

FOOD & BEVERAGE



PLP Systems
Technology in Liquid Handling & Powder Dosing



FOOD SAFETY

RELIABLE SYSTEMS

SOURCHING INGRIDIENT

HIGH QUALITY

HYGIENE

HIGH
PERFORMANCE
COATING

TRACEABILITY

HOMOGENEITY





OUR COMPANY

PLP Systems was founded in 1980, in Lugagnano Val D'Arda Piacenza.

PLP is specialised in liquid and powder weighing equipment in the animal feed, pet food, food & beverage, oenology, chemical and cement industry.

PLP produces reliable systems for food productions where micro-dosage of ingredients are needed for adding: acidifiers, vitamins, and micro additives in general liquids and powders, as well as solutions and equipment to ensure homogeneous coating and excellent appetibility performances.

Through technological studies in Italy and abroad comes the desire to specialize in liquid dosing systems, until today, with more than 40 years of experience, we are one of the companies with more technological added value both nationally and internationally, not only in handling liquids, but also for powders, coating systems, greasing, homogenizing, spraying. PLP now boasts projects all over the world, guaranteeing: expertise, support and assistance during sales, design, implementation and after sales, with the support of direct offices and agents worldwide.

INDUSTRIAL MIXING

Heated jacket mixer with insulation and fully welded protective sheet.

- Still operating at low speeds, equipped with a high-power mixing turbo emulsifier featuring a rotor and stator for efficient blending.
- Integration with transfer pump and control panel, all mounted on a skid.
- DIN 11815 Connections or Tri-clamp.



Heated jacket mixer with insulation and fully welded protective sheet.

- Medium-speed cowless profile mixer.
- Integration with transfer pump and control panel.
- DIN 11815 connections or Tri-clamp.



PLP Systems manufactures customized mixers for the preparation of liquids, creams, and pastes.

For various liquid solutions, juices and juices, soft drinks, soups and broths, honey, chocolate, emulsions, and colorants.

Systems with heating or cooling with insulated walls.

Mixing is achieved through the use of slow mixers, turbo emulsifiers, high-speed mixers, or combined systems, with the option of including scraping blades.

NG TECHNOLOGIES



Heated jacket mixer with insulation and fully welded protective sheet.

- Still at low speeds.
- Complete with automatic product feeding for melting and load cells.
- Connections DIN 11815, Tri-clamp or flanged.



Heated jacket mixer with insulation and fully welded protective sheet.

- Medium-speed cowless profile mixer.
- Integration with transfer pump and control panel.
- Connections DIN 11815, Tri-clamp.



