

Liquid Distributor-Ladder Distributor

Product Coding
P26XXXXXX

Introduction

Ladder distributor is a precision liquid distribution device used in packed towers to deliver uniform, controlled liquid flow across the entire column cross section.

It consists of two or more parallel "ladder-like" channels equipped with a series of calibrated drip orifices. As liquid flows through the horizontal channels, it exits through the evenly spaced holes and is delivered directly onto the packed bed below.

Liquid ladder distributors are ideal for gas absorption, stripping, distillation, scrubbing, and mass transfer operations where high distribution quality, clean service, and low-to-medium liquid loads are required.

Features

- **High distribution uniformity:** Provides excellent irrigation density and liquid spreading over the packed bed.
- **Low hydraulic head requirement:** Operates effectively with low liquid levels compared to pan or trough-type distributors.

- **Simple, clean geometry:** Suitable for clean service without excessive risk of plugging.
- **Flexible design configuration:** Number of ladder pipelines, spacing, and orifice arrangement can be customized to match tower diameter and flow rate.
- **Low pressure drop:** Open channel design minimizes resistance to vapor flow.
- **Ease of installation and inspection:** Modular ladder segments fit through standard manways for easy maintenance.
- **Stable performance across flow range:** Works well over moderate turndown while maintaining even distribution.

Applications

- Distillation columns with moderate liquid loads
- Scrubbers and gas treatment units
- Light hydrocarbon and solvent processing towers
- Absorption and stripping towers
- Cooling water towers
- Deaeration towers

