

Product Code . JA-FMAHLE-7323

Sieve Plate Distillation Column

Description

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Description:

Jainco Column is made of Stainless Steel material with seven sieve trays.

An electrically heated re-boiler is installed at the bottom of the column.

The vapors form the top of the column are condensed in the shell and tube type condenser by cooling water supplied by laboratory overhead tank.

The bottom product is collected in the tank.

The condensate is divided into reflux and distillate by automatic reflux divider and R/D Ratio can be varied.

Reflux is fed back to the column and distillate is received in a receiving tank.

Instrumentation is provided for pressure & temperature measurement wherever necessary.

The complete column is insulated for minimizing the heat loss.

Specifications:

Rotameter: For cooling water flow rate measurement.

Steam Generator: Made of Stainless Steel, provided with Pressure Gauge & Level Indicator, Safety valve & insulated with ceramic wool and cladding with Aluminium foil.

Reflux Divider: Special arrangement to change R/D ratio automatically.

Distillation Column: Material Stainless Steel, Dia 110mm, seven sieve trays

Pressure Gauge: Bourdon type, 0-2 kg/cm2

Temperature Sensors: RTD PT-100 type.

Condenser: Shell & Tube type made of Stainless Steel.

Heaters: Nichrome wire heater.

Bottom Product Tank: Made of Stainless Steel, capacity 5Ltrs.

Distillate Tank: Made of Stainless Steel, capacity 5Ltrs.

Learning Objectives/Experiments:

To operate the column under total reflux condition and estimate the minimum number of theoretical plates required.

To estimate the batch curves for a binary system and verify the binary distillation equation for a known number of theoretical plates.

Required for Operation:

Water Supply 2 LPM at 5m head.

Drain.

Required Chemicals.

Electricity Supply: 1 Phase, 220 V AC, 6 kW.

Refractometer for analysis.