

Dust Control with Dynaset High Pressure Dust Suppression at Challenging Demolition Site

Umacon is the contractor at challenging demolition site Telakkaranta in Helsinki, Finland. There is number of listed buildings and companies at the demolition site and valuable real estate, traffic and people nearby which all bring challenges for demolition work. The contractor has to make sure that the noise level and dust emissions are under control. The worksite cannot disrupt the traffic. The listed buildings are connected to the demolished buildings and therefore working requires prudence. Dynaset, the leading manufacturer of hydraulic generators, power washers and compressors, helped Umacon to find solutions for dust control.

The National Board of Antiquities monitors the listed buildings at the demolition site. The buildings cannot be exposed to moisture, dust or be damaged in any way. Therefore the demolition work must be fully controlled. The concrete pillars of the demolished buildings must be dismantled. Before the pillars can be accessed, the roof, vaults and wooden parts are demolished one piece at a time. The majority of the demolition work is carried out with Doosan 340, a long reach boom excavator, which is equipped with a handler, pulverizer and Dynaset HPW-DUST High Pressure Dust Suppression System. There is also a remote controlled demolition robot to finalize the work.

“People are working in the listed buildings which are attached to the demolished buildings. There is also valuable real estate nearby. Therefore demolition work must be fully controlled. We can’t produce any dust emissions and we have to be careful with the noise level,” says Foreman **Arto Numminen** from Umacon.

The worksite and demolition waste cannot be irrigated with low pressure water since the listed buildings should not be exposed to moisture. Dynaset HPW-DUST High Pressure Dust Suppression System is the perfect solution for dust control. The system produces targeted atomized water mist for dust suppression. The mist forms a cover which dust particles cannot pass through and prevents them from spreading to the environment. Atomized water mist effectively binds the dust by increasing the weight of the dust particles and cause them fall to the ground. The worksite stays clean since the high pressure water mist does not wet the demolition site.

“We don’t use dust suppression cannons. The cannons produce air flow which makes dust particles to fly uncontrollably. The cannons’ high volume water flow causes muddiness to the worksite and the environment. The water would wind up to the buildings which cannot happen. We use Dynaset High Pressure Dust Suppression which is controlled with a joystick of the excavator. I can target the water mist directly to the source of the dust. The system is easy to use and it binds the dust without causing muddiness,” says Numminen.

Dynaset HPW-DUST High Pressure Dust Suppression System converts the hydraulic power of an excavator into high pressure water mist. The system includes Dynaset HPW High Pressure Water Pump which operates with the world’s best power-to-size ratio. The compact size of the pump guarantees easy installation on an excavator. Umacon’s excavator has nozzles installed on the boom and on the pulverizer. High pressure water is led to the pulverizer’s nozzles through a line in OilQuick.

“I can change the nozzles in few minutes according to the needs of a worksite,” says Numminen.

Umacon processes and recycles demolition waste efficiently. All the materials are handled and sorted at the demolition site. For example iron scrap is collected and sorted for reuse. Umacon uses Dynaset lifting magnets for collecting and sorting iron scrap. Material recycling rate will be kept as high as possible.