

PolyRex

The TOMAL Polymer Make-up Unit

Proven in practice

The TOMAL PolyRex polymer make-up unit has more than 30 years of experience of dosing and blending of polymers built into it. More than 1800 units manufactured and shipped to more than 60 countries. The reliability and good design has gained respect within the paper industry, processing industries and in municipal water or sewage plants.



TOMAL PolyRex polymer make-up unit.

PolyRex - The king of polymer feeders

PolyRex is a turn-key automatic machine for batch-wise preparation and metering of polymer solutions from powdered or liquid chemicals.

The PolyRex machine will feed an adjustable flow of powdered or liquid polymers and an adjustable

flow of preparation and dilution water. The PolyRex is using a step-by-step mixing system to effectively hydrate and mix the polymer to a homogenous and activated polymer solution. The first step is the hydration system, where the polymer is wetted, the

second step the water acceleration taking place in the water ejector, and the third step the efficient but gentle agitating in the mixing tank. The PolyRex step-by-step mixing system ends up providing you with the most efficient way to produce a polymer solution.

PolyRex - Able to minimize polymer usage with low maintenance

- The **batch preparation system** gives outstanding characteristics compared to a continuous system. The reason is the "short circuit" effect being avoided. The polymer particles cannot pass the process without being activated.
- TOMAL's **proven multiscrew polymer feeder** ensures reliable pulsation free discharge with high metering accuracy. This ensures a consistent batch composition.
- A highly effective **static mixer** in stainless steel optimizing the post dilution water sequence.
- Spilled polymer can be a potential working hazard. The vacuum conveyor (option) provides a user friendly method for dust free filling of the powder hopper.
- Our wide range of options such as different big bag handling systems and our flexibility enable us to adapt machines to customer individual requirements.
- Each unit is wet tested prior to dispatch from the factory and ready for immediate use.



A dust free working environment

PolyRex - Features

- **Powder feeder**
The feeder is of a double screw type 182 Poly with a worm geared motor.
- **Hydration system**
Designed for an optimal dissolving of polymer.
- **Water control**
The automatic and easily regulated water control equipment ensures an undisturbed pressure feed.
- **Preparation/stock tanks**
Made from stainless steel, fitted with our highly effective new agitator.
- **User friendly controls**
The PolyRex unit is easily operated via the logical PLC display in the control panel.
- **Electric equipment**
All electrical equipment and interconnecting cables are fitted in accordance with SS-EN60204-1.
- **Materials**
The powder feeder, the support stand and the powder hopper are made of carbon steel Euronorm FE 360 BFN painted with 40 µm alkydprimer and 60 µm acryl top coat. The tanks, the agitator and the hydration system are made of stainless steel AISI 304 and blasted with glass pellets. The water armatures and the ejector are brass, whilst all pipework is PVC.

