

KNIGHT®

FOOD & BEVERAGE PROCESSING AND INDUSTRIAL APPLICATIONS

Knight manufactures a comprehensive line of controls with data management, pumps, and foaming systems designed to deliver your cleaning solutions efficiently and cost effectively to the point of impact.



**CHEMICAL CONTROL
SYSTEMS**



**CHEMICAL METERING
PUMPS**



FOAMING SYSTEMS



**CONVEYOR
LUBRICATION**



**GREASE TRAPS,
DRAINS, AND
ODOR CONTROL**

Welcome to *KNIGHT*

Knight LLC, a unit of IDEX Corporation, is renowned for its expertise in highly engineered fluidics systems, and components. We strive for Innovation, Diversity, and Excellence.

Founded in 1972 by William Knight Russell, Knight has built a long-standing history as a pioneer in chemical dispensing systems. Our company takes pride in its reputation for dependable products, and superior service among customers worldwide. As a manufacturer with in-house engineering, stainless steel fabrication, and assembly capabilities, we can custom build our products to fit the customer's precise needs.

What's the "Knight Advantage" ? We attribute that success to our knowledgeable people, 1st Class Customer Service and Quality Products that enable our customers to achieve an extremely low Total Cost of Ownership with our equipment. Come experience the "Knight Advantage" for yourself - we look forward to serving you!

Food and Beverage Chemical Application

Knight manufactures a comprehensive line of pumps, controls, foam cleaning equipment, sanitizer dispensing equipment, conveyor line lube dispensing units, and PC based data management systems that permit sanitation workers to apply the correct cleaning and sanitizing solutions to food contact surfaces with greater safety and controlled costs.

Chemical Control Systems

Edge & Edge Jr.

ILCS

ControlGuard ACCS

Chemical Metering Pumps

PMP

PMP Plus

CleanGuard

Uniflow & Liquidrol

Foaming Systems

FoamClean 25-95 Mobile Foamer

FoamClean Mobile and Wall Mount Foamer

Sani Clean III

Conveyor Lubrication

Lube Saver

Grease Traps, Drains, and Odor Control

Pro-Watch

Other Knight Product Lines

Laundry Chemical Dispensing Systems

Kitchen / Warewash Chemical Dispensing Systems

Chemical Proportioning Systems

Dishwashing Machines

Dairy Farm Cleaning & Sanitation Systems

EDGE & EDGE JR.

CHEMICAL ALLOCATIONS SYSTEMS

Edge and Edge Jr. are intelligent liquid control systems designed to optimize in-plant cleaning chemical control. These systems completely automate the dispensing of chemicals and record critical usage data.

Secure

Accurate

Affordable



Edge Chemical Allocation Systems are used by more sanitation/quality managers than any other system!

- Reliable, fast concentrate or "ready to use" dispensing
- New split chemical injection/mixing manifold to separate incompatible chemicals
- Safe and simple multilingual user interface
- Chemical usage / operator activity reports
- Password or proximity card protected user access
- Edge: 10 chemicals and 2 water dilution valves
- Edge Jr.: 8 Chemicals with dual water injection
- Edge: AODD or Electric diaphragm pumps ▪ Edge Jr.: Electric diaphragm pumps
- Windows compatible PC software with new internet connectivity package.
- Watertight control cabinet with new service friendly component layout.

KNIGHT

IDEX
FLUID & METERING

INDUSTRIAL SYSTEMS

Edge & Edge Jr. Systems

At the push of a button, the Edge and Edge Jr. dispense concentrated cleaners in precise measured amounts into jeri cans or other portable containers. These systems can be used to simply transfer each product to a container or to blend any combination of up to ten products for the Edge or up to eight products for Edge Jr. with water, and dispense it to jugs, foamers, and other vessels. The Edge systems can also dispense chemicals direct to specific equipment in the plant such as CIP tanks or satellite drop stations.

ILCS Edge and Edge Jr. can be programmed to deliver exact chemical formulations tailored to the specific requirement of each cleaning task. Programmable user ID codes prevent unauthorized use of the system.

The Edge systems will reduce workplace accidents, while accurately controlling chemical consumption. The Edge systems are essential in your chemical room as part of a comprehensive food/beverage sanitation program to prevent common misuse and abuses that can lead to runaway costs and substandard sanitation. Comprehensive allocation reports support your plants compliance with FDA/HAACP regulations, and other private audit firm requirements.

Worker Safety / Food Safety

The Edge systems promote worker safety by limiting the users' exposure to corrosive cleaners. The Edge systems are designed to dispense chemicals on request from the sanitation operator. A range of pumping options transfer cleaning products safely and efficiently. The simplicity of the systems allow even unskilled employees to use it with minimal training; saving valuable labor dollars, reducing opportunities for accidents and preventing misapplication of products. Dual Chemical Manifolds isolate incompatible chemicals and improve workplace safety.

Data Management

All chemical usage is recorded instantly as chemicals are dispensed. Usage reports include product cost, chemical consumption, batch tracking and user activity. This critical information will help management gain control of overall cleaning costs while reducing the risk of hazardous, neglectful chemical usage.

Fast, Simple Reporting



Simple, Fast Windows based Programming Saves Time!



Connect Remotely Via the Internet



Windows compatible software connects the Sanitation Manager directly to the system.

- * Track chemical usage by each sanitation worker
- * Verify chemical usage in all areas of the plant
- * Remote connection via ethernet to LAN
- * Export sanitation reports to Excel

EDGE Safely Automates and Controls Chemical Dispensing

English / Spanish user interface allows sanitation workers to operate the Edge system with a minimum of training and effort. The operator simply enters a user ID code, selects the appropriate formula number and presses the start button. It's that easy!

Note: Other languages available on request.

- New Fluorescent Blue Display**
easier to see in poorly lit areas
- Proximity Card Reader**
optional password entry device improves security and increases speed of the filling operation
- Large, Alpha Numeric Key Pad**
designed for use with gloves on and will withstand chemical exposure
- Watertight Stainless Steel Control Cabinet and Membrane**
keeps direct spray from attacking components
- New Membrane Switch**
provides excellent tactile feel and uniform surface.
- Security Lock**
- Bold, easy access buttons**
for starting and stopping the dispensing cycle

EDGE Components

- All electronics protected against moisture with special elastomer seal
- Memory Module expands time stamp capability
- Microprocessor based user interface controller
- Pump output board with dual flush and prime buttons
- Air Valve Assembly with regulators and gauges
- Dual 1/2" water Solenoid Valves for flush/fill
- Inlet water pressure regulator with gauge
- Air Filter /Assembly Dryer
- Rugged 16 gauge #304 Stainless Steel construction

Features

300 Programmable User IDs.	Remote Feed Functions	Remote Connectivity
99 Product Formulas	High Capacity / High Speed	6000 Time Stamps
User Access Control	Password Protection	Air Operated Pumps



Required for dispensing chemicals to remote locations and equipment

EDGE Pump Options

Whether you choose electric diaphragm or air operated pumps for your Edge system, rest assured, Knight pumps are "time tested" with all common industry cleaners and sanitizers.

Pump Name	CleanGuard	AODD Pumps
Pump Type	Electric Diaphragm Pump (EDP)	Air Operated Diaphragm Pump
Flow Rate	1.5 GPM (5.6 LPM) or 3.2 GPM (12.1 LPM) at 70 PSI	KAP-25: 4 GPM (15 LPM) or Uniflow KAP-50: 12 GPM (45.4 LPM)
Power Source	110 or 230 VAC	Air at minimum of 8 SCFM
Chemical Compatibility	All Known F & B Products	All Known F & B Products

EDGE JR.

The Edge Jr. is a full featured automatic chemical allocation and data logging system designed for small food & beverage plants where chemicals are dispensed from drums.

- Reliable fast concentrate or "ready to use" dispensing
- Integrated "split" chemical injection/mixing manifold
- Reliable all electric high output diaphragm pumps
- Simple three component installation (Power supply, Pump case, Controller)
- Windows compatible PC software
- One to eight chemicals with dual water injection
- Water tight pump cabinet, user interface and power supply
- Preassembled - ready to install

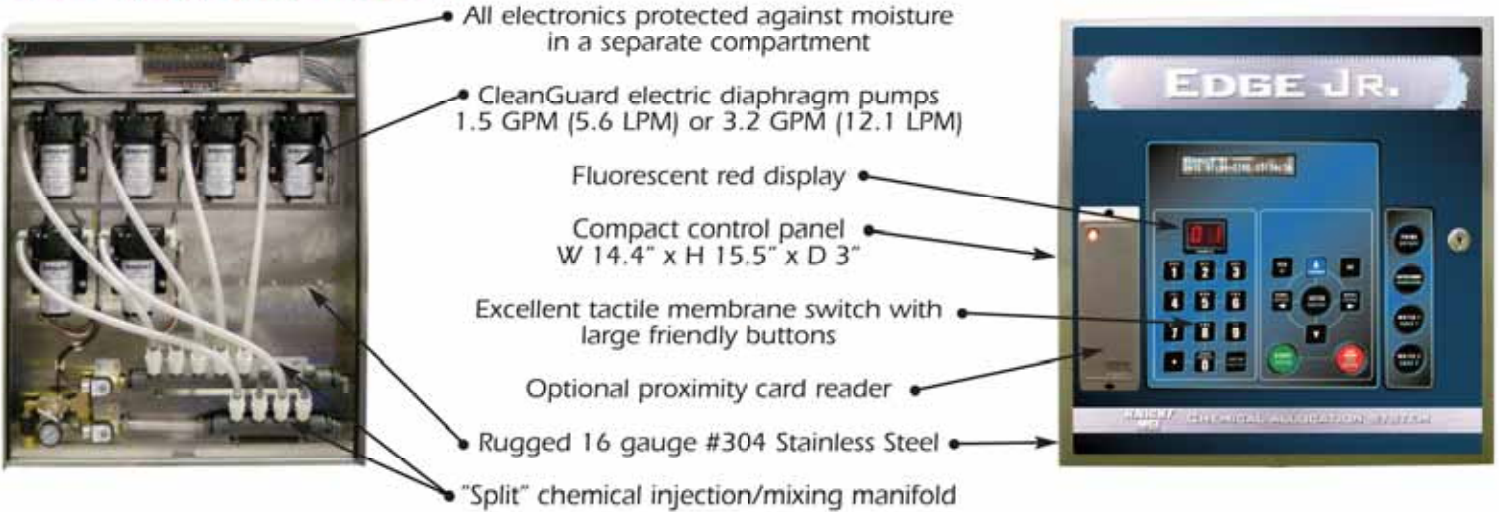


Power Supply

Controller

Pump Case

EDGE JR. Components



Features

50 Programmable User IDs.	Windows PC Compatible Software	Integrated Water Injection	Easy to Service / Install
50 User Formulas	Split Manifold	Highly Reliable Pumps	Chemical Usage Reports

EDGE AND EDGE JR. SYSTEM OPTIONS



Air Operated Anti-siphon Valve

Prevents siphoning of chemicals from bulk tanks or other vessels



Stainless Steel Shelf

Rugged container shelf with adjustable rack and drip tray. New drip tray design offers more effective chemical drainage.



