

***Chemical Feed
Solutions for
Agriculture***
CENTER PIVOT & DRIP



- ***Fertilizer Pumps***
- ***Chemigation Pumps***
- ***Acid & Chlorine Pumps***
- ***Pump Platforms***
- ***Chemigation Systems***
- ***Injection Quills***



Fertilizer and Chemigation Pumps

INNOVATIVE DESIGN

QUALITY WORKMANSHIP

LONG-TERM RELIABILITY

Neptune has manufactured reliable metering pumps for over 50 years.

SERIES 500 HYDRAULIC DIAPHRAGM METERING PUMPS

Bi-Directional Motor option eliminates the need to set rotation when moving between pivots – pump runs in either rotation.

CHEMIGATION PUMPS

- **“SE-PUMPS”**: For use with clear liquids and light suspensions
- **“VS-PUMPS”**: Designed for thick fluids to 5000 CPS and light slurries
- Large internal porting with a large, single ball, suction check valve
- Teflon® diaphragm and viton “o” rings withstand most chemicals
- All 316SS wetted metal parts

Neptune Series SE & VS “dia-PUMPS”
Integral Motor: 1/2 HP-3ph-230/460VAC-60-TEFC*

MODEL NUMBER	CAPACITY (GPH) AT 150 PSI	PISTON DIAMETER (INCHES)	STROKES PER MINUTE
522-SE-AG	4.0	0.687	72
547-SE-AG	30.0	1.187	144
522-VS-AG	4.0	0.687	72
525-VS-AG	7.0	0.687	117
527-VS-AG	8.6	0.687	144
532-VS-AG	11.0	1.062	72
535-VS-AG	18.0	1.062	117
547-VS-AG	30.0	1.187	144

*See Motor Options

FERTILIZER PUMPS

- EZE-CLEAN™ Valves: Cartridges are removable without disturbing piping
- Teflon® diaphragm and viton “o” rings withstand most chemicals
- All 316SS wetted metal parts

Neptune Series 500 “dia-PUMPS”
Integral Motor: 1/2 HP-3ph-230/460VAC-60-TEFC*

MODEL NUMBER	CAPACITY (GPH) AT 100 PSI	PISTON DIAMETER (INCHES)	STROKES PER MINUTE	STYLE
547-SE-AG	30	1.187	144	Simplex
565-S-AG	65	2.0	117	Simplex
567-S-AG	80	2.0	144	Simplex
547-DE-AG	30 x 30	1.187	144	Duplex
565-D-AG	65 x 65	2.0	117	Duplex
567-D-AG	80 x 80	2.0	144	Duplex

*See Motor Options

Motor Options

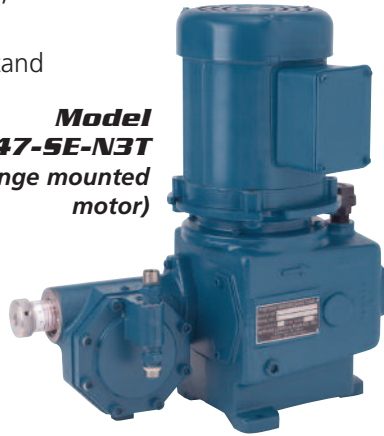
STANDARD MOTOR: Integral Mount 3 Phase 460 VAC TEFC

BI-DIRECTIONAL MOTOR: Flange Mount 3 Phase 460 VAC TEFC
• To specify, change “AG” in model number to “N3T”

12 VOLT DC MOTOR: Flange Mount TENV
• To specify, add suffix “FALP-12” to end of model number

115 VOLT MOTOR: Integral Mount 1 Phase 115 VAC TEFC
• To specify, change “AG” in model number to “N3”

Model 547-SE-N3T
(flange mounted motor)



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

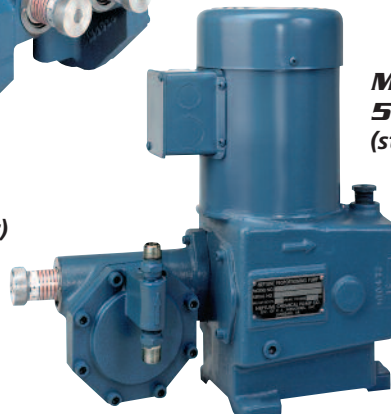


DUPLEX: Combine any two models with same stroking speed.

