WRS

Every Drop. SMART Control



SMART Digital Dosing Pump

EMM, EMG, EMA, EMB Series

V260520

Development of WRS Digital Dosing Pumps

With years engineering experiences and development, WRS have come to a long way to provide optimum solutions for digital dosing.

Digitization & Automation is no longer optional—it is a global mandate. WRS provides the SMART dosing technology users need to transit this inevitable digital transition.

Full Mechanical
Flow rate is only adjustable via stroke length and maintaining accuracy only at 30-100% rated flowrate.





Stroke Actuator
With the advancement of digital stroke actuator. User may control via signal but still facing the accuracy range of a mechanical dosing pump.



Servo Motor
Able to achieve complex programing but at high cost and bulky setup.



Solenoid Driven
With only input signals, limited to a smaller capacity range.



First Generation SMART Digital Dosing Pump

The first digital dosing pump from WRS, achieving both input & output signals control.



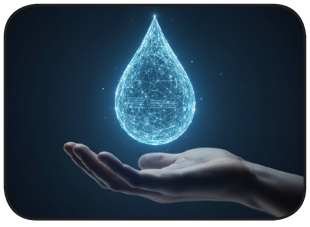
WRS Eignal Plus Series

A complete new breakthrough in the chemical dosing industry. Performing high accuracy across entire flow rate range with our fast suction and slow dischage capability. Not just receiving input signals and also output feeback signals, and alarms. Additionally, multiple calibration features to ensure it dose as per your demand.

Features:

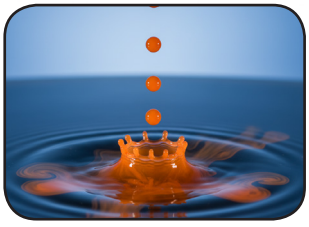


Plus Series - Left Orientation | Plus Series - Back Orientation | Plus Series - Right Orientation



Every Drop, SMART Control

Supports analog, pulse, and Modbus communication, and works with relays and sensors for input/output.



High-precision Dosing

With the intergraded fast suction slow discharge technology, achieving 1% accuracy in full range capcity.



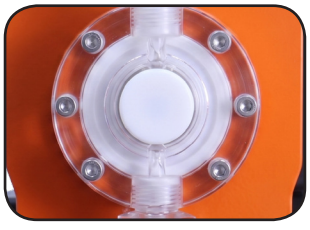
User-friendly Interface

Implementing smart digital controller, with clear information displayed and easy to operate.



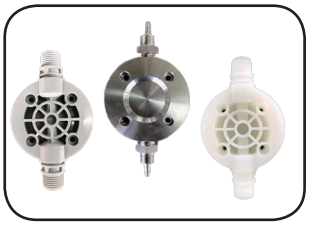
Flexible Installation

The portable controller supports three different orientations, allowing user to install in complex environments.



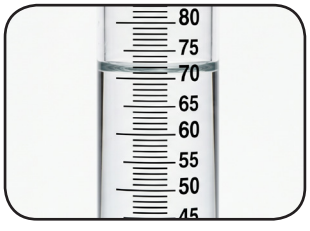
Full PTFE Diaphragm

Upgraded full PTFE diaphragm. Extended service life and upgradeable to diaphragm rupture sensing with alarm.



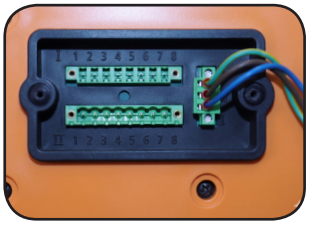
Chemical Resistant

Various pump head material such as PVC/PVDF/SS316L to handle all corrosive chemicals



Multiple Calibrations

A simple one step calibration mode, additional features for calibrating analog signals and fine tune of output flowrate.



General Wiring Port

No need of special cables for connectivity. Easy and straight forward.



IP65 Rating

Both the drive unit and control unit are sealed within an IP65-rated enclosure, providing better protection.



Omnicompatible

WRS's new digital pump technology is able to apply to other series such as hydraulic diaphragm and piston dosing pumps.

