

ABSTRACT OF THE DISCLOSURE

APPARATUS FOR CONTINUOUS POLYMERIZATION OF OLEFIN, METHOD FOR TRANSFERRING A POLYMER POWDER, AND METHOD FOR CONTINUOUS POLYMERIZATION OF OLEFIN

An apparatus and method for continuous polymerization of olefin(s), and a method for transferring a polymer powder from one reactor to another in the apparatus are disclosed. The apparatus includes a plurality of serially disposed gas-phase polymerization reactors including a combination of an upstream and downstream reactors and a gas exchange vessel disposed between both reactors. The gas exchange vessel is connected to the upstream and downstream reactors by a first and second transfer conduits, respectively. The gas exchange vessel has a gas distributor plate therein which partitions the gas exchange vessel into an upper section having a gas exchange chamber and a lower section. In the gas exchange chamber, the gas transferred from the upstream reactor together with a polymer powder is exchange at least partly with fresh gas introduced through the gas distributor plate via the lower section. The polymer powder is then transferred to the downstream reactor.