

ECLIPSE PRO

PULSELESS INTELLIGENT GEAR PUMP METERING



Flow:

up to 27 gph (102 lph)



Pressure:

up to 150 psi (10.3 bar)



Temperature:

up to 200°F (93°C)

*Pressures derate above 150°F (65°C)



Viscosity:

up to 1,000 cPs



STOP MAINTAINING YOUR CHEMICAL DOSING SYSTEM. START RELYING ON IT.

Eclipse Pro™ is the all-in-one intelligent metering solution that eliminates downtime, simplifies operations, and delivers precise, reliable dosing - without the complexity.



NSF/ANSI/CAN 61*

* In Progress



PULSAFEEDER®

ECLIPSE PRO™

For over 80 years, Pulsafeeder, Inc. continues to be a global leader in chemical dosing innovation and fluid handling technology. With extensive experience in providing fluid handling solutions, our pumps are designed to handle even the toughest applications. Known for rugged construction and dependable performance, our products are manufactured with excellence and the highest quality standards.

TRANSFORM CHEMICAL DOSING FROM A MAINTENANCE BURDEN INTO A RELIABLE ASSET

For water and wastewater operators and engineers who need reliable, low-maintenance chemical dosing, Eclipse Pro™ is a fully integrated metering solution that replaces complex, multi-component systems with a single intelligent unit. Unlike traditional pumps that require frequent maintenance, calibration, and external controls, Eclipse Pro™ delivers precise, pressure-independent dosing while eliminating common failure points, reducing downtime, and lowering total cost of ownership.

Eclipse Pro™ isn't just a better pump - it replaces the entire dosing system, eliminating the maintenance cycles, failure points, and complexity built into traditional solutions while delivering precise, continuous performance you can depend on.

Unlike traditional pumps that rely on frequent maintenance, external controls, and reactive servicing, Eclipse Pro™ provides precise, pressure-independent dosing with built-in predictive intelligence and time-to-service visibility. But Eclipse Pro™ isn't just a better pump - it's a better system. The system offers no tubing, no calibration, and predictive maintenance, lowering operating costs and operator headaches.

By consolidating the pump, motor, and controller into one intelligent solution, it eliminates the maintenance cycles, operational complexity, and hidden costs built into conventional dosing systems - while delivering continuous, accurate performance you can rely on 24/7. Eclipse Pro™ is a modern, industrial-grade solution reinforcing confidence and credibility in water treatment.

A CHEMICAL DOSING SYSTEM THAT WORKS FOR YOU, NOT ONE YOU CONSTANTLY HAVE TO MANAGE.

Eclipse Pro™ doesn't just reduce upfront complexity—it eliminates ongoing costs:

- Eliminate frequent peristaltic pump tubing replacement
- Reduce installation time and operator training
- Reduced maintenance labor
- Less downtime and emergency repairs
- Lower chemical waste
- Fewer spare parts

MARKETS & TYPICAL APPLICATIONS

MARKETS:

- Chemical Processing
- Municipal Water
- Wastewater Treatment
- Potable Water Treatment
- General Industries
- General Chemical Metering

TYPICAL APPLICATIONS AND FLUIDS:

- Municipal and Industrial Water and Wastewater Treatment Predominate Applications
- Disinfectants: Sodium Hypochlorite, Chlorine Dioxide
- Odor / Wastewater Biology: Calcium Nitrate
- pH Control: Sulfuric Acid, Hydrochloric Acid, Nitric Acid
- Coagulation: Ferric Chloride
- Fluoridation: Hydrofluorosilicic Acid
- Antiscalants
- De-chlorination
- Membrane Cleaners

When peristaltic tubing fails repeatedly...

You're stuck in a cycle of downtime and labor costs

→ **Upgrade before the next failure cycle begins**

When sodium hypochlorite causes gas lock...

You risk losing prime and interrupting treatment

→ **Switch to a system that handles gas continuously**

When your system requires constant calibration...

You're losing time—and accuracy

→ **Eliminate calibration entirely**

When you lack process visibility...

You're exposed during audits and troubleshooting

→ **Gain real-time data and built-in logging (Coming soon)**

When you rely on cycle counting for maintenance...

