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ABSTRACT

METHOD AND APPARATUS FOR PERFORMING MULTIPLE CLEANING AND VACUUM DRYING OPERATIONS IN ENCLOSED VESSELS

A method for performing multiple cleaning and vacuum
drying operations in enclosed vessels uses cleaning
5 and vacuum drying apparatus, low-dissolved-air
cleaning solution, and drain-to-vacuum process to
produce vacuum in a cleaning vessel, so that influence
of air pressure on the operations is minimized. The
method utilizes physical features that boiling points
10 of general liquids lower with reduced pressure, that
liquid saturated vapor pressure reduces with lowered
temperature, and that two vacuum vessels of different
working temperatures would have a pressure differential
between their saturated vapor pressures, and uses heat
15 control units and heat egress units to regulate
temperature and pressure in the vacuumized cleaning
vessel, so that wet clean, dry clean, vacuum heat drying,
and vacuum freeze drying can be performed on the same
apparatus, and low-pressure gas used in the dry clean
20 and cleaning solution and waste solution can be
recovered to achieve environment protection and energy
saving.

FIGURE : 1