



# **Getting Started Guide For Nitric Acid Feeder System**

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- Best Practices Anolyte (BASF)
- Blue White Chem Feed C-1500N  
Manual

# Mission Statement

UFS Corporation is dedicated to providing quality, innovative solutions to the electrocoating industry. We have over 20 years experience and leadership in finishing system consultation, Membrane Electrode Cell manufacturing, Membrane Electrode System design, on-site service and installation assistance.

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## INTRODUCTION

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### **Safety is something that can not be overlooked!**

Please observe all your appropriate safety regulations before and during work on the Electro-coating System. As a general rule, always use your own lock and key to lockout the DC rectifier before installing or working with any component of the E-coat system.

This manual is intended to provide general operating and maintenance instructions.

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**Best Practices Anolyte II (Prepared by BASF)**

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**SAFE & RELIABLE  
AUTOMATED  
ANODE  
PASSIVATION  
SYSTEM**

**BASF - GM Linden (NJ)  
Richard Villarino**

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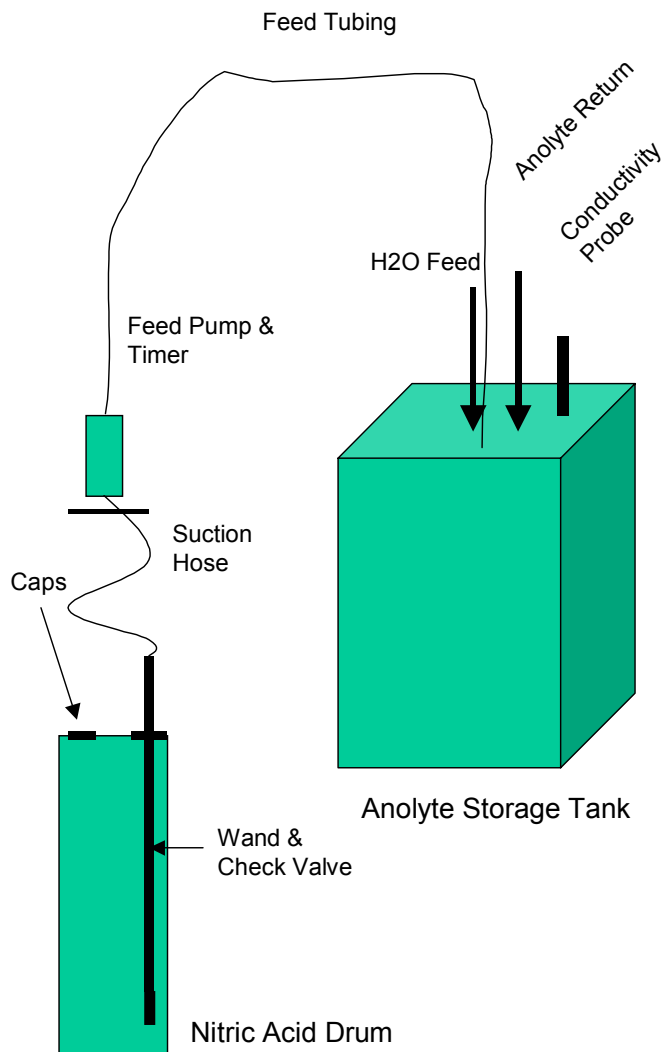
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# Purpose of the Automated Nitric Acid Feed System

- Insure Daily Nitric Acid Addition to Protect against Rapid Anode Degradation
- Minimize the ELPO Operator & Pipefitter Workload and Contact with Nitric Acid

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# Schematic of the Overall Nitric Acid Feed System



### COMPONENTS:

- Nitric Acid Drum
  - Check Valve
  - Drum Wand
  - Modified Caps
- Suction Hose
- Chemical Feed Pump & Timer
- Chemical Feed Tubing
- Feed Point to the Anolyte System Storage Tank

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# Nitric Acid Feed System Discussion Items

- System Details
- Safety Considerations & Materials of Construction
- Parts List & Pricing
- System Photographs
- System Status

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### System Details

- **Current System for Anode Passivation at GM-Linden:**
  - Currently Feed Approximately 4,600 mls of Nitric Acid Twice a Week on Wednesday and Sunday Nights
  
- **Daily Anode Passivation System at GM-Linden:**
  - Will Feed 125 mls / min of Nitric Acid for 30 Minutes Once Per Day (Total Feed is Approximately 1 gallon of Nitric Acid)
  - *Note* - Nitric Acid Feed Rate Determined by Past Anode Degradation Levels at GM-Linden
  
