



PREPARATION & DOSING SYSTEMS

Flexible, robust and economic

Polydos is a fully automatic system for preparation of solutions from dry or concentrated liquid polymers. The concentration of the final solution is achieved by proportionally mixing the polymer with intake water. The concentration is set at the touch screen of the control panel. The maturing time of the polymer solution depends on the discharge rate and the hydraulic capacity of the system.

Polydos 412 for dry and liquid polymer

- Plug-Flow operational prevents evasion of fresh polymer while simplifying and size-reducing the system
- PPH or optionally stainless-steel tank with 3 chambers with double-wall partition: mixing, maturing and storage
- Mixing and maturing chambers fitted with electric stirrers
- Storage chamber optionally fitted with electric stirrer
- Dry-material feeding system with capacitive sensor
- Ultrasonic sensor for continuous level control with programmable cut-off points min./max./dry-run/overflow
- Water inlet with shut-off valve, solenoid valve, pressure reducing valve, strainer and contact water meter
- Jet mixer for dry polymer. Optional connection for liquid polymer
- Control panel with PLC and multilingual graphic display
- Desired concentration adjustable between 0.1 and 0.5 %
- Outlet with ball valves
- Communication options: Profibus, Modbus, Ethernet

Polydos 420 for liquid polymer

- PPH tank with 2 chambers: mixing and maturing
- Mixing chamber fitted with electric stirrer
- Polymer dosing line with ball valve, controlled outlet, drain connections and tank overflow, all mounted directly to the tank
- Feeding pump for concentrated liquid polymer
- Control panel with PLC and multilingual graphic display
- Ultrasonic sensor for continuous level control with programmable cut-off points min./max./dry-run

Polydos 460 for liquid polymer

- PPH tank with 2 chambers: mixing and maturing
- Mixing chamber fitted with electric stirrer
- Maturing chamber optionally fitted with electric stirrer
- Feeding pump for concentrated liquid polymer
- Injection unit with flow controller

Polydos 510 for post-dilution

- Capacity from 250 to 20.000 l/h
- Stand-alone device
- Static mixer allowing a dilution of 10-to-1

KD 440 for dry water treatment chemicals

- PPH tank with 1 chamber with electric stirrer
- Dry-material feeding system and jet mixer
- Ultrasonic sensor for continuous level control with programmable cut-off points min./max./dry-run
- Water inlet with shut-off valve, solenoid valve, pressure reducing valve and flowmeter
- Variants:
 - Activated carbon: maximum concentration 3 %
 - Lime milk: maximum concentration 10 %
 - Aluminium sulphate: maximum concentration 10 %

Applications

- Treatment of industrial water, municipal water, waste water and sludge

We supply engineer-to-order solutions that match individual conditions.

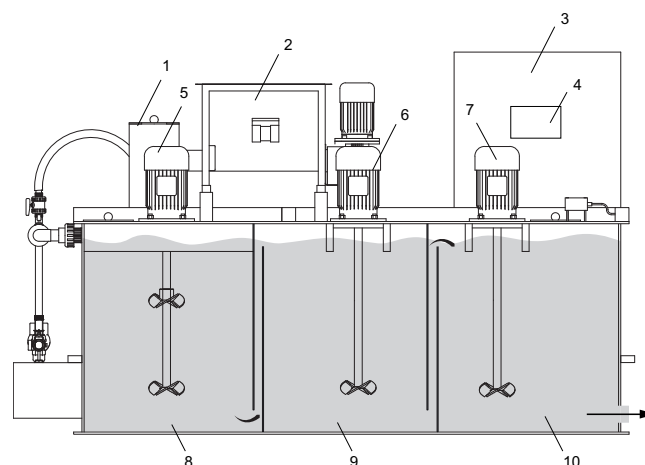
Technical data

	Material	Stirrer speed	Protection	Capacity
Polydos 412	Dry-material feeder and worm screw: SS Stirrer shaft and impeller: SS Pipings and connections: uPVC	50 Hz: 900 1/min 60 Hz: 810 1/min	Control panel: IP65 Stirrers: IP55	300 to 16000 l/h
Polydos 420	Stirrer shaft and impeller: SS Pipings and connections: uPVC	50 Hz: 353 1/min	Control panel: IP65 Stirrers: IP54	50 to 2000 l/h
Polydos 460	Stirrer shaft and impeller: SS Pipings and connections: uPVC	50 Hz: 900 1/min 60 Hz: 810 1/min	Control panel: IP65 Stirrers: IP55	1000 to 20000 l/h
KD 440	Dry-material feeder and worm screw: SS Stirrer shaft and impeller: SS Pipings and connections: uPVC	50 Hz: 900 1/min 60 Hz: 810 1/min	Control panel: IP65 Stirrers: IP55	500 to 7000 l/h

Frequently asked questions for Polydos 412

Why do polymers need to be prepared?	Polymers need time to unwind their chains, so they can catch more particles. Preparation process changes from one polymer to another. As an example, the maturing time can be anywhere from 10 minutes to 2 hours.
What is important in the preparation process?	The polymer is fed into a water jet mixer which breaks the powder into its fine particles ensuring every speck is wetted and dissolved. Polymer lumps or "fish-eyes" are avoided. It is then mixed with water and gently stirred while maturing.
How is the Polydos system designed?	The Polydos system has one tank with three separate chambers: 1. mixing, 2. maturing and 3. storage. The chambers are separated by a double-wall. As new mix fills the mixing chamber, the polymer already mixed is forced through the weir into the maturing chamber. In turn, the matured polymer flows through the second weir and fills the storage chamber. The control of system establishes a water trap in chamber II during water intake to prevent evasion of fresh polymer.
Why is Polydos better than batching system?	<ul style="list-style-type: none"> - Smaller footprint with space-saving design - Less reserve polymer is prepared - More accurate average maturation time - Easier to manage and service
What controls the operation of Polydos?	An ultrasonic level sensor in the storage chamber monitors the ready-to-dose polymer and starts the filling/mixing process on a low-level signal. It then stops the process on a high-level signal making it a fully automated process.
What is the operator required to do?	<ol style="list-style-type: none"> 1. Ensure that feed water of potable quality is connected and turned on. 2. Maintain the supply of powder to the feeder hopper. 3. Regularly check that the worm screw and jet mixer are clean.
How much polymer can be stored on a Polydos?	The standard dry-material feeder holds 32 litres, but extension hoppers are available to hold enough for weekly or longer filling routine. We also offer vacuum loader to ease the filling of polymers into the dry-material feeder.
How can I tell when the dry material feeder needs filling?	The feeder hopper has a capacitive sensor to detect a minimum powder level. The Polydos will send out an alarm when the powder level is low, but before it is empty.
What other alarm signals do I get?	<ol style="list-style-type: none"> 1. Motor failure 2. Circuit breaker failure 3. Low or high water flow 4. Dry run
How do I keep the powder dry?	Electric trace heating is wrapped around the feeder nozzle preventing the powder from absorbing moisture and keeping the inside of the jet mixer dry.

Polydos 412 Functional scheme



Pos.	Description
1	Jet mixer
2	Dry-material feeder
3	Control panel
4	Touch screen
5-7	Stirrer
8	Mixing chamber
9	Maturing chamber
10	Storage chamber