

# PKX MA/A

The PKX is a PTFE diaphragm type Solenoid Metering Pump that distinguishes itself for its simplicity of use. It has proven reliability and quality and due to its compact design and versatility the PKX series is the ideal solution for many chemical dosing applications where moderate flow rate is required with counter pressures up to 6 bar (87 psi).

## Key Features:

Anti-acids mica-filled reinforced polypropylene material of enclosure.

Excellent water resistant for tough applications. Pump protection: IP65.

Both wall or foot installations using the universal support bracket supplied with the pumps

Reduced dimensions for effective use of space in a dosing rig, ideal for OEM applications.

Liquid low level option available to prevent loss of prime.

Flashing led showing pump's stroke frequency.

Robust potentiometer for flow rate setting, IP 65 ON/OFF switch.

Manual air bleed polypropylene head for safe & easy priming with durable leak-free bleed valve assembly.

Diaphragms are of superior construction, robust PTFE machined part not bonded composite layers, for optimum flexibility and long durability.

A wide variety of chemicals can be pumped due to different liquid end materials include glass-filled polypropylene (GFPPL), PVC, Polyvinylidene Fluoride (PVDF), PTFE, Plexiglas and 316SS. Valves and sealing in FPM (Viton), EPDM (Dutral), Nitril, Silicone, ceramic and alloys.

Immediate installation and start-up, included as standard accessories with all models are an injection/back pressure valve assembly and a foot valve/strainer assembly, including discharge, suction and bleeding tubing.

Safe and easy priming and valve maintenance, included as a standard accessory is a bleed valve assembly, including return tubing (available only on those models with manual air bleed head).

Control panel protection assured by an adhesive polyester film, weather-proof and resisting UV rays.

Silent version available upon request.

The products are manufactured according CE regulation.

Standard power supply (fluctuations not to exceed  $\pm 10\%$ ): 230-240 V a.c. 50-60 Hz single phase.

Optional power supply (fluctuations not to exceed  $\pm 10\%$ ): 110 V a.c. 50-60 Hz single phase. 48V a.c., 24V a.c./d.c., 12V d.c.

Overvoltage cat. II. Environmental Conditions: IP65 protection, altitude up to 2000m, ambient temperature 5°C to 40°C, maximum relative humidity 80% for temperatures up to 31°C decreasing linearly to 50% relative humidity at 40°C. Pollution degree 2



## Characteristics

The PKX MA/A metering pump is activated by a PTFE diaphragm mounted on a piston of an electromagnet.

When the piston of the electromagnet is attracted, a pressure is produced in the pump body with an expulsion of liquid from the discharge valve. After each pump pulse is finished a spring brings the piston back to the initial position, with a recall of liquid through the suction valve.

The operation is simple the pump does not need lubrication, therefore maintenance is reduced almost to zero.

PKX MA/A metering pump is an analogical dosing pump, manual flow rate adjustment from 0÷100% through front pump potentiometer. 100% corresponds to the maximum stroke frequency, i.e. 120 strokes/min. Stroking rate gives very high rate

of reproducible metering accuracy.



**PUMP CONTROLS**

- Power LED "green"
- Pulse LED "red"
- Level alarm LED "yellow" (only on version with level alarm)
- Adjustment knob of injections/min numbers (0÷100% max flow).

Pump flow rate can be controlled manually by setting the pump pulse rate by means of the knob. The flow rate of the pump will depend on the counter pressure in the discharge line (please check flow vs. pressure diaphragm) and on the physical properties of the chemical to dose. As general rule higher will be the pump flow rate lower is the counter pressure the pump will face.