INTERNAL DETAIL OF THE MIXER
WITH PTFE SCRAPING BLADES AND
MIRROR-POLISHED SURFACE FINISH

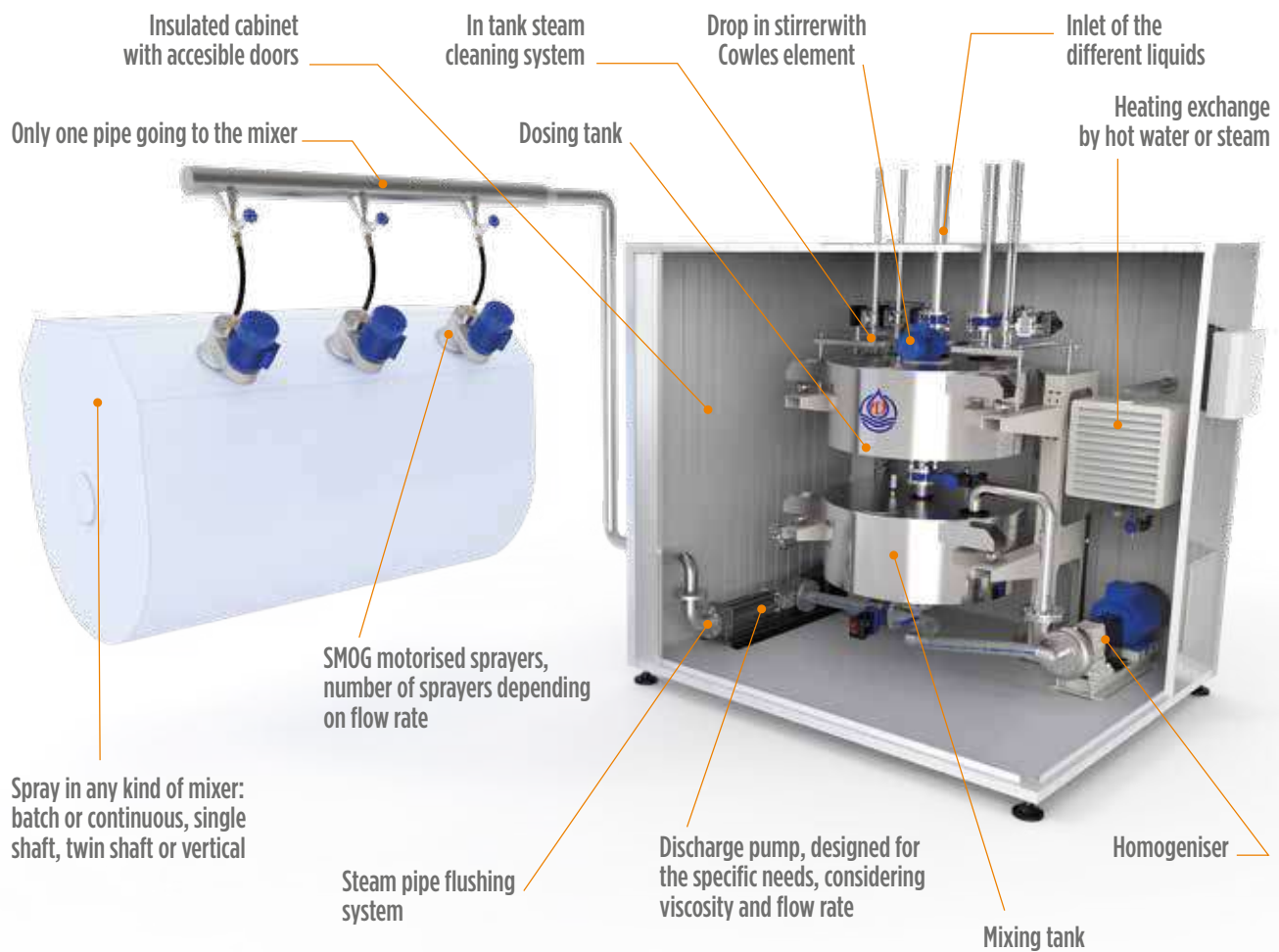


INTERNAL DETAIL OF THE ANCHOR
MIXER WITH SATIN-FINISHED
SURFACE

DOSAMIX

DOSAMIX batch dosing system used for medium and large liquid components for dosing, pre-mixing, and injection inside mixers. Dosing is achieved using load cells, while mixing can be accomplished through immersion mixers or recirculating homogenizers.

Suitable pumps are employed for product transfer based on the product and the required application. The proposed system can be paired with a range of optional features and customizations to create the best solution tailored to the customer's needs.



Benefits of DOSAMIX

- PRECISION OF LIQUID DOSING
- HANDLING OF MICRO AND MACRO COMPONENTS
- EASY TANK CLEANING AND SANITIZATION
- RAPID DOSING
- PROCESS LIQUIDS MANAGEMENT IN A SINGLE DOSING STATION
- METICULOUS DOSING FOR EACH PRODUCT

CUSTOMIZABLE DOSAMIX SYSTEMS TO MEET SPECIFIC REQUIREMENTS



Type	Capacity (L)	Types of mixing		Liquids
		Emulsifier	Homogeniser	
DOSAMIX 2/25	25	F 400	EML 1.5/200	4
DOSAMIX 2/50	50	F 400	EML 1.5/200	4
DOSAMIX 2/100	100	F 400	EML 1.5/300 - EML 3/100	6
DOSAMIX 2/150	150	F 400	EML 3/100	6
DOSAMIX 2/300	300	F 400	EML 3/100	8
DOSAMIX 2/400	400	F 400	EML 3/100	8
DOSAMIX 2/500	500	F 400	EML 3/100	10
DOSAMIX 2/700	700	F 400	EML 3/100	12
DOSAMIX 2/1000	1000	F 400	EML 3/100	12

