

Process Plant and Equipment Fume Control plant & equipment



Stock Code: BOT400

Manufacturer: Process Plant and Equipment

Year of Manufacture: 2000

New or Used: Used (Second Hand)

Other Info: Capacity 9.23 m³/sec (19,557 cfm)

External Dimensions (WxDxH): 5m x 3.6m x 2.85m high support

Fume Exhaust SystemThe extraction system includes the following major items of equipment: -Fume exhaust hoodsInterconnecting header manifoldHorizontal fume scrubberExhaust fanOutlet stackSupporting steelwork and platform

Station Extraction SummaryStationProcessExtraction Format14 PassivationDouble Sided 17 Soak Clean Double Sided18 Electro-CleanDouble Sided21Acid Dip 50% HCL Single Sided27Barrel Zinc Electroplate Single Sided28Barrel Zinc Electroplate Single Sided29Rack Zinc Electroplate Double Sided31Dissolution Rack Zinc Electroplate Single Sided32Dissolution Barrel Electroplate Single Sided
Process Description

Fumes are extracted via lip hoods at tank flange level, into a plenum chamber and onwards through riser ducts into a header manifold running at high level at the rear of the plant.

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One set interconnecting ductwork running at high level internally to the rear of the line to connect into the horizontal fume scrubber located on a support platform adjacent to the building wall.

Specification of Equipment

Item 1 - Lip Extract Ducts

1 set lip extraction ducts fitted above tank flange with full length capture slots fitted with splitters/stiffeners to low velocity plenum off take. Material of Construction: - Polypropylene

Item 2 - Ductwork

1 set interconnecting ductwork comprising: Flange connection risers to main header manifold which runs at high level and connects to horizontal fume abatement system. All ductwork supplied complete with supports, hangers, brackets, fasteners and fixings. Support hangers and brackets galvanised mild steel. Fasteners and fixings in stainless steel. Material of construction: - Polypropylene

Item 3 – Horizontal Fume Scrubber

Fumes to be treated are extracted from the process tanks and drawn into the horizontal scrubber/unit passing consecutively through the double bank of wet sprays and onward to impingement blade mist eliminators. The scrubber is complete with sump tank, circulation pump and automatic level control. The treated saturated air stream flows through the bank of profiled impingement blade mist eliminators. In this section the entrained liquid droplets removed from the air steam agglomerate on the blade surfaces and gravity flow into the sump tank. On leaving the scrubber unit the treated fumes are ducted to the extraction fan for discharge to the atmosphere via the exhaust stack.

Materials of construction:

Casings, transition boxes, and recirculation tank in uPVC externally reinforced glass fibre/resin laminate using general-purpose resin and chopped strand matt glass fibre. Mist eliminators cassettes, valves, pipework, spray headers and nozzles in uPVC. Frame welded constructions, in mild steel box sections finished painted. Mist eliminator blades in polypropylene. Gaskets in uPVC

Item 4 - Extraction Fan

Forward curved 1200mm diameter fume exhaust fan, vee belt driven from inverter controlled 18.5 kW motor suitable for 415/3/50 supply complete with base frame, drain socket, anti-vibration mounts, flexible connections and scroll guard. Measured capacity 9.23 m³/sec (19,557 cfm). Fan casing fabricated in Polypropylene. Impeller fabricated in Polypropylene. Base frame etc, fabricated in mild steel and painted finish.

Item 5 - Discharge Stack

Self-supporting discharge stack 1100mm diameter mounted directly above the outlet from the extraction fan terminating with a high velocity Efflux cone. Fabricated in uPVC/GRP with painted structural steel supports.

Item 6 - Controls



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Starters, contactors etc. are housed in a local control panel with alarms and control interlocks wired back to the plating line central control panel

Item 7 – Steelwork/Maintenance Platform

The horizontal fume washer and extraction fan are located on a 5m x 3.6m x 2.85m high support and access platform constructed in bolted structural steel members supported by six columns from the factory floor. The platform is painted finish and complete with access ladder, handrailing and kick strips. The discharge stack to atmosphere is also supported from this platform by vertical structural steel members.

View Process Plant and Equipment Fume Control plant & equipment on our web site at <https://www.rileysurfaceworld.co.uk/machines/30051.htm>

PHOTOGRAPHS TAKEN PRIOR TO REFURBISHMENT.