Mobile Foamer

FoamClean 25-95
25 Gal / 95 Liter

FoamGuard
15 Gal / 57 Liter

KNIGHT LIMITED WARRANTY

Knights controls and pump systems are warranted against defects in material and workmanship for a period of ONE YEAR. All Electronic Control Boards have a TWO YEAR warranty. Warranty applies only to the replacement or repair of such parts when returned to the factory with a KRA number, freight prepaid and found to be defective upon factory inspection. Rubber and synthetic rubber parts such as "O" rings, diaphragms, squeeze tubing and gaskets are considered expendable and are not covered under warranty. Warranty does not cover liability resulting from performance of this equipment nor the labor to replace this equipment. Product abuse or misuse voids warranty. Knight products are not for use in potentially explosive environments. Any use of our equipment in such an environment is at the risk of the user. Knight does not accept any liability in such circumstances.

KNIGHT DISCLAIMER

The information and specifications included in this publication were in effect at the time of approval for printing. Knight, LLC. reserves the right, however, to discontinue or change specifications or design at any time without notice and without incurring any obligation whatsoever.



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ILCS Industrial Liquid Control System

Chemical Dispensing and Control for Sanitation in the Food & Beverage Processing Industry.

The ILCS is a multiple chemical distribution system designed to optimize in-plant cleaning chemical control. This system completely automates the dispensing of chemical and records critical usage data. The ILCS can control chemical usage by areas in the plant, by specified equipment to be cleaned, or by each sanitation worker that uses the system. ILCS promotes effective and safe allocation while providing sanitation managers an invaluable monitoring tool.

Features & Benefits:

- Automates Chemical Dispensing
- Daily User Log With Date and Time
- Controls Costs
- Accumulates Chemical Usage Data
- Eliminates Unsafe Chemical Transferring
- Fifty Formula Capability
- Windows Compatible PC Software
- Easy To Operate

Advanced Microprocessor Features:

Automates Chemical Dispensing

An intuitive user control allows sanitation workers to operate the system with a minimum of training and effort. The operator simply enters a user ID code, selects the appropriate formula number and presses the start button.



Reliable Peristaltic Pumps or High Output Air Operated Double Diaphragm Pump(s)



- Initiates Dispensing Cycle
- Security Key
- Main Power Switch
- Dispenses Water On Demand

- LCD Screen – Displays Menu's And Programming Data
- LED Display – Indicates Formula To Be Dispensed
- User Function Keys
- Alpha Numeric Key Pad For Programming, Entering Passwords and ID's

Cost Control

At the push of a button, this system dispenses concentrated cleaners in precise measured amounts into geri cans or other portable containers. The ILCS system can be used to simply transfer each product to a container or to blend any combination of up to eight products and water. The ILCS can be programmed to deliver up to fifty chemical formulations tailored to the specific requirement of each cleaning task. Fifty user ID codes prevent unauthorized use of the system.

Data Management

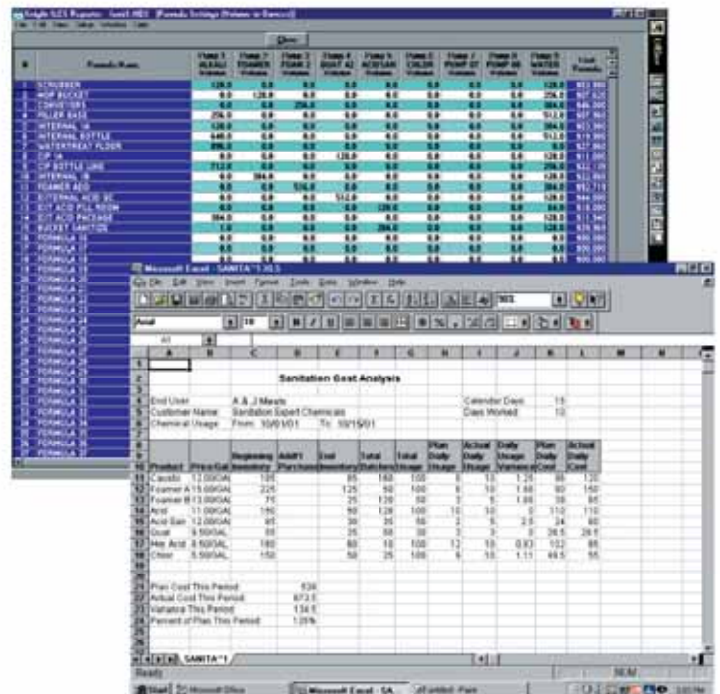
All product usage is recorded as products are used. Usage reports include product cost, consumption, batch tracking and setup. This critical information will help management gain control of costs and provide improved sanitation.

Worker Safety

The ILCS system promotes worker safety by limiting the users' exposure to corrosive cleaners used for sanitation. Reliable, self priming peristaltic pumps transfer cleaning products safely and efficiently. The simplicity of the system allows even unskilled employees to use it with minimal training.

ILCS Windows compatible software connects the Sanitation Manager directly to the ILCS system.

- Track chemical usage by each sanitation worker
- Verify chemical usage in all areas of the plant
- Remote connection via modem
- Export sanitation reports to Excel

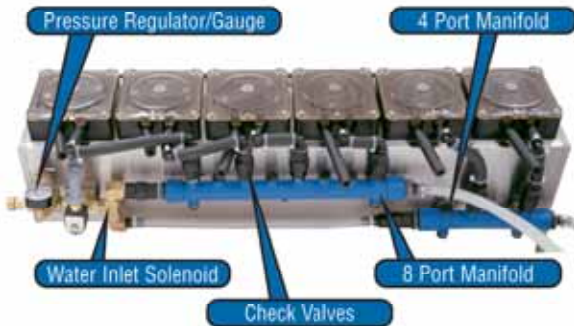


ILCS *Industrial Liquid Control System*

Options For The ILCS System

Integrated Flush System

The ILCS features a dual manifold design to isolate incompatible chemicals. Chemical supplies are protected by a check valve mounted between the peristaltic pump and the manifold. A pressure regulator and pressure gauge assembly is mounted on the incoming water line to control flush water pressure.



Liquidtrol Series Air Pump Control & Air Operated Double Diaphragm Pump



The APC-200 operates as an interface to control Liquidtrol style air pumps from the ILCS. Built-in air solenoid, filter/dryer, regulator and gauge with electrical interface provide a simple remote or local installation of air pumps.

3 Way Valve

Allows automatic flushing of chemical residual to drain. Prevents cross contamination



Stainless Steel Shelf

Rugged container shelf with adjustable rack and drip tray



Ordering Information

ILCS Systems, Peristaltic Pumps, Air Pump Controls & Air Operated Double Diaphragm Pumps

Model	Part No.	Description
ILCS-6900	7551000-01	Six Pump ILCS. Includes Cabinet, Controls, and Dual Manifold Flushing Systems, 12 Ports Total. System Can Control Up To 8 Pumps. Peristaltic Pumps Must Be Specified From the List Below.
ILCS 6900X	7551009	ILCS w/o Pumps, w/o water flush. Includes User Interface and Pump Controller Unit. System Designed For Applications of Air Operated Pumps (AOP). AOP Must Be Specified From The List Below.
ILCS-6900	7551013-01	ILCS-6900 115 VAC w/one 3 Way Valve.
ILCS-6900	7551014-01	ILCS-6900 115 VAC w/two 3 Way Valve.
KP-9130X	8600127-01	900 series pump, 130 rpm, 148 oz./minute (4.8 l/min). Mounts to ILCS cabinet.
KP-9270X	8600128-01	900 series pump, 270 rpm, 226 oz./minute (6.7 l/min). Mounts to ILCS cabinet.
APC-200	7641060-01	Air Pump Control, Single Pump, 110 VAC 50/60 Hz w/built-in regulator, pressure gauge, air solenoid and filter/dryer. Interfaces ILCS to Air Pump.
APC-200	7641061-01	Air Pump Control, Double Pump 110 VAC 50/60 Hz w/built-in regulator, pressure gauge, air solenoid and filter/dryer. Interfaces ILCS to Air Pump.
LAOP-25C	7640474	1/4" Air Operated Double Diaphragm Pump w/Stainless Steel Enclosure, 1/2"Fittings, Suction Check Valve Assy. 0-4 gal/min (0-15 Ltrs/min)
LAOP-25B	7640612	1/4" Air Operated Double Diaphragm Pump w/Stainless Steel "L" Bracket, 1/2"Fittings, Suction Check Valve Assy. 0-4 gal/min (0-15 Ltrs/min)
LAOP-50C	7640475	1/2" Air Operated Double Diaphragm Pump w/Stainless Enclosure, 1/2"Fittings, Suction Check Valve Assy. 0-14 gal/min (0-53 Ltrs/min)
LAOP-50B	7640613	1/2" Air Operated Double Diaphragm Pump w/Stainless Steel "L" Bracket, 1/2"Fittings, Suction Check Valve Assy. 0-14 gal/min (0-53 Ltrs/min)

Options

Model	Part No.	Description
3WV-6000	2210013	3-way Air Operated Diaphragm Valve w/Air Solenoid for automatic flushing to drain. Retrofits to ILCS-6900 Pump Case.
2WV-6000	1600955	2-Way Air Operated Diaphragm Valve for "Point of Dispense" Anti-Siphon Protection w/Mounting Bracket, and Fittings For Air Operated or Peristaltic Pumps. Fitting size for 1/2" I.D. Tubing. Operates with Air Pressure
Expert 6000I	7681067	Windows Based Software/Hardware Package, with RM-6000I and cables
KP-9270I	857785-01	KP-9270, 115V/60Hz Pump with Watertight Case. 226 oz/min (6.7L/min)
CS-5000	7541100	Stainless Steel Container Shelf for 2, 2.5 or 5 Gallon Containers
-	0700250	Pistol Grip For 3/4" O.D. Tubing

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DISTRIBUTOR

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Control Guard ACCS

Next Gen Concentration
Control System

The Control Guard ACCS (Advanced Chemical Concentration System) is designed with ease of setup and use in mind. By utilizing flow meter technology, the ACCS measures high concentrations of caustic, acid, rinse water or other liquids with an extremely high degree of accuracy ($\pm 2\%$) thereby ensuring precise chemical feed control. The Control Guard offers multiple 4-20 mA analog inputs which provide the flexibility of being utilized by any "Off the Shelf" probe whether it is pH, ORP, conductivity or other analytical measurements from a variety of popular manufacturers (Rosemount, Sorex, etc.). These features can be maximized by employing the Control Guard's distinctive data logging and reporting capabilities.

