

EQUIPMENT



QUIPTEC
WASTEWATER, CLEAN-GAS & ENVIRONMENTAL SOLUTIONS



WET SCRUBBER SYSTEMS

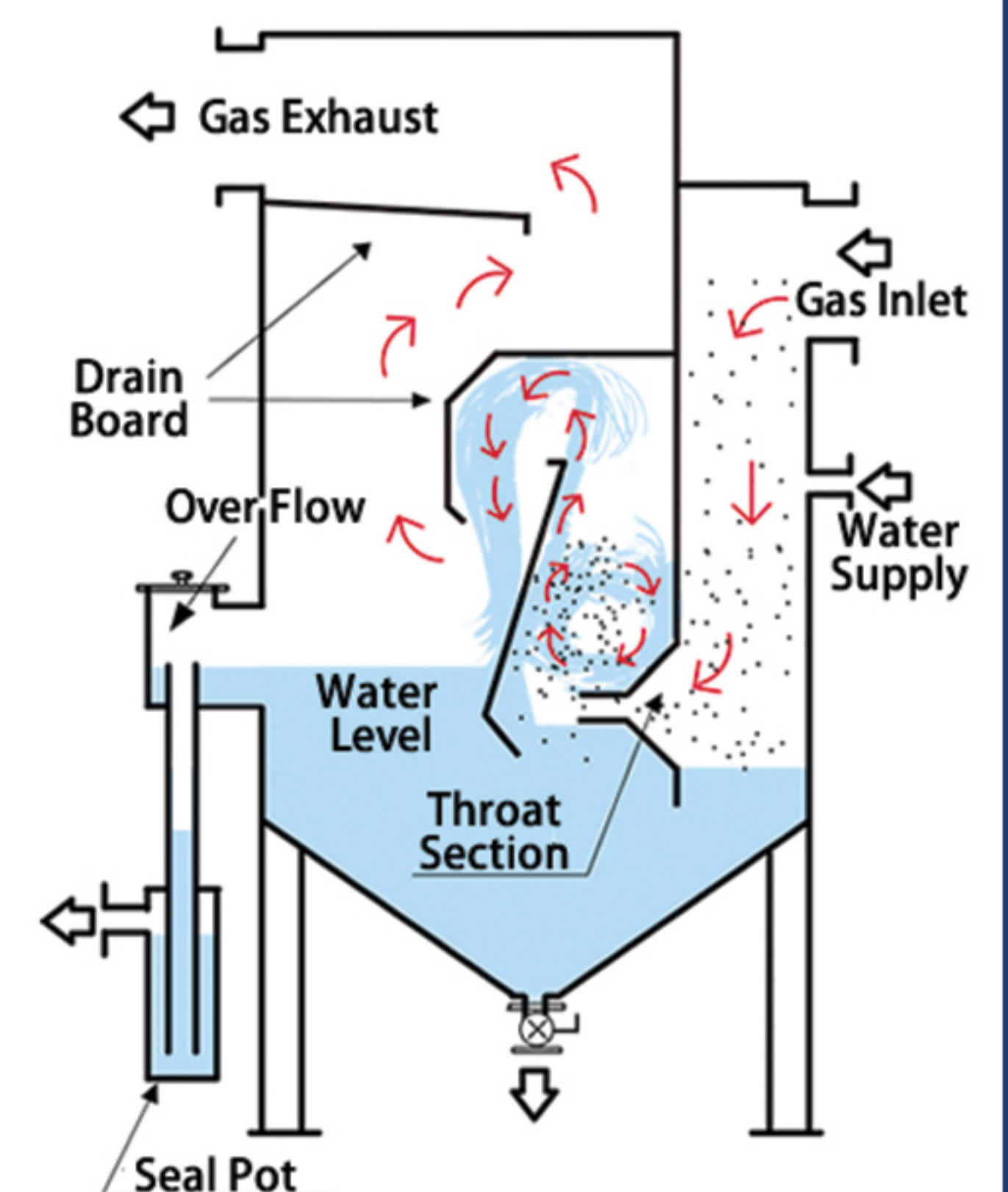
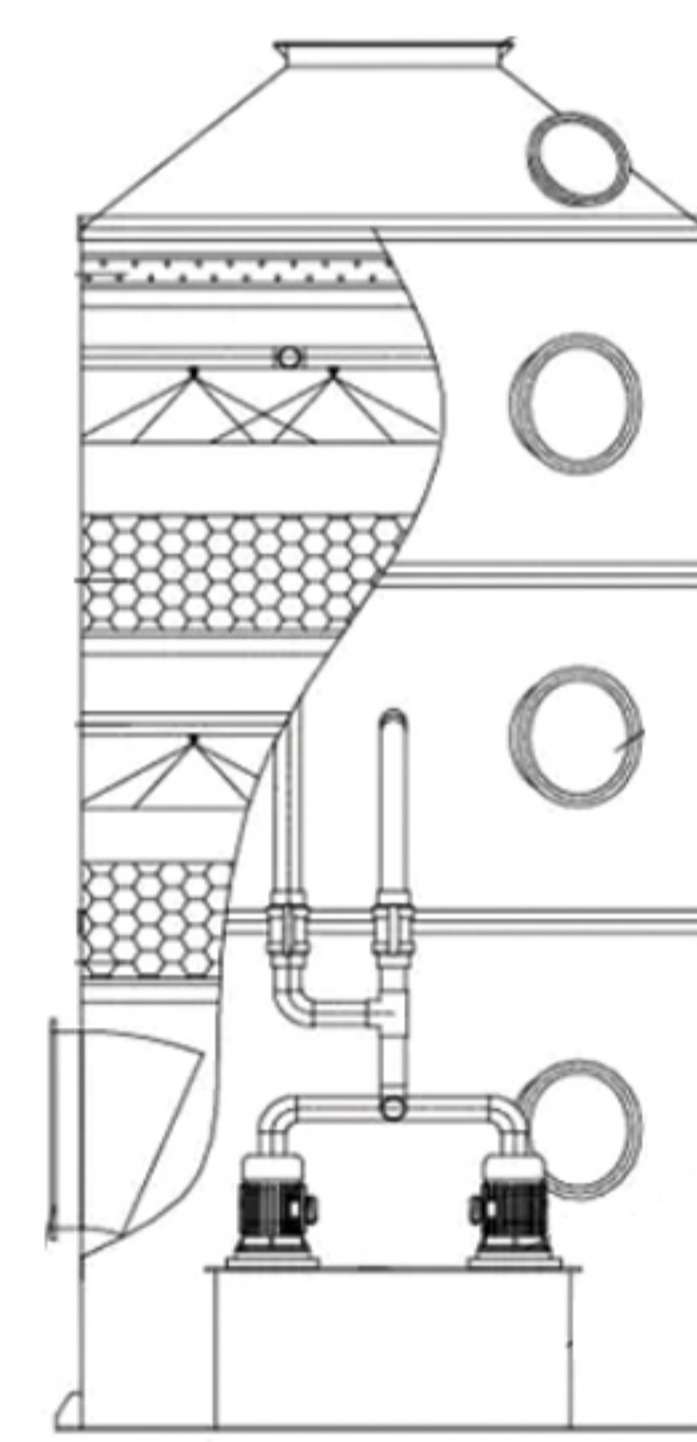
WET SCRUBBER SYSTEMS