You're wasting time and replacing parts too often

→ **Move to true predictive maintenance**

Why Traditional Systems Keep Failing

- **Pump Component Wear and Maintenance:**
Frequent peristaltic tubing replacements and pump wear cause downtime and increase hazardous maintenance in water facilities.
- **System Complexity and Failure Points:**
Complex systems with multiple components and wiring, VFDs, panels, calibration necessity create continuous troubleshooting and unplanned downtime.
- **Reactive Maintenance and Unplanned Downtime:**
Operators face reactive maintenance due to alarms, loss of prime from off-gassing chemicals, and unnecessary preemptive peristaltic pump tube replacement to avoid unexpected failures.

Eclipse Pro™ Replaces The Entire System Not just the pump!

- Eliminates tubing failures and calibration
 - Removes external components (VFDs, panels)
 - Adds predictive intelligence and real-time visibility
- FEWER PARTS. FEWER FAILURES. LOWER COST.**

MEET ECLIPSE PRO™

ELIMINATE COMPLEXITY. REDUCE DOWNTIME. LOWER TOTAL COST OF OWNERSHIP.

A fully integrated chemical dosing system that replaces multi-component processes with a single intelligent unit. Eclipse Pro™ redefines chemical dosing by replacing complex, maintenance heavy systems with a single intelligent unit that combines the pump, motor, and control - eliminating calibration, reducing downtime, and removing common failure points while delivering precise, reliable performance at a lower total cost. Eclipse Pro™ consolidates....

- Pump
- Motor
- VFD
- Controller
- Flow meter
- Panels & wiring



Compact System:

(Pump + Motor + Controller) Eliminates need for external VFD's, and control panels.



Enter & Go Setup:

Automatically delivers target flow after simple input.



Predictive Maintenance:

Identifies issues before failure occur.

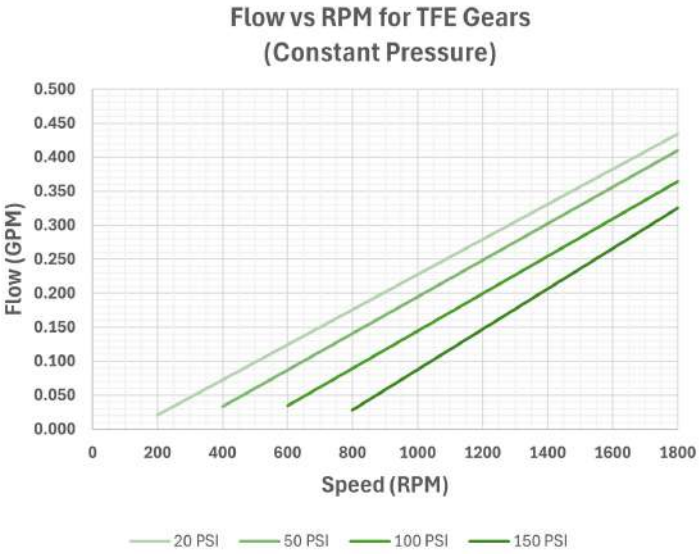
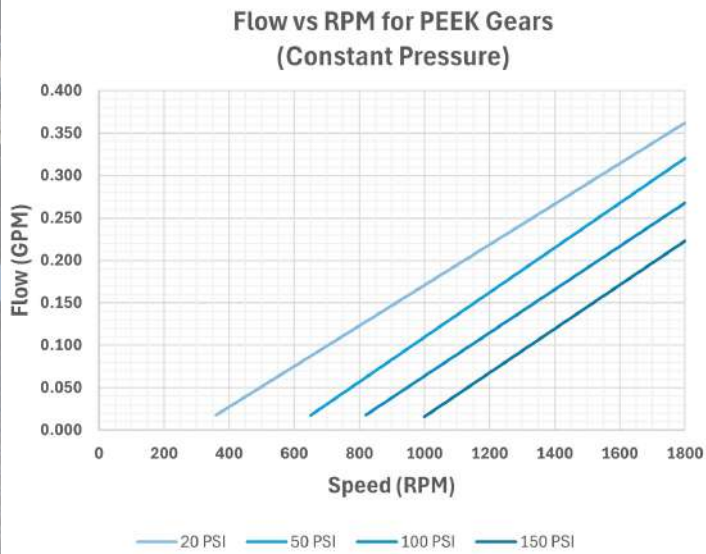


Real-time Performance Visibility:

Seamlessly connects to existing automation systems, and operational data.



PERFORMANCE CURVE



ELIMINATE MAINTENANCE & DOWNTIME

- No tubing replacement cycles
- Predictive maintenance prevents failures
- Repair-in-place service

MORE UPTIME. LESS LABOR.

