

WHEN A HUSH falls over the factory

Hauni works continuously to **CUT THE NOISE EMISSION** of its machines – which makes a tangible contribution to the sustainability of its products. Low noise level starts its life in the design phase and Hauni customer employees are the long-term beneficiaries.

A hush falls over the hall when Arne Klisch from Hauni Product Consulting demonstrates the new KDF 5 to his customers. “Not just because they are impressed by the flexibility of our new filter maker,” says Klisch. “They are immediately struck by the significant reduction in machine noise compared to other makers.” Working together with the company’s engineers, Hauni’s in-house noise protection expert has succeeded in curbing the noise emissions of the KDF 5. In tests, instead of the usual level for filter makers of around 85 dB(A), the KDF 5 achieved a level of just 74 dB(A) depending on the materials used. “So what?” you may ask. But this rather unimpressive sounding number actually reflects a remarkable difference. Differences of only 3 decibels (dB) are clearly distinguishable to the human ear and a reduction of 10 dB in the noise level is perceived as a halving of the volume.

Measuring as the ear hears

Hauni, too, uses the noise level measured in decibels as the basis for its noise measurements in accordance with the valid noise protection guidelines. It is defined as a logarithmic unit expressing the relationship between the measured sound pressure (Pa) and the reference sound pressure of 20 μ Pa, which is set at the hearing threshold level of 0 dB. As the human sense of hearing is not equally sensitive to all frequencies, the levels measured are adjusted using an evaluative filter. This takes into account the frequency range of the human ear. As this filter

Helicopter:
max. 115 dB(A)



Motor boat:
max. 110 dB(A)



Diesel engine:
max. 90 dB(A)



Vacuum cleaner:
max. 81 dB(A)



Washing machine:
max. 78 dB(A)



KDF 5:
max. 74 dB(A)



Guess who is making more noise: Your vacuum cleaner, your washing machine or Hauni’s KDF 5?

is generally weighted based on area (A) today, the sound pressure level is usually stated in the unit dB(A).

For Frank Dose, engineer in the Development division, and Harald Otto-von der Heide, Quality Supervisor Products/Final Inspection, these units are a familiar part of everyday life. The two noise specialists are responsible for noise emissions in the development and series production of Hauni machines. Noise protection has been established in Hauni’s development strategy for more than ten years.

The source and the propagation of sound

The two researchers work on primary and secondary measures for reducing noise emissions. “By primary measures, we mean everything that prevents the machine from making noise in the first place. For example, we use direct drives in virtually all our M-generation machines,” says Otto-von der Heide. “Whenever you eliminate a gearbox from a design, the machine becomes significantly quieter. For the KDF 5, we also incorporated another primary measure in the design phase – a low vibration machine bed.”

Dose then explains that secondary measures comprise all the features intended to prevent noise from escaping and spreading. “The high quality seals we use today are a good example of a secondary measure. We have integrated many measures of this type especially in the M-generation PROTOS machines.”

The beneficiaries: our customers’ employees

For Sustainability Manager Dirk Kronenberg, this commitment to noise reduction will remain a firm component of Hauni’s sustainability strategy. “We make our products more sustainable wherever it serves the needs of our customers. Reducing noise has a very positive effect on the employees who work every day in the production halls. It often allows them to work without hearing protection, which is a legal requirement above a noise level of 85 dB(A). They also suffer less stress due to noise exposure in the workplace.”