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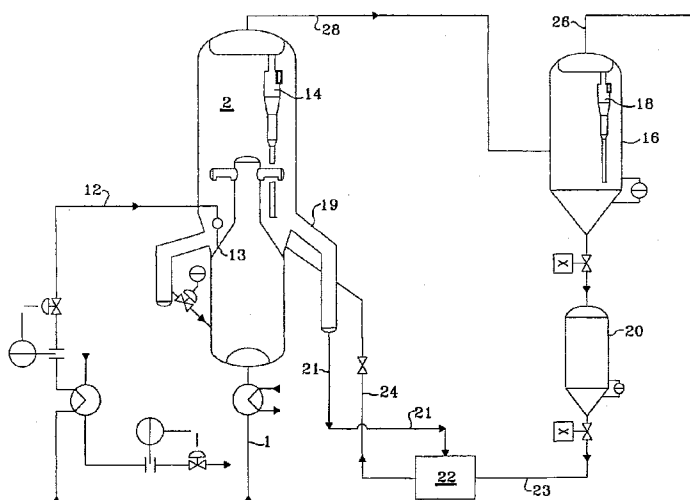
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(54) Title: EXTERNAL SECOND STAGE CYCLONES IN OLEFIN PRODUCTION PROCESS



(57) Abstract: The present invention comprises a process and apparatus for producing olefins from oxygenates in a reactor (2). This process comprises these oxygenates with a catalyst to produce a gaseous mixture comprising light olefins and by-products, sending the mixture to a single stage cyclone (14) within said reactor to separate said catalyst from said gaseous mixture and then sending said the to a second stage cyclone (18). The second stage cyclone is located outside of said reactor and it functions to remove the catalyst from the mixture. Then the catalyst can be returned to the reactor (2) after having been treated in a regeneration zone (22) to remove carbonaceous deposits from the catalyst.

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