

# Office block refurbishment introduces efficient building service pipework filtration

An office block that has been refurbished for the Home Office is now equipped with an innovative filter system to maintain the long term energy efficiency of the building services pipework. Lunar House, a twenty storey office complex in central Croydon, has seen the completion of a fifteen month refurbishment project, performed by Haden Young and Carillion Building, that included the renewal of all of the electrical services, heating and air conditioning plant.

Cross Forced Sedimentation filtration systems have been specified by building consultants Brian Warwicker Partnership for installation on the building's primary and secondary chilled water, condenser water and constant temperature heating water circuits. Cross Forced Sedimentation filtration causes sediment that is either trapped in new pipework or has built up in existing plant to collect in a specially designed sump, from where it is pumped for filtration. The system has the proven advantage of filtering out the sediment at a greatly increased concentration than would be found in the pipework itself, thus reducing the size of the filtration equipment required as well as optimising filtration efficiency.

The four Forced Sedimentation systems installed at Lunar House utilise Cross Winchester filters, which use a separate water supply for backwashing to ensure that any water treatment regime in the pipework cannot become diluted. Backwashing is automatically triggered by measuring the increased pressure drop across the filter elements caused by the build up of debris, backed up by a programmable timer and manual override. Filter elements consist of patented Cross 'zero gravity' coils, manufactured from stainless steel and normally guaranteed for five years' operation. Filtration rating is selectable between 12 and 400 microns; the filters at Lunar House are equipped with 125 micron coils, which have proved to be a successful rating for the long term preservation of building service plant efficiency.

By keeping the building service pipework and equipment in clean condition, the Cross Forced Sedimentation filtration system will maintain the efficiency of the plant and therefore reduce the additional energy costs incurred when overcoming the effects of fouled up pipework. In addition, the building's plant and equipment will be kept in good condition, reducing the cost of maintenance and replacement, and minimising the risk of breakdowns.

