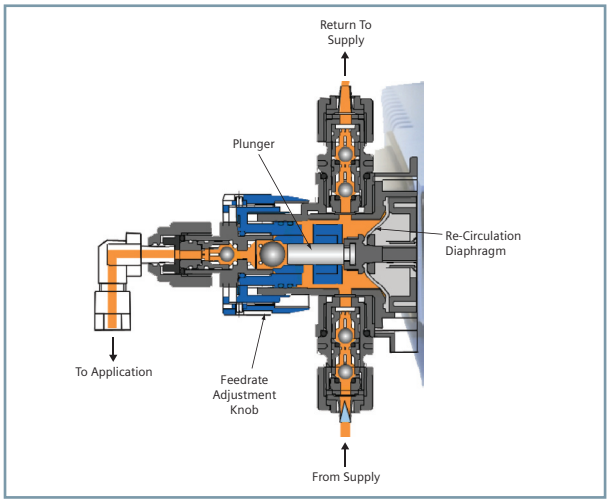
Wallace & Tiernan® Liquid Feed Systems
Chem-Ad® Series A Metering Pump

The Chem-Ad® Series A electronically controlled, motor driven diaphragm metering pump is designed specifically for very low feedrate applications, particularly sodium hypochlorite. The pump features a unique, constant circulation liquid end with a calibrated, adjustable plunger for precise feedrate control. This design ensures consistent performance, even with chemicals that tend to outgas, such as hypochlorite.

The Chem-Ad® Series Diaphragm pumps are designed to handle the most demanding applications in the treatment of potable water, swimming pools, wastewater and industrial processes. A well-balanced range of capacities combines with excellent reproducibility and optimal chemical resistance. Chem-Ad® metering pumps are of the positive displacement-type driven by proven overload-proof motors. Since they are available with a wide choice of configurations ranging from manual to flow proportional to setpoint, these pumps can cover any metering requirement.

The XL Series features an integrated LED display panel, touch-pad controls and multiple control functions, including feedrate setpoint with closed-loop control, flow/no-flow monitoring, batch operation and feedrate display.



Key Benefits

- Dependable low capacity metering from 0.2 LPH (0.06 USGPH) to 1.4 LPH (0.44 USGPH) and back pressures to 10Bar @50 Hz (120 PSI @ 60Hz)
- Reliable metering of most multi-phase fluids, particularly Sodium Hypochlorite, with integral auto de-gasing
- Flexible automatic signal input - analog or pulse
- Simple user-friendly pump calibration
- Continuous accurate chemical dosing
- Suitable for unmanned installations with auto controls and optional flow monitoring
- Easy to read back-lit digital display of pump capacity, strokes operating mode and alarm

Product Sheet

Water Technologies

Hydramet

Description

The Chem-Ad® Series A diaphragm metering pump features manual control, or optional external control, and is designed to handle multi-phase solutions that tend to out-gas.

Due to its unique design incorporating pre-feeding and a gasket-free ceramic piston/cylinder unit the pump can maintain a high reproducibility even when handling very low feed rates at maximum stroke frequency.

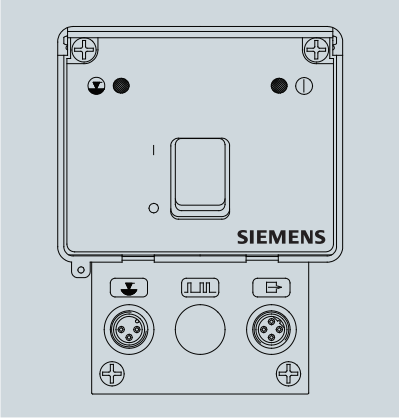
Its smooth pulsation characteristics ensure high metering accuracy and long life of diaphragms and valves. Due to its unparalleled low noise and its enclosure, IP65 (NEMA 4X), the Chem-Ad® Series A pump is perfectly suitable for laboratories and humid ambient conditions.

