

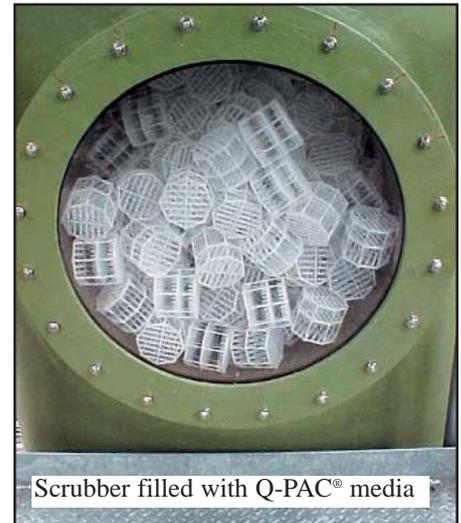
Lantec Tower Packing Engineered to Accommodate Higher Scrubbing Velocities

Perth, Australia - Beenyup WWTP, Two Stage Odor Control Wet Scrubbing System

Q-PAC® Tower Packing Yields 99%+ Efficiency, Low ΔP, Minimal Tower Size

1st Stage: NH₃, Ammonia Scrubbing

Air Flow:	16,300 Nm ³ /hr (10,333 scfm)
Peak Inlet Concentration:	95 ppm _v
Tower Diameter:	1500 mm (4.92 ft)
Superficial Gas Velocity:	2.8 m/s (544 fpm)
Packing:	Q-PAC® in polypropylene
Packed Depth:	1250 mm (4.10 ft)
Scrubbing Liquor:	water with H ₂ SO ₄ added
Recirculation Rate:	366 liter/min (97 gpm)
Liquid Flux:	12.5 m ³ /m ² -h (5.1 gpm/ft ²)
Q-PAC Pressure Drop:	1.5 mbar (0.6 in WC)
Scrubbing Efficiency:	99%+



2nd Stage: H₂S, Hydrogen Sulfide Scrubbing

Air Flow:	16,300 Nm ³ /hr (10,333 scfm)
Peak Inlet Concentration:	62 ppm _v
Tower Diameter:	1500 mm (4.92 ft)
Superficial Gas Velocity:	2.8 m/s (544 fpm)
Packing:	Q-PAC® in polypropylene
Packed Depth:	2500 mm (8.2 ft)
Scrubbing Liquor:	water with NaOCl & NaOH
Recirculation Rate:	937 liter/min (248 gpm)
Liquid Flux:	31.9 m ³ /m ² -h (13 gpm/ft ²)
Q-PAC Pressure Drop:	5.0 mbar (2 in WC)
Scrubbing Efficiency:	99%+

Scrubber Residence Time for 99% H₂S Removal

$$\left(\frac{8.2 \text{ ft}}{544 \text{ ft/min}} \right) \left(\frac{60 \text{ sec}}{\text{min}} \right) = 0.9 \text{ sec}$$



Photos and data supplied by Mr. Leonard Noel,
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* Project Summation

16,300 Nm³/hr is the air flow that passes the two scrubbers in series when one train is operating. If both trains operate simultaneously, the total air flow is 18,300 Nm³/hr (11,600 scfm), or 9,150 Nm³/hr (5,800 scfm) per train.

Total System Head Loss:	1618 Pa, 6.5 in WC (at 16,300 Nm ³ /hr)
Scrubbing Efficiency:	99%+ removal confirmed by independent laboratory
Total Project Cost:	1.5 million Australian \$ (\$1,093,000 US)
Project Location:	Perth, Western Australia
Type of Location:	Upscale neighborhood
Nearest Neighbor:	30 m (100 ft)