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.

BABA BUILD AMERICA BUY AMERICA

NSF/ANSI/CAN 61* CE* ETL*
* 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 Chemcial 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-chlorinization
- 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 mulitple components and wiring, VFDs, panels, calibration neccesity 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 o 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....

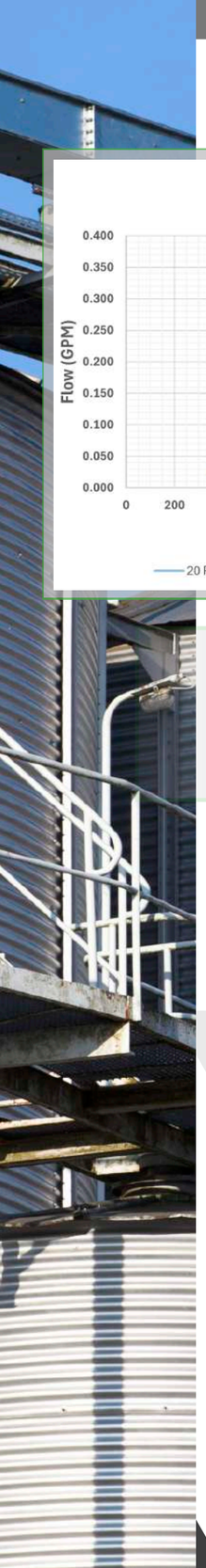
- Pump
- Motor
- VFD
- Controller
- Flow meter
- Panels & wiring

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

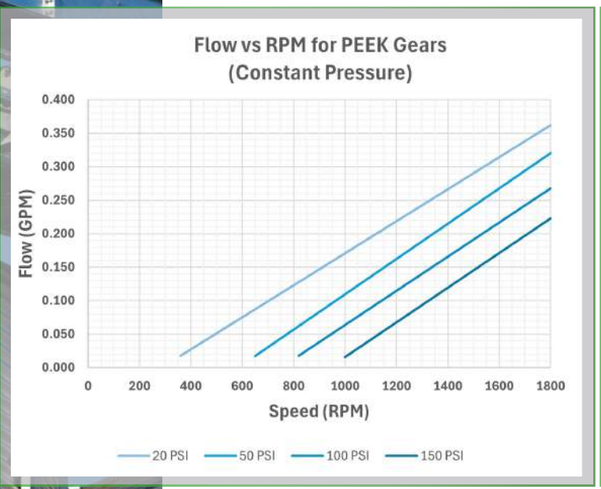
Enter & Go Setup:
Automatically delivers target flow after simple input.

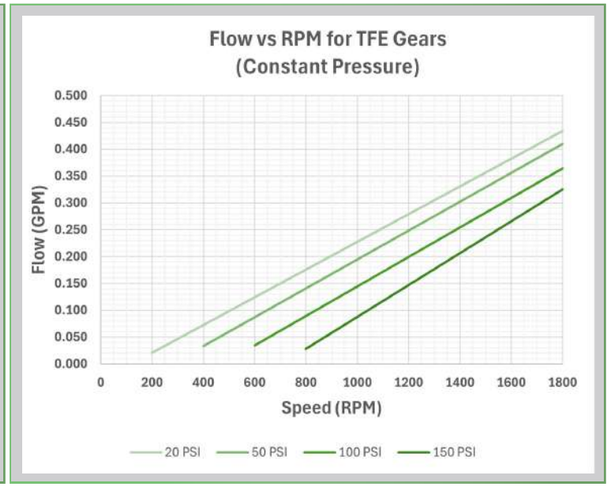
Predictive Maintenance:
Identifies issues before failure occur.

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
- ±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	±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	
Max Flow Rate	1-19 gph @ 150 psig; Up to 27 gph @ 20 psig
Max Pressure	150 psi (10.3 bar)
Max. Temperature	Up to 200° F (93° C), Consult factory for applications above 150° F (65° C)
Accuracy	±1% with Flow Monitor
Viscosity / Solids	Up to 1,000 cPs with special flow meter or no flow meter. Up to 32 cPs with Factory Flow Meter. Solids <70 microns, 10% max concentration
Duty Cycle	Continuous
CONNECTIVITY & SCADA I/O	
Analog / Digital	4) total inputs: (3) 4-20mA Inputs, (1) Flow Sensor/Pulse Frequency Input; (1) 4-20mA Output
Network	Modbus RTU via RS485
Relays	4) Programmable Relay Outputs, Dry Contacts 250VAC (2) 3A, (2) 8A; Ethernet TCP/ IP (Coming Q1 ‘27)
SCADA Integration	Local/Remote permission signal via dry contact