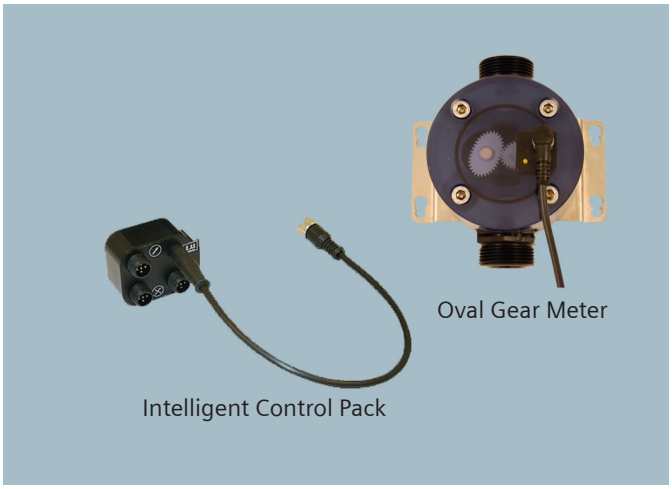
The basic model has an on/off switch, a level switch input, and alarm output connection. The standard liquid end made of PVDF ensures a wide range of chemical resistance.

Controls

Manual - E11

Manual control is on-line by means of a mechanical stroke length adjustment via a two-turn knob graduated 0 to 100%. An on/off switch is also provided. There are connections to accept level input and alarm output.

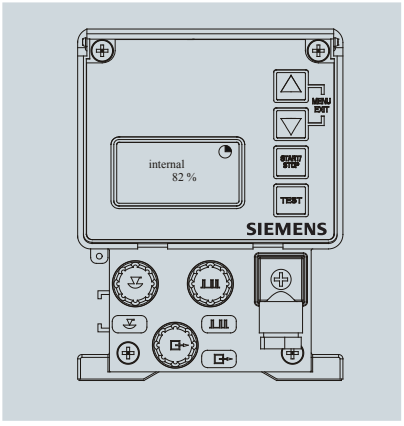




Automatic - E60 (XL Model)

The automatic E60 (XL Model) includes:

- An integrated LED display panel for easy to read, clear indication of operating status and user-friendly programming.
- A four key membrane touch pad simplifies function selection.
- Local or remote control via analog (0/4-20mA or 20-4/0mA or pulse input signals.
- Signal scaling allows for multiplication or division of the pulse input signal.
- Flow/no flow verification via an optional flow monitor.



Automatic - E60^{Plus} (XL Model)

With the addition of an intelligent control package (ICP) and Oval Gear Meter (OGM), the E60 becomes the full featured E60^{Plus} and includes:

- Set point controls with automatic frequency compensation for constant chemical feed.
- Chemical consumption data logging.
- Real time feed rate display.
- Plug and play with calibration data storage on OGM.
- Adjustable flow alarm points.

Spares and Accessories

Liquid End PM Kit® Packages

For every model of the Chem-Ad® Series A metering pump, a corresponding maintenance kit is available. This economically priced package contains all spare and wear parts for a prompt and quick maintenance of the liquid end.

Suction Lance

This option includes pre-wired, built-in-low and empty level switches, foot valve and strainer. This option is recommended with the Series A pump.

Selection Guide

To allow easy selection, the Chem-Ad® series of pumps is engineered to the modular design principle. The selection criteria shown to the right provides a perfect guide to define the right pump for the respective duty.

Selection Code (Example)"*"

CM 1 A4 E60 K F C 99 31

- **Valve Balls**
  C = Ceramic
- **O-Ring**
  F = Viton®; E = EPDM;
  K = FFPM/Isolast®
- **Pump Head**
  K = PVDF
- **Control Mode**
  E60 = Auto Control with Digital Display
  E11 = Manual
- **Capacity**

	50HZ	60HZ
A1 =	0.20 LPH	0.06 USGPH
A2 =	0.50 LPH	0.16 USGPH
A3 =	0.90 LPH	0.29 USGPH
A4 =	1.40 LPH	0.44 USGPH

- **Voltage & Cycles**
  1 = 115 V. 60 Hz;
  3 = 230 V. 50 Hz

"*" This is the typical configuration code consult factory for product numbers.