EML HOMOGENIZER

The EML HOMOGENIZER, thanks to the high cutting effect achieved by the mechanical and hydraulic action of the rotor and stator, creates a highly mixed product. It is used in the production of all those products where it is necessary to reduce particles and mix with other components, as well as for the dispersion of powders in liquids. The EML is suitable for any liquid, cream, paste such as: homogenized products, sauces, smoothies, etc.

Benefits of HOMOGENIZERS

- REDUCTION OF LUMPS AND/OR PARTICLES
- REDUCTION IN VISCOSITY
- PERFECT MIXING
- IDEAL FOR ANY TYPE OF LIQUID
- SHORTENS PRODUCTION TIMES
- IMPROVES THE QUALITY OF THE FINISHED PRODUCT



Type	Motor	Speed	In/out	Flow rate	Note
EML 1.5/P	1,5 KW	2800rpm	3/4 gas	50 lt/min	Plastic construction
EML 1.5/200	1,5 KW	2800rpm	3/4 gas	50 lt/min	Low mixing
EML 1.5/300	3 KW	2800rpm	3/4 gas	80 lt/min	Low mixing
EML 3/100	5,5-7,5 KW	1400/2800rpm	2"/DN 80	200 lt/min	High mixing
EML 3/400	30-35 KW	1400rpm	DN 100	800 lt/min	High mixing

TURBO EMULSIFIERS

The vertical turbo emulsifier is suitable for mixing various low-viscosity liquids or dispersing powders in liquids. Used inside containers or tanks and attached to the top lid, it enables a rapid and homogeneous emulsion.

F500

A turbo emulsifier primarily designed for the food industry, equipped with a special motor with a conical coupling, support with drawn rods for stator attachment, Teflon centering bushing. Rotor and stator made of polymer or stainless steel.



MOTORIZED SMOG

The use of motorized SMOG sprayers allows the spraying of any type of liquid and viscosity. Thanks to the 11 mm injection nozzle, the sprayer prevents blockages caused by dirt and impurities.

Nebulization occurs through the centrifugal rotation of the injection chamber, enabling the formation of small

droplets.

Once the liquids reaches the outlet of the sprayer, it combines with the air supplied through the blower and forms a fog effect.

With this system, high pressure pumps or filters are not required.



Benefits of SMOG atomizers

- NO NEED FOR HIGH PRESSURE TO NEBULIZE THE LIQUIDS
- FLOW RATE CAN RANGE FROM 0.1 TO 40 LITRES PER MINUTE, ALWAYS GUARANTEEING A GOOD NEBULIZATION
- SUITABLE FOR ANY TYPE OF LIQUID WITH ANY VISCOSITY
- BLOCKAGE OF THE NOZZLES ARE RARE
- LESS CLEANING REQUIRED (COMPARED TO WHEN USING STANDARD NOZZLES)
- IMPROVES THE CV "COEFFICIENT OF VARIATION" OF THE LIQUIDS SPRAYED INTO THE MIXER AND THE QUALITY OF THE FINISHED PRODUCT

Type	Mounting	Range	Assist	kW	Note
SMOG	Top/Side	0-30 lt/min	Air blower	1.1	Any liquid and pressure
SMOG XL	Top/Side	0-40 lt/min	Air blower	1.1	Any liquid and pressure
microSMOG	Top/Side	0-20 lt/min	Air blower	0.12	Any liquid and pressure

PRO BOERA

The " PRO BOERA" doser has been designed for use in the winemaking and beverage industry, specifically for continuous dosing of gum arabic, sulfur dioxide, enzymes, colorants, acids, flavors, preservatives, or any other liquid additives



Proportional addition after microfiltration in a bottling line



PRO BOERA CONFIGURATIONS

- **PRO BOERA DOSER 1.A 1P**
Allows the dosing only one additive at a time.
- **PRO BOERA DOSER 1.A 2P**
It consists of n° 2 piston metering pumps and n° 1 expansion board.
It allows the dosing of two additives simultaneously in the same line, and displays data related to the two dosages.
- **PRO BOERA DOSER 1.A 3P**
It consists of n° 3 piston metering pumps and n° 2 expansion board.
It allows dosing of three additives simultaneously in the same line, and displays data related to the two dosages.