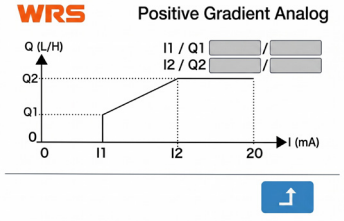
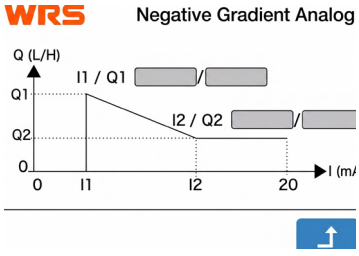
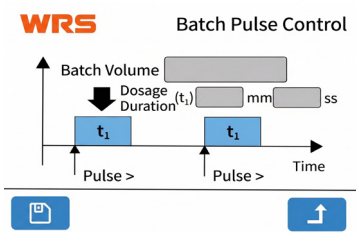
Functions:

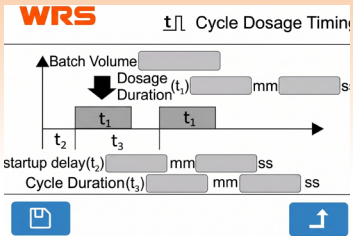


Plus Series - HMI Touch Screen

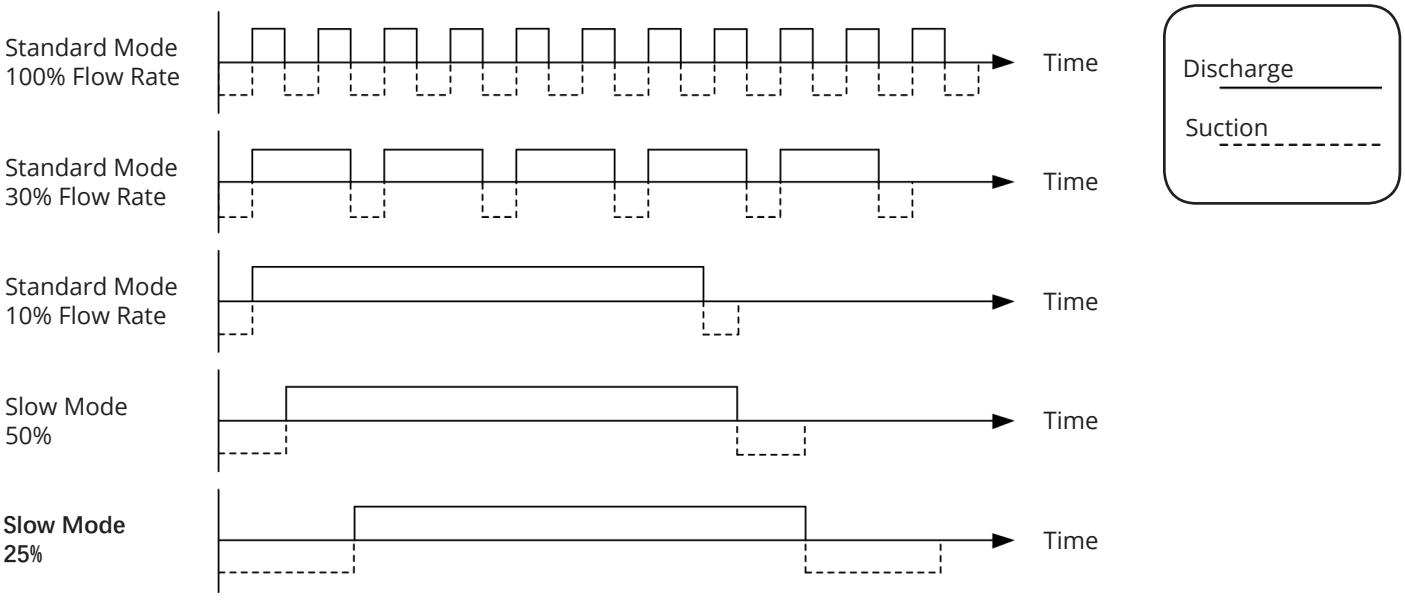


Lite Series - Soft Buttons

Control Panel			PLUS	LITE
Display/Control Mode	HMI Touch Screen. Flexible 3 locations for controller placement.		√	-
	LCD with with buttons. Fixed location for controller placement.		-	√
Homepage information display	Real-time flow rate + set flow rate.		√	√
	Flow rate percentage.		√	√
	External connection signals (pressure/level).		√	-
	Current pump status/warnings.		√	√
Password Protection	Prevent unauthorized personnel from altering pump settings.		√	-
Oprations Mode				
Manual	Users manually enter the target traffic.		√	√
Pulse	Input pulse signal, measured in milliliters per pulse.		√	-
Analog 4-20mA	**Standard Analog 4-20mA:** Pump flow rate changes according to the analog input signal.		√	√
	Positive Analog scaling The pump's flow rate changes positively with the signal input: when the input current is 4 mA, the pump operates at the minimum flow rate Q1; as the current increases to 20 mA, the flow rate increases linearly to Q2.		√	-
	Negative Analog Scaling The pump's flow rate changes inversely with the signal input. When the input current is 4 mA, the pump operates at the maximum flow rate Q1; as the current increases to 20 mA, the flow rate decreases linearly to Q2.		√	20-4mA
Pulse Based Batch	The pump is started and stopped by input pulse signals. Unit in pulse		√	-

Cycle Mode	Users may add a specified amount at designated time points in a cycle and repeat.		√	-
Bus Communication	Modbus RTU - RS485, User able to set device code and baud rate.		√	√
Others			**PLUS**	**LITE**
Flowrate Calibration	Calibrate pump actual capacity according to the pumping fluid.		√	√
External On/Off	Pause & start pump via external on/off signal.		√	√
Analog 4-20mA Output	4-20mA signal real-time feedback.		√	√
