

## Technical Description of the Potassium Permanganate Dosing and Monitoring System in the potable water

### PermaDos Series 400

Potassium Permanganate preparation system PermaDos 400-1000 is a fully-automatic system for the continuous preparation of a KMnO<sub>4</sub> solution made from KMnO<sub>4</sub> powder.

#### Construction and function

The standard delivery comprises the compact system completely pre-mounted. The customer only provides the current and the dilution water lines and connections. The main components of the system are:

- Dry material feeder S 400 with stainless steel metering worm
- Polipropilene preparation and dosing tank with
  - agitator
  - level sensor
  - all required connections
- Dilution water supply with
  - automatic gate valve
  - valve solenoid
  - pressure reducing valve
  - pressure control device
  - electronic flowmeter
- Dosing Pump ( service ) / ( stand – by option )
- Dosing solution and PermaJet 400 system with eductor
- Control panel for the control of the system, completely wired and checked, Control panel for **speed control** of the dosing unit, with frequency converter, manual-automatic switch, 0(4) - 20 mA input.
  
- A specific probe measuring and assure regulation of the permanganate solution Concentration gr/l. Model PermaConc 400
- A specific probe measuring the permanganate residual mg/l in the water process, Model PermaTest 400

The dry KMnO<sub>4</sub> is transferred into the dry material feeder.

The capacity of the dry material feeder can be adjusted. The filling orifice of the preparation and dosing tank has a cover in order to provide the dust-free functioning of the system.

The dilution water line to the mixer via the dilution water device grants the adjusted concentration remaining constant. The water supply is monitored by a pressure control device.

A level sensor is installed for the preparation of the permanganate inside the dosing tank. It automatically opens the dilution water supply and switches on the dry material feeder when reaching the minimum level. When the adjusted dosing period has ran out, the dry material feeder automatically switches off. The dilution water supply is closed when reaching the maximum level. If the tank is empty, this cycle starts over again. Thus, a continuous operation of the system is granted. An agitator mixes the KMnO<sub>4</sub> with the dilution water.

#### Information:

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