

ABSTRACT

The invention is an apparatus for producing a water-absorbent resin, including a polymerization reactor and a cooler which removes polymerization heat generated during a polymerization reaction in the polymerization reactor, in which the apparatus for producing a water-absorbent resin can suppress adhesion of the polymer to the inner wall surface of a pipe or the like which comes into contact with gas discharged from the polymerization reactor. In an apparatus for producing the water-absorbent resin (500), gas heated by the polymerization heat accompanied by a polymerization reaction in a reactor main body (200A) flows through a first pipe (202) into a heat exchanging structure (100), and a cooled fluid obtained by the cooling flows through a second pipe (203) into the reactor main body (200A). In the apparatus (500), a first pipe temperature adjusting portion (71) adjusts a temperature of the first pipe (202) to fall within a predetermined temperature range, and a polymerization reactor temperature adjusting portion (72) adjusts a temperature of an upper portion of the reactor main body (200A) to fall within a predetermined temperature range.