Function description Aqua**Mix** polymer dissolution unit

The Aqua**Mix** is a single-stage, continuously operating polymer dissolution unit for liquid polymer. The core of the unit is a Mixing Pump that dynamically supplies the required mixing energy to the solution during the pumping process.

The Mixing Pump meters dilution water and polymer in the inlet chamber of the pump via two separate suction sides. The required mixing energy is applied exactly at the point where water comes into contact with polymer. Next, polymer forms abruptly a three-dimensional net-structure of a large surface. On the pressure side the solution is ready for use and of high viscosity. Ageing time for polymer (ageing time = time required for the formation of the three-dimensional net structure) is not necessary. Lump formation as a result of introducing both products without sufficient mixing energy - as often noticed in the case of conventional units - can be successfully avoided due to the application of the Aqua**Mix**.

The applied polymer is therefore economically and effectively brought into the solution. As a result, the polymer consumption decreases, whereas the effectiveness of the solution increases.

Dilution water is supplied to the Mixing Pump from a water container through a float valve. This water container, which is mounted on the polymer unit, guarantees constant pressure and an atmospheric disconnection of the unit from the water distribution system. This, in turn, complies with the water balance requirements for water-polluting materials.

The total amount of the solution as well as the flow rate of the polymer commodity are both measured on the polymer unit. With the help of an integrated controller, it is possible to pre-establish the required concentration of the solution, which remains constant independently of the used solution amount and of the viscosity of the product. Pump littering can thus be avoided.

Unit capacity can be varied at constant pump speed on the Mixing Pump through a special control lever or an electrical positioning drive. This variation is achieved by changing the suction volume of the Mixing Pump.

The concept of this polymer system enables an inline application of the solution to the separation process. Tanks, metering pumps, and after-dilution units are not required anymore. If the polymer system is combined with this process, the solution will be automatically adjusted properly in case of some process alterations.

Options:
- control instrument for the mixing ratio
- output alteration: manual / electrical
- adjustment of the mixing energy on the applied polymer
- electrical connection to a central control unit