Model 565-S-N3T
(flange mounted motor)



Model 567-D-AG
DUPLEX
(standard motor)



Model 547-SE-AG
(standard motor)



EZE-Grab FERTILIZER PUMP PLATFORMS

Purpose

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

Features

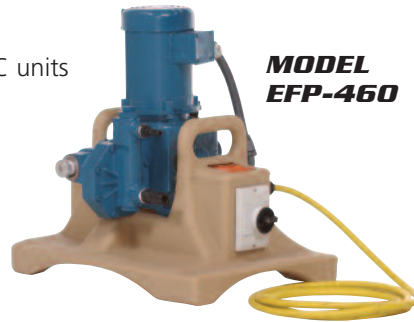
- Strong, lightweight polyethylene base (order pump separately)
- Resistant to corrosion
- Electrical controls for 3 phase 460 volt motors are standard; 12VDC and 115VAC available as options
- Manual motor starters provided for AC units include adjustable overload protection
- 12 volt units include solenoid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

Optional accessories include:

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



**MODEL
EFP-12**



**MODEL
EFP-460**

Ordering Information

MODEL	DESCRIPTION
EFP-1	EZE-Grab Fertilizer Platform* – No Controls
EFP-460	EZE-Grab Fertilizer Platform* w/ 460v Manual Motor Starter
EFP-12	EZE-Grab Fertilizer Platform* w/ 12v 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

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

"E" Linator Chemigation Systems

Purpose

Model CIS-30 combines a Neptune Series 500 hydraulic diaphragm pump with a lightweight, portable, 30 gallon tank and accessories to offer the "E" Linator chemigation system.

The small tank offers greater convenience than larger systems and the Neptune Series 500E completes this portable unit to offer an economical system for applications which do not need to handle high viscosity chemicals.

The "E" Linator 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 Series 500E Pump and Controls**

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



- Fully assembled with pump, tank, piping valves and strainer
- Order pump separately:
 - Use Series E for clear liquids and light suspensions
 - Use Series VS for heavier suspensions or high viscosity chemicals

Each CIS-30 "E" Linator includes:

- 30 gallon calibrated tank
- Molded base with four molded handles for portability
- Pump and mixer motor starting switches with overload for motor control, 3 phase, 460 volt
- Calibration column marked in ounces and milliliters



The Experts in Closed Containment Systems

Only Neptune offers you the original, patented closed containment system. An investment in a Neptune closed containment system now means that your chemigation system will not become obsolete when regulations require containment, as is the case now in a number of states. With a Neptune closed containment system, you protect your investment in your chemigation equipment and operate in an environmentally responsible manner.

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Containment Chemigation Injection Systems

Purpose

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 includes mixer, valves, strainer, piping, wiring, controls and 12 ft. power cord
- Polyethylene units are chemical resistant
- Double-wall injection line returns chemical to containment if discharge line ruptures (see photo on back page)
- 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. (see photo on back page)
- Mixer has stainless steel shaft and dual propellers
- Calibration cylinder



Trailer Mount Option provides total portability & ease in handling.

Ordering Information (order pump separately)

MODEL	DESCRIPTION
CIS-60	Complete Containment Chemigation Injection System including 60 gal. tank, mixer, piping, calibration tube and 460v controls*
CIS-90	Complete Containment Chemigation Injection System including 90 gal. tank, mixer, piping, calibration tube and 460v controls*

*12VDC and 115VAC units available.

Pumps for Drip Irrigation

SERIES PZ ELECTRONIC DIAPHRAGM METERING PUMPS

Manual Control PZ Models allow speed adjustment from 15 to 300 strokes per minute (20 to 1 turndown).