- **Efficient Gas Absorption and Pollutant Removal:** Removes acid mist, alkaline fumes, odours, soluble gases, VOC-related compounds, and selected particulate matter through gas-liquid contact using absorption, neutralisation, condensation, impaction, and droplet capture mechanisms.
- **Multiple Wet Scrubber Configurations:** Available in spray tower, packed-bed, venturi, tray/impingement, and hybrid configurations, selected according to gas flowrate, pollutant type, removal efficiency, pressure drop, fouling tendency, and chemical compatibility.
- **Flexible Material Options for Corrosive Environments:** Manufactured in stainless steel, FRP, polypropylene, PVC/UPVC, and other corrosion-resistant materials to suit varying gas compositions, operating temperatures, pH conditions, and chemical dosing requirements.
- **Low to Moderate Energy Consumption:** Designed for efficient operation through controlled pressure drop, recirculation flow, spray distribution, and gas-liquid contact efficiency, with venturi systems available for enhanced fine particulate and mist removal.
- **Wide Industrial Applicability:** Suitable for treatment of acid gases, chemical vapours, odours, dust-laden exhaust, alkaline fumes, and process ventilation streams across chemical, wastewater, fertiliser, metal finishing, food processing, and environmental industries.
- **Stable and Continuous Operation:** Incorporates spray nozzles, packing media, demisters, recirculation tanks, chemical dosing systems, and optional pH/ORP control to maintain reliable long-term treatment
- **Extended Service Life and Operational Reliability:** Corrosion-resistant construction, replaceable internal components, accessible maintenance points, and robust recirculation systems support long equipment life and dependable industrial operation.
- **Cost-Effective Pollution Control Solution:** Provides an economical solution for gas treatment, odour control, emission reduction, and environmental compliance.



