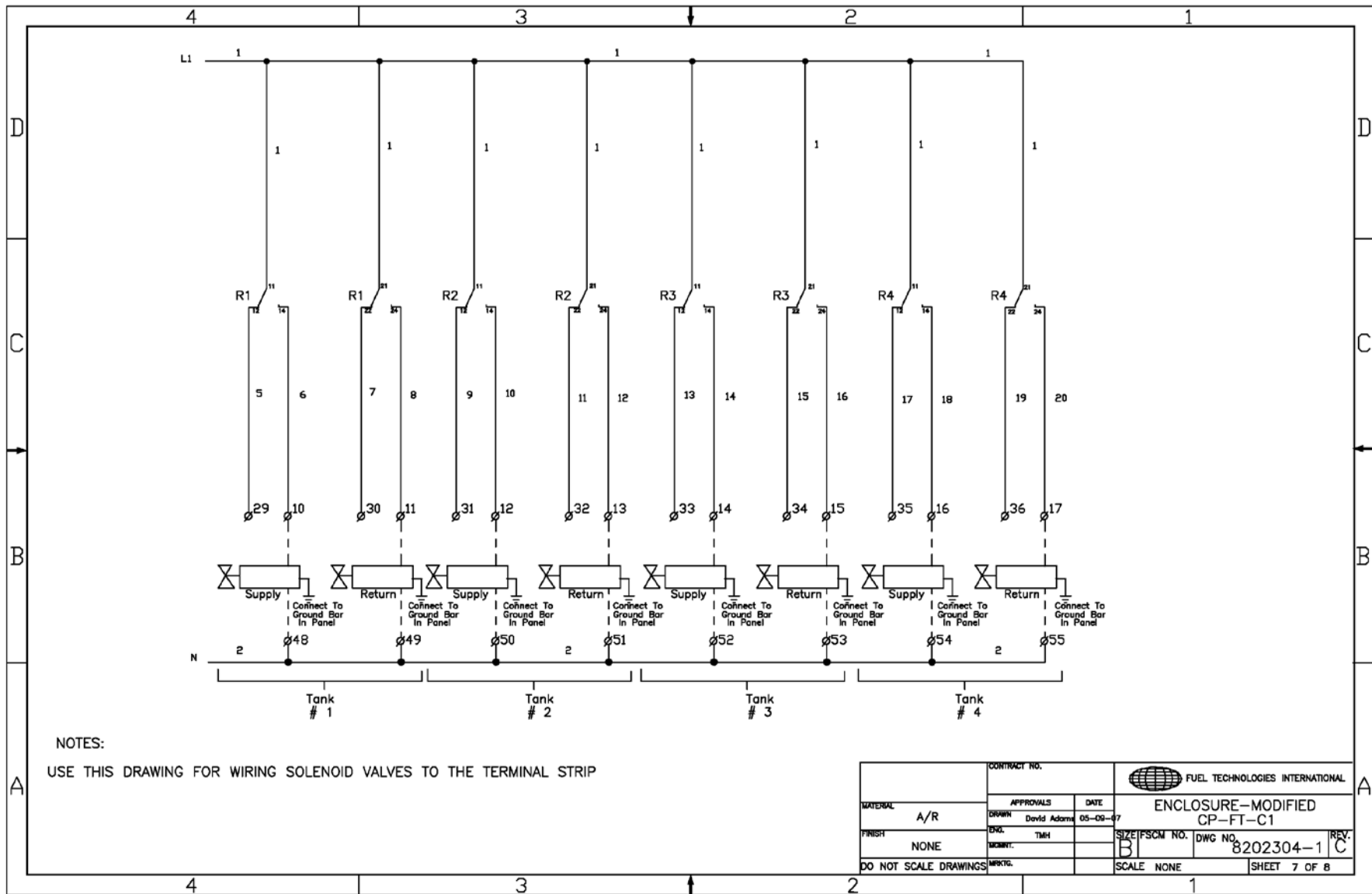
NOTES:
 USE THIS DRAWING FOR WIRING ACTUATED BALL VALVES TO THE TERMINAL STRIP
 THE BALL VALVES MUST HAVE INTERNAL LIMIT SWITCHES FOR OPEN AND CLOSED LIMITS

