

CASE STUDY

DUST REMOVAL IN LOGISTICAL CENTRE



THE CHALLENGE

Airborne micro particles of dust produced by paper and cardboard boxes - but also rubber particles from transportation belts and truck wheels - are typically found at terminals, post handling centres, warehouses, paper recycling companies, and logistic centres such as at Tollpost Globe AS in Norway.

Dust (in particular by that from paper and cardboard boxes) inhaled by employees and settling down on machinery causes health problems and damages machinery.

Dust settles on cameras, optical sensors, and computers causing increased maintenance and cleaning which is very expensive. It is important to remove as much dust from the air as possible before it settles down or is inhaled.

Founded in 1926, Tollpost Globe AS (Oslo, Norway) has a long history as a supplier of transport and logistic services. Currently it is owned by the Swedish post (Posten AB) and Danish post (Post Danmark A/S) who merged in February 2009. With a turnover of 2.4 billion NOK (approx. € 270 million), employing 970 people of which 700 drivers and handling 60.000 boxes per day, they are one of Norway's leading suppliers of transport and



logistics solutions and of cross-border parcel and pallet services to and from Norway. Within Norway there are 29 logistic centres providing a national coverage. The main office is located in Oslo which is being expanded with a new terminal.

TESTIMONIAL

“After installing the industrial air cleaners the problems we had were reduced heavily. The HFE unit from Plymovent combines everything we want, it does the job, is environmental-friendly, and saves energy!”

» After installation, the problems we had were reduced heavily. «

QUOTE BY Mister Trond Trehjørningen, Technical Manager.

THE SOLUTION

To collect as much dust as possible, four HFE-50 units were installed at the main logistic centre of Tollpost at 6m height hanging 2m from the ceiling. This was a test installation for a period of four weeks. After this period a heavy reduction of dust was noticed and hardly any maintenance was needed. The filters were removed and weighed, the result was remarkable. Each filter collected 500 grams of dust (airborne and rubber micro particles). The outcome was so satisfying that Tollpost ordered 26 HFE units to be installed at their new terminal.

The objective is to filter 26 kg dust per month. This will be done by installing 26 HFE-50 units (26 units x 2 filters x 500 g = 26 kg). Every two months service and maintenance will take place.

HFE is an industrial air cleaner with electrostatic filter. This free-hanging industrial air cleaner can extract fine dust from the local atmosphere. The HFE-50 has a capacity of 5,000 m³/h. Naturally, this industrial air cleaner also takes out other pollutants such as welding fumes. Also suitable to extract oil mists after installing the appropriate pre and final filters and oil drainer.



MAIN BENEFITS

- Huge reduction in malfunctioning and in the cost of maintenance of machinery, as airborne micro particles are being removed.
- Reduction of dust and rubber particles, creating a pleasant and healthy work environment (no more annoying 'black noses').
- Energy-saving; removing dust from the air by ventilation only leads to high cost of energy heating up fresh air conceived by ventilation units from outside replacing the polluted heated air inside. The HFE unit circulates the filtered, already heated air, levelling out the difference in temperature between floor and ceiling.
- The reusable and cleanable electrostatic filters were preferred to disposable filters, because of an environmental point of view and cost awareness.



SYSTEM FACTS

- Early 2008, 4 HFE units installed and tested.
- After a test period of 4 weeks, filters removed and weighed, 500 grams dust collected per filter.
- February 2009, 26 x HFE-50 units delivered.

HFE-50

Max. capacity	5000 m ³ /h
Collector surface area	28.4 m ² (2 filters)
Filter efficiency	up to 99% of micro particles
Power consumption	1.5 kW
Available in all standard voltages, 1 or 3 phase(s), 50 Hz	

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