

METHOD FOR PRODUCING AQUEOUS ACRYLIC ACID POLYMER SOLUTION

ABSTRACT

The present invention is a method for producing an acrylic acid-based polymer aqueous solution continuously using an apparatus that has a first reactor 10 having a first reaction vessel 11 and a circulation pipe 20, the first reaction vessel 11 having a raw material feeding means 13 and a stirring means 12, a monomer having acrylic acid being polymerized in the first reaction vessel 11 in the presence of an initiator and water, and the circulation pipe 20 being provided outside the first reaction vessel 11, and connecting an outlet 15 and an inlet 17 that are formed in a wall of the first reaction vessel 11, the circulation pipe 20 being used to circulate a first reaction liquid that has a polymer produced in the first reaction vessel 11, characterized in that a cooling means 25 that cools the first reaction liquid is provided to the circulation pipe 20, and that the monomer is polymerized, and the first reaction liquid is circulated in a state in which a difference between a temperature of the first reaction liquid at the outlet 15 of the first reaction vessel 11, and a temperature of the cooled first reaction liquid at the inlet 17 of the first reaction vessel 11, is 30°C or higher, and a mass ratio of an amount of liquid in an area between the outlet 15 of the first reaction vessel 11 and the cooling means 25, to an amount of liquid in the first reaction vessel 11, is 0.050 or less.

[Fig. 1]