IMPROVE DOSING PERFORMANCE

- Pressure-independent dosing
- Pulseless flow
- $\pm 1\%$ accuracy with integrated flow monitoring

BETTER CONTROL. LESS CHEMICAL WASTE. FASTER ROI.

ECLIPSE PRO™ VS TRADITIONAL SOLUTIONS

A SMARTER ALTERNATIVE TO PERISTALTIC AND DIAPHRAGM PUMPS

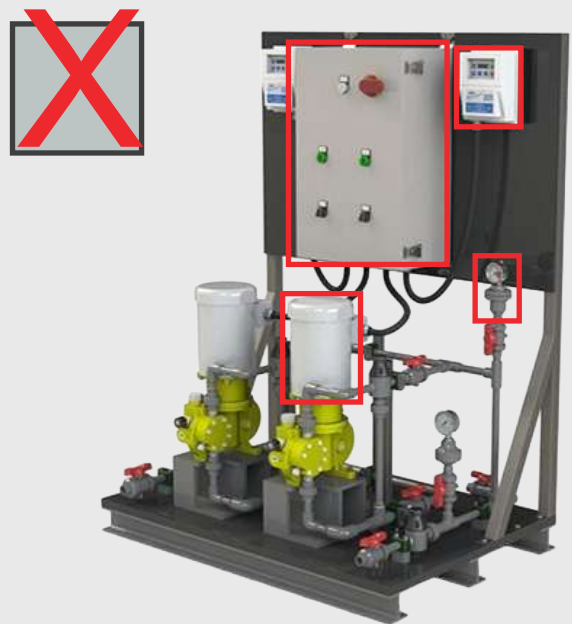
Capability / Feature	ECLIPSE PRO™	Peristaltic Pumps	Diaphragm Pumps
Maintenance Model	Predictive (Performance-based)	Routine tubing replacement	Calibration + periodic service
Wear Components	Long lasting gear sets	Tubing wears frequently	Diaphragms & check valves wear
MTBF	Years of operation	Months (tubing life)	Moderate
Handling Off-Gassing Chemicals	No loss of prime	Tube traps gas	Complex, unreliable mechanisms required
Flow Type	Pulseless, continuous	Pulsating	Pulsating
Accuracy	$\pm 1\%$ w/ flow monitoring	Degrades with tubing wear	Good (Depends on calibration)
Calibration Required	None ("Enter & Go")	Required	Required
System Complexity	All-in-one	VFD's, LCP's	High (VFD's, LCP's and stroke controls)
Installation Service Times	Fast	Moderate	Higher
SCADA Integration	Built-in	Limited	Limited
Performance Visibility	Full (Torque, Flow, Speed)	Minimal	Limited
Downtime Risk	Low	High	Moderate
Total Cost of Ownership	Lowest	Moderate-High	Moderate-High

ECLIPSE PRO™ SIMPLIFIED SOLUTIONS

ECLIPSE PRO™ = ONE DEVICE



TRADITIONAL = MULTIPLE COMPONENTS



CONSOLIDATES

- Motor
- Flow Meters
- VFD Controls
- Local Control Panels



REDUCES

- Skid Sizes
- Accessories (Dampeners)



COMMUNICATES

- SCADA
- Alarms
- Accessories

SIMPLIFY YOUR SYSTEM

- Pump + Motor + Controller in one unit
- No VFDs or calibration
- Faster install

LOWER COMPLEXITY. EASIER OPERATION.

ECLIPSE PRO™ SPECIFICATIONS

PERFORMANCE RANGE		MATERIALS OF CONSTRUCTION	
Max Flow Rate	1-19 gph @ 150 psig; Up to 27 gph @ 20 psig	Pump Head / Casing	PVDF
Max Pressure	150 psi (10.3 bar)	Gears / Shafts	PEEK/PEEK, Alumina-Ceramic/PTFE
Max. Temperature	Up to 200° F (93° C)	Seal Type	Sealless Mag-Drive
Accuracy	$\pm 1\%$ with Flow Monitor	Enclosure	NEMA 4X / IP66
Viscosity / Solids	Up to 1,000 cPs	CONTROL & USER INTERFACE	
Duty Cycle	Continuous	Display	7-inch color Touchscreen
CONNECTIVITY & SCADA I/O		Resolution	0.12 gph (Flow); 1 RPM (Speed)
Analog / Digital	4) total inputs: (3) 4-20mA Inputs, (1) Flow Sensor/Pulse Frequency Input; (1) 4-20mA Output	Automation	Speed or Flow Pacing, Guided Start-up, Batching, and Timed Dosing modes / Maintenance predictability
Network	Modbus RTU via RS485	Data Logging	Real-time flow, pressure, and runtime history (Coming Q1 '27)
Relays	4) Programmable Relay Outputs, Dry Contacts 250VAC (2) 3A, (2) 8A; Ethernet TCP/IP (Coming Q1 '27)	Safety Features	10-Second Dry Run Protection, Overload/ Blocked Discharge Alerts
SCADA Integration	Local/Remote permission signal via dry contact	Certifications (Pending)	NSF 61, BABAA Compliant, CSA/UL, CE, RoHS
		Warranty	3 Years (non-wear components)