Options / Series A	E11	E60	E60^{Plus}
On-Off Button	X	X	X
Manual Stroke Length	X	X	X
Stroke Frequency Control		X	X
Level Input Switch (low level and empty)	X	X	X
Power Cord and Plug	X	X	X
External Analog Input (0-20 or 4-20 mA)		X	X
External Analog Input (0/4-20 mA or 20-4/0 mA)		X	X
Input Signal Scaling		X	X
External Pulse Input		X	X
Remote On / Off		X	X
Batch Mode & Pulse Storage		X	X
Alarm Output & Stroke Pulse Output		X	X
Membrane Touch Pad		X	X
Flow Monitoring (OGM Required)		X	X
Integral Back-Lit Digital Display		X	X
Password Protection		X	X
Capacity Display		X	X
Multiple Language Display (English, German, French)		X	X
Flow Totalizing			X
Set Point Control			X

Note -E60^{Plus} models require ICP & OGM combination.

Hydramet

Technical Data

Maximum Capacity LPH / USGPH 60 Hz LPH @ 50 Hz	0.24 / 0.06	0.6 / 0.16	1.08 / 0.29	1.68 / 0.44
	0.2	0.5	0.9	1.4
Max. Back Pressure	10 Bar @50 Hz; 120 PSI at 60Hz			
Piston Diameter (mm)	3	4.76	6.34	8
Stroke Frequency Max. (SPM) @ 50/60 Hz	122 / 144			
Capacity / Stroke Max. (cm^3)	0.027	0.068	0.12	0.19
Accuracy	± 2% over 10:1 range (minimum of 20% stroke length)			
Max. Suction Lift at 100% *	2 Meters (6 Ft)			
Max. Back Pressure of Return	0.3 Bar (4.5 PSI)			
Suction and Return	2m Duo Hose 6mm ID Supplied			
Metering Discharge	1/4" OD x 0.040" Wall Thickness			
	2 mm x 4mm	4mm x 6mm		
Power Supply	230 V, 50 Hz / 115 V, 60 Hz (Power Cord and Plug Supplied)			
Current (mA) 115/230 VAC	81@ 50 Hz / 172 @ 60 Hz			
Max. Power Input (W) 115/230 VAC	18.7			
Enclosure	IP65 (NEMA 4X)			
Max. Ambient Temp.	40°C (104°F)			
Insulation Class	B			
Alarm Output Low Level and Tank Empty Contact	Dr contact 24 V, 3 Amps AC/DC or 240 V, 3 Amps AC/DC			
mA Input	0/4-20 mA or 20-4/0 mA (E60 & E60^{Plus}) Max. Impendance 50 Ohms			
Pulse Input	Min. pulse length 15msec = 1 stroke; Max. pulse is 122 pulses per minute (@ 50 Hz) / 146 pulses per minute (@ 60 Hz) = continuous running			
Stroke Signal Ouput	1 Pulse Per Stroke, Dry Contact Rated 24 V DC, 300 mA			
Weight	2.4 Kgs (6 Lbs)			
Dimensions	L 218 mm x W 220 mm x H 143 mm (8 9/16" x 8 11/16" x 5 5/8")			

* Note: Suction lifts with clean, wetted valves. Suction lance with tank level switches is recommended for all capacities. All data refers to water at 20°C (68°F) as per the instruction manual.

Materials of Construction

Pump Head: PVDF
Metering Piston/Cylinder: Ceramic
Diaphragm: PTFE-EPDM Composite
Valves: PVDF
Valve Balls: Ceramic
O-Ring: FPM, or EPDM, FFPM/Isolast®
Valve Springs: Hastelloy®
Housing/Finish: Thermoplastic Polyester

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