Analog 0/4-20mA Input Calibration	Users can calibrate against the actual signal source at two points.		√	√
2 Relay Feedback	Operation & Faulty relay feedback.		√	√
Empty Tank Alarm	Pump stop upon receiving a low liquid level switch signal.		√	-
Pressure Alarm	Accept signal from external pressure sensors and issue an alarm upon the set value is reached.		√	-
Slow Mode	Able to set 50% or 25% slow mode for dosing high viscosity media.		√	-
Discharge Calibration	In addition to setting the target flow rate, users can fine-tune the fow rate output at a deeper level.		√	√
History Log	Record operation and alarm.		√	-
Screen Saver	Able to set screen saver after a certain delay.		√	-
Hardware				
Diaphragm Rupture Alarm	Optional. In the event of a diaphragm rupture, issue a signal.		√	-
Pump Head Type	Optional to change pump head to Hydraulic diaphragm or plunger type.		√	√
Flexible Control Panel	The control panel can be installed on three sides to meet the installation re-quirements of different working conditions.		√	√*

Slow Mode:



Identification Code:

Example	EMG	P	0150	P	Q	1	E	XXX
Description	Pump Model	Plus or Lite	Flow Rate	Pump Head Material	Connection Method	Power Supply	Plug Type	For Custom Make Use

Category	Description		
Pump Model	EMM - Up to 60 L/H EMG - Up to 200 L/H	EMA - Up to 1000 L/H EMB - Up to 2000 L/H	
Plus or Lite	P - Plus Series (HMI touch screen); L-Lite Series (Soft button + LCD Screen)		
Flow Rate	0008 ... 2000 - See Technical Parameters Table		
Pump Head Material	P – PVC F – PVDF S – SS316L	T – PTFE C – SS304 D – Duplex 2205	X – Custom Make
Connection Method	R – Hose Connection Q – PVC Socket P – RC Inner Thread	S – Welding Tube F – Flange N – NPT Inner Thread	B – Barb Fitting X – Custom Make
Power Supply	1 - 220V 50Hz Single Phase	X – Custom Make	
Plug Type	A - America C - China E - Europe	G - United Kingdom I - Aus/Nz/China (Type I) N - None	X – Custom Make
Custom Make Use	For factory use only. Customization options only.		