PERFORMANCE YOU CAN PROVE

LONGER MTBF: RELIABILITY & REDUCED MAINTENANCE



PULSELESS GEAR TECHNOLOGY

- No tubing / No pulsation
- Smooth, continuous flow
- No pulsation dampeners required
- Improves mixing and chemical distribution

LONGER SERVICE LIFE, FEWER FAILURES, CONSISTENT DOSING

COST & PERFORMANCE



PRECISION FLOW CONTROL

- No calibration required
- Enter & Go Operation: Simply input your target flow
- Pressure-Independent Dosing: Maintains consistent output regardless of system pressure changes

FASTER START-UP, IMPROVED ACCURACY, REDUCED WASTE

PREDICTIVE MAINTENANCE & INTELLIGENCE



TRUE PREDICTIVE MAINTENANCE

- Identifies issues before failure
- Improves mixing and chemical distribution
- Tracks actual pump health (Not time-based cycles)

PLANNED MAINTENANCE, REDUCED DOWNTIME, AND LOWER OPERATING COSTS



HANDLES OFF-GASSING CHEMICALS

- No loss of prime
- Maintains operation in challenging chemistries
- Withstands harsh environments and corrosive chemicals

PREVENTS PROCESS INTERRUPTIONS, ENSURES RELIABLE CHEMICAL DOSING, EXTENDS LIFESPAN



RUGGED CHEMICAL-RESISTANT DESIGN

- NEMA 4X / IP66 enclosure
- Handles fluids up to 1,000 cPs viscosity
- PVDF Pump Head for chemical resistance
- Solids tolerance up to 10% concentration (<70 microns)

LONGER LIFESPAN AND IMPROVED SAFETY



SCADA-READY INTEGRATION

- Modbus RTU (RS485)
- 4 - 20 mA inputs/outputs
- Programmable relay outputs

IMPROVED VISIBILITY AND PROCESS CONTROL



REPAIR-IN-PLACE DESIGN

- Front pull-out wet end
- No system removal required
- Service in minutes-not hours

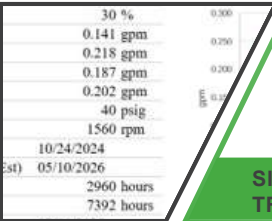
REDUCED DOWNTIME AND LOWER MAINTENANCE LABOR



DESIGNED TO ELIMINATE HIDDEN COSTS

- Eliminates maintenance, labor, spare parts, downtime drivers
- Integrated VFD and Flow Monitor (Combines key components into a single unit)
- Faster installation time, space-saving, reduced components, predictive maintenance

LOWER COST OF OWNERSHIP AND IMPROVES ROI



DATA LOGGING (UP TO 2 YEARS)

- Tracks flow, pressure, and runtime
- Simplifies compliance and reporting
- Supports troubleshooting and audits

SIMPLIFIED REPORTING, COMPLIANCE, AND TROUBLESHOOTING

COMING IN 2027



SELF-DIAGNOSTIC PROTECTION

- Dry-run protection
- Overload and blockage alerts
- Continuously monitors pump health

PREVENTS DAMAGE AND AVOIDS UNEXPECTED FAILURES

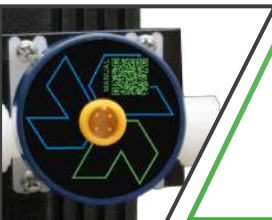


USB FUNCTIONALITY

- Firmware updates
- Program cloning across systems
- Simplifies updates and replicates configurations

