

The invention relates to an installation for two-stage transesterification of fat acids and can be used in obtaining fuel for internal-combustion engines.

The installation for two-stage transesterification of fat acids includes reservoirs for vegetable oil and methanol catalysate, capacities for reaction product settling and ester conditioning, pumps-batchers (3, 4, 5), at the outlet of each of which there is installed a corresponding passive hydraulic homogenizer (6, 7, 8) in the form of a tube with both ends blanked-off with plugs, having two inlet and one outlet branch pipes, each of which being equipped with a centrifugal washer, and the outlet of each passive homogenizer (6, 7, 8) is connected to the inlet of the corresponding active homogenizer (9, 10, 11); high-pressure pumps (12, 13), glycerine level (34, 35, 36) and pressure (22, 23) transducers; the capacity for reaction product settling includes a body (1), divided into two coaxial cylindrical reservoirs with common bottom, in the central reservoir – heat exchanger (24) there are mounted reactors (16, 17), the outlet of each reactor is connected to the corresponding discharging device (18, 19), and the peripheral reservoir by means of vertical walls, welded round the diameter of the cylinder, is divided into two equal capacities (25, 26) for reaction product settling after the first and second stages of transesterification, into each of the above-mentioned capacities there are installed reservoirs for reception (14, 15) and discharge (20, 21) of the reaction products; the ester conditioning capacity consists of a body (2) divided into three cylindrical coaxial reservoirs with common bottom, a central reservoir (28) made hermetic and meant for dehydration of the rectified ester, wherein in tiers, in turns and coaxially there are mounted plates of two types: in the form of perforated truncated cone and in the form of cone, the first-type plates are placed with the smaller base downward and the second-type ones with the cone upward and are connected between them by means of supports, at the same time the length of the support, connecting the lower plate with the bottom of the reservoir (28), is much greater than the other ones, in the upper part of the central reservoir (28) there is mounted a liquid pulverization device (45), and into the bottom a liquid discharging cock, an intermediate reservoir – heat exchanger (29), a peripheral reservoir divided by vertical walls, welded round the diameter of the cylinder, into two equal capacities (30, 31) meant for ester settling after rectification.

Claims: 2

Fig.: 5

