

# Chemical Feed Solutions for Agriculture



Where Innovation Flows



# **Neptune**<sup>®</sup>

While humans have been planting and harvesting crops for millennia, the precise science of agriculture has been a process of trial and error that has developed most rapidly in recent centuries. The timing process of working with climate conditions and seasons is one of the many factors that farmers need to take into account to ensure a worthy harvest of their crops.

In between planting and harvesting, there are a number of other timing decisions that need to be made, such as identifying the best process for fertigation - the use of the irrigation system to deliver fertilizers, pesticides and acids for pH control in the most effective amounts for high crop yield.

Neptune<sup>®</sup> chemigation systems, fertilizer pump platforms, hydraulic and mechanical metering pumps, and injection quills have become the industry standard in a wide variety of agricultural applications, including irrigation and the precise application of various fertilizer and chemical products.

- Fertilizer
- Chemigation
- Herbicides/Fungicides/Algaecides/Insecticides
- Specialty Additives for Soil Binding  
Landscape and Turf Nutrients, Surfactants and Chemicals



## Containment Chemigation Injection Systems

The Neptune closed containment system was designed for application of herbicides, fungicides, insecticides and other strong chemicals that require dilution and mixing. This modern, completely assembled unit addresses concerns about protecting the environment, including ease of housekeeping and spill containment when handling powerful chemicals. A chemical tank, sloped for complete drainage and ease of cleaning, is fitted into a double-walled containment base. A cover encloses and protects the pump, piping and electrical controls.

### FEATURES

- Completely assembled including mixer, valves, strainer, piping, wiring, controls and 12' (3.7 m) power cord
- Polyethylene units are chemical resistant
- Double-wall injection line returns chemical to containment if discharge line ruptures
- Double-wall containment vessel
- Cover excludes rainwater and debris from the containment and allows 100% recapture of uncontaminated product in case of piping leaks or discharge line rupture
- Plugged drain allows recovery of spilled chemical
- Use with simplex or duplex pump
- Through-the-wall double-threaded fitting allows piping of a second chemical from an external tank to the second head of a duplex pump. Also allows connection of an external flush water source or filling tank from bottom.
- Mixer has 316SS shaft and dual propellers
- Calibration cylinder

### ORDERING INFORMATION (ORDER PUMP SEPARATELY)

MODEL	DESCRIPTION
CIS-60	Complete Containment Chemigation Injection System including 60-gal. tank, mixer, piping, calibration tube and 460VAC controls*

\*12 VDC and 115 VAC units available.



# "E" Limator

## CHEMIGATION SYSTEMS

Model CIS-30 combines a Neptune Series 500 hydraulic diaphragm pump with a lightweight, portable, 30-gallon (113.6 L) tank and accessories to offer the "E" Limator chemigation system. Each system comes fully assembled with pump, tank, piping valves and strainer.

### THE "E" LIMINATOR ELIMINATES:

- Yield-robbing pests from your fields
- High cost of other application methods
- Waiting for commercial applicators
- Soil compaction and crop damage
- Skips and overlaps by using your center pivot as a spray boom
- Handling cumbersome injection systems when small-volume applications are required



MODEL CIS-30 with 7000Z NPA Series Pump and Controls

MODEL CIS-30 with 500-VS Series Pump and Controls

### EACH CIS-30 "E" LIMINATOR INCLUDES:

- 30-gallon (113.6 L) calibrated tank
- Molded base with four molded handles for portability
- Pump and mixer motor starting switches with overload for motor control, 3 phase, 460 VAC
- Calibration column marked in ounces and milliliters
- Fully assembled with pump, tank, piping valves and strainer
- Order pump separately
  - Use VS Series for heavier suspensions or high viscosity chemicals

# EZE-Grab

## FERTILIZER PUMP PLATFORMS

A one-piece molded polyethylene platform with handles allows easy handling of fertilizer pumps. Unit integrates pump controls and wiring for complete portability.



### FEATURES

- Strong, lightweight polyethylene base (order pump separately)
- Resistant to corrosion
- Electrical controls for 3-phase, 460 VAC motors are standard; 12 VDC and 115 VAC are available as options
- Manual motor starters provided for AC units include adjustable overload protection
- 12 VDC units include solenoid to automatically disconnect motor from battery when system shuts down
- 12' (3.7 m) power cord

### OPTIONAL ACCESSORIES INCLUDE:

- Suction Assembly
- Discharge Assembly
- Injectors
- Discharge Bleeder Assembly

### ORDERING INFORMATION

MODEL	DESCRIPTION
EFP-1	EZE-Grab Fertilizer Platform* – No Controls
EFP-460	EZE-Grab Fertilizer Platform* w/460 VAC Manual Motor Starter
EFP-12	EZE-Grab Fertilizer Platform* w/12 VDC Solenoid Cutoff
ESA-75	3/4" Suction Assembly, 12' long**
ESA-100	1" Suction Assembly, 12' long**
EDA-50	1/2" Discharge Assembly, 12' long
EDA-50C	EDA-50 with Double Wall
EDA-75	3/4" Discharge Assembly, 12' long
EDB-50	Discharge Bleeder Assembly

\* Includes: Suction & Discharge Hose Barb Fitting  
 \*\* See chart below

### MAXIMUM SUCTION LINE LENGTH

CAUTION: MUST USE NON-COLLAPSING TYPE HOSE

GPH	TUBE I.D.			
	1/2"	3/4"	1"	1-1/2"
18GPH	6'	10'	15'	N.A.
30GPH	N.A.	10'	15'	N.A.
40GPH	N.A.	6'	10'	15'
65GPH	N.A.	5'	8'	12'
80GPH	N.A.	N.A.	6'	10'