PIM-ELET

This technology has been designed for the treatment of raw materials and for all applications where there is a need to add acidifiers, vitamins, and liquid micro-additives in general, to solid products such as: rice, wheat, flours, finished products, etc.

Equipped with micro gear pumps and feedback flow control via mass flow meters, it is capable of achieving very precise dosages even at very low quantities.

The system integrates a PLC with an operator panel, capable of communicating with the surrounding system according to Industry 4.0 specifications, traceability, and a remote assistance module via Ethernet connection.



Benefits of PIM-ELET

- ACCURATE CONTINUOUS PROPORTIONAL DOSING
- CAPABILITY TO PERFORM BATCH DOSING
- IDEAL FOR LIQUID MICRODOSING
- SUITABLE FOR ACIDS AND CORROSIVE LIQUIDS
- COMPACT AND RELIABLE SYSTEM
- SIMPLE AND USER-FRIENDLY
- CUSTOMIZABLE REPORTING AND DATABASES
- OVERALL INCREASED PRODUCTIVITY

DRUM COATER

The Drum Coater is a complete machine for the coating treatment in the food industry, designed for continuous and uniform coverage. It consists of a continuous weight dosage of the product, a mixing and coating system by rotating drum called DC, and a proportional dosing system of liquid or powder additives.

Its gentle motion in treatment and in-line coating is ideal for products such as chips, snacks, crackers, diced vegetables, oats, almonds, cornflakes, puffed rice, cereals, etc. The system can be used for multiple applications: adding powdered additives such as flavors, enzymes, spices, salt, and colorants; salt coating for snacks (oil/powder); sweet coatings (sugar, caramel, honey, cocoa).



Complete line with top hopper for receiving the product, weighing belt, elevator, drum coating machine and dosing system.

Type	Diameter	Length	Capacity	Addition
DC 600-2000	600 mm	2000 mm	0.3 – 4 m ³ /h	0,01 – 8%
DC 800-2000	800 mm	2000 mm	0.6 – 6 m ³ /h	0,01 – 8%
DC 1000-2000	1000 mm	2000 mm	1 – 10 m ³ /h	0,01 – 8%
DC 600-3400	600 mm	3400 mm	0.3 – 5 m ³ /h	0,01 – 12%
DC 800-3400	800 mm	3400 mm	0.6 – 7 m ³ /h	0,01 – 12%
DC 1000-3400	1000 mm	3400 mm	1 – 12 m ³ /h	0,01 – 12%

Capacity and addition may vary depending on the type of application, granularity, viscosity and absorption capacities.

Treatment of almonds and dried fruits



Treatment of croutons and snacks



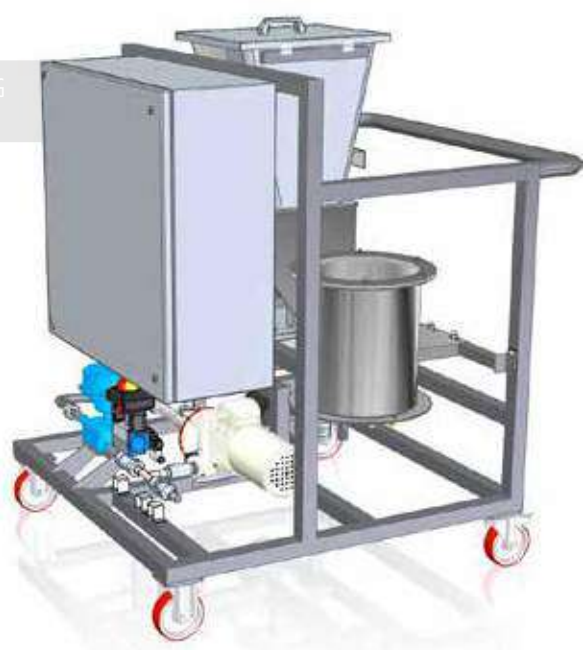
DRUM COATER ACCESSORIES

Proportional weight dosing unit for the combined addition of liquids and powders. The system is mounted on a mobile skid to serve multiple lines and is easily cleanable.