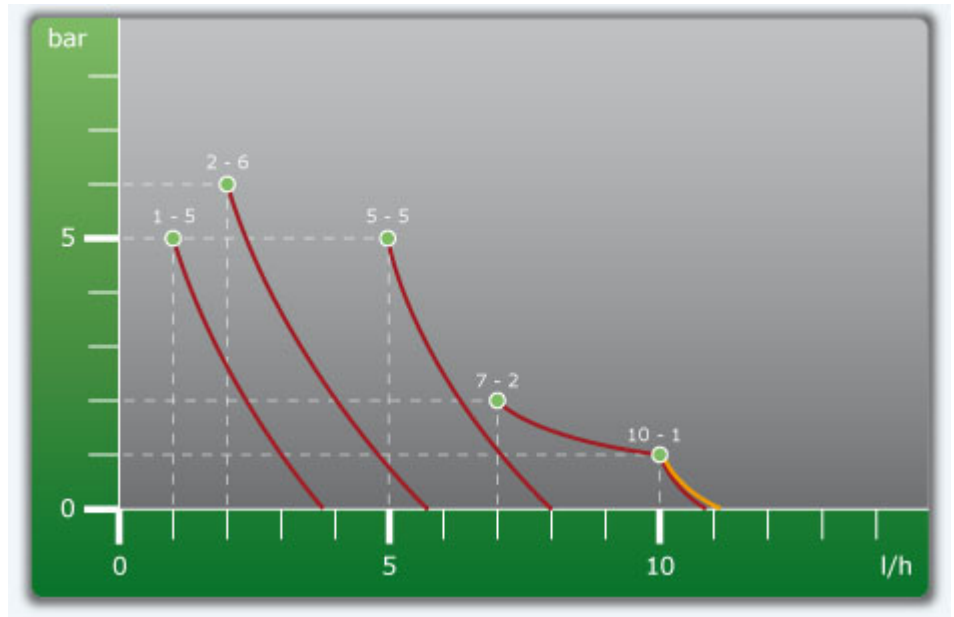
**Pressure and Flow Rate Capacity**

Model		1 - 5	2 - 6	5 - 5	7 - 2	10 - 1
Nominal Capacity	L/H	1	5	5	7	10
	G/H	0.26	0.53	1.32	1.84	2.64
	G/D	6.24	12.72	31.68	44.16	63.36
Max Capacity	L/H	3.5	5.7	8	11	11
	G/H	0.91	1.50	2.08	2.86	2.86
	G/D	21.84	36	50	68.64	68.64
Max Pressure	Bar	5	6	5	2	1
	PSI	72	87	72	29	14

How many gallon in 1 liter? The answer is approx. 0,264. Converting between gallon [US, liquid] and liter.

1 liter/hour = 0.264172052 gallon (US)/hour

1 liter/hour = 5.279261959 gallon (UK)/day



How many psi in 1 bar? The answer is approx. 14,5.  
 We assume you are converting between pound/square inch [absolute] and bar.

The performance of the pump depends on the viscosity of the medium and hydraulic installation conditions.  
 The curves refer to water at 20°C.

## Liquid End

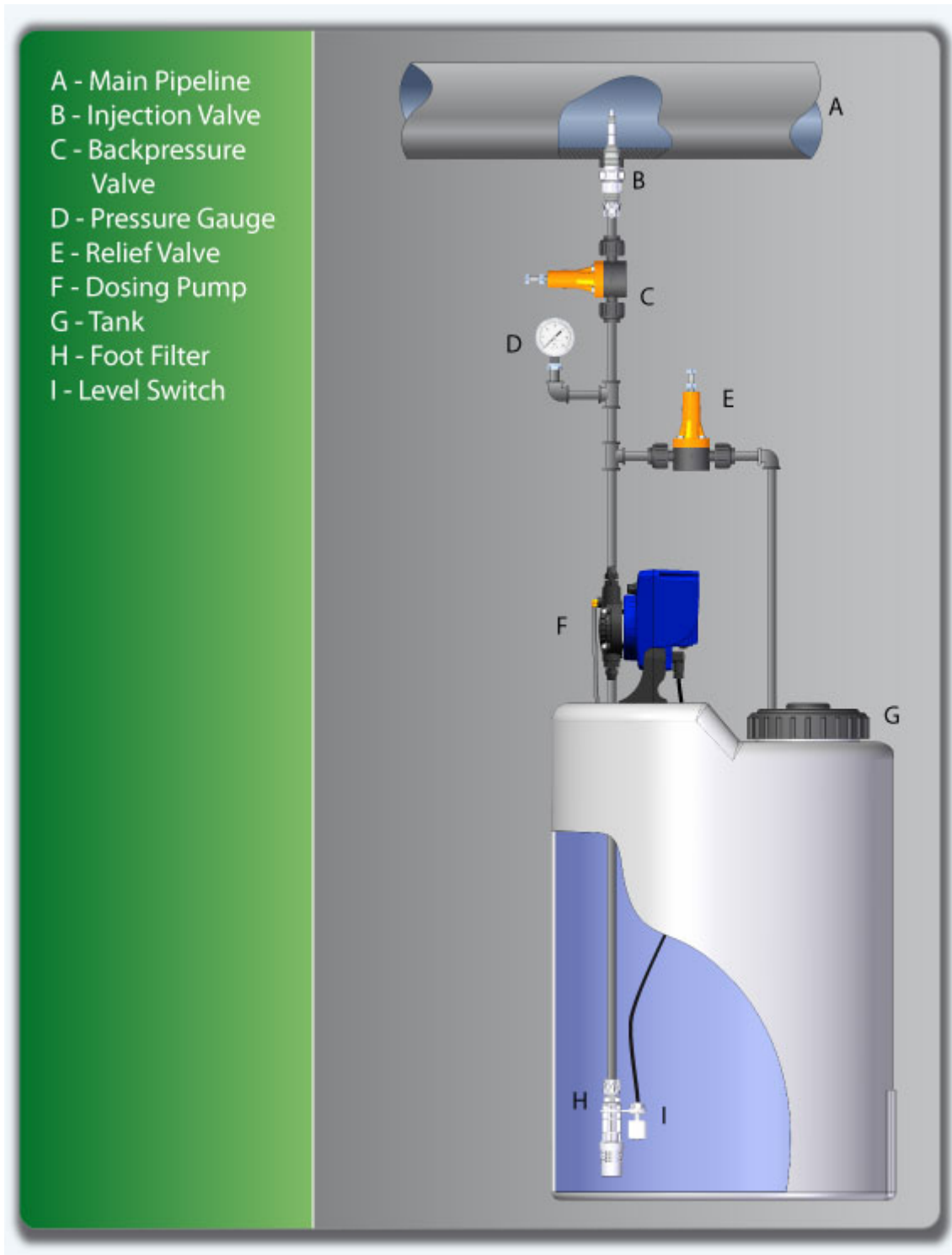
Wetted Parts	Standard Materials	Upon Request
Pump Head	PP	PVDF; AISI 316
Diaphragm	PTFE	PTFE
Lip valves	FPM (Viton®)	
Sealings	FPM (Viton®)	EPDM (Dutral®); Silicone; NBR
Injection Valve	PP/Ceramic	EPDM (Dutral®); Silicone; NBR
Foot Filter	PP/Ceramic	PVDF/Ceramic
Suction/Bleeding Tubings	PVC	PVDF/Ceramic
Delivery Tubing	PE	EPDM (Dutral®)

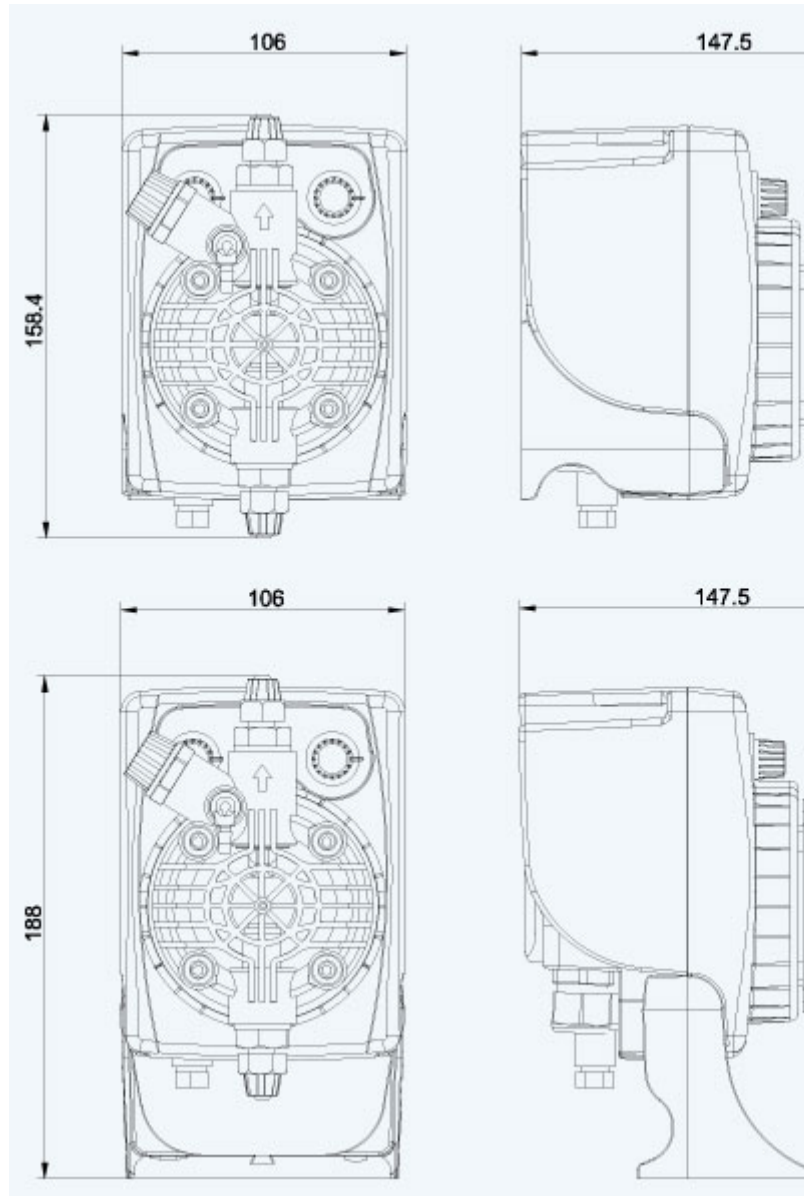
Wetted Parts	Standard Materials	Upon Request
Pump Head with Gravity Balls	Ceramic	PTFE

## Assembly and Dimensions

## Sample Installation



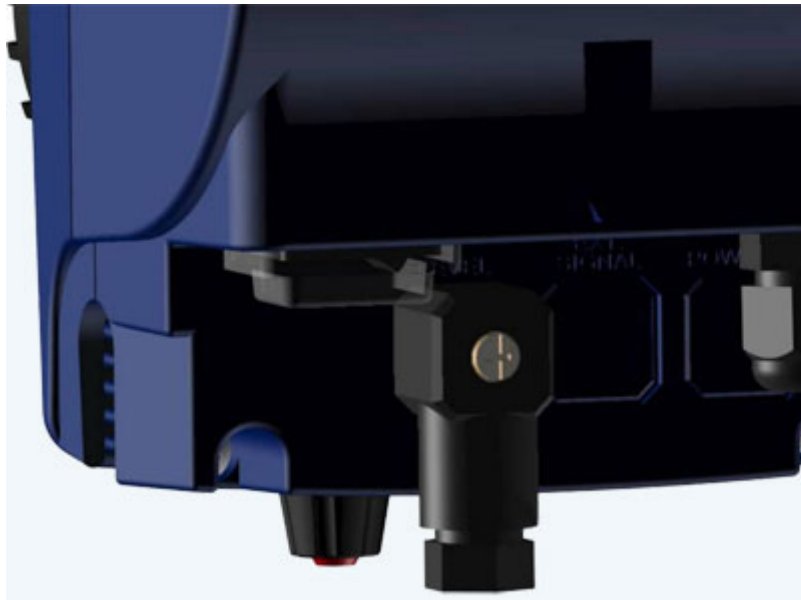
## Overall Dimensions



How many mm in 1 inches? The answer is 25.4

## Options

**Chemical Level Control, Model PKX MA/AL**



PKX MA/AL has same characteristics as PKX MA/A model however the MA/AL has a level control setting.

A connected level control causes the dosing pump to stop if the chemical level in the supply tank is low. Thus air bubbles are prevented from entering the suction line and the dosing head. The alarm LED lights. After tank filling and when the level sensor contact closes the pump will restart.

#### **Low Tension Power Supply Options**

PKX series can be order with low tension power supply.

48V a.c - 24V a.c/d.c and 12V d.c. options available allowing same performances as 230-240/110V power supply models. Available also models at 12V d.c. for solar panel application with reduced power consumption.

1 l/h (0.26 GPH) at 5 bar (72 psi)

3 l/h (0.78 GPH) at 3 bar (43 psi)

#### **120V Power Supply CSA Certified**

PKX MA/A and MA/AL are available at 120V power supply with CSA certification.