

## Perfect solutions - Optimally dissolved polymers



In 1994 polymers were the first major pillar of environmental engineering of the newly established company ACAT. But soon, the question arose whether it would not be strategically advantageous to link the years of knowledge of the employees in the environmental technology with the associated engineering technology to be able to offer total solutions in application technology.

The combination of equipment, chemical products, and the expertise and experience of the staff has been very successful.

First steps in construction of smaller units were made in the backyards and garages of

our employees. The pioneering work in this field is contributed to our "veteran" in plant engineering, Bernhard Anzenberger, actively supported by the Heads of Department of paper and of environment, Theo Weinbrenner and Erich Sailer.

In 2000 the technology center in Scheibbs, LowerAustria, was bought and converted. A major activity is the design and construction of polymer dissolving units for environmental engineering. The strength of our small manufacturer plant is, above all, to meet special customer requests and to be able to fulfill almost every request with the existing base

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technology. This flexibility allows us to meet the needs of each municipal sewage treatment plant and to support the environmental technology in the preparation and dosing of its wide range of polymers.

In general polymer systems are distinguished depending on the dissolving technique used.

There are two techniques: the Jet Wet and the dispersion technique.

The procedure and construction of the systems are kept as simple as possible to avoid unnecessary sources of error. The control units used have changed over the years. Today also very simple systems are controlled exclusively by PLC systems.



Of course, for the integration into a process control PCS system our systems are also available without control units. All systems are designed for continuous 24 hour operation.

### **Dispersing technology**

In the case of dispersing technology the powder is conveyed via a screw, directly into the disperser and wetted with water. Then the powder is dissolved by stirring in the container. This method is often used in municipal wastewater treatment plants.

### **Jet Wet technology**

Alternative solutions are required by our customers and one of these is the Jet Wet technology. In this case the polymer powder is conveyed with a screw into a venture tube and blown with a fan into the Jet Wet head. The fine distribution of the powder ensures a better and more effective wetting.

In both systems the necessary maturing time is achieved in a storage tank. The polyelectrolyte solution is pumped with a transfer pump from the dissolution tank into the storage tank.

We also offer systems for liquid polymers. They are based on a pot fitted with a high-speed agitator mixing the liquid polymer with water. If the pot is full, the mixture overflows into a storage tank. This system is also available in different sizes. It has to be noted that in all systems a maximum concentration of the polymer solution of approximately 1.0% must not be exceeded. The polymer feed can be chosen in different variants, such as big bag or sack.

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The following systems are ACAT basic versions

- PolyJet® PPU-1 disperser; double container
- PolyJet® PPU-2 Jet Wet; supply & mixing container
- PolyJet® FPU for liquid polymers

This treatment systems can be equipped with special dosing systems, enabling the dilution to the desired polymer / bentonite concentration and a continuous dosage. All types and designs of pumping stations are available.

