

Clean Air...

ODOUR CONTROL SYSTEM AT MAIN PUMPING STATIONS SALALAH, OMAN



The waste air (air flow rate of 1,55 m³/s) from Main Pumping Stations 1 / 2 / 3 located in Salalah, Oman is cleaned by three units of 1-stage counter-current scrubbers.

The counter-current packed scrubber is a device providing high collection efficiency for the contaminants present. Using a co-current downward irrigation system the washing liquid streams from top down to the integrated scrubber liquid sump. The gases to be cleaned are led upward, counter-current to the washing liquid. For better absorption of the occurring contaminants – H₂S and Mercaptanes – the scrubbers are equipped with dosing stations for dosing of NaOH and NaOCl in the washing water.

In July 2002 a performance test has been carried out in order to prove the efficiency of the systems regarding the required outlet concentrations.

Results of this performance test are shown in the table below.

PERFORMANCE TEST						
		Set Point	min.	max.	Approval	
					yes	no
Air flow rate	m ³ /s	1,55	5.500 m ³ /h	5.800 m ³ /h	x	
Pressure loss across scrubber	Pa			153 Pa	x	
Temperature	°C	max. 45		27°C	x	
H ₂ S outlet @ 50 ppm inlet (53 ppm)	ppm	< 0,5	< 0,01	< 0,01	x	
H ₂ S outlet @ 20 ppm inlet (20 ppm)	ppm	< 0,2	< 0,01	< 0,01	x	
H ₂ S outlet @ 10 ppm inlet (10,5 – 11 ppm)	ppm	< 0,1	< 0,01	< 0,01	x	