Automatic Control PZi4 Models allow manual or automatic adjustment of speed from 1 to 300 strokes per minute plus manual stroke length adjustment from 50 to 100 percent (600 to 1 turndown). All models accept analog (4-20 mADC) input or pulse signal input to automatically adjust speed. Automatic models include:

- External interlock for level switch, remote start, etc.
- Operational display shows speed or operational status
- Pulse signal frequency division 1/1 to 1/9999 or multiplication 1 to 9999
- Analog signal has shift function, proportional band control

Materials of Construction

MATERIAL CODE	HEAD	SEALS	DIAPHRAGM	CHECKS
CL	Acrylic	Viton	Teflon®	Ceramic
FTC	PVDF	Teflon®	Teflon®	Ceramic
VFC	PVC	Viton	Teflon®	Ceramic

MODEL PZ



MODEL PZi4



All Models

- 300 SPM operation insures uniform chemical distribution even at low feed rates
- Chemical delivery is constant at any single phase voltage from 94 to 264 VAC, 50/60 Hz and is unaffected by voltage fluctuations
- Waterproof and UV resistant – IP 65

Accessories included with each pump


- Foot valve strainer, back pressure check valve with injection quill, 4 ft. suction tubing, 10 ft. discharge tubing, 3 ft. air release tubing, power cord and 3-prong plug
- Automatic models include signal cable with multi-pin connector

MAXIMUM FEED RATE (GPD)	MAXIMUM FEED RATE (GPH)	MAXIMUM FEED RATE (ML/MIN)	MAX PRESSURE (PSI)	MATERIAL CODE	DISCHARGE TUBE *	SHIPPING WT. (LBS.)	MANUAL CONTROL MODEL NUMBER	AUTOMATIC CONTROL MODEL NUMBER
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SODIUM HYPOCHLORITE – DEGASSING HEAD *(purges gas automatically, prevents air binding)*

11.4	0.48	30	140	CL		7	ARPZ-31	ARPi4-31
22.8	0.95	60	115	CL		7	ARPZ-61	ARPi4-61
38.0	1.60	100	60	CL		7	ARPZ-12	ARPi4-12

ACIDS – KYNAR® HEAD (PVDF)

11.4	0.48	30	140	FTC		7	PZ-31-FTC	PZi4-31-FTC
22.8	0.95	60	115	FTC		7	PZ-61-FTC	PZi4-61-FTC
38.0	1.60	100	60	FTC		7	PZ-12-FTC	PZi4-12-FTC
137.0	5.70	360	45	FTC	PZ TYPE	14	PZD-32-FTC	PZDi4-32-FTC
205.0	8.50	540	30	FTC		14	PZD-52-FTC	PZDi4-52-FTC

GENERAL CHEMICALS – PVC HEAD

11.4	0.48	30	140	VFC		7	PZ-31-VFC	PZi4-31-VFC
22.8	0.95	60	115	VFC		7	PZ-61-VFC	PZi4-61-VFC
38.0	1.60	100	60	VFC		7	PZ-12-VFC	PZi4-12-VFC
137.0	5.70	360	45	VFC	PZ TYPE	14	PZD-32-VFC	PZDi4-32-VFC
205.0	8.50	540	30	VFC		14	PZD-52-VFC	PZDi4-52-VFC

PZD TYPE



* 3/8" Tube is 3/8" O.D. x 1/4" I.D.; 18mm Tube is 18mm O.D. x 12mm I.D.



DISCHARGE ASSEMBLY

Features

- Double wall construction
- Inner tube is 3/8" 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

- 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

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

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



PART NUMBER	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 **	Viton	316SS	150 psi	120°F
SSQ75	3/4"	1/2"	200	SS	Viton	316SS	150 psi	150°F
SSQ100	1"	3/4"	300	SS	Viton	316SS	150 psi	150°F

* At 50-PSI Differential

** Glass Filled Polypropylene



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