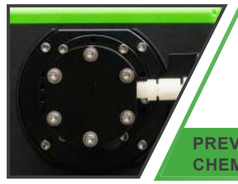
MATERIALS OF CONSTRUCTION	
Pump Head / Casing	PVDF
Gears / Shafts	PEEK/PEEK, Alumina-Ceramic/PTFE
Seal Type	Sealless Mag-Drive
Enclosure	NEMA 4X / IP66
CONTROL & USER INTERFACE	
Display	7-inch color Touchscreen
Resolution	0.12 gph (Flow); 1 RPM (Speed)
Automation	Speed or Flow Pacing, User friendly Start-Up, Batching, and Timed Dosing modes / Maintenance predictability
Data Logging	Real-time flow, pressure, and runtime history (Coming Q1 ‘27)
Safety Features	10-Second Dry Run Protection, Overload/ Blocked Discharge Alerts
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



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

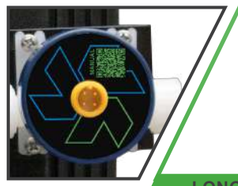
PREVENTS PROCESS INTERRUPTIONS, ENSURES RELIABLE CHEMICAL DOSING, EXTENDS LIFESPAN

REPAIR-IN-PLACE DESIGN
- Front pull-out wet end
- No system removal required
- Service in minutes-not hours

REDUCED DOWNTIME AND LOWER MAINTENANCE LABOR

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

PREVENTS DAMAGE AND AVOIDS UNEXPECTED FAILURES



AVAILABLE FLOW MONITORING
- Accuracy ±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

SEALLESS MAG-DRIVE DESIGN
- Eliminates leak paths
- Proven pump technology
- Reduces maintenance and safety risks

RELIABLE, CONSISTENT PERFORMANCE, SERVICEABILITY THAT MINIMIZES DOWNTIME

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

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

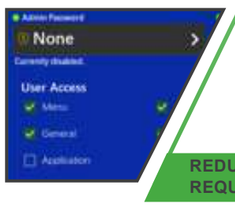
DESIGNED TO ELIMINATE HIDDEN COSTS
- Eliminates maintenance, labor, spare parts, downtime drivers
- Integrated VFD and Flow Monitor (Combines key components into a single unit)
- Faster installation time, space-saving, reduced components, predictive maintanence

LOWER COST OF OWNERSHIP AND IMPROVES ROI

SIMPLICITY OF INSTALL & OPERATION

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



GUIDED TOUCHSCREEN COMMISSIONING WITH INTUIATIVE PROGRAMMING
- Intuitive operation
- Step-by-step commissioing
- Simplifies configuration and adjustments

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

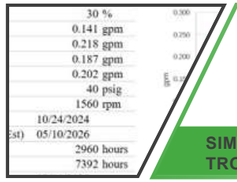
PREDICTIVE MAINTENANCE & INTELLIGENCE

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

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

IMPROVED VISIBILITY AND PROCESS CONTROL



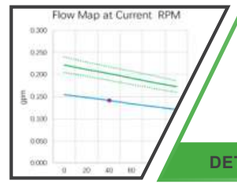
DATA LOGGING (UP TO 2 YEARS)
- Tracks flow, pressure, and runtime
- Simplifies compliance and reporting
- Supports troubleshooting and audits

SIMPLIFIED REPORTING, COMPLIANCE, AND TROUBLESHOOTING

COMING IN 2027

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

ACCELERATES STANDARDIZATION AND REDUCES PROGRAMMING TIME



REAL-TIME PERFORMANCE MONITORING
- Early issue detection
- Flow, torque, and speed
- Linear performance visibility

DETECT ISSUES EARLY AND PREVENT DOWNTIME

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)
E1	002	19 / 0.32 (73 / 1.2)	27 / 0.45 (102 / 1.7)

Position 6: Material / Connection Type

Code	Material
K	PVDF, 1/4"-18 FPT
M	PVDF, 1/4"-19 BSPT

Position 7: Bearing Material

Code	Material	
L	Carbon	CBN
B	Silicon Carbide	SIC

Position 8: O-ring Material

Code	Material
V	FKM (Viton)
E	EPDM

Position 9: Gear/Shaft Assembly

Code	Gear	Shaft
K	PEEK (Carbon FIlled)	PEEK (Carbon FIlled)
F	PTFE (Carbon FIlled)	Alumina Ceramic

Position 10: Dash

Dash	-

Position 11: Flow Meter

Code	Type	Material	Connections	Mounting	cPs
1	Paddle	PVDF	Tubing or NPT	Pump	1-32
X	None				

Position 12-13: Power Connection Type, I/O Configuration

Code	Power Supply (1) Cables	AI	RI	AO	RO	USB	IP	BT	WF
XX	C14 to NEMA 5-15R Wall Plug (US/CA)	2	1	1	4	1	-	-	-
X2	C14 to Flying Leads (for terminal box)	2	1	1	4	1	-	-	-

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®

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