- **Details on Components:**
  - **Check Valves** Located on the Wand Tip & Inside the Pump
  - **Drum Caps** One is a 2" NPT Type Fitting and the Other is a 2" Buttress Type Fitting. One Cap has a Vacuum Relief Valve
  - **Chemical Feed Pump** Flowrange = 1.28 mls ~ 252 mls / min ; Suction Lift (Dry) = 5ft Max Temperature = 170 °F ; Pressure = To 100 psi
  - **Chemical Feed Timer** Capable On/Off 6 Times / Day for 7 Days / Week Multiple Day Switching Programs Preprogrammed (i.e. M-Sat) Includes 24 hr. Clock & a Manual Override
  - **Chemical Feed Tubing** 1/4" ID and 3/8" OD ; Max psi @ 70°F = 240 psi Operating Temperature = -40°F to 260°F
  - **Feed Point to Tank** The Feed Point is Between the H2O Inlet and the Anolyte Return Inlet to the Tank and away from the Conductivity Probe



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### Parts List

- Kynar Check Valve (1/4" ID)
- 316 SS Drum Wand (1/4" ID)
- 316 SS Elbow (1/4" ID) x 2
- Drum Plug - Vacuum Relief Vent
- Norprene Suction Hose (1/4" ID x 50 ft)
- 316 SS Barbed Hose Nipple (1/4" ID) x 2
- LMI Feed Pump - 316 SS Head
- Feed Controller Timer
- Kynar Compression Fitting (3/8" OD)
- Kynar Tubing (1/4" ID x 50 ft)

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### System Photographs

Check Valve, Drum Wand, Drum Caps & Suction Hose



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### System Photographs

#### Chemical Feed Pump & Timer

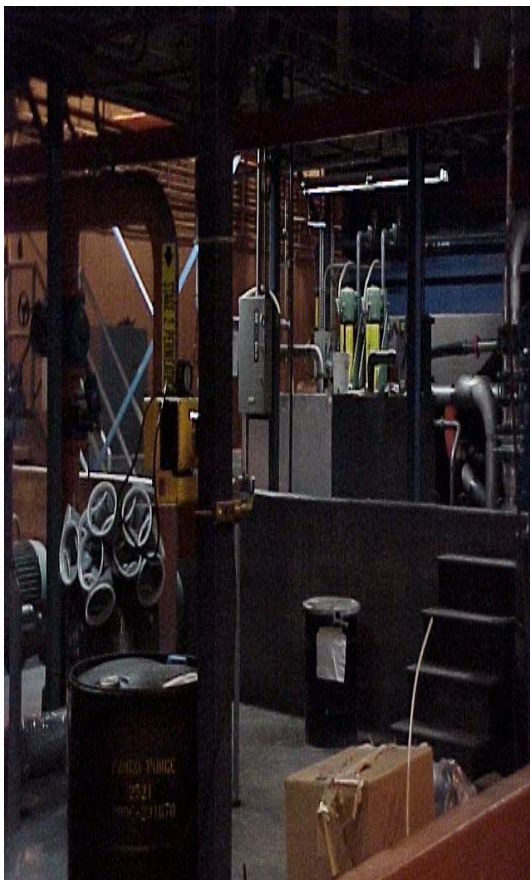


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# System Photographs

## Complete System Overview & Feed Point to the Anolyte Tank

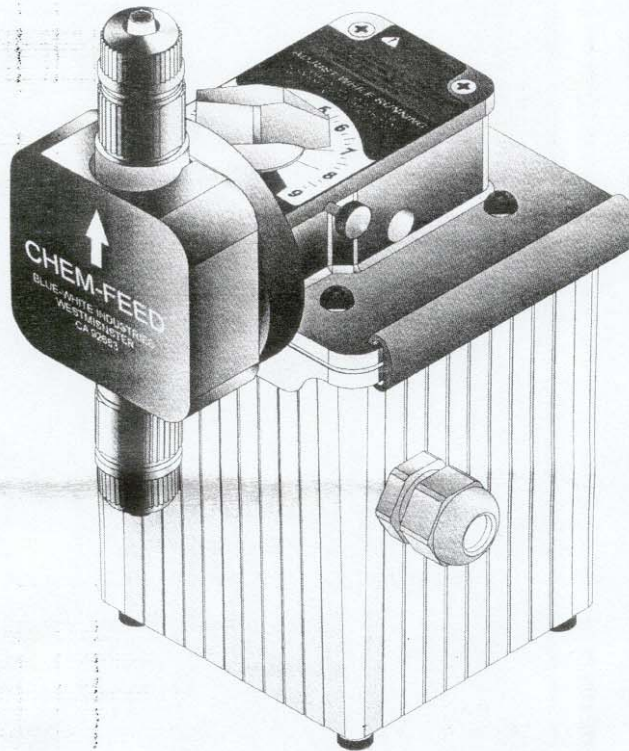


## Blue White Chem-Feed C-1500N Manual



# CHEM-FEED<sup>®</sup>

## INJECTOR



### MODEL C-1500N

### POSITIVE DISPLACEMENT INJECTOR PUMP

### OPERATING MANUAL



**BLUE-WHITE<sup>®</sup>**  
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