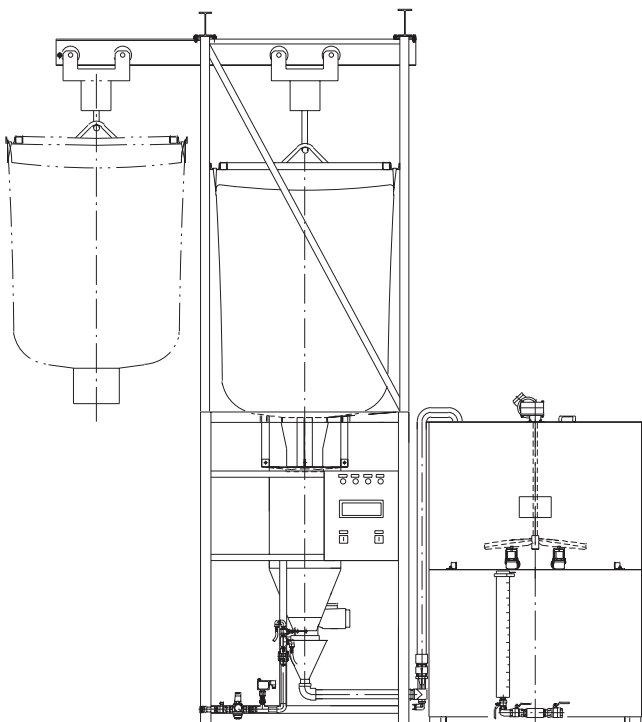
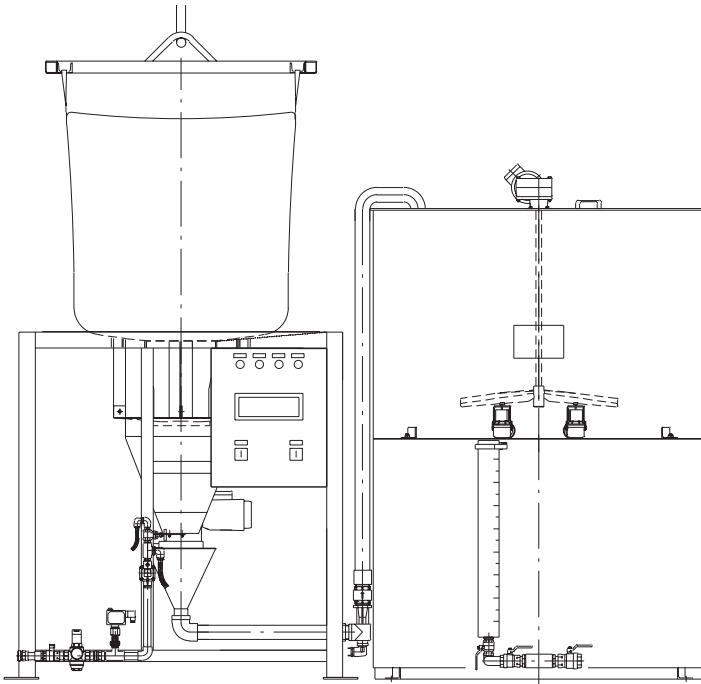
PolyRex - Optional equipment

- **Vacuum conveyor**
Ensures a dust free working environment, without any direct contact with the polymer.
- **Hopper level switch**
At low level in the powder hopper a level indicator gives an alarm signal.
- **Dosing pump**
Pump motors can be either fitted with mechanical variator or controlled via a frequency controller. The complete module is mounted on a console and fitted with electrical automation / connection. Remote signal control for the pump can be supplied.
- **Electromagnetic flowmeter**
For easy and accurate measuring of the dosing pump capacity, an electromagnetic flowmeter is mounted in the dosing line prior to the dilution water system.
- **Dilution water/static mixer**
The water and the stock solution are added simultaneously to the dosing line to produce the final concentration. Ensures a homogenized solution at the dosing point via the static mixer.
- **Liquid polymer**
For easy conversion from dry to liquid polymer there is a changeover switch located on the front of the control panel. Mixing takes place in the hydration system to obtain the "clearest" possible polymer solution. The equipment consists of a dosing pump and a non-return valve with hose connections.
- **Stainless steel executions**
All units can be equipped with support, piping and all valves in stainless steel AISI 304/316.

PolyRex - Big bag handling systems

As an option the PolyRex systems can be equipped with various types of big bag handling

systems. Properly used, a dust free working environment can be obtained.



PolyRex - Standards and norms

- TOMAL AB is certified acc. to SS-EN ISO 9001
- Quality requirements for welding SS-EN 729-3
- Approval testing of welders SS-EN 287-1
- "Grosser Eignungsnachweis" DIN 18 800-7, Abs. 6.2, DIN 18 801
- Guidance on quality levels for imperfections SS-EN 5817-D
- Implemented quality contracts with all important suppliers

A PolyRex unit equipped with a table support for reusable big bags. The support is available in carbon steel or stainless steel.

