

Focus on IFA's work

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Noise reduction on compressed-air nozzles

Problem

Noise is the source of the most frequent occupational disease. More than one third of all confirmed occupational diseases in the industrial trades are related to hearing loss caused by noise; several million workers in Germany are directly at risk. It is thus necessