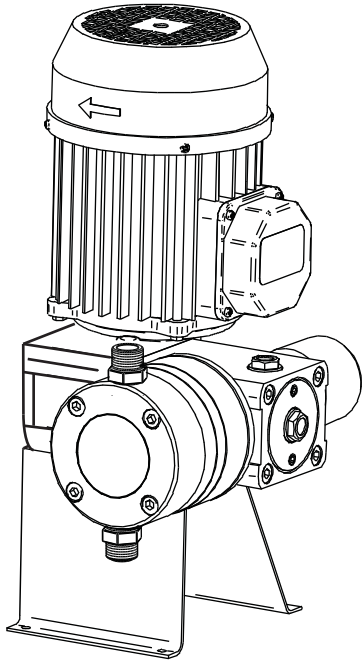
P.B.K



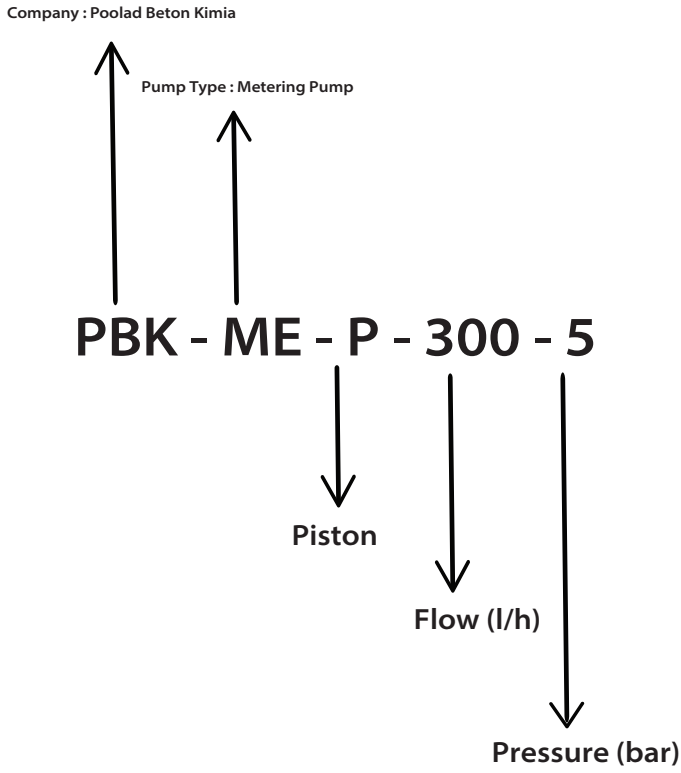
METERING PUMPS

ENGLISH

P.B.K

SAFETY RULES

CODE MAP


Company : Poolad Beton Kimia
Pump Type : Metering Pump
PBK - ME - P - 300 - 5
Piston
Flow (l/h)
Pressure (bar)

1.- GENERAL DESCRIPTION

Metering pumps are heavy duty, high precission electric piston or diapragm pumps for dosing liquid products.

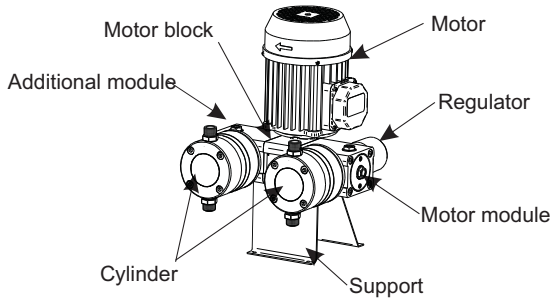
They are made up of one driving module and 1 to 4 injection modules. The available heads are from 25 to 500 l/h for the piston series, and from 18 to 300 l/h for the diafragm series**,** independentlv regulated by means of a system of **POSITIVE RETURN,** exclusive to **P.B.K. co.**

In the same injector can be connected several injection modules to apportion different products **(INDEPENDENT INJECTION)** or to increase the injection flow. The design of this dosing pump allows the combination of piston modules with diaphragm modules in the same pump. By increasing the number of modules in the same injector, a higher flow regularity is obtained, whereby in the 4 module model an actually continuous flow is obtained. Injection modules may be connected in the factory or added later when the injector is in place.

MULTIFERTIC Metering pumps are manufactured with materials that can resist the existing agrochemical products, even acids. It is designed for all sorts of processes where it is necessary to dose a product into a hydraulic network, such as: food, textile, chemical industry, water treatments, etc. (See materials in Technical Features). In case there is any doubt about compatibility of materials with the products to be used please contact with **P.B.K. co.** Technical Service.

Dosing flow of each module is adjustable independently with no need to stop the pump from 0% to 100% of its capacity.

It is made up as follows:



ELECTRIC CURRENT: As indicated in the motor plate

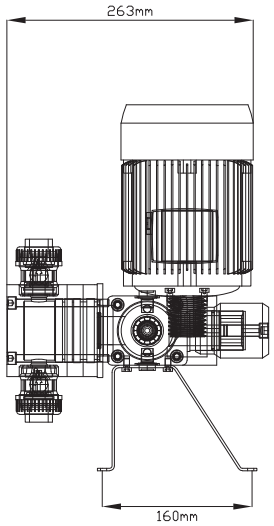
POWER: 0.37 KW (0.5 Hp)

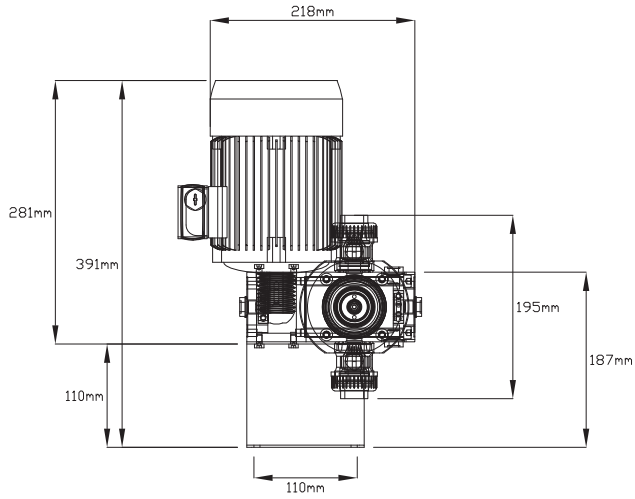
PROTECTION : IP-55

MATERIALS:

Piston:	P.E.U.A.P.M. / Ceramic / PVC
Diaphragm:	Elastomer base reinforced with fiber and P.T.F.E clothing
Cylinder:	P.P. / PVDF / AISI 316 / PVC
Valves(body):	P.P / PVDF / AISI 316 / PVC
Valves(ball) :	glass / glass borosilicato / Ceramic / PVC / EPDM /FPM
Retention:	FPM / EPDM

DIMENSIONS





2.- CARRIAGE AND MAINTENANCE

The original packing is prepared so that carriage and storing of the product do not cause any damage to the product, as long as this is done far from heat sources and in dry, ventilated spaces.

Inside packing we include:

- PBK Metering
- Support
- Instructions manual

3.- TECHNICAL FEATURES

	CODE	FLOW				PRESSURE	
		50Hz		60Hz			
		l/h	GPH	l/h	GPH	bar	PSI
Piston 	PBK-MP-P-25-15	25	6,6	30	7.5	15	217
	PBK-MP-P-50-15	50	13	60	15	15	217
	PBK-MP-P-100-15	100	26	120	30	15	217
	PBK-MP-P-200-8	200	53	240	60	8	116
	PBK-MP-P-300-5	300	79	360	90	5	73
	PBK-MP-P-500-3	500	132	600	150	3	43

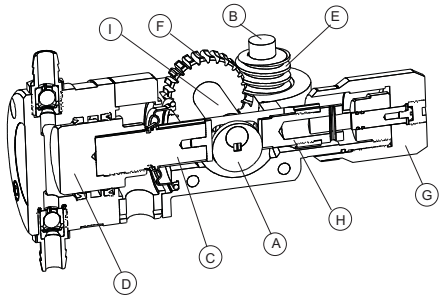
4.- OPERATION

The electric motor **(B)** transmits its power by means of a reducer, made up of a pinion **(E)** and a ring gear **(F)** solidary to an axis **(I)** and an eccentric **(A)** that alternatively pushes and draws a shaft **(C)** threaded to a piston (**D)**.