CONTRACT NO.		FUEL TECHNOLOGIES INTERNATIONAL	
MATERIAL	A/R	APPROVALS	DATE
FINISH	NONE	DRAWN	David Adams 05-09-07
DO NOT SCALE DRAWINGS	MARKTG.	ENCL.	TMH
SCALE NONE		SIZE/FSCM NO.	DWG NO. 8202304-1
SHEET 3 OF 8		REV.	C



NOTES:
 USE THIS DRAWING FOR WIRING ACTUATED BALL VALVES TO THE TERMINAL STRIP
 THE BALL VALVES MUST HAVE INTERNAL LIMIT SWITCHES FOR OPEN AND CLOSED LIMITS

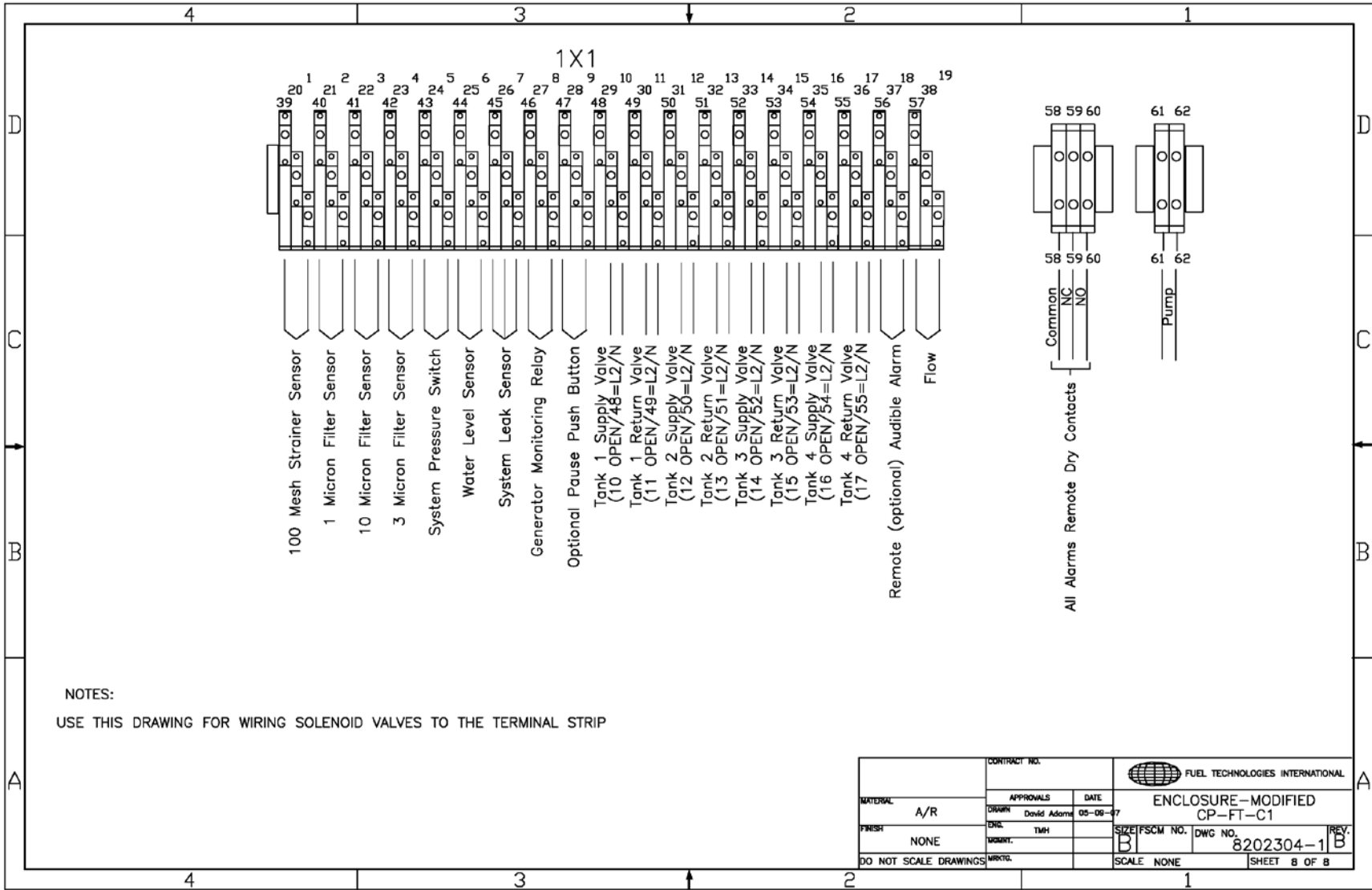
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		INSTR.		SCALE NONE	SHEET 4 OF 8