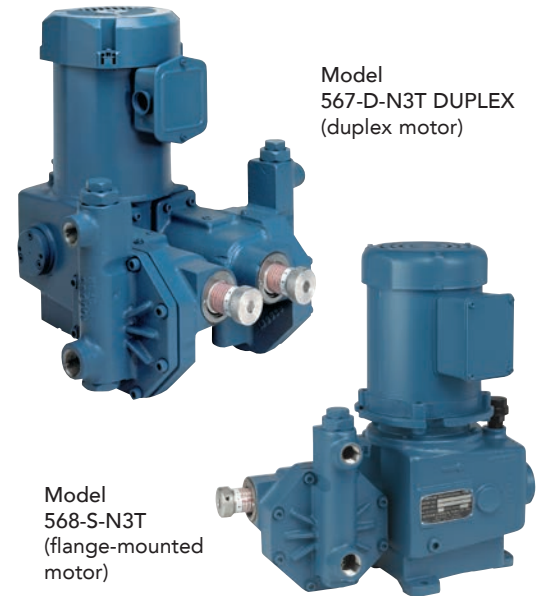
# Chemigation and Fertilizer Pumps

## 500 Series Hydraulic Metering Pumps

- EZE-CLEAN™ Valves: Cartridges are removable without disturbing piping
- Ten turn micrometer dial calibrated in 1% increments
- PTFE diaphragm and FKM O-rings withstand most chemicals
- All 316SS wetted metal parts
- Bi-Directional Motor option eliminates the need to set rotation when moving between pivots – pump runs in either rotation.

MODEL	CAPACITY GPH AT 100 PSI	PISTON DIAMETER (INCHES)	STROKES PER MINUTE	STYLE
535-SE-N3T	18	1.0625	117	Simplex
547-SE-N3T	30	1.1875	144	Simplex
567-S-N3T	80	2.0	144	Simplex
565-S-N3T	65	2.0	117	Simplex
568-S-N3T	94	2.0	176	Simplex

\* See Motor Options



## 500-VS Series High Viscosity Hydraulic Metering Pumps

- Designed for thick fluids to 5,000 cPs and light slurries
- Large internal porting with a large, single-ball, suction check valve
- PTFE diaphragm and FKM O-rings withstand most chemicals
- All 316SS wetted metal parts

MODEL	CAPACITY GPH AT 150 PSI	PISTON DIAMETER (INCHES)	STROKES PER MINUTE
522-VS-N3T	4.0	0.687	72
525-VS-N3T	7.0	0.687	117
527-VS-N3T	8.6	0.687	144
532-VS-N3T	11.0	1.062	72
535-VS-N3T	18.0	1.062	117
547-VS-N3T <sup>2</sup>	30.0	1.062	144

<sup>1</sup> See Motor Options

Model  
535-VS-N3T-FALP-12  
(12-volt motor)



- Duplex: Combine any two models with same stroking speed
- 3-Year Warranty

### MOTOR OPTIONS:

- 1/3 HP – 3 ph – 56C Frame motor standard on pumps under 18 GPH
- 1/2 HP – 3 ph – 56C Frame motor standard on 30 – 98 GPH pumps
- 12V DC and Single Phase motor options available



## Discharge Assembly

### FEATURES & BENEFITS

- Double-wall construction
- Inner tube is 3/8" (9.5 mm) polyethylene with pressure fittings at each end
- The outer covering is nylon-reinforced PVC tubing sealed only at the discharge end. The outer covering provides abrasion resistance. The outer tube will trap any leakage from the inner tube, returning the liquid to the containment unit
- Injection connection provided with self-sealing quick disconnect coupler
- Optional injection quills available in 316SS or GFPP

## Suction Assembly

### FEATURES & BENEFITS

- Completely piped suction with glass-reinforced polypropylene fittings offers UV and chemical resistance
- A glass-reinforced polypropylene "Y" strainer
- Single-union polypropylene ball valves are provided for:
  - Pump/Tank Isolation
  - Calibration Column Isolation
  - Auxiliary Feed/Drain Connection
- Calibration tube carries dual markings to allow measuring a feed rate in millimeters and ounces and remaining tank contents in gallons
- Auxiliary connection with valve allows pumping unused chemicals directly from the tank to a transportation container





## Injection Quills

### FEATURES & BENEFITS

Injection quills allow chemicals to be injected into the turbulent flow near the center of the line, providing more uniform dispersion.

The Disk Type Check and Seat are located at the tip of the quill to allow constant flushing.

- Provides back pressure to insure metering accuracy
- Prevents back flow
- Prevents bleed through when water pressure is low or line is drained
- Prevents siphoning when metering pumps are off and line is flowing

Mounts directly to a coupling in the sidewall of lines 6" (152 mm) and larger. For smaller lines, the quill may be mounted to a coupling attached to a nipple of the required length to hold the tip of the quill near the center of the line.

PART	LINE CONN. NPT	INLET CONN. NPT	FLOW* GPH	BODY MATERIAL	CHECK MATERIAL	SPRING MATERIAL	MAX. PRESSURE	MAX. TEMP
PPQ50	3/4"	1/4"	50	PP**	FKM	316SS	150psi	120°
SSQ75	3/4"	1/2"	200	SS	FKM	316SS	150psi	150°
SSQ100	1"	3/4"	300	SS	FKM	316SS	150psi	150°

\* At 50 psi differential

\*\* Glass-Filled Polypropylene



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