Working Principle

Wet scrubbers operate by bringing a contaminated gas stream into controlled contact with a scrubbing liquid. The scrubbing liquid may be water, an alkaline solution, an acidic solution, an oxidising reagent, or another selected chemical depending on the pollutant to be removed. The gas stream enters the scrubber and passes through one or more gas-liquid contact zones. In a spray tower, atomising nozzles distribute liquid droplets across the gas path. In a packed-bed scrubber, the gas passes through random or structured packing, where a wetted surface provides high contact area for absorption and chemical reaction. In a venturi scrubber, the gas is accelerated through a narrow throat where intense turbulence improves fine particulate and mist capture. Hybrid scrubbers may combine these mechanisms to improve performance for complex exhaust streams. During contact, soluble gases dissolve into scrubbing liquid, acidic or alkaline contaminants are neutralised by chemical reaction, and entrained particles or droplets are captured by impaction, interception, or condensation. The treated gas then passes through a demister or mist eliminator to remove entrained liquid droplets before discharge to atmosphere or downstream treatment. The spent scrubbing liquid is collected in the sump or recirculation tank. Depending on the process design, the liquid may be recirculated, dosed with chemicals, filtered, partially discharged, or replaced. Instrumentation such as pH, ORP, conductivity, level, flow, and pressure monitoring can be included for stable and automated operation.



Features

Standard Features

- Gas-liquid contact system selected to suit the application
- Spray nozzles, packed media, venturi throat, or hybrid contact arrangement
- Recirculation tank or integrated sump for liquid collection
- Recirculation pump and distribution pipework
- Mist eliminator/demister at treated gas outlet
- Inspection ports and maintenance access
- Corrosion-resistant construction materials
- Simple, reliable operation for continuous gas treatment
- Customised inlet/outlet orientation to suit site layout
- Suitable for water, alkaline, acidic, or chemically dosed scrubbing liquids

Options & Accessories

Scrubber Configuration Options:

- Spray tower scrubber
- Packed-bed scrubber
- Venturi scrubber
- Tray or impingement scrubber
- Multi-stage or hybrid wet scrubber system

Material Options:


- Polypropylene
- PVC/UPVC
- SS304 / SS316 stainless steel
- FRP
- Carbon steel with internal lining or coating where suitable

Specifications and Parameters

Model	Airflow Capacity (m ³ /h)	Equipment Dimensions	Pump Power (kw)	Packing thickness	Wind speed (m/s)	Equipment Material
AQT-600	0-1500	Φ600×3000	0.75	500*2	1.48	PP/304/Q235/FRP
AQT-800	1501-2500	Φ800×3000	0.75	500*2	1.39	PP/304/Q235/FRP
AQT-1000	2501-4000	Φ1000×5000	1.5	500*2	1.42	PP/304/Q235/FRP
AQT-1200	4001-6000	Φ1200×5000	2.2	500*2	1.48	PP/304/Q235/FRP
AQT-1500	6001-9500	Φ1500×5000	3.75	500*2	1.5	PP/304/Q235/FRP
AQT-1800	9501-14000	Φ1800×5000	5.5	500*2	1.53	PP/304/Q235/FRP
AQT-2000	14001-17000	Φ2000×6000	5.5	500*2	1.5	PP/304/Q235/FRP
AQT-2200	17001-20000	Φ2200×6000	7.5	500*2	1.46	PP/304/Q235/FRP
AQT-2500	20001-27000	Φ2500×6000	7.5	500*2	1.53	PP/304/Q235/FRP
AQT-2800	27001-33000	Φ2800×6000	15	500*2	1.49	PP/304/Q235/FRP
AQT-3000	33001-38000	Φ3000×6800	15	500*2	1.49	PP/304/Q235/FRP
AQT-3200	38001-44000	Φ3200×6800	15	500*2	1.52	PP/304/Q235/FRP
AQT-3500	44001-55000	Φ3500×6800	15	500*2	1.5	PP/304/Q235/FRP

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