The Control Guard ACCS has the ability to operate up to 3 pumps of various designs including: Peristaltic, Air Operated Diaphragm (AOD) and Electric Diaphragm Pumps (EDP). These can be employed in any of 4 modes of operation (signal, relay, repeat cycle and probe) either in conjunction or independently of one another. This allows for more complete and accurate control of your CIP process. The improved user interface employs an enhanced 64X128 RGB backlit display that is combined with our easy to program 4 button control keypad which makes programming extremely user friendly and reduces the amount of set up time while providing critical process information with just a quick glance. With data management and subsequent reports playing a crucial role in today's process environment the Control Guard ACCS enables Sanitation Managers to clearly address process parameters and status conditions with accurate reports as required by current regulatory requirements.



- IP 65 rated (pending) waterproof enclosure (pending)
- Easy to view 64X128 RGB backlit display with enhanced electronics design
- Peristaltic pumps feature removable faceplates for quick squeeze tube replacement
- Dual regulated power supply options (115/230 VAC, 24 VDC)
- Ability to manage 3 pump styles (Peristaltic, AOD, EDP)
- Capable of operating in 4 modes (signal, relay, repeat cycle and probe)
- Order with flow meters for extremely precise dosing ($\pm 2\%$) or in simple time based mode
- UL/CSA/CE approvals (pending)
- USB port for data uploads and downloads
- 4-20 mA inputs (3) that can be used for any "off the shelf" probe
- Inductive probe option with 3 inputs
- Low level capability with 3 inputs for dry contacts
- Case Dimensions: W 18" X H 10.5" X D 8" (46 cm X 27 cm X 20 cm)

KNIGHT[®]

INEX
FLUID & METERING

INDUSTRIAL SYSTEMS

Control Guard ACES Specifications

Case Dimensions	Voltage	Case Ratings	Certifications
W 18" x H 10.5" x D 8" 46cm x 27cm x 20cm	115-230VAC	IP-65 (Protected from total dust ingress, and low pressure water jets from any direction –pending)	UL/CE/CSA (pending)

Flow Metered Dispensing and Pump Speed Control



Peristaltic, EDP and AOD Pumping Options



4-20mA Analog Inputs for Probe Flexibility



PC Application and Reporting Data Management Tool

- Simple system setup and data acquisition via a USB drive mounted internally to the case
- Reporting software that allows for complete monitoring of product usage, trends and any process alarm conditions
- Obtain verification of sanitation process procedures to assure optimal cleaning





PMP SERIES

PERISTALTIC METERING SYSTEM



The PMP Series peristaltic metering pump system is designed to dispense a variety of cleaning and sanitizing chemicals.

Positive, accurate metering of liquids can be triggered manually or by a process control signal. The PMP Series offer variable speed output or fixed speed output with a choice of programmable limit-timer or repeating cycle timer.

PMP is built with Knight's field proven, long-life peristaltic pumps. Moisture sensitive motor and controllers are enclosed in a corrosion resistant, watertight, powder coated case that stands up well for indoor and outdoor applications.

KEY FEATURES/BENEFITS:

- Auto-Start or Optional Manual Button Activation **NEW!**
- Watertight, Secure Locking Enclosure **NEW!**
- Single or Multi-Product Remote Activator (Optional) **NEW!**
- Long-Life Peristaltic Pumps
- Water Resistant Case w/"D" Shaped Silicone Gasket **NEW!**
- Long Lasting Squeeze Tube
- Fixed or Variable Pump Speed
- Wide Range of Flow Rates
- Microprocessor, Push Button Programming Available **NEW!**
- Pumps Up to 30 PSI
- Self Priming, Easy to Service
- Pump Lockout Option **NEW!**

PMP SYSTEM APPLICATIONS

FOOD & BEVERAGE PROCESSING PLANTS

- CIP/COP
- Grease Traps
- Sewage Treatment

DAIRY

- Pipeline Cleaning/Sanitizing
- Teat Dip Chemical
- Wash Pen Chemical Injection

INDUSTRIAL

- General Cleaning
- Machinery Lubrication
- Cooling Towers
- Boilers

TRANSPORTATION

- Car Wash Stations





PMP SERIES

PERISTALTIC METERING SYSTEM

PMP SPECIFICATIONS

Enclosure:	Powder coated #304 stainless steel.
Pump Drive:	Shaded pole AC or variable DC.
Squeeze Tube:	Material available for most chemical applications.
Control:	Limiting timer or repeating cycle timer.
Power Supply:	115VAC/60HZ, 230VAC/60HZ, 230VAC/50HZ
Dimensions:	PMP-500: 9.3"H x 5.8"W x 5"D (23.6cm x 14.7cm x 12.7cm)
	PMP-800: 9.3"H x 5.8"W x 5"D (23.6cm x 14.7cm x 12.7cm)
	PMP-900: 13.6"H x 8"W x 7.5"D (34.5cm x 20.3cm x 19.1cm)



PMP 800

Snap-on Mounting Clips And Plug-On Barrier Strips Provide Quick And Easy Service of Circuit Board

Secure Locking Enclosure

"D" Shaped Silicon Gasket Provides Water Resistant Seal

PMP AC FIXED SPEED

Electronic Control Options



KTM-600

Electronic variable limiting timer, standard on time, 0-12 minutes. Pump activates by a momentary switch or an electrical signal. Pump lock-out feature prevents abuse and over use of products. **NEW!**

Add -21 to Part # for 115/60 HZ

Add -22 to Part # for 230/60 HZ

Add -23 to Part # for 230/50 HZ



CT-200

Electronic Repeating Cycle Timer. Selectable off period from 0-90 minutes. Pump on time adjustable from 0-2 minutes.

Add -31 to Part # for 115/60 HZ

Add -32 to Part # for 230/60 HZ

Add -33 to Part # for 230/50 HZ

PMP w/o Control.

Add -01 to Part # for 115/60 HZ

Add -02 to Part # for 230/60 HZ

Add -03 to Part # for 230/50 HZ

PMP 500 SERIES (UP TO 4.4 GPH)

Model	Part #	Tube	Max PSI	Oz/Min	mL/Min	GPH
PMP-530	8452134	T-50E	30	2.4	70	1.1
PMP-5100	8453142	T-50E	30	9.3	275	4.4

PMP 800 SERIES (UP TO 19 GPH)

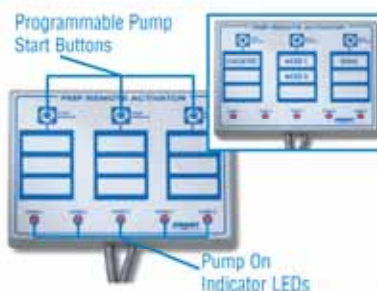
Model	Part #	Tube	Max PSI	Oz/Min	mL/Min	GPH
PMP-8120A	8457143	T-50E	30	23	670	11
PMP-8120B	8457830	T-66E	30	40	1180	19

PMP 900 SERIES (UP TO 105 GPH)

Model	Part #	Tube	Max PSI	Oz/Min	mL/Min	GPH
PMP-9130	8457760	T-86E	30	149	4400	70
MP-9270	8457765	T-86E	30	223	6600	105

PUMP ACTIVATOR OPTIONS

New!



Multi-Product Remote Activator
P/N 7655140



Case Mounted Manual Start Button
P/N 1900452

Single Product Remote Activator
P/N 7111460

PMP DC VARIABLE SPEED

Power Options

Add -01 to Part # for 115/60 HZ

Add -02 to Part # for 230/60 HZ

Add -03 to Part # for 230/50 HZ

PMP 500 SERIES (UP TO 5.3 GPH)

Model	Part #	Tube	Max PSI	Oz/Min	mL/Min	GPH
PMP-515-3VS	8453405	T-53E	30	.88	26	.41
PMP-515VS	8453410	T-50E	30	1.45	43	.68
PMP-560VS	8453415	T-50E	30	5.10	152	2.65
PMP-5110VS	8453425	T-50E	30	11.2	332	5.3

PMP 800 SERIES (UP TO 16.8 GPH)

Model	Part #	Tube	Max PSI	Oz/Min	mL/Min	GPH
PMP-8110VS	8453440	T-50E	30	21	614	9.7
PMP-8120B	8453445	T-66E	30	36	1081	16.8

PMP 900 SERIES (UP TO 63.4 GPH)

Model	Part #	Tube	Max PSI	Oz/Min	mL/Min	GPH
PMP-9100VS	8450170	T-86E	30	135	4000	63.4

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Plus PMP SERIES

Chemical Metering System

The PMP Plus Series is Knight's newest line of variable speed metering pumps built on the industry's most reliable and consistent platform. The high performance chemical metering system is designed to offer a wide array of flow rates and multi-functional controls to meet your pumping application needs. With the choice of peristaltic or electric diaphragm metering pumps, the PMP Plus offers the versatility to dispense a variety of process fluids or chemicals for food & beverage cleaning and sanitation, dairy farms, industrial process, and large laundry.



- New multi-function electronics with high resolution variable speed control (manual adjustment or 4–20 mA input) to vary pump delivery volume depending on the application
- One pump can serve a variety of your applications and reduce the need to stock multiple flow rates
- Optimize delivery speed for more efficient cleaning and reduced cycle time
- “All in One” control with selectable operating modes (limit timer, repeat cycle, relay input)
- PMP Plus Series offers the choice of Electric Diaphragm Pumps (2.8 gpm, 1.2 gpm, .6 gpm) [10.6 lit/min, 4.5 lit/min, 2.3 lit/min] or Peristaltic Metering Pumps (.6 gpm, .33gpm) [2.3 lit/min, 1.2 lit/min]
- Simple dip switch and push button programming
- Watertight, secure locking enclosure with powder coated IP-65 rated stainless steel
- Case mounted manual start activation or remote switch
- Delay on and lock out functions

KNIGHT

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INDUSTRIAL SYSTEMS

PMP Plus Electric Diaphragm Pump (PMPE)



The PMP Plus Electric Diaphragm Pump is a highly reliable and simple design with few moving parts that features a heavy duty, long life motor that produces high pressure yet, low pulsation pumping action. These field proven pumps are engineered for aggressive chemical, high duty cycle applications.

