Drift eliminator

For Counter/Cross flow Cooling towers

- **High temperature and UV-resistant**
- **No deformation under direct sunlight**
- **Environmental friendly**
- **Longest service life**
- **Minimal pressure drop**
- **Optimal droplet capture**

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1. Technical Data

		
Material	PP	PVC
Max. Length [mm]	2400	2400
Max. Width [mm]	700	800
Height [mm]	125/250	125/250
Drift loss* [%]	≥0.002	≥0.002
Max. application temp.[℃]	75	55
Max. face velocity [m/s]	4.5	4.5
Drag coefficient	2.2	2.2
Pitch [mm]	18	18
Max. distance between supports	1000	1000

*These limits are guidelines only. The performance of the drift eliminator is indicated by the ratio drift loss/water flow rate. The efficiency of droplet separation depends on constant air velocity and an absolutely tight assembly of drift eliminator elements.

2.Air pressure drop calculation

To calculate the wind pressure change (i.e. air pressure drop) of drift eliminator, the following key parameters are required:

(1) Drag coefficient (ξ): dependent on the material and structural shape of the drift eliminator and formula;

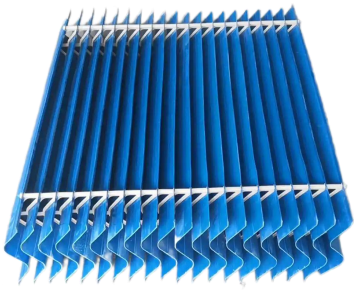
(2) Air density (P): Under standard conditions (20℃, 1 atmosphere), ρ≈1.205 kg/m3;

(3) Calculation formula: Wind pressure change △ $P=\xi*½pv^2$.

3. Drag coefficient of common types of drift eliminators:

◆ Ripple plate drift eliminator: ξ≈1.5~3.0

(Depending on the corrugation spacing and plate thickness)



◆ Shutter type drift eliminators: ξ≈2.0~4.0

(Closely related to blade angle and spacing, the larger the angle, the higher the resistance)

4. Calculation process

Known conditions

- ✓ Drag coefficient (ξ): 2.2
- ✓ Air density (p): 1.205 kg/m3 ·
- ✓ Airflow velocity (v): 3 m/s

calculation formula

The pressure drop (△ P) of a drift eliminator is usually calculated using the following formula:

$$\triangle P=\xi*1/2pv^2.$$

Remark: $½pv^2.$ is dynamic pressure.

Computational procedure

1. Calculate dynamic pressure:

Dynamic pressure=$½$x1.205x (3) ^{2}=0.5 x 1.205 x9=5.4225Pa

2. Calculate the pressure drop △ P:

△P=2.2 x 5.4225 ≈11.93 Pa

Result

The air pressure change (pressure drop) of the water collector is ≈11.93 P