ZeCor® Alloy

UniFlo® Acid Distributors

MECS® UniFlo® acid distributors provide continuous and precise distribution of acid throughout the tower packing which ensures optimum absorption efficiency, minimum mist generation and maximum service life of downstream equipment.

Advantages/Benefits:

- Uniform acid distribution for higher efficiency and less pressure drop.
- Enhanced tower performance by eliminating gas channeling and SO3 slippage.
- Resistant to sulfuric acid corrosion, velocity induced erosion and plugging.
- Lighter weight allows for ease of field installation.
- Adjustable gate assemblies result in fast set up and calibration.
- Open troughs make accurate visual inspection possible.
- Less maintenance results in lower life-cycle costs.
- Available in corrosion resistant ZeCor®-Z and ZeCor®-310M.
- Proven design – hundreds of successful installations worldwide.

MECS® Materials And Process Experience Makes The Difference

For over 20 years, MECS® has been providing the sulfuric acid industry with high performance acid distribution systems. Embodied in the latest design iteration of the UniFlo® distributor are the newest MECS corrosion resistant alloys – ZeCor®-Z and ZeCor®-310M.

To achieve cost efficiency and reduces gas velocity, MECS reduces the number of required trough rows in your tower and achieves high absorption efficiency and lower pressure drop. A set of uniquely designed and patented gate assemblies in each trough allows for quick, easy flow adjustment. These adjustments can be made in minutes without changing out orifice plates. The result is a distributor with continuous and extremely uniform acid distribution – with the added benefits of quick set up, flow calibration and faster field installation.

Above: UniFlo® acid distributor using corrosion-resistant ZeCor®-Z Alloy.
Right: Corroded cast iron acid distributor after only 12 months

![Relative Value Proposition of Acid Distribution Systems](chart.png)

Chart shows values for 22'-6" (6860 mm) ID tower.
**UniFlo® Acid Distributors**

**Why Engineers In The Know Specify Mecs UniFlo Distributors**

The UniFlo® distributor is lightweight and can be easily installed by plant maintenance personnel. The new wider and deeper trough bodies reduce acid velocities to a minimum, allowing for smooth acid flow. The UniFlo distributor is available in ZeCor®-Z and ZeCor®-310M to meet specific customer design needs. These alloys exhibit corrosion rates of less than 1 mpy (.0254 mm/yr) under normal operating conditions in 93% to 99% strong sulfuric acid. When properly operated and maintained, equipment life of 20+ years is expected.

UniFlo distributors are designed for distribution patterns of 1.3 to 4 pts/ft² (43 pts/m²). This allows for complete coverage over the entire tower cross section, including the tower perimeter. This coverage insures optimum tower performance.

To date, MECS® has hundreds of UniFlo acid distributors installed worldwide and this same UniFlo design is used in all new MECS acid plants. High pressure drop, sulfate build-up, gas channeling, mist carryover and SO₃ slippage can all be virtually eliminated by using this high value added technology in your acid plant.

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**Patented UniFlo® Acid Distributor Baffle And Gate Assembly**

(Below: trough side wall removed for clarity)

Maximizing open area reduces pressure drop and mist generation.

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**Comparable Equipment Weight (lbs)**

<table>
<thead>
<tr>
<th>Weight</th>
<th>Typical Cast Iron Distributor</th>
<th>ZeCor® UniFlo® Distributor</th>
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<tbody>
<tr>
<td>0,00</td>
<td>60000.00</td>
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<tr>
<td>60,000</td>
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</tbody>
</table>

22'-6" (6860 mm) ID tower.

**Open Area in Tower (%)**

<table>
<thead>
<tr>
<th>Area</th>
<th>Typical Cast Iron Distributor</th>
<th>ZeCor® UniFlo® Distributor</th>
</tr>
</thead>
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**MECS**

www.mecsglobal.com

14522 South Outer Forty Road
Chesterfield, MO 63017 USA
Tel: 314-275-5782
Fax: 314-469-8805
Email: products@goldwing.mecsglobal.com