- High resolution variable speed controls allow you to "dial in" the precise flow rate required for a wide variety of metering applications
- Flow Rates: 3.1, 2.8, 1.2 and .6 gal/min (11.6, 10.6, 4.5 and 2.3 lit/min)
- Long lasting EPDM or Viton seals for a variety of chemicals
- More consistent dosing as flow rates "hold" for life of the valves
- No squeeze tubes to change or service
- Quick connect "bayonet" style inlet/outlet fittings
- Continuous duty rated motors
- Engineered for aggressive chemical, high duty cycle applications
- 70 PSI (4.83 bar) pressure switch option

PMP Plus Peristaltic Metering Pump (PMPP)



The PMP Plus Peristaltic Metering Pump System features Knight's industry best peristaltic pump design that has become the bench mark for reliability and quality for the chemical dispensing industry.

- High resolution variable speed control allows you to "dial in" the precise flow rate required for a wide variety of metering applications
- Flow Rates: .6 and .33 gal/min (2.3 and 1.2 lit/min)
- Long lasting squeeze tubes
- Self Priming, Easy to Service
- Watertight, secure locking enclosure with powder coated IP-65 rated stainless steel
- Only the tube gets wet
- Max Pressure: 30 PSI (2.1 bar)

Pump Activator Options

Pump activators are available for all PMP Plus models



Single Product Remote Activator
P/N 7640616-25



Case Mounted Manual Start Button
P/N 1900452

Note: All models include suction and discharge fittings (barb type), gear clamps, suction stand pipe and 6 ft. (1.8 meter) power cord.

Recommended Applications



Food & Beverage Processing Facilities
CIP Sanitizer Injection
COP Dosing
Bucket/Bottle Fill
Conveyor Lube Injection
Bottle Warmer



Machine Shops
Cutting Fluids

Life Sciences
Cart Washer
Tunnel Washer
Bucket Fill



Dairy Farm
Pipeline Cleaning/Sanitizing
Teat Dip Chemical Dispensing
Wash Pen Chemical Injection
Foot Bath



Laundry Operations
CBW/Tunnel Machines
Washer Extractors

Water/Waste Water
Cooling Tower Biocide
Caustic Injection
Chlorine Metering
Lift Station Dosing

PMP Plus Control Board

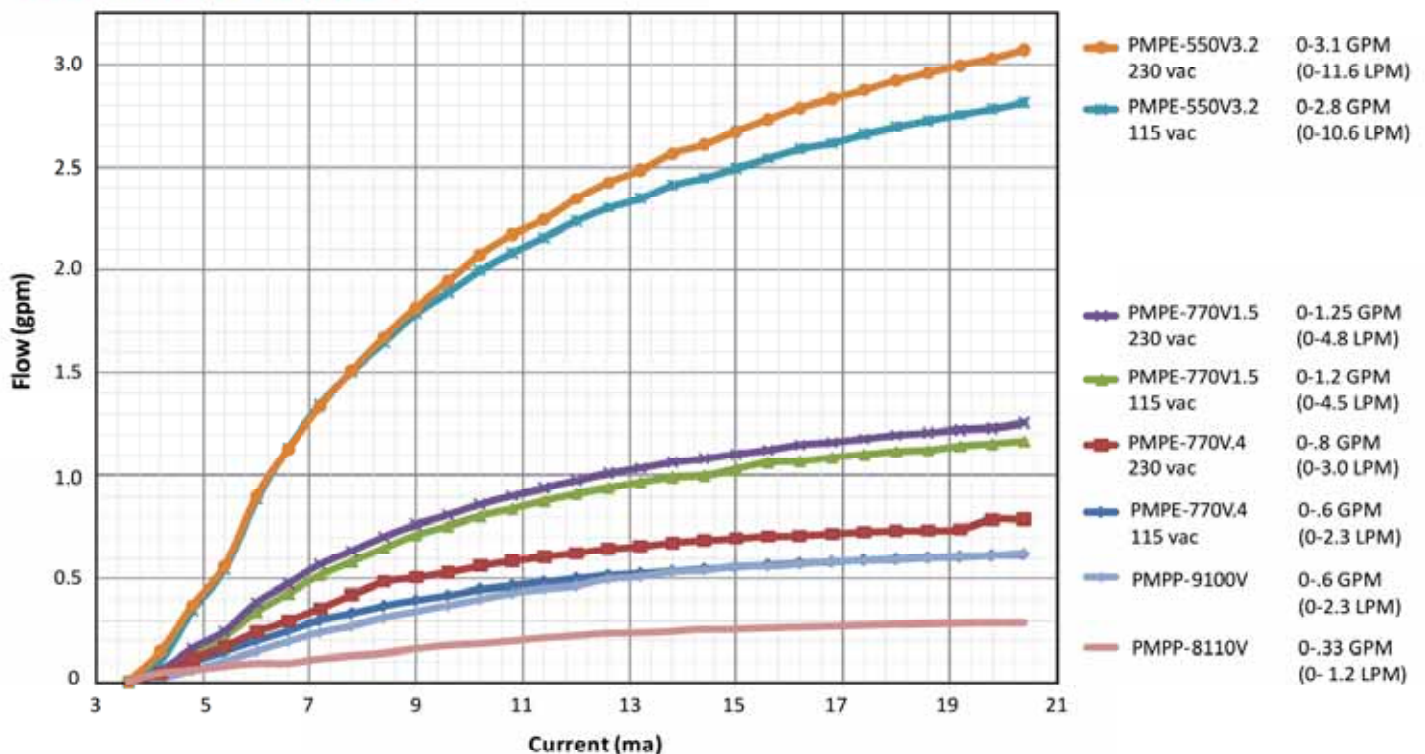
The PMP Plus chemical metering systems come standard with a unique microcontroller that provides extreme versatility of use. The multi-function pump controller varies the speed of the pump to provide accurate, precise injections for almost any chemical batch feed application, repeat cycle injection, pumped misting applications and direct closed loop injection. The circuit board has dual dip switch program/mode selectors to set the PMP Plus speed control and timer programming.



Programming Settings

Operating Mode	Signal Input	Pump "On" Time	Pump "Off" Time	Delay On Time	On First	Off First
KTM	14–240 VAC/VDC	0-12 min 42 Sec		0-12 min 45 sec	Select	Select
CT	14–240 VAC/VDC	0-12 min 42 Sec	0-255 min.	0-12 min 45 sec	Select	Select
Relay	14–240 VAC/VDC	1 second to continuous				
4-20 mA	External Input from PLC					

PMP Plus MFSC Flow Chart



Variable Flow Rates based on 4-20 ma current input at 0 PSI head pressure

ORDERING INFORMATION

PMP Plus Peristaltic Pump

PMPP-8110V

Power: 115VAC/60hz, 230 VAC/50Hz

Dimensions: 9.3" H x 5.8" W x 5" D (23.6 cm x 14.7 cm x 12.7 cm)

Part Number	Description	Electrical	Flow Rate
8457773-01	PMPP-8110V w/ peristaltic pump and EPDM squeeze tube, 30 PSI (2 bar)	110V	.33 gpm (0-1.2 LPM)
8457773-02	PMPP-8110V w/ peristaltic pump and EPDM squeeze tube, 30 PSI (2 bar)	230V	.33 gpm (0-1.2 LPM)
8457774-01	PMPP-8110V w/ peristaltic pump and Viton squeeze tube, 30 PSI (2 bar)	110V	.29 gpm (0-1.1 LPM)
8457774-02	PMPP-8110V w/ peristaltic pump and Viton squeeze tube, 30 PSI (2 bar)	230V	.29 gpm (0-1.1 LPM)
7600775	PMPP-8110V Accessory Kit		

PMPP-9100V

Power: 115VAC/60hz, 230 VAC/50Hz

Dimensions: 13.6"H x 8"W x 7.5"D (34.5cm x 20.3cm x 19.1 cm)

Part Number	Description	Electrical	Flow Rate
8457763-01	PMPP-9100V w/ peristaltic pump and EPDM squeeze tube, 30 PSI (2 bar)	110V	.6 gpm (0-2.3 LPM)
8457763-02	PMPP-9100V w/ peristaltic pump and EPDM squeeze tube, 30 PSI (2 bar)	230V	.6 gpm (0-2.3 LPM)
P7600776	PMPP-9100V Accessory Kit		

PMP Plus Electric Diaphragm Pump

PMPE-770V

Power: 115VAC/60hz, 230 VAC/50Hz

Dimensions: 13.6"H x 8"W x 7.5"D (34.5cm x 20.3cm x 19.1 cm)

Part Number	Description	Electrical	Flow Rate
8457768-01	PMPE-770V.4 w/ EDP and EPDM valve seals/diaphragm w/ bypass at 100 PSI (6.9 bar)	110V	.6 gpm(0-2.3 LPM)
8457768-02	PMPE-770V.4 w/ EDP and EPDM valve seals/diaphragm w/ bypass at 100 PSI (6.9 bar)	230V	.8 gpm(0-3.0 LPM)
8457769-01	PMPE-770V.4 w/ EDP and Viton valve seals/diaphragm w/ bypass at 100 PSI (6.9 bar)	110V	.6 gpm (0-2.3 LPM)
8457769-02	PMPE-770V.4 w/ EDP and Viton valve seals/diaphragm w/ bypass at 100 PSI (6.9 bar)	230V	.8 gpm (0-3.0 LPM)
8457766-01	PMPE-770V1.5 w/ EDP and EPDM valve seals/diaphragm w/ bypass at 100 PSI (6.9 bar)	110V	0-1.2 gpm (0-4.5 LPM)
8457766-02	PMPE-770V1.5 w/ EDP and EPDM valve seals/diaphragm w/ bypass at 100 PSI (6.9 bar)	230V	0-1.25 gpm (0-4.8 LPM)
8457770-01	PMPE-770V1.5 w/ EDP and Viton valve seals/diaphragm w/ bypass at 100 PSI (6.9 bar)	110V	0-1.2 gpm (0-4.5 LPM)
8457770-02	PMPE-770V1.5 w/ EDP and Viton valve seals/diaphragm w/ bypass at 100 PSI (6.9 bar)	230V	0-1.25 gpm (0-4.8 LPM)
8457771-01	PMPE-770V1.5 w/ EDP and EPDM valve seals/diaphragm, w/ 70 PSI (4.8 Bar) pressure switch	110V	0-1.2 gpm (0-4.5 LPM)
8457772-01	PMPE-770V1.5 w/ EDP and Viton valve seals/diaphragm, w/ 70 PSI (4.8 Bar) pressure switch	110V	0-1.2 gpm (0-4.5 LPM)
P7600785	PMPE-770V Accessory Kit, EDP 1.5 / 0.4, EPDM		
P7600770	PMPE-770V Accessory Kit, EDP 1.5 / 0.4, Viton		