Notes:
1) The identification code is only used to identify basic pump options and is not for final selection. For any selection questions, please contact a WRS sales representative.
2) Customized product selection must be confirmed with a WRS sales representative.

Common Parameters:

Parameters	Unit	Rage
Turndown Ratio		1:1000
Steady State / Repeatability / Linear Accuracy	%	1
Self Suction	m	1.8
Minimum Differential Pressure	Bar	1
Maximum Inlet Pressure	Bar	2
Max. Viscosity	cps	1500 (For application above 200cp, please consult with supplier)
Particles & Solid Contents		Particles Diameter <0.2mm, Solid Contents<20%
Operating Temperature (Non-Freezing Liquid)	˚C	PVC: +5 to +40 ; PVDF/SS316L: 0 to +90 (For operation beyond these range, please consult with supplier)
Ambient Temperature	˚C	Working: -10 to +40, Storage: -10 to +50
IP (Ingress Protection) rating	IP	65

Technical Parameters:

EMM Models		0008	0015	0030	0060
Rated Flow Rate	L/h	8	15	30	60
Max. Discharge Pressure	Bar	16	10	8	4
Diaphragm Size	mm	54	54	71	71
Default Connection Method	PVC	Ø 6x9 PE Hose	Ø 6x9 PE Hose	DN15 Socket	DN15 Socket
	PVDF	Ø 6x9 PE Hose	Ø 6x9 PE Hose	RC 1/2" Inner Thread	RC 1/2" Inner Thread
	SS316L	Ø 6x10 Welding Tube	Ø 6x10 Welding Tube	Ø 10x16 Welding Tube	Ø 10x16 Welding Tube
Max. Power Rating*3	Watt	20			
Power Supply Required		220V / 50Hz / Single Phase			

EMG Models		0060	0120	0160	0200
Rated Flow Rate	L/h	60	120	160	200
Max. Discharge Pressure	Bar	10	7	4	4
Diaphragm Size	mm	71	71	112	112
Default Connection Method	PVC	DN15 Socket	DN15 Socket	DN15 Socket	DN15 Socket
	PVDF	RC 1/2" Inner Thread	RC 1/2" Inner Thread	RC 1/2" Inner Thread	RC 1/2" Inner Thread
	SS316L	Ø 10x16 Welding Tube	Ø 15x22 Welding Tube	Ø 15x22 Welding Tube	Ø 15x22 Welding Tube
Max. Power Rating*3	Watt	60			
Power Supply Required		220V / 50Hz / Single Phase			

EMA Models		0375	0500	1000
Rated Flow Rate	L/h	375	500	1000
Max. Discharge Pressure	Bar	10	5	4
Diaphragm Size	mm	148		
Default Connection Method	PVC	DN25 Socket		
	PVDF	RC 1" Inner Thread		
	SS316L	DN25 Welding Tube		
Max. Power Rating*3	Watt	500		
Power Supply Required		220V / 50Hz / Single Phase		

EMB Models		1200	1600	2000
Rated Flow Rate	L/h	1200	1600	2000
Max. Discharge Pressure	Bar	4	3	3
Diaphragm Size	mm	185		
Default Connection Method	PVC	DN40 Socket		
	PVDF	RC 1 1/2" Inner Thread		
	SS316L	DN40 Welding Tube		
Max. Power Rating*3	Watt	1100		
Power Supply Required		220V / 50Hz / Single Phase		

Notes:
1) Test data was obtained using water at ambient temperature.
2) Only standard hose connection is included with the foot valve, PE hose, and injection valve.
3) Actual power consumption should be determined based on the application.



Local Distributor:

WRS PTE LTD
60 Paya Lebar Road, #11-37 Paya Lebar Square, Singapore 409051

ZHEJIANG WRS MACHINERY EQUIPMENT CO., LTD
501, Building 2 New World Wealth Center, 108 Shixin North Rd, Xiaoshan District, Hangzhou City, Zhejiang Province, China

Website: https://www.wrsdosing.com
Email: international@wrsdosing.com

ISO9001:2015
ISO14001:2015
ISO45001:2018

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LL-C Certification

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