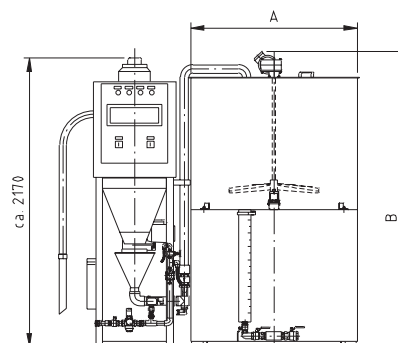
A PolyRex big bag system with an electrical chain hoist and a telfer beam for easy handling.

PolyRex - Technical data

Max. preparation capacity at 0,5% or 0,25% stock solution concentration and 60-45 min. maturing time.

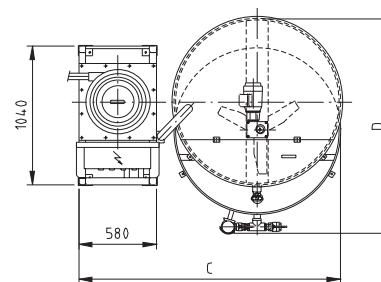
Capacities (kg/h)

Type	0,5% solution	0,25% solution
PolyRex 0.6	1.0 - 1.2	0.5 - 0.6
PolyRex 1.0	1.8 - 2.3	0.9 - 1.1
PolyRex 2.0	3.8 - 4.7	1.9 - 2.3
PolyRex 3.0	5.1 - 6.4	2.5 - 3.2
PolyRex 4.0	7.7 - 9.5	3.8 - 4.7
PolyRex 5.4	9.8 - 12.0	4.9 - 6.0
PolyRex 6.6	12.9 - 16.0	6.8 - 8.6
PolyRex 8.4	15.6 - 19.1	8.3 - 10.4



Dimensions (mm)

Type	Tank size	A	B	C	D
PolyRex 0.6	2 x 0,3 m ³	800	1470	1530	1140
PolyRex 1.0	2 x 0,5 m ³	960	1720	1670	1350
PolyRex 2.0	2 x 1,0 m ³	1250	2230	1960	1610
PolyRex 3.0	2 x 1,5 m ³	1430	2230	2140	1800
PolyRex 4.0	2 x 2,0 m ³	1610	2780	2330	2100
PolyRex 5.4	2 x 2,7 m ³	1860	2780	2560	2350
PolyRex 6.6	2 x 3,3 m ³	1860	3280	2560	2350
PolyRex 8.4	2 x 4,2 m ³	2000	3680	2700	2500



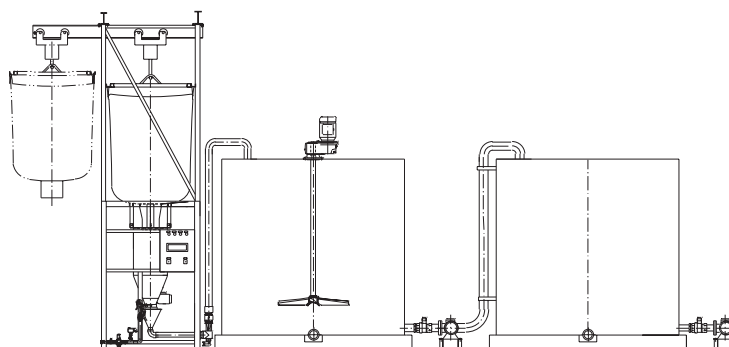
PolyRex with vacuum conveyor

PolyRex MAXI systems

The PolyRex Maxi systems are built for high capacity needs, in large waste water plants or in industrial applications.

Capacities (kg/h)

Type	Tank size	0.5% solution	0.25% solution
PolyRex MAXI 11	2 x 5.5 m ³	20.7 - 25.5	11.1 - 14.0
PolyRex MAXI 16	2 x 8.0 m ³	27.4 - 33.0	15.1 - 18.6
PolyRex MAXI 23	2 x 11.5 m ³	34.8 - 41.0	19.7 - 23.8



PolyRex MAXI with big bag station, electrical chain hoist and a telfer beam