PMPE-550V

8457764-01	PMPE-550V3.2 w/ EDP and EPDM valve seals/diaphragm w/ bypass at 100 PSI (6.9 bar)	110V	0-2.8 gpm (0-10.6 LPM)
8457764-02	PMPE-550V3.2 w/ EDP and EPDM valve seals/diaphragm w/ bypass at 100 PSI (6.9 bar)	230V	0-3.1 gpm (0-11.6 LPM)
8457767-01	PMPE-550V3.2 w/ EDP and Viton valve seals/diaphragm w/ bypass at 100 PSI (6.9 bar)	110V	0-2.8 gpm (0-10.6 LPM)
8457767-02	PMPE-550V3.2 w/ EDP and Viton valve seals/diaphragm w/ bypass at 100 PSI (6.9 bar)	230V	0-3.1 gpm (0-11.6 LPM)
P7600770	PMPE-550V Accessory Kit, EDP 3.2, EPDM		
P7600784	PMPE-550V Accessory Kit, EDP 3.2, Viton		

Pump Activator Options

1900452	Case Mounted Manual Start Button
7640616-25	Single Product Remote Activator

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CLEANGUARD™

Reliable Electric Diaphragm Pumps for Cleaning Chemistry and other Industrial Fluids

At last, a chemical feed pump simple and reliable enough to challenge peristaltic and air operated pumps. This unique pump features a heavy duty, long life DC motor drive that connects to an offset cam/wobbler plate that produces a mechanical movement similar to the human heart. This low friction, low stress pumping action produces smooth laminar flow at pressures up to 70 PSI (4.83 bar). Available in 5 chamber (3.2 GPM) (12.1 LPM), 3 chamber (1.5 GPM) (5.7 LPM), and a low flow (.4 GPM) (1.5 LPM) configurations.

Food & Beverage Plants • Dairy Farms • Fertigation • Industrial Fluids



CleanGuard with EPDM

Part Number	Description
7640623-01	CleanGuard "E" Electric Diaphragm Pump (3.2 GPM) (12.1 LPM) w/ Stainless Steel Case, Power Switch, 70 PSI (4.83 bar), Fittings w/ EPDM Valve Seals and Diaphragm
7640621-01	CleanGuard "E" Electric Diaphragm Pump (1.5 GPM) (5.7 LPM) w/ Stainless Steel Case, Power Switch, 70 PSI (4.83 bar), Fittings w/ EPDM Valve Seals and Diaphragm
7640636-01	CleanGuard "E" Electric Diaphragm Pump (.4 GPM) (1.5 LPM) w/ Stainless Steel Case, Power Switch, 70 PSI (4.83 bar), Fitting w/ EPDM Valve Seals and Diaphragm

Note: Add suffix -02 for 230 VAC units

CleanGuard with Viton

Part Number	Description
7640624-01	CleanGuard "E" Electric Diaphragm Pump (3.2 GPM) (12.1 LPM) w/ Stainless Steel Case, Power Switch, 70 PSI (4.83 bar), Fittings w/ Viton Valve Seals and Diaphragm
7640622-01	CleanGuard "E" Electric Diaphragm Pump (1.5 GPM) (5.7 LPM) w/ Stainless Steel Case, Power Switch, 70 PSI (4.83 bar), Fittings w/ Viton Valve Seals and Diaphragm
7640637-01	CleanGuard "E" Electric Diaphragm Pump (.4 GPM) (1.5 LPM) w/ Stainless Steel Case, Power Switch, 70 PSI (4.83 bar), Fitting w/ Viton Valve Seals and Diaphragm

Note: Add suffix -02 for 230 VAC units

Features and Benefits

- Rugged #304 stainless steel cabinet
- Quick connect inlet/outlet fittings
- EPDM or Viton seals for a variety of chemicals
- 70 PSI (4.83 bar) pressure switch built-in
- Continuous duty rated motors
- 110 VAC or 230 VAC

Typical Applications

- CIP/COP chemical dispensing
- Food & Beverage plant chemical allocation
- Laundry chemical feed
- Industrial spraying/misting applications
- Conductivity control chemical pump
- Waste water chemical feed

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AODD Pumps & Liquidtrol

Air Operated Pumps and Pump Controls for Automatic or Manual Dispensing

Knight's Air Operated Double Diaphragm pump is the engine that drives an entire range of new chemical management solutions for the Food Chain Hygiene, Laundry, and Industrial markets. In combination with the Liquidtrol, the Uniflow becomes a cost-effective chemical control system with accurate liquid dispensing for food & beverage, dairy, laundry, and industrial applications.



KAP-50



KAP-25

Push Button Timer Feed



Liquidtrol - ATC 500

24 Hour Program Feed



Liquidtrol - ATC 300

Repeat Cycle Timer Feed



Liquidtrol - ATC 200

Manual Button Feed



**Pneumatic Pump
Activator**

Air Operated Double Diaphragm Pumps

- AODD's are engineered for aggressive chemical, heavy duty applications.
- Extensive range of plastics and elastomers for all chemicals
- Reliable bolted design
- High Speed Flow: KAP-50 (14 gpm) and KAP-25 (4 gpm)
- Optional stainless steel cabinets
- Value Pricing

KNIGHT

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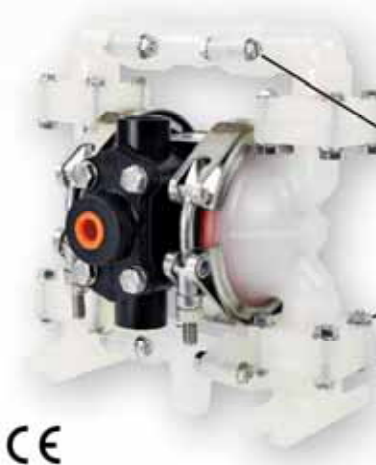
INDUSTRIAL SYSTEMS

KAP-25 1/4" Pump

The KAP-25 is a proven and reliable 1/4" air operated double diaphragm pump that delivers 4 gallons per minute pumping power. The condensate AODD design is ideal for on-demand intermittent pumping requirements. The KAP-25 is built for years of operation and low cost of ownership.

The KAP-25 features a patented ESADS+Plus system. This in-line serviceable air valve system ensures reliable and accurate performance.

Available in Polypropylene and Kynar wetted materials of construction, with Santoprene, Viton or PTFE interior.



4 gal/min
15 liters/min

Simple and Reliable
Fewer moving parts for reliable performance and longer life

Reliable Construction
All bolted construction allows for ease of maintenance and low repair costs.

Durable
Diaphragm connecting rod is corrosion resistant and guaranteed not to yield under tension.

UNIFLOW KAP-50 1/2" Pump

The Uniflow KAP-50 1/2" pumps feature an Air Valve System with Shoe Valve technology. Multiple suction/discharge ports that provide several liquid and plumbing options.

Constructed of **heavy duty plastic**, the center section resists corrosion from even the most aggressive chemicals, while providing injection speed and uniform flow under the most rigorous environmental conditions.

Fast priming and the industry's best life cycle performance will improve your chemical process with the **lowest possible cost of ownership**.

The KAP-50 1/2" size pumps are for the jobs that require higher flow rates with accuracy and reliability.



14 gal/min
53 liters/min

Multiple Porting Options
Top, side and end porting for both inlet and discharge

Accurate
Repeatable, high output, or controlled metering.

Adaptable Footprint
Allows for drop-in placement in existing system configurations

UNIFLOW Pump Enclosures for KAP-25 and Uniflow KAP-50 AODD pumps

Knight Uniflow AODD pump enclosures satisfy the need of plant operators and chemical suppliers who require the protection and safety advantages offered by a rugged stainless steel enclosure for high pressure chemical feed pumps that operate in, wet and hostile plant environments.



KAP-25
Pump Enclosure



KAP-50
Pump Enclosure



Features and Benefits

- #304 stainless steel body, cover with hinge
- Protect plant personnel from exposure to chemicals
- Prevent tampering by plant personnel
- Optional regulator/filter/gauge installed
- Chemical name label pack included
- Private label available
- Optional KAP-25/50 AODD pumps installed
- Wall mount
- Bottom suction/discharge
- Bottom air inlet/air regulator location

LIQUIDTROL Electronic Pump Controller

Advanced Technology for Controlling and Pumping Industrial Chemicals and Other Liquids

The Liquidtrol Chemical Control System is an advanced controller for the Uniflow Air Operated Double Diaphragm Pump. In combination with the Uniflow, Liquidtrol's cost-effective microprocessor electronics initiates, limits, cycles, triggers or regulates pumping activity. Knight offers three versions depending whether you want to control the pumping activity through a time feed, event feed, or cycle feed.



ATC500 "Time Feed"

Microprocessor Limit Time with 0-12 min Programmable Run Time w/Lock-out Function

- Start Feed By Pressing Button
- Start Feed By Electronic Signal
- Control Feed By Electronic Signal
- Optional Remote Activator



ATC300 "Event Feed"

Microprocessor Event Timer

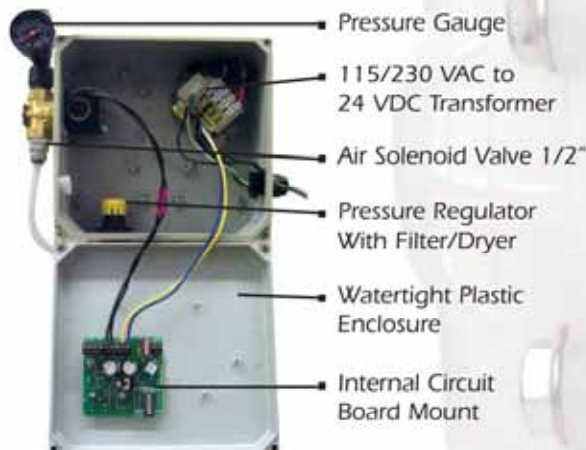
- 20 Programmable Feed Events/Per Day
- Battery Backup 24 Hour Clock
- LCD Display
- Non-Volatile Memory



ATC200 "Cycle Feed"

Microprocessor Cycle Timer

- 0 - 2 Minute Pump On Time
- 0 - 90 Minute Pump Off Time
- Apply Power To Start Cycle



Features & Benefits:

- Preassembled/Configured Pump Control
- Quick, Simple Installation and Programming
- Watertight Thermo Plastic Control Enclosure w/Built-in Air Solenoid Pressure Regulator, Pressure Gauge and Filter/Dryer
- Private Labeling Available

Liquidtrol Applications

- Fill Jeri Jugs, Portable Foamers, Buckets And Other Containers
- Automatic Feed For CIP Tanks
- Automatic Feed For COP Tanks
- Track/Conveyor Lube Feed
- Bulk Transfer To Day Tanks
- Waste Water Treatment
- Municipal Water Treatment



UNIFLOW Pneumatic Pump Activator

Introducing the industries first "out of box" pneumatic air pump switch for manual fluid feed applications.

