

FRIDURIT® FUME SCRUBBER C20

Application:

Treatment of exhaust air containing hydrochloric acid, released at the laser coding of PVC film.



Laser coding of PVC film uses high heat during the process, which produces exhaust air containing hydrochloric acid. The environmentally hazardous and unhealthy substance must be removed as soon as possible using suitable cleaning systems. Activated carbon filters are commonly used; however, corrosive substances in the exhaust air soon attack the metallic housing. Humidity in the exhaust air leads to blockage of the activated carbon and must be changed after a very short operating time.

The FRIDURIT fume scrubber scores with a highly efficient and corrosion-resistant filter system. The device uses a cleaning cycle comprising an integrated pump, a polypropylene pall ring package, scrubbing liquid and fan to allow intense washing of hydrochloric acid at source thus providing flexible and quick connection to the ventilation system. The cleaning process uses the counter current method: while hydrochloric exhaust air is drawn upwards, the scrubbing liquid passes in the opposite direction along the pall ring's surface creating a liquid film that provides a contact surface for the exhaust air. When exhaust air and scrubbing liquid meet, the hydrochloric acid dissolves into the scrubbing liquid thus causing the pollutant to wash out. The cleaned exhaust air leaves the fume scrubber and is then released by a fan into the subsequent ventilation system.

The integrated pump ensures that the scrubbing liquid remains in circulation and is constantly directed to the pall ring package. Only a small amount of scrubbing liquid is required to maintain the cleaning process. The scrubbing liquid absorbs the hydrochloric acid thus requiring constant control of the pH value. When a pre-set threshold value is reached, part of the scrubbing liquid is drained off and replaced by fresh water. The drained off scrubbing liquid is collected in a transportable tank which, when caustic soda is added, allows easy neutralisation in a neutralisation unit. Only two components develop during the process: water and salt.

The effective cleaning principle of the FRIDURIT fume scrubber provides a highly convincing and efficient solution for the treatment of the hydrochloric acid that is released during laser coding. Its reliable function, easy handling and corrosion-resistant filter elements allow safe and clean exhaust air treatment making the device a true alternative to activated carbon filters and contributes actively to environmental protection.

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FRIDURIT® environmental equipment
Protecting the environment and your safety