

ENVIROVENT



DYNAMIC WET SCRUBBERS

Engineered Solutions for Cleaner Industrial Air

DESIGNERS & SUPPLIERS OF COMPLETE PLANTS FOR
VENTILATION, DUST AND FUME EXTRACTION.

ENVIROVENT is a leading provider of engineered air pollution control solutions for the mining, mineral processing, bulk materials handling and industrial sectors. We specialise in the design, manufacture, installation and commissioning of complete ventilation, dust and fume extraction systems, supported by experienced engineers, skilled technicians and comprehensive after-sales service.

Our solutions are developed to address a wide range of industrial air pollution challenges, including dust control, fume extraction and product recovery. Every system is engineered to suit the specific application, delivering reliable performance, efficient operation and long-term value for our customers.

DYNAMIC WET SCRUBBERS

Envirovent Dynamic Wet Scrubbers are high-efficiency, three-stage wet scrubbing systems designed for dust collection and product recovery. Their unique self-cleaning design combines centrifugal separation, impingement scrubbing and an integral wet fan to provide reliable, low-maintenance operation.

OPERATING PRINCIPLE

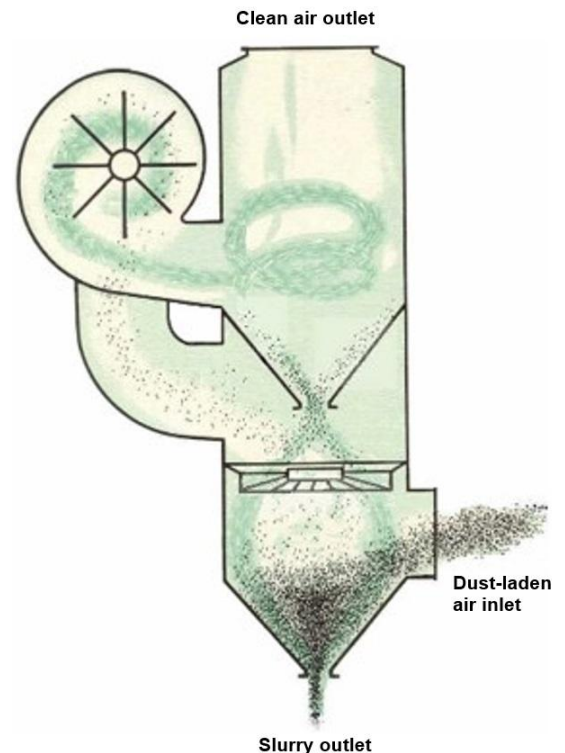
Dust-laden air enters the Dynamic Wet Scrubber tangentially, creating a high-velocity cyclonic flow that separates the heavier dust particles from the gas stream. These particles are captured by the swirling scrubbing liquid and discharged through the slurry outlet.

The remaining finer particles pass through the impingement vane, where the increased wetted surface promotes efficient particle impingement and capture. Intermediate-sized particles are collected before being flushed through the vane and discharged via the slurry outlet.

The gas stream, now substantially free of particulate matter, passes into the integral wet fan. Scrubbing liquid is introduced into the fan eye, continuously washing the internal components and preventing dust build-up during operation.

Any remaining fine particles are captured through intensive turbulent mixing, impingement on the wetted fan blades and the high dynamic forces generated by the rotating fan.

The scrubbed gas then enters the droplet separator, where cyclonic action removes entrained liquid droplets from the gas stream. The separated liquid drains back into the scrubber, while clean, droplet-free air is discharged vertically through the outlet stack.



MODEL UW-4 DYNAMIC WET SCRUBBER

The Envirovent UW-4 Dynamic Wet Scrubber is our most widely applied model, designed to deliver exceptionally high collection efficiencies across a broad particle size range. As illustrated in the typical collection efficiency curve below, the UW-4 can achieve collection efficiencies exceeding 99.5% for particles in the 1–2 micron range while maintaining a low system pressure drop of approximately 1.5 kPa.

The UW-4 is ideally suited to industrial dust collection, product recovery and applications with medium to high dust loadings, delivering reliable long-term performance with low water consumption and minimal maintenance.



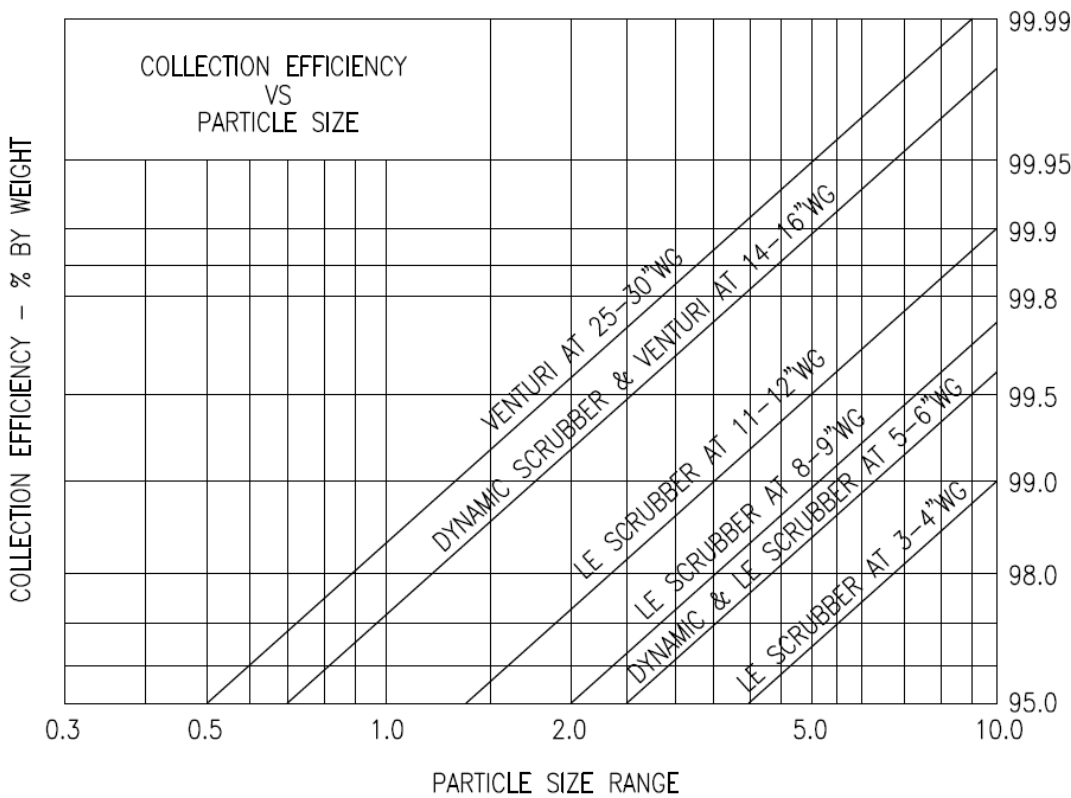
KEY BENEFITS

- ✓ Proven and reliable design
- ✓ High collection efficiency with low operating costs
- ✓ Energy-efficient
- ✓ Integral self-cleaning wet fan
- ✓ Low maintenance requirements
- ✓ Low water consumption



TYPICAL SCRUBBER COLLECTION EFFICIENCY

Typical collection efficiency varies with particle size, gas velocity and scrubber design.



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At Envirovent, we believe every application deserves the right solution—not simply the biggest solution. We work closely with our clients to develop engineered solutions that deliver cleaner industrial air through practical, reliable and cost-effective air pollution control systems.

Contact our engineering team to discuss an air pollution control solution tailored to your application.

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