ACCELERATES STANDARDIZATION AND REDUCES PROGRAMMING TIME

SIMPLICITY OF INSTALL & OPERATION



AVAILABLE FLOW MONITORING

- Accuracy $\pm 1\%$
- Pressure independent
- Real-time verification of actual chemical delivery
- Continuously measures and corrects flow deviations despite system fluctuations

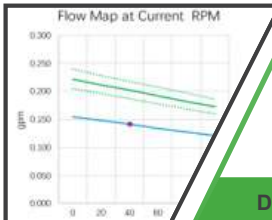
LONGER SERVICE LIFE, FEWER FAILURES, CONSISTENT DOSING, REDUCES CHEMICAL WASTE



SYSTEM SIMPLIFICATION BY DESIGN

- No calibration needed
- Integrated VFD and Flow Meter
- Eliminates panels & baseplates
- True All-in-One Solution: Pump + Motor + Controller integrated

PLANNED MAINTENANCE, REDUCED DOWNTIME, AND LOWER OPERATING COSTS



REAL-TIME PERFORMANCE MONITORING

- Early issue detection
- Flow, torque, and speed
- Linear performance visibility

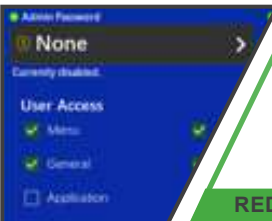
DETECT ISSUES EARLY AND PREVENT DOWNTIME



SEALLESS MAG-DRIVE DESIGN

- Eliminates leak paths
- Proven pump technology
- Reduces maintenance and safety risks

RELIABLE, CONSISTENT PERFORMANCE, SERVICEABILITY THAT MINIMIZES DOWNTIME



GUIDED TOUCHSCREEN COMMISSIONING WITH INTUITIVE PROGRAMMING

- Intuitive operation
- Step-by-step commissioning
- Simplifies configuration and adjustments

REDUCE INSTALLTION TIME, OPERATOR ERRORS, TRAINING REQUIREMENTS, IMPROVES CONSISTENCY

Why Wait for Failure?

The True Painpoints of No Change:

- Tubing failures = Downtime + labor costs
- Gas lock = Lost prime, interrupted treatment
- Calibration = Lost time + poor accuracy
- No visibility = Audit and troubleshooting risk
- Cycle counting = Wasted maintenance effort

ECLIPSE PRO™ MODEL CONFIGURATION

Complete Model Code		Position	1-5	6	7	8	9	10	11	12-13	14-15
E1002KLVK-1XXXX			E1002	K	L	V	K	-	1	XX	XX
Position 1-5: Capacity, Connection Size			E_ _ _ _	-	-	-	-	-	-	-	-
Pressure Code	Flow Code	150 psig gph / gpm (lph / lpm)	10 psig gph / gpm (lph / lpm)	Connections NPS	DIN/EN						
E1	002	19 / 0.32 (73 / 1.2)	27 / 0.45 (102 / 1.7)	1/4"-18 FNPT	1/4"-19 BSPT						
Position 6: Material / Connection Type											
Code	Material										
K	PVDF / FNPT										
M	PVDF / BSPT										
Position 7: Bearing Material											
Code	Material										
L	Carbon										
B	Silicon Carbide										
Position 8: O-ring Material											
Code	Material										
V	FKM (Viton)										
E	EPDM										
Position 9: Gear/Shaft Assembly											
Code	Gear	Shaft									
K	PEEK	PEEK									
F	PTFE	Ceramic									
Position 10: Dash											
Dash	-										
Position 11: Flow Meter											
Code	Type	Material	Connections	Mounting	cPs						
1	Paddle	PVDF		Pump	1-100						
X	None										
Position 12-13: Power Connection Type, I/O Configuration											
Code	Power Supply (1) Cables										
XX	C14 to NEMA 5-15R Wall Plug (US/CA)										
X2	C14 to Flying Leads (for terminal box)										
Note 1			Power supply is standard 120/230 50/60 Hz Auto Switching								
Note 2			Input/Output connectors are type M12								
Note 3			Codes: (AI) Analog In, (RI) Relay In, (AO) Analog Out, (RO) Relay Out, (IP) Ethernet TCP/IP, (BT) Bluetooth, (WF) WiFi								
Position 14-15: Options											
Code	Description										
XX	None										



Pulsafeeder, Inc.

2883 Brighton Henrietta Town Line Rd
 Rochester, NY 14623
 Phone: +1 (585) 292-8000
pulsa@idexcorp.com
pulsafeeder.com

