

Distillation Column (Benzene recovery column) Summary:

Customer ID: IIT Kharagpur, India Designer: PED GROUP – 8

Date: March, 03, 2023

| | | |
|---------------------------------------|--------------------------------|-------------|
| D, Tray/Tower diameter (m) | 1.6 | |
| A, tower area (m ²) | 2.01 | |
| A, active area (m ²) | 1.201085 | |
| Adc, downcomer area (m ²) | 0.2412 | |
| NP, number of passes | 1 | |
| W_dc(m) | 0.280061542 | |
| lw, weir length (m) | 1.216 | |
| hw, weir height (mm) | 73 | |
| Downcomer type | Segmental | |
| A_dc(% of A) | 12 | |
| Loadings @ Tray | 8 | |
| TS, mm | 600 | |
| Vapour | kg/s | 6.93497614 |
| | m ³ /s | 2.031055519 |
| | P_v, kg/m ³ | 3.414469017 |
| Liquid | kg/s | 5.397816464 |
| | m ³ /s | 22.2139215 |
| | P_l kg/m ³ | 874.7730234 |
| Pressure Drop | QL/lw, m ³ /s per m | 0.004382481 |
| | hw, mm | 73 |
| | h_tray, mm liq. | 109.0528855 |
| A_dc,clearance (m ²) | 0.0304 | |
| h_dc,pr_drop, mm liq. | 6.807904943 | |
| hL,dc, mm liq. | 228.008086 | |
| Residence time, sec | 8.912608306 | |