



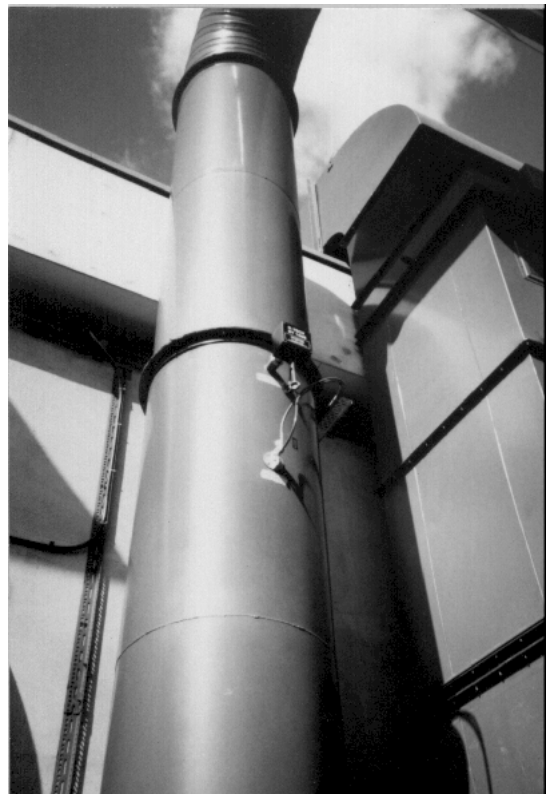
# Monitoring Emissions from Galvanizing Processes

- Industry:** Galvanizing
- UK EPA Process:** PG2/2(91) Hot Dip Galvanizing Processes
- Company:** Galvanizers Assoc. a member company
- Issues Covered:**
- Satisfying the EPA
  - Monitoring low level emissions from galvanizing process in  $\text{mg}/\text{m}^3$
  - Producing EPA Report for Local Authority
  - Successful Trade Association evaluation of DT monitor
  - Monitoring low levels of submicron particulate
  - Maintenance free operation

For many manufacturing companies the advent of the Environmental Protection Act (EPA) has meant considering, for the first time, the use of continuous monitors to detect and record levels of particulate emissions.

The specific requirements of the EPA Guidance Note for Galvanizing processes reads as follows:

“To continuously monitor for particulate matter – for example, using an opacity instrument.



*Dust Monitor Installed in Emission Stack*

Alternatively, where arrestment plant including filter bags is provided, emissions may be continuously indicatively monitored for particulate matter, for example by an opacity instrument to indicate bag failure or malfunction. Emissions should be tested at least once a year for particulate matter in accordance with a method approved by the local authority.”

As a consequence The Galvanizer's Association decided to initiate a series of trials to evaluate continuous monitoring techniques for particulate emissions. The results of the evaluation would be made known to its members by the Association.

The Galvanizers' Association contacted PCME with a view to initiating a trial of the DT series continuous monitoring system. It was decided the trial be set-up with a member company of the Galvanizers' Association in the North East.

PCME Ltd installed their DT Continuous Monitor and combined datalogger. The instruments were commissioned and left to run for approximately 8 weeks.

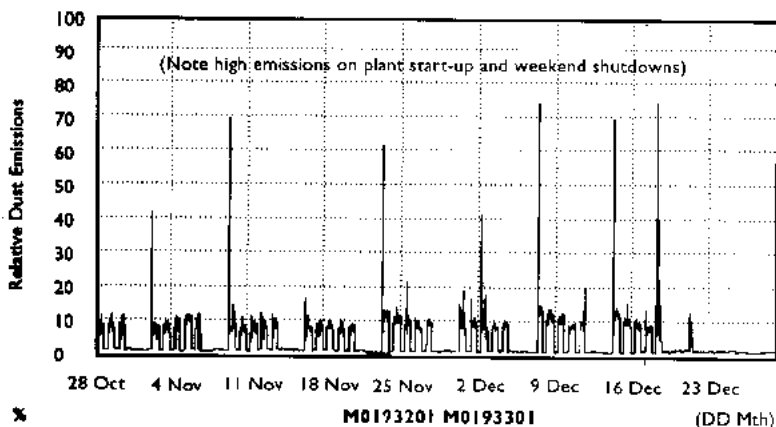
The DT range of instruments uses the Electrodynamic<sup>®</sup> technique to monitor particulate emissions from dust collectors. This technology is particularly suitable for the small stacks and low concentrations associated with most dust arrestment plant. It is also very reliable.

The DT series continuous quantitative monitor provides a 4-20mA output which can be stored by the inbuilt Datalogger, which can be calibrated to display in mg/m<sup>3</sup>. The data can be downloaded from the DT monitor to a personal computer, on which PCME's EPA software package is used to display and analyse the emissions recorded.

EPA software allows the user to zoom in on areas of interest, calculate average and maximum emissions, and to write text enabling reports to be generated on a single sheet of A4.

The advantages of using the Electrodynamic<sup>®</sup> technology became apparent during the 8 week trial. From the data collected, and display generated through EPA software, the plant operators could easily identify periods of plant shutdown and operation together with times of peak emissions. It was particularly pleasing to note that during the 8 week period the instruments required no maintenance, a point not lost on process operators, as traditional continuous monitors have been associated with a high maintenance demand.

PCME pride themselves on providing a total solution including duct modifications, isokinetic sampling to BS3405 commissioning, contract maintenance, on site support and liaison with regulators, combine these with the DT monitor and EPA reporting software and you have an ideal solution to many monitoring requirements of the EPA.



**APPLICATION NOTE 7**  
**ISSUE 07/99**

This case study is reproduced with the kind permission of:-  
The Galvanizers' Association, Wrens Court, 56 Victoria Road, Sutton