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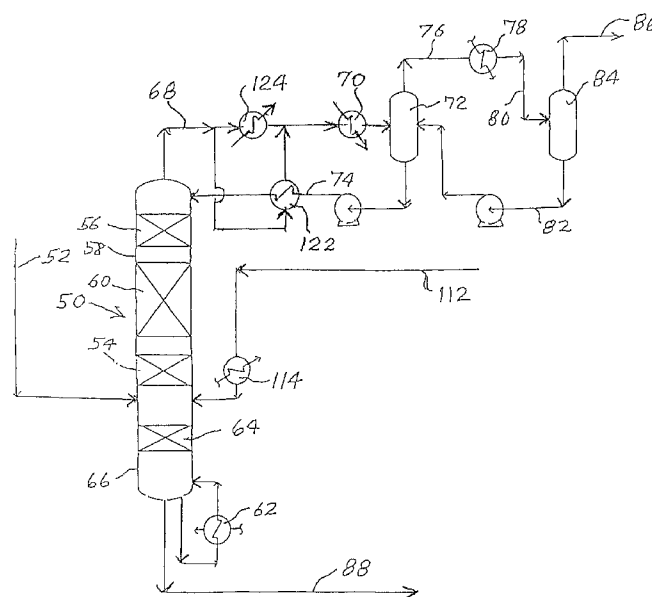
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(54) Title: DUAL PRESSURE CATALYTIC DISTILLATION HYDROGENATION COLUMN SYSTEM FOR THE FRONT END OF AN ETHYLENE PLANT



(57) Abstract: The charge gas (52) from the thermal cracking of a hydrocarbon feedstock is processed in a front-end catalytic distillation hydrogenation system of an olefins plant to more effectively recover ethylene and propylene product and to process the by-products. The rate of fouling in the system is reduced by employing two columns in the system with the first column (50) operating at a higher pressure and the second column operating at a lower pressure. The hydrogenation as well as fractionation takes place in the first column (50) while the second column is only a fractionator. The temperature of the bottoms from each column is maintained at a temperature less than 200°C to avoid fouling.



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