Used for DC coating systems and to enhance dosing on existing coating plants.



PROPORTIONAL DOSING CONFIGURATIONS



MDP

MDP microdosing system used for the formulation of additives and premixes.

Constructed on a standard carousel design with up to 12 components and very small dimensions. However, it can be customised according to customer requirements .

The systems is normally used a batch weigher, dosing each powder individually into the weighing hopper.

Other configurations such as loss-in-weight dosing, continuous dosing and volumetric dosing are possible.



Type	BATCH 25L	BATCH 50L	BATCH 100L	BATCH 200L	BATCH 300L	BATCH 400L
MDP - 25	3250 mm	3300 mm	3350 mm	3400 mm	3750 mm	4150 mm
MDP - 50	3500 mm	3550 mm	3600 mm	3650 mm	4000 mm	4400 mm
MDP - 100	3880 mm	3930 mm	3980 mm	4030 mm	4380 mm	4780 mm
MDP - 200	4260 mm	4310 mm	4360 mm	4410 mm	4760 mm	5160 mm
MDP - 300	4640 mm	4690 mm	4740 mm	4790 mm	5140 mm	5540 mm
MDP - 200	5020 mm	5070 mm	5120 mm	5170 mm	5520 mm	5920 mm
MDP - 300	5400 mm	5450 mm	5500 mm	5550 mm	5900 mm	6300 mm

Approximate dimensions: MDP station + batch hopper WH+ pneumatic hopper TPH -- Plan dimensions 2250 mm

Benefits of the MDP system

- WIDE RANGE OF CAPACITY DOSING
- ACCURACY AND REPEATABILITY OF THE DOSAGE
- FLEXIBILITY AND SPEED OF THE BATCH
- COMPACT SIZE, IDEAL FOR INSTALLATION IN EXISTING SYSTEMS
- EASY WORKING PROCESS AND MAINTENANCE
- EASY CLEANING THANKS TO THE FAST CLAMPS CONNECTIONS
- MODULARITY AND EXPANDABILITY FOR FUTURE IMPLEMENTATIONS

Batch Kg	Batch liters	Resolution
0.5 - 1	3	+/- 0,5 g
1 - 3	5	+/- 1 g
4 - 5	10	+/- 2 g
5 - 15	25	+/- 5 g
15 - 30	50	+/- 10 g
4 - 50	75	+/- 10 g
50 - 75	100	+/- 15 g
75 - 100	150	+/- 30 g
80 - 150	200	+/- 30 g
100 - 200	300	+/- 50 g
150 - 250	400	+/- 50 g
200 - 300	500	+/- 100 g
300 - 500	700	+/- 150 g
500 - 700	1000	+/- 200 g

DOSING STATION ACCESSORIES



AUTOMATIC PNEUMATIC
LOADING STATION,
FOR EACH FEEDER



BAG EMPTYING STATION, WITH
ASPIRATION AND FILTER



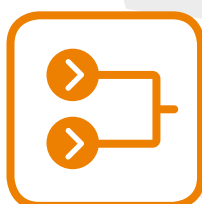
UNLOADING BIG BAG
STATION, WITH DOSING
SCREW



UNLOADING BAG STATION WITH
CUTTER AND LEXAN PANEL.
CONNECTED TO THE PNEUMATIC
LOADING LINE



**Batch
dosing**



**Continuous
dosing**



**Homogenizers
and Emulsifiers**



Sprayers



Coating

**Find out more on:
www.plp-systems.com**



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