This manually operated air switch is designed to operate any air operated double-diaphragm pump up to 1/2" port size or 12 SCFM. The built-in spring return provides "momentary" operation of the air pump. The pump activator turns the air supply off when the button is not fully depressed. The pump activator eliminates the worry of employees becoming distracted, leaving their chemical fill task unmanaged, creating an unsafe environment, or a costly chemical spill. This is the "safe and full proof" alternative to ball valves and on-off air switches that can be left accidentally running by operators.

Features and Benefits

- #304 stainless steel case with mounting
- Spring return to off state
- Large palm style button
- Color stickers to identify chemical/fluid color
- Optional pressure regulator mounts on side
- Easy to install/use



Great for jug or bucket fill operations

Cost effective alternative to timer feed

ORDERING INFORMATION

Air Operated Double Diaphragm Pump Units

KAP-25

Includes: Kynar suction and discharge fittings

Part Number	Description
1600826	KAP-25SP 1/4" AODD Pump, Polypropylene/Santoprene, 4 GPM (15 LPM)
1600827	KAP-25TP 1/4" AODD Pump, Polypropylene/PTFE, 4 GPM (15 LPM)
1600828	KAP-25SK 1/4" AODD Pump, Kynar/Santoprene, 4 GPM (15 LPM)

CABINET FOR KAP-25 AODD PUMPS

Part Number	Description
7640638	AODD Pump Cabinet, Stainless Steel for 1/4" AODD Pumps w/ Mounting hardware

KAP-50

Includes: Kynar suction and discharge fittings

Part Number	Description
1600968	KAP-50 AODD Pump Poly Santoprene w/ Fittings, Hose Clamps and Suction Screen
1600945	KAP-50 AODD Pump Poly/PTFE w/ Fittings, Hose Clamps and Suction Screen
1600979	KAP-50 AODD Pump Kynar/Santoprene w/ Fittings, Hose Clamps and Suction Screen
1600986	KAP-50 AODD Pump Kynar/PTFE w/ Fittings, Hose Clamps and Suction Screen
1600979-1	KAP-50SK 1/2" AODD Pump Kynar Body/Santo W/O Kit
1600968-1	KAP-50SP 1/2" AODD Pump Polypro Body/Santo W/O Kit
1600986-1	KAP-50TK 1/2" AODD Pump Kynar Body/PTFE W/O Kit
1600945-1	KAP-50TP 1/2" AODD Pump Polypro Body/PTFE W/O Kit

CABINET FOR KAP-50 AODD PUMPS

Part Number	Description
7640631	AODD pump cabinet, stainless steel for 1/2" AODD pumps w/ mounting hardware
7407128	Regulator/ Filter/ Gauge mounted in case

KAP-25 & KAP-50 OPTIONS

Part Number	Description
0600508	Air pressure Regulator/gauge Kit with mounting bracket, air fitting and ball valve
2200082	Air Operated A/S valve with PTFE seals 3/8"
0200905	Plastic wall bracket for AODD pumps with mounting hardware
7541100	Stainless steel container shelf for 2, 2.5 or 5 gallons containers

Air Pump Controllers

LIQUIDTROL AIR PUMP TIMER CONTROLS

Part Number	Description
7641075-07	ATC-500: Air Pump Control w/ Limit Timer, Air Solenoid, Regulator, Filter/Dryer, Gauge (115/230 VAC)
7641073-07	ATC-300: Air Pump Control w/ Programmable Event Timer, Air solenoid, Regulator, Filter/Dryer, Gauge (115/230 VAC)
7641072-07	ATC-200: Air Pump Control w/Cycle Timer, Air Solenoid, Regulator, Filter/Dryer, Gauge (115/230 VAC)

AIR PUMP PNEUMATIC PUMP ACTIVATOR

Part Number	Description
7640619	AODD momentary switch
7407013	Kit, regulator, w/ bracket and hardware

KAP-25 System Specifications

	English	Metric
Flow Rate		
Adjustable to :	0-4 gpm	0-15 lpm
Port Size		
Inlet and Outlet	1/4" NPTF (BSP)	
Air Inlet	0.25" NPTF	
Air Exhaust	0.25" NPTF	
Max. Particle Size		
Diameter	0.10"	2.5 mm
Dimensions		
Length	7.2"	235 mm
Width	7.0"	198 mm
Height	5.5"	140 mm
Suction Lift	Dry	Wet
Santoprene	10' (3.0m)	20' (6.0m)
PTFE	5' (2.0m)	10' (3.0m)

KAP-50 System Specifications

	English	Metric
Flow Rate		
Adjustable to :	0-14 gpm	0-53 lpm
Port Size		
Inlet and Outlet	1" 150# ANSI DIN #25 Flange	
Air Inlet	0.375" NPTF	
Air Exhaust	0.375" NPTF	
Max. Particle Size		
Diameter	0.0625"	1.6 mm
Dimensions		
Length	8.5"	216 mm
Width	9.30"	236 mm
Height	10.06"	256 mm
Suction Lift	Dry	Wet
Santoprene	15' (4.5m)	25' (7.5m)
PTFE	5' (1.5m)	10' (3.0m)



Mounting Bracket

- * Economical thermoplastic
- * Fits KAP-25 and KAP-50
- * Strong, chemical resistant
 - * Easy to work with
 - * Includes mounting hardware

Part Number: 0200905



Stainless Steel Shelf

Rugged container shelf with adjustable rack and drip tray. New drip tray design offers more effective chemical drainage. Fits 2, 2.5 or 5 gallon containers.

Part Number: 7541100

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Fax +65.6489.6723



FOAMCLEAN 25-95

25 Gallons / 95 Liters Mobile Foamer

Knight is proud to announce the release of our new air powered 25 gallon (95 liter) mobile foaming system. This new higher capacity foamer includes our dependable Polypropylene air operated double diaphragm pump that dispenses a rich lather of foam at 50 gallon of foam/min (190 lit/min) with a projection distance of up to 30 ft (9 m).



INDUSTRIAL SYSTEMS

- FoamClean 25-95 is designed to be the most innovative and user friendly mobile foamer made today.
- The FoamClean 25-95 incorporates our Polypropylene pump with the choices of Viton, Santoprene, or Teflon seals which allows for the flexibility to adapt to the different types of chemicals such as corrosive chlorinated / alkaline cleaners and acids used today.
- FoamClean 25-95 has the option to be powered by a 4 GPM (15 LPM) or 5 GPM (18.9 LPM) reliable, double diaphragm pump
- Our re-engineered "foam mixer" delivers a much wider range of wet-dry foam to accommodate the range of products and dilutions you need!
- The pump compartment on this foamer has a hinged door that allows for easy access with only two "captive" screws.
- Tool tray on top for storing scrub brushes, gloves, goggles and other cleaning accessories along with integrated spray bottle hangers on the handle.
- Custom colors and proprietary name embossing are also available.

KNIGHT

IDEX
FLUID & METERING

Engineered Advantages

The new FoamClean 25-95 is no ordinary mobile foamer. We focused our design efforts on building a mobile foamer that is more intuitive for operators, easier to work on, and more versatile for the range of cleaning tasks and chemistries found in the food and beverage and dairy farm markets of today.



- 25 feet (7.6 m) of high pressure foam hose
- Tool/Spray bottle storage on top of tank
- Simple flip up tank lid allows for fast, easy tank filling
- 25 gallon (95 liter) tank capacity allows operators to clean longer
- Custom colors and proprietary name embossing are available for high volume users
- Easy access front drain port to drain the tank

- Integrated spray bottle hangers on the handle
- Hinging equipment door for easy access to air components with two "captive" screws
- Re-engineered "foam mixer" delivers a wider range of wet-dry foam quality
- 4 GPM (15 LPM) or 5 GPM (18.9 LPM) air operated pump
- Filter/Dryer/regulator with automatic drain
- Ergonomic 4 wheel cart design is easy to push under conveyors and around tight areas

Foam Applicators



Straight Bore Nozzle

The foam wand is designed to throw a rich lather of foam at distances up to 30 feet (9 m) and reach those high ceilings, hard to reach crevices, and pockets where biofilm can form inside food processing machinery.



V Jet Fan Spray

The foam wand is designed for up close work and to cover a larger work area with fewer strokes of the wand. Foam bubbles break down into smaller sizes and provide an even distribution of foam over the cleaning surface.

ORDERING INFORMATION

FOAMCLEAN 25-95

Foam Clean 25-95 is a fully configurable foamer offering an extensive range of pump and foam hose options. Select the base foamer (7649440), the type of hose and nozzle attachment you prefer and the pump required for your chemistry.

