

TPE's Hydrofluoric **Fume Cupboard and Scrubber** uses a constant air volume (CAV) Labrocare® model fume cupboard combined with a wet scrubber mounted immediately above it to remove acidic vapours from the exhausting airstream.

Many of the main features of fume cupboard construction required for perchloric acid also apply for hydrofluoric acid, except that for hydrofluoric acid, the hazard arises more from skin contamination than from explosion. In particular, the interior shall be crevice-free with smooth surfaces for easy decontamination. A handheld shower on a flexible hose is very useful for washing down the interior surfaces of the fume cupboard. Hydrofluoric acid etches glass and ceramics.

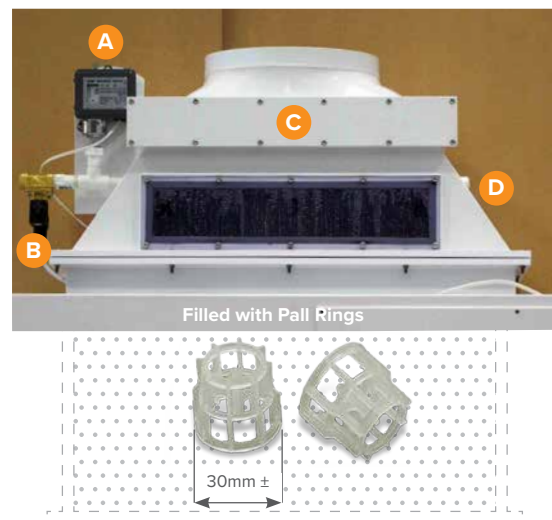
Cleaning is accomplished as the contaminated air passes through the scrubber chamber which is filled with wet, high-surface-area, polypropylene packing material called *Pall Rings*. When the airstream encounters the sprayed-in water flowing across the Pall rings, acids and other soluble particles are absorbed into the water. The scrubbing liquid drains down across the back of the fume cupboard baffles and into a sump beneath the work surface. From the sump, the spent water is either drained away as waste or recirculated by an optional recirculation system.

Standard Operation

When the fume cupboard is turned ON by touching the Fan button, a solenoid automatically initiates the water spray heads, which continuously wet the pall rings.



Labrocare® Fume Cupboard with a toxic wet scrubber.



Scrubber Details

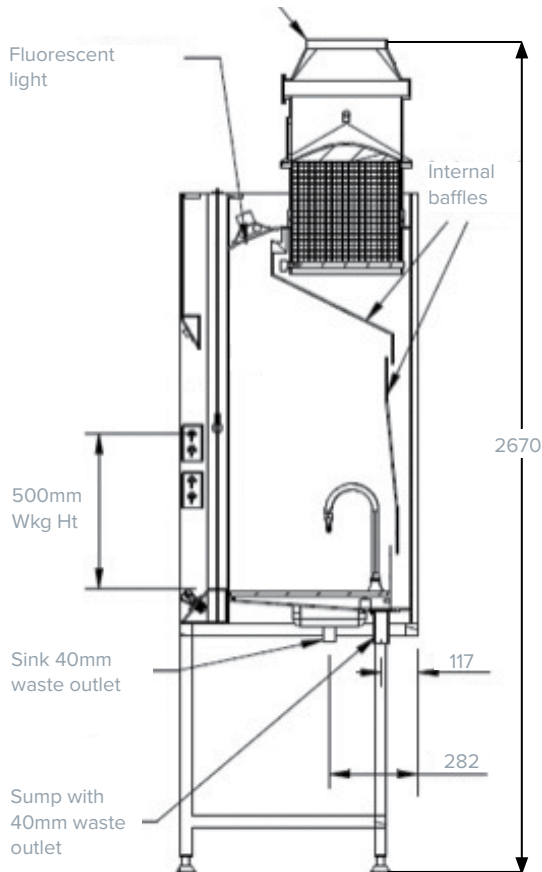
- A. Water Pressure Sensor**
Monitors water flow & enables fault condition if water pressure drops.
- B. Water Solenoid Switch**
Automatically starts water when Fan enabled.
- C. Mist Eliminator Pad**
access panel Remove to replace pad.
- D. Clear Spray Head**
access panel Remove to service spray heads.

After passing through the Pall Ring bed, the exhaust airstream passes through a mist eliminator pad which removes the remaining moisture from the airflow, so the air exhausted up through the fan and out the stack is essentially moisture-free.

Cross Section

Non-Recirculating Scrubber. Scrubber water runs down internal baffles and drains through sump waste outlet.

250Ø for 1200/315Ø for 1500 & 1800mm



Specifications

Fume Cupboard Sizes	1200mm width	1500mm width	1800mm width
Matching Scrubber	515 x 400 x 750H	660 x 400 x 750H	810 x 400 x 750H
Overall Ht. from floor	2670mm	2670mm	2670mm
Overall Depth	760mm	760mm	760mm
Design Face Velocity @500mm	0.5 m/sec	0.5 m/sec	0.5 m/sec
Labrocare® CAV Flow Rate	265 Litres/sec	340 Litres/sec	415 Litres/sec
Airflow Requirement	16m ³ /min	21m ³ /min	25m ³ /min
Norm. Static Pressure	200Pa		
Work Top	Chemical resistant compact laminate		
Construction	Single skin 6mm FRPP		
Sash Mat'l	5mm Polycarbonate		
Water Spray Capacities	9.2 Lt/min	13.8Lt/min	15.2Lt/min
Control System	Advanced Air® Fixed Volume Controller with LCD type display		
Removal Efficiency	85%–95% at low micron droplet size (20 micron)		

Options

- ▶ Re-circulation tank systems are available for scrubber water where drainage to sewer is not practical or water consumption is prohibitive.
- ▶ Hand Shower, (recommended for hydrofluoric fume cupboards).
- ▶ Steel powder-coated under-bench frame—locates fume cupboard work surface at standard 900mm bench height.
- ▶ Scaffold System, adjustable stainless steel rods with polypropylene connectors.
- ▶ Electrical, plumbing, and gas services can be added as specified.
- ▶ Double Polycarbonate Sash.