As a spring is not necessary for the return of the piston (**POSITIVE RETURN)**, the motor transmits all its power both to the injection and to the suction, saving energy, avoiding breackdowns, and ensuring a perfect and high precision dosing.

The micrometic regulator **(G)** increases or diminishes the stroke of the shaft and the piston by means of a threaded pipe coupling **(H)**, modifying the injection flow. The dosing flow is adjustable from a 0% to a 100%.

To regulate flow by means of an inverter is possible varying proportionally the dosed flow by the frequency supplied by an electric motor. The dosing flow is



INJECTION MODULES

In the same injector can be connected several injection modules to apportion different products as long as they are of the same serial number.
The maximum pressure of an **MF** dosing pump when combined with one or more additional modules can be limited. It will be the result of dividing **K** by the total sum of the flows of the different installed modules, as long as this is not superior to the one specified for each module. For this calculation we must use the flow of the diaphragm modules multiplied by 2.

K (l/h-bar)	**4.600** *(2.300 for 1 cycle)*	**K (GPH- PSI)**	**17.000** *(8.500 for 1 cycle)*

Example in l/h - bar:
Dosing pump of two injections per second, three-phase motor, with two additional modules of 300l/h piston, one of 200l/h piston and one diaphragm module of 100l/h.
300 + 300 + 200 + (2x100) = 1000 l/h
The maximum resulting pressure will be: ***4.600/1000 = 4,6 bars***

Example in GPH - PSI:
79 + 79 + 53 + (2x26) = 263 GPH
The maximum resulting pressure will be : ***17.000 / 263 = 64,6 PSI***

Note: For 60Hz used the corresponding flow.

PUMP TEST REPORT

Project Information

Purchaser: Abdiz Complex

Project: **Converter Off Gas Handling Project of Sarcheshmeh**

Pump Specification

Tag No.: 270-PU-402/403
S/N:

Capacity: 300 l/h
Head: 0.72 barg

Service: NaOH
Type: 62-A21-BP3-M

Motor Specification

Type: 110/80
Speed: 1450rpm

Power: 0.46KW
HP: 0.63

Volt: 220V/380V

Material Specification

Material: PVC

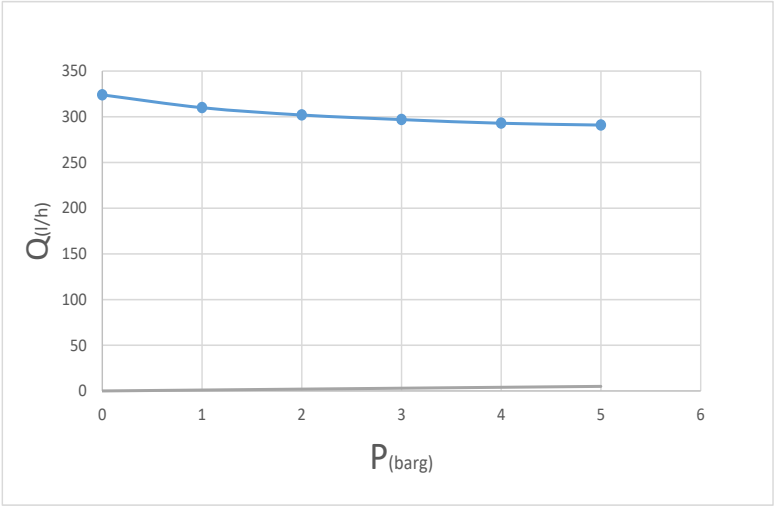
Performance Curve

Fluid: Water

Temp: ambient

Density: 1 g/cm3

Point	P(Bar)	Q(lit/h)
1	0	324
2	1	310
3	2	302
4	3	297
5	4	293
6	5	291



EC CONFORMITY DECLARATION

CE

P.B.K. CO

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Tehran, Iran
WWW.PBKIMIA.COM
INFO@PBKIMIA.COM

Declares that all models of **Metering Pumps** *products, identified by a serial number and year of manufacture, strictly fulfill 2006/042/CE and low voltages directives D2006/95/CE, as long as installation, use and maintenance are carried out following the prevailing regulation and following the instructions contained in the handbook.*

S.Emad Mirashrafi
Manager

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