PART # DESCRIPTION

7649440 Foam Clean 25-95 Base Foamer w/o pump, w/o Hose/Foam Wand

Hose Options

0800532 25 ft. (7.6 m) High Pressure Foam Hose (Red Reinforced Rubber) with w/ Wand and Shut Off Valve
 0800535 25 ft. (7.6 m) High Pressure Foam Hose (Reinforced Rubber w/ Blue PVC Liner) with w/ Wand and Shut Off Valve
 0800531 25 ft. (7.6 m) High Pressure Foam Hose (Reinforced Rubber w/ Blue PVC Liner) with w/ Wand and Shut Off Valve w/ V-Jet Nozzle

Air Operated Pump Options

1600826-2 4 GPM (15 ltr/min) Air Operated Pump w/ Santoprene Seals/Diaphragm
 1600827-2 4 GPM (15 ltr/min) Air Operated Pump w/ Teflon Seals/Diaphragm
 1600828-2 4 GPM (15 ltr/min) Air Operated Pump w/ Viton Seals/Diaphragm
 1600956-2 5 GPM (18.9 ltr/min) Air Operated Pump w/ Polypropylene Body and Santoprene Seals/Diaphragm
 1600957-2 5 GPM (18.9 ltr/min) Air Operated Pump w/ Polypropylene Body and Viton Seals/Diaphragm

SPECIFICATIONS

Foam Output	50 gallons/minute (190 liters/minute)
Foaming Distance	30 Feet (9 Meters)
Chemical Compatibility	Santoprene: Acids, Chlorinated Cleaners, Alkalines, Soaps Viton: Acids, Chlorinated Cleaners, Solvents, D-Limonene, Hydrocarbons Teflon: All Acids, Chlorinated Cleaners, Alkalines, Caustics
Hose	25 feet (5.2 m) reinforced hose, 3/4" ID with wand
Dimensions	W 23.3" x H 35.0" x D 30.2" W 59.1 cm x H 88.9 cm x D 76.6 cm

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FOAMCLEAN™

Mobile and Wall Mount Foam Cleaning Systems

FoamClean is designed to reliably produce consistent and controllable foam quality through the use of premixed foam cleaning chemicals. The FoamClean Mobile and Wall Mount Foamer dispenses a rich lather of foam at 50 gal/min (foam) [190 lit/min (foam)] with a projection distance of up to 30 feet (9 meters).

"Efficient, Reliable, and Convenient"



**FoamClean Mobile Foamer
15 gallon (57 liter)**



**FoamClean Mobile and
Wall Mount Foamer
is powered by the
4 GPM or 5GPM
(15 LPM or 18.9 LPM)
air operated pump**

- Super durable, Polyethylene hand-truck is chemical and corrosion resistant
- High foaming capacity
- Most versatile foam quality of any air operated system
- Long lasting, Polypropylene air operated pump with Viton, Santoprene or Teflon seals
- Longer throw and broader coverage
- Air pump is engineered for aggressive acids, alkalines, and chlorine
- Simple operation and user friendly

KNIGHT

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INDUSTRIAL SYSTEMS

Air Operated Pump



Knight's FoamClean Mobile and Wall Mount system is powered by 5 GPM (18.9 LPM) Polypropylene double-diaphragm pump with Viton or Santoprene seals or 4 GPM (15 LPM) pump with Teflon seals for extended product life, giving you maintenance-free pump operation. The pump is protected in a chemical and corrosion resistant Polyethylene case protecting the pump for years of reliable service.

Applications and Benefits



FoamClean foamers have a higher and longer throw than competitors with a projection distance of 30 feet (9 meters).



The dryness or wetness of the foam can be adjusted for different cleaning applications with a simple turn of a knob.



FoamClean produces consistent foam quality to adhere to irregular surfaces and provide better coverage than liquid cleaning chemicals.



FoamClean can be used throughout the food processing, transportation, dairy, industrial, and agricultural industries.

Aqua-Minder

15 gal (57 L) Dilution Management Unit

The Aqua-Minder automatically mixes cleaning chemical with water and maintains chemical supply level at all times. The Aqua-Minder saves time, increases workplace safety and improves efficiency in all cleaning processes. Can be used on Car Wash, with FoamClean Foamers, filling scrubbers and many other Industrial applications.



FOAMCLEAN SPECIFICATIONS

	Wall Mount FCW-5.0S, Mobile FCM-5.0S,	Wall Mount FCW-5.0V, Mobile FCM-5.0V	Wall Mount FCW-4.0T, Mobile FCM-4.0T
Chemical Compatibility	Acids, Chlorinated Cleaners, Alkalines, Soaps	Acids, Chlorinated Cleaners, D-limonene, Hydrocarbons	All Acids, Chlorinated Cleaners, Caustics, Alkalines
Air Pump Materials	Santoprene	Viton	Teflon
Foam Output	50 Gallons/Minute 190 Liters/Minute	50 Gallons/Minute 190 Liters/Minute	50 Gallons/Minute 190 Liters/Minute
Foaming Distance	30 Feet 9 Meters	30 Feet 9 Meters	30 Feet 9 Meters
Air Consumption	20-100 PSI, 1.4 to 6.9 bar	20-100 PSI, 1.4 to 6.9 bar	40-80 PSI, 5-10 bar
Hose	50 ft (15 m) Reinforced, 3/4" ID w/Wand	50 ft (15 m) Reinforced, 3/4" ID w/Wand	50 ft (15 m) Reinforced, 3/4" ID w/Wand

ORDERING INFORMATION

FOAMCLEAN WALL MOUNT FOAMER SYSTEM

PART #	DESCRIPTION
7649309	Wall Mount, 5 GPM (18.9 ltr/min) Air Operated Pump w/Santoprene Seals/Diaphragm
7649308	Wall Mount, 5 GPM (18.9 ltr/min) Air Operated Pump w/Viton Seals/Diaphragm
7649302	Wall Mount, 4 GPM (15 ltr/min) Air Operated Pump w/Teflon Seals/Diaphragm
1800980	15 Gallon (57 liters) Heavy-Duty Polypropylene Tank w/Cap
7113500	Aquaminder 4 GPM Proportioning System w/ Vacuum Breaker
7113510	Aquaminder 4 GPM Proportioning System w/o Vacuum Breaker

DIMENSION / WEIGHT (w/HOSE)

28"W x 12"H x 8"D/30 lbs. (71cm x 31cm x 20cm/13.6 kg.)
28"W x 12"H x 8"D/30 lbs. (71cm x 31cm x 20cm/13.6 kg.)
28"W x 12"H x 8"D/30 lbs. (71cm x 31cm x 20cm/13.6 kg.)
22"H x 16" D/8 lbs. (55.9cm x 50.7cm/3.8 kg.)

FOAMCLEAN MOBILE FOAMER SYSTEM

PART #	DESCRIPTION
7649410	Mobile, 5 GPM (18.9 ltr/min) Air Operated Pump w/Santoprene Seals/Diaphragm
7649420	Mobile, 5 GPM (18.9 ltr/min) Air Operated Pump w/Viton/Diaphragm
7649312	Mobile, 4 GPM (15 ltr/min) Air Operated Pump w/Teflon Seals/Diaphragm
7649316	Mobile, 4 GPM (15 ltr/min) Air Operated Pump w/Santoprene Seals/Diaphragm

DIMENSION / WEIGHT (w/HOSE)

17"W x 45"H x 24"D/49 lbs. (42cm x 115cm x 61cm/22.2 kg.)
17"W x 45"H x 24"D/49 lbs. (42cm x 115cm x 61cm/22.2 kg.)
17"W x 45"H x 24"D/51 lbs. (42cm x 115cm x 61cm/23.1 kg.)
17"W x 45"H x 24"D/51 lbs. (42cm x 115cm x 61cm/23.1 kg.)

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SANI-CLEAN³

Foam and Spray System

SANI-CLEAN 3 – FOR EASY, NO FUSS CLEANING



Sani-Clean 3 strikes a perfect balance between design simplicity, robust engineering and reliable performance, making it the obvious choice for many cleaning and sanitation requirements. This two product plus fresh water rinse dispenser accurately mixes any detergent or sanitizer at your chosen dilution ratio to produce a foaming or non-foaming cleaning solution. Your customers can say "good-bye" to chemical spills and improper chemical mixing, and "hello" to quick and convenient no-fuss cleaning.

Sani-Clean 3's simple design gives it flexibility for a wide range of applications. Use it for cleaning supermarket meat rooms, commercial kitchen areas, bakeries, seafood stores, cars and trucks, loading docks, and so on. It adapts to almost any environment. Sani-Clean 3's robust body and heavy duty stainless steel cover won't crack and resists scrapes that can deface plastic covers over time. This system will look good for years to come.

FEATURES AND BENEFITS

- HEAVY DUTY STAINLESS STEEL CONSTRUCTION
- EASY TO SERVICE
- ICONIC GRAPHIC INSTRUCTIONS
- TWO PRODUCT DISPENSING WITH DEDICATED FRESH WATER RINSE VALVE
- 16 POSSIBLE DILUTIONS FOR EACH CHEMICAL
- IMPROVED QUALITY FOAMING ACTION
- TRIGGER SPRAY GUN ACTION
- CHOICE OF 25 FT. OR 50 FT. REINFORCED HOSE



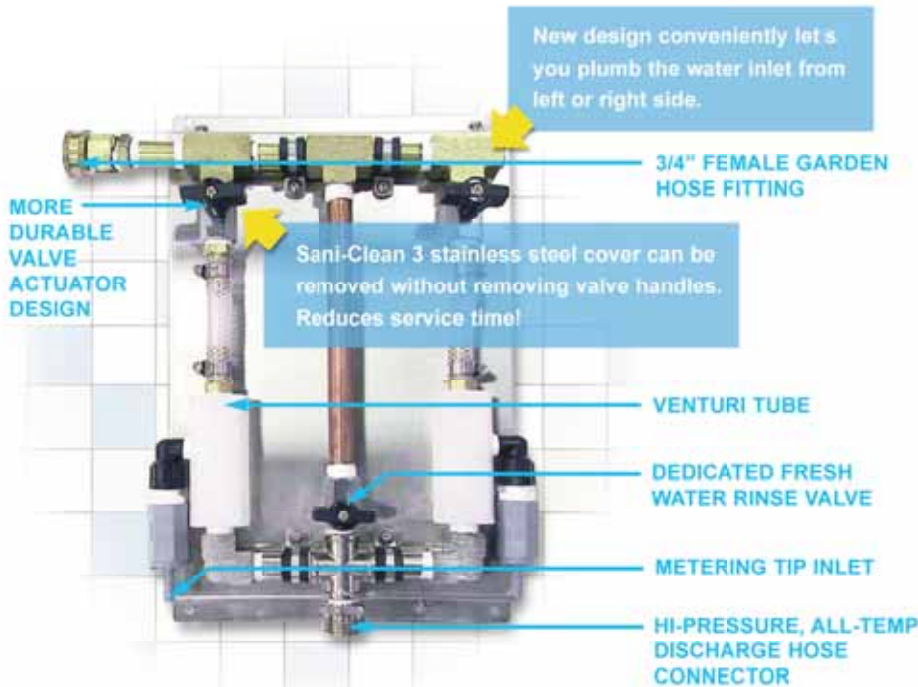
New foaming wand throws foam up to 5 feet. To operate, simply turn actuator valve, aim and pull spray gun trigger.



