

# UNION FENOSA CORPORATE HEADQUARTERS MADRID, SPAIN

## KEY PARAMETERS

- Type of Facility – Existing (EB)
- Function – Office Building
- Area – 5-story office building
- Project Completed – 2010

**Challenge:** Reduce heating and cooling system energy consumption while improving filtration and indoor air quality. The client, a multinational energy conglomerate had additional objectives:

- 1) Obtain AENOR 171330 IAQ certification from Spain's Asociación Española de Normalización y Certificación.
- 2) Conduct real life testing on the effectiveness of active field polarization filtration as an energy saving technology.
- 3) Identify the optimum point between energy consumption and excellence in IAQ.
- 4) Further energy conservation measures in the markets it serves in Europe, North Africa and Latin America.

**Solution:** The client used two identical buildings on its corporate headquarters campus, installing Dynamic V-Bank Air Cleaners in one building and high efficiency F7 passive mechanical filters in the other building.



Dynamic V-Banks



F7 Passive Filters

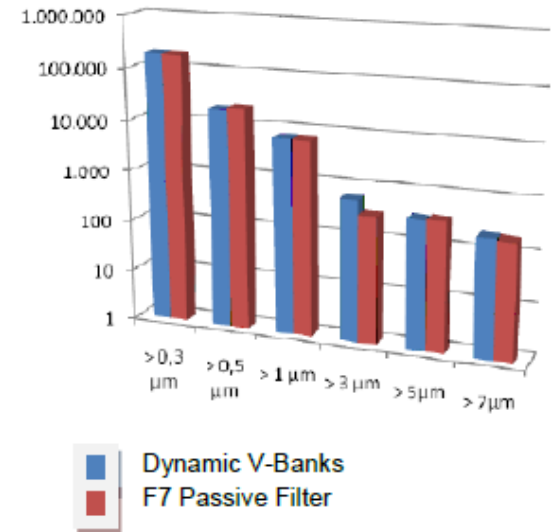


Over a seven month period the company measured energy consumption in the two buildings and IAQ was measured over a one month period by sampling for particle size and quantity.

**Results:** Over the seven month period, energy consumption was 30% less in the building with the Dynamic V-Bank air cleaners versus the building with the F7 passive filters. Energy savings increased gradually due to a lower saturation of the Dynamic media which offered additional cost savings in material and maintenance costs.

Test Period	Dynamic	Passive	Savings
Jan - July 2010	15,727	22,683	30.6%

In addition, the air quality in the building achieved the AENOR Standard UNE 171330 for excellent air quality.



## TEAM

- Owner – Union Fenosa, S.A.
- Engineers – Alberto Viti Consultor
- Consultants – Aire Limpio, S.L.
- General Contractor – Aire Limpio S.L.
- Facility Manager – Felipe San Roman, Head of Building Maintenance

## MECHANICAL SYSTEMS

- HVAC – Tecnivel
- Ventilation – Tecnivel
- Building Controls – EMTE
- Energy Monitoring – Schneider

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