MADE IN ITALY

PermaDos

POTASSIUM PERMANGANATE ($KMnO_4$)

cod. 20211170

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PermaDos

POTASSIUM PERMANGANATE ($KMnO_4$)

PermaDos is a modular and expandable, fully automatic system designed for the continuous preparation of potassium permanganate solutions from dry product. Indispensable in civil and industrial wastewater treatment plants, it guarantees high performance in pre-oxidation, sedimentation, clarification and sludge dewatering processes through the use of advanced technologies (such as brushless motors) and high-quality construction materials (HDPE, PPH, PVC, AISI 304).

The PermaDos model is equipped with HDPE tanks and a PPH powder dosing unit with hopper, connected to an expandable and hermetically sealable container, which guarantees maximum safety for operators, inside which a plastic-coated screw conveyor is housed. The four-blade propeller agitator, driven by a brushless motor, ensures precise speed control and a significant reduction in energy consumption. The system is completed by a hydraulic circuit with a meter, solenoid valves and control valves. The system is fully automated thanks to radar level probes and integrated safety devices.

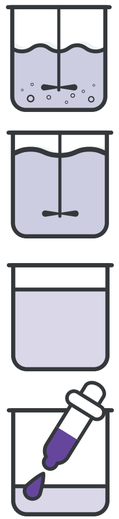
ADVANTAGES

- **Automatic preparation:** reduced manual labour and errors, ready-to-use solution
- **Maximum precision:** solution concentration control with g/l measurement probe
- **Maximum efficiency:** solution optimisation and polymer activation
- **Flexibility:** modular configurations for different requirements
- **Savings:** reduced waste, lower energy consumption and simplified maintenance
- **High performance:** continuous process and consistent quality
- **Safety:** no dust released into the environment
- **Drain and overflow fittings:** 2”

APPLICATIONS

- Civil and industrial purification plants
- Sludge and wastewater treatment
- Odor Control (H_2SO_4), Oxidation of Arsenic, Iron and Manganese
- Site Cleanup – Remediation
- Processes with flotation units, decanters, filter presses

PROCESS



1 MIXING
Initial dosing and homogenisation – concentration control

2 MATURATION
Reaction and stabilisation of the solution

3 STOCKING
Controlled storage awaiting use

4 WITHDRAWAL
Precise and regular dispensing of the solution

FEATURES

- **PPH powder dosing unit**
  - Adjustment via brushless motor with electronic variation from HMI
  - 35-litre loading hopper with vibrator
  - Radar powder level control (minimum level)
  - Powder concentration adjustment from 0.1 to 0.5% (from 1 to 50 g/l)
- **Preparation water supply device consisting of**
  - Electronic ultrasonic flow meter (4-20 mA)
- **Radar level controller (solution)**
- **Mixer agitator**
  - L1000 three-phase brushless motor – 400 W
  - 4-blade propeller Ø 400 mm
- **Electrical control panel**
  - Utility management via 7” touchscreen HMI
  - Ethernet TCP/IP communication
  - IP65 ABS casing to protect electronic components

MAIN ALARMS

- Emergency stop
- Low water flow
- Minimum solution level
- Maximum level (H)
- Overflow level (HH)
- High Solution
- Concentration
- Low Solution
- Concentration
- Dosing Pump Fault
- Powder Feeder Fault

MODULAR SYSTEM

The system includes an independent master tank, which can be expanded with additional modules to adapt to different dosing and storage requirements. Assembly using rectangular flanges with gaskets and M8 screws ensures solidity and quick installation.

Tank dimensions in mm: 1400x1400xh1200

Type / Model	PD-1500-1	PD-3000-2	PD-4500-3	PD-6000-4
Tot. volume Tank litres	1702	3404	5106	6808
Tank material	PEHD	PEHD	PEHD	PEHD
Maximum hourly production (/l/h)	1500	3000	4500	6000
Standard operating power	200 W	100 W	100 W	100 W