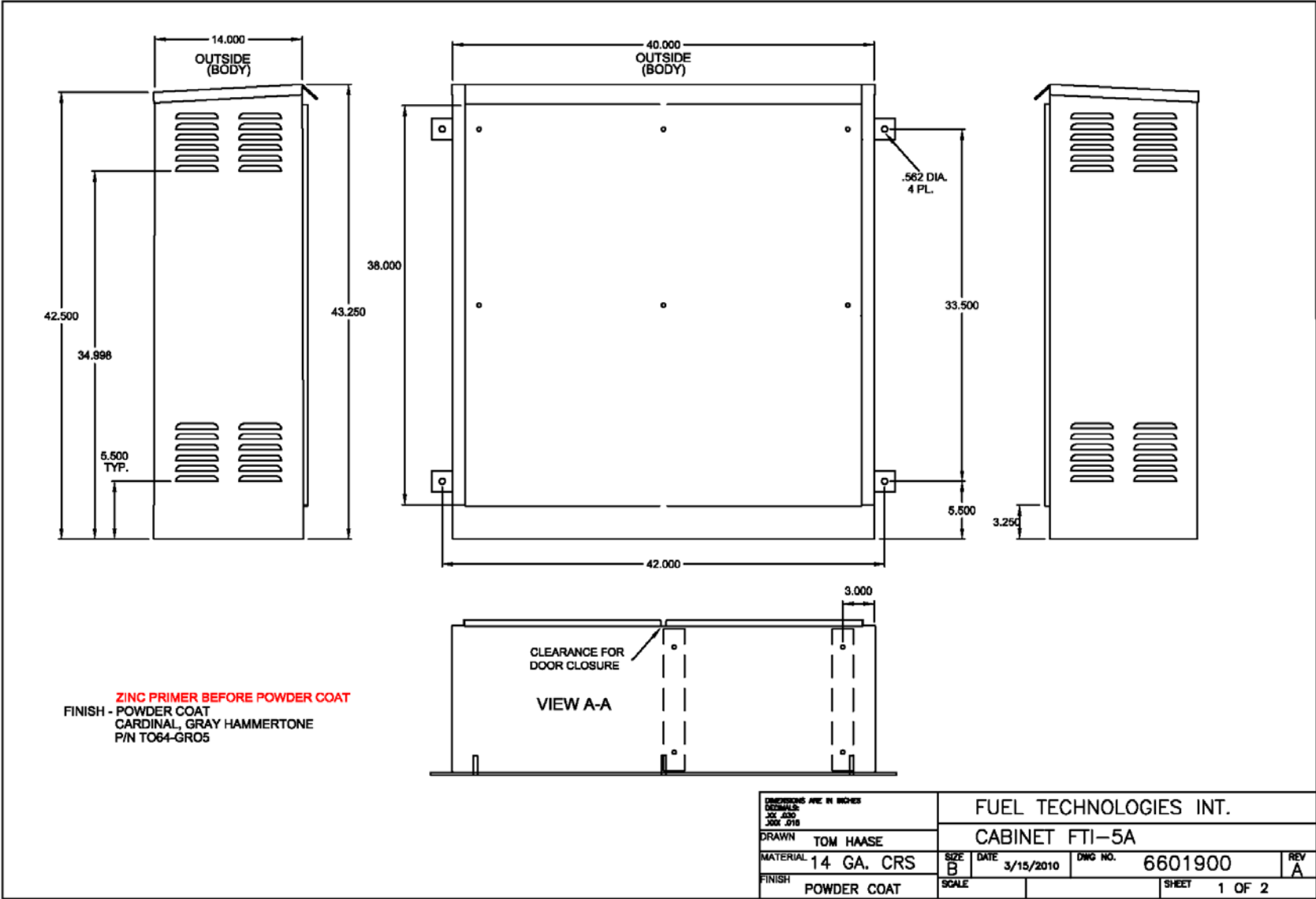


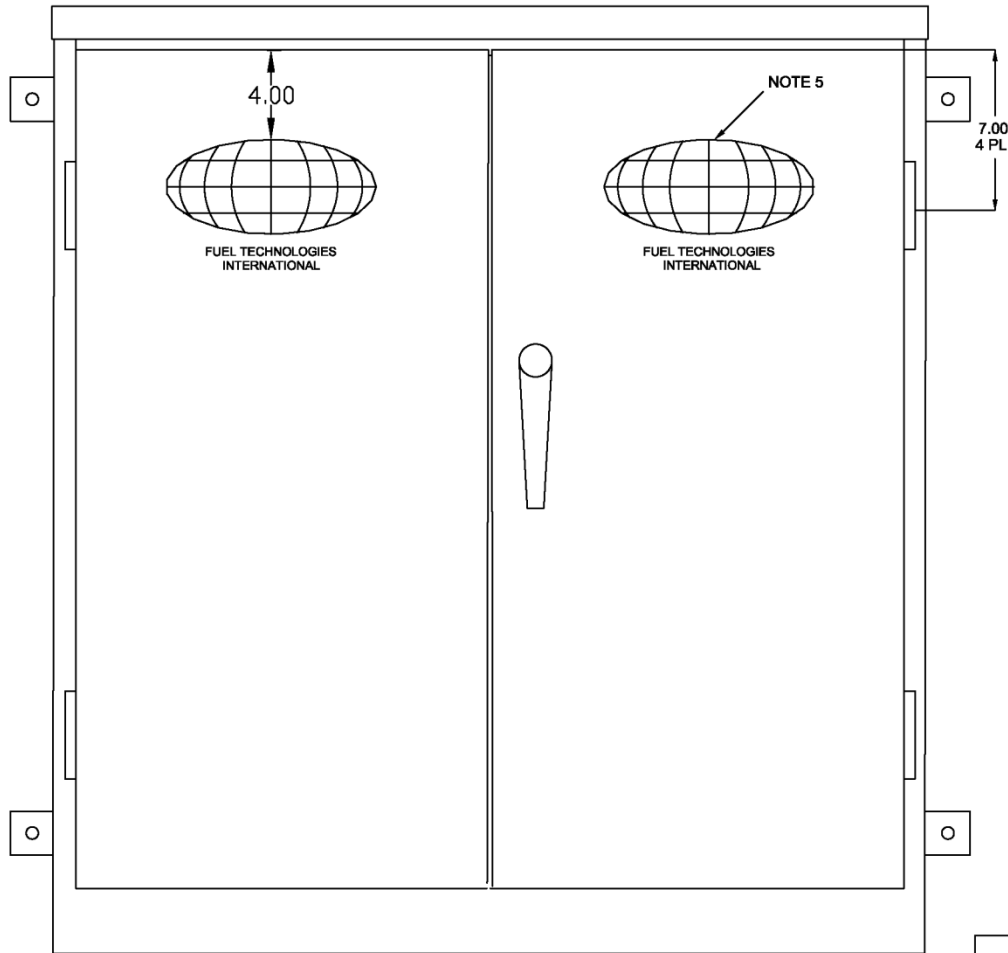
NOTES:

USE THIS DRAWING FOR WIRING SOLENOID VALVES TO THE TERMINAL STRIP

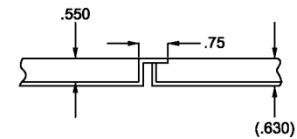
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				SHEET 7 OF 8	



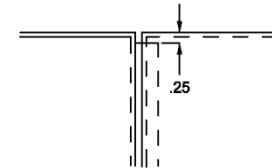




VIEW B-B
2X



DETAIL C
2X



- NOTES:
- 1 FABRICATE 14 GA. CRS DOORS PER DETAILS. INSIDE DIMS. TO CLEAR CAB. LIP .06/SIDE. APPLY NBR WEATHERSTRIP AFTER FINISH
 - 2 HANDLE - STAINLESS, 3 POINT LATCH, PADDLE LOCKABLE.
 - 3 HINGES - STAINLESS, BOLT ON, LIFT OFF
 - 4 FINISH - **ZINC PRIMER BEFORE POWDER COAT**
POWDER COAT
CARDINAL, GRAY HAMMERTONE
P/N T064-GR05
 - 5 SILKSCREEN 2 PL.

		FUEL TECHNOLOGIES INT.			
		CABINET FTI-5A			
DRAWN	TOM HAASE	SIZE	DATE	DWG NO.	REV
MATERIAL	14GA	B	3/15/2010	6601900	A
FINISH	POWDER COAT	SCALE	NTS	SHEET	2 OF 2