The foaming wand produces a rich foam that clings to surfaces to enhance cleaning results.

SANI-CLEAN 3

Foam and Spray System



16 DIFFERENT DILUTIONS

FLOW TIP COLOR	OZ./GAL	RATIO
No Insert	11.0	12:1
White	11.0	12:1
Yellow	11.0	12:1
Pink	9.9	13:1
Dark Green	8.7	15:1
Black	8.0	16:1
Brown	6.0	20:1
Gray	3.9	30:1
Blue	3.5	40:1
Red	2.6	50:1
Peach	1.9	70:1
Light Blue	1.4	95:1
Purple	1.1	120:1
Light Green	0.8	160:1
Orange	0.4	350:1
Light Brown	0.2	700:1

Mixing ratios should be used for reference only. Ratios and flow rates will vary depending on water input pressure, chemical viscosity, and length of discharge hose. Ratios listed are based on viscosity of water at 40 psi.

Part No.	Description
8600925	Sani Clean 3 w/o Industrial Hose
7600225	Accessory Kit w/ 25' Industrial Hose
7600250	Accessory Kit w/ 50' Industrial Hose

KNIGHT SANI-CLEAN 3 OFFERS A COMPLETE LINE OF ACCESSORIES:

Spray Gun - Produces multiple spray patterns as the trigger handle is depressed and can withstand most temperatures.

Foaming Wand - attaches easily to the spray gun with a quick-connect fitting.

Stainless Steel Hose Bracket - wall mounted bracket to conveniently hang the hose and spray gun after use.



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LUBE SAVER

Automatic Conveyor Lubrication

The Lube Saver system is designed to dispense fluid based lubricants using a simple dedicated logic controller with repeat cycle intervals programmed to apply just the right amount of lubricant at each lube point. Menu driven programming allows the lube technician to quickly and easily program how long the lube pump will run for each "event" and how long the corresponding lube zone valve will remain open to allow lube to flow.

**A simple, easy to use system for
dispensing and controlling conveyor lubricants**



INDUSTRIAL SYSTEMS

- Dispense synthetic lubes to reduce water usage and discharge
- Dispense water based lubes with automatic zone control and optimization
- Clean and simple installation
- Less complicated than water driven pumps
- Simple digital controller with menu driven programming and password protection
- Reliable electric diaphragm lube pump (.4 , 1.5 , or 3.2 GPM)(1.5 , 5.7, or 12.1 LPM)
- Rugged 16 gauge #304 stainless steel control cabinet
- Supplies up to six lube zones with external on/off activation
- Lube cycle start with a toggle of a switch, voltage signal or dry contact inputs
- Easy to install, no need for highly skilled installation labor
- Track lube usage with EDGE data logger

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Features



Operator Control Panel

The simple operator panel allows operators to select which zones will be lubricated during that production run.

By toggling the cycle start switch the Lube Saver begins its preset lube dosing events automatically.

If the operators leave the system on too long an alarm will sound



Water Based Lube

Optional water based lube supply/ proportioning equipment packages

- 1 Water meter paced diaphragm pump, mix tank and level control
- 2 Level control/proportioner with 15 gallon poly tank

How It Works

At the beginning of each shift the operator determines which zones are to be lubricated and selects the corresponding zone switches on the front of the system as well as turning on the cycle start switch. At the end of the shift, the operator turns the cycle start switch to the off position. Lube cycles can also be triggered automatically from a PLC, conveyor motor switch, etc.

Applications



Market Served:

Beverage
Distillery
Food
Automotive & Chemical
Pharmaceutical & Nutritional
Cosmetic & Personal Care

Specification

Pumps	Three Chamber Electric Diaphragm with 3/8" (.95 cm) fittings
Case Material	Stainless steel #201
Wet End Materials	Viton/Santoprene
Dimensions	24.91" x 15.11" x 8.4" (63.27 cm x 38.38 cm x 21.34 cm)
Flow Rate	.4 GPM, 1.5 GPM, 3.2 GPM (1.5 LPM, 5.67 LPM, 12.1 LPM)
Case Rating	IP-65
System Voltage	115 or 230
Signal Start Input Voltage	18 to 250 VAC
PSI	70 PSI (4.82 bar)
Lube Zone Valve Voltage	110 or 230 VAC
Suction Lift	10 feet (3.04 m)
Maximum lift for priming	10 feet (3.04 m)

ORDERING INFORMATION

LUBE SAVER

PART #	DESCRIPTION	FLOW RATE	POWER INPUT
7641419	Lube Saver automatic lubrication system		
1600135-01	Electric Diaphragm Pump with internal bypass (Viton)	.4 GPM (1.5 LPM)	115 V
1600135-02	Electric Diaphragm Pump with internal bypass (Viton)	.4 GPM (1.5 LPM)	230 V
1600138-01	Electric Diaphragm Pump with internal bypass (Viton)	1.5 GPM (5.7 LPM)	115 V
1600138-02	Electric Diaphragm Pump with internal bypass (Viton)	1.5 GPM (5.7 LPM)	230 V
1600144-01	Electric Diaphragm Pump with internal bypass (Viton)	3.2 GPM (12.1 LPM)	115 V
1600144-02	Electric Diaphragm Pump with internal bypass (Viton)	3.2 GPM (12.1 LPM)	230 V

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Pro-Watch | Pump Systems

Pro-Watch is a microprocessor based chemical dispensing system for grease traps, drains, and odor control. This easy-to-use system stores up to 20 dispensing events per day, programmable by day, minutes or seconds. With an addition of the Misting Kit, Pro-Watch becomes an advanced chemical spray system designed to spray deodorizing or sanitizing mist in a variety of applications such as trash compactors, roll-a-way garbage bins and other trash depositories.



KEY FEATURES

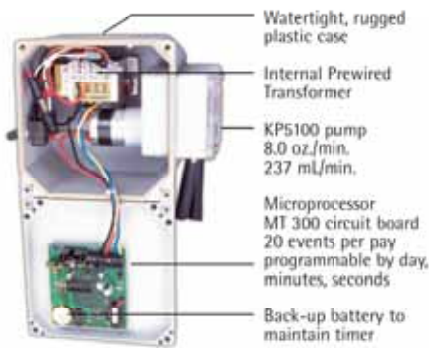
- **Microprocessor Based Controls**
- **High-impact Thermoplastic, Watertight Case**
- **LCD Display**
- **Self Priming**
- **Wall or Shelf Mounting**
- **Non-volatile Program Memory**
- **115 Volt Transformer or 6 Volt Batteries**



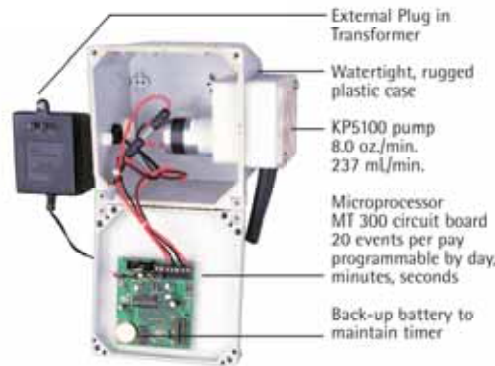
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IDEX CORPORATION

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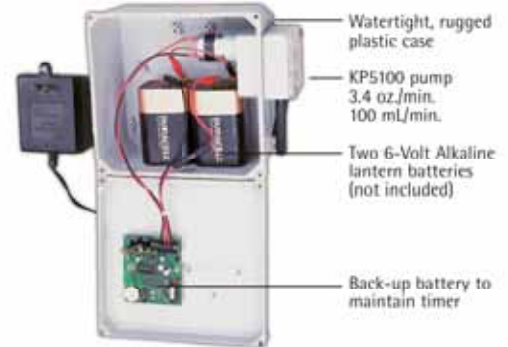
Pro-Watch Specifications



Pro-Watch 510T



Pro-Watch 510XT



Pro-Watch II
8600385-01

Pro-Watch Systems - 24 Hour Clock

MODEL	PART NO.	DESCRIPTION	SPECIFICATIONS
Pro-Watch 510T	8600395-07	Microprocessor 24 hour clock control system w/real time battery backup, 20 events per day programmable in minutes and seconds. Features a KP-5100 Pump, feed rate 237 mL/min, 3.7 gph, 30 PSI. With pre-wired built-in stepdown UL-Transformer. Voltages available: 115/230 VAC, 50/60 HZ.	Housing high impact thermoplastic, watertight configuration Pump Drive rugged gear motor w/AC or DC drive Squeeze Tubing materials available for most chemical applications Control Options MT-300 microprocessor control with 20 event per day, programmable in minutes and seconds with digital display and external programming keys. Display "sleep mode" preserves battery life. Power Supply 24/115VAC/60HZ, 230VAC/60HZ, 230 VAC/50HZ Dimensions Pro-Watch 510T: 6"(H)x5"(W)x6"(D) Pro-Watch 510XT: 6"(H)x5"(W)x6"(D) Pro-Watch II: 8 1/2"(H)x7 1/2"(W)x8 1/2"(D)
Pro-Watch 510XT	8600391-01	Same system as the Pro-Watch 510T, but utilizes an external 115 Volt wall plug transformer, low voltage wires from wall transformer can be lengthened as required.	
Pro-Watch II	8600385-08	Same system as the Pro-Watch 510T, but housed in a larger watertight plastic case designed to hold two 6 Volt alkaline (Energizer #529 or equivalent) lantern batteries. No AC power required. Feed rate 100 mL/min, 3.4 oz/min.	
Pro-Watch II	8600385-01	Same system as the Pro-Watch 510T, but housed in a larger watertight plastic case designed to hold two 6-volt alkaline (Energizer #529 or equivalent) lantern batteries. No AC power required. Feed rate 100 mL/min, 3.4 oz/min. Comes with external plug-in transformer to operate w/115 VAC power.	

Pro-Watch Misting System

The Pro-Watch Misting System is engineered to dispense Odor Counteractants, Enzymes and other odor control chemicals through a misting nozzle. This system is perfect for roll away bins, trash compactors and other garbage and card board repositories that produce noxious odors that can offend customers and residential neighbors.

Pro-Watch Misting System
115/208/230 VAC 50/60 Hz P/N 8600395-M7

Pro-Watch Misting System
w/External 115 VAC Transformer P/N 8600391-M1

Misting Kit P/N 8600643
Includes Misting Nozzle, 3/8" Polyethylene Tubing, T-50T Squeeze Tube, and 3/8" Pick-up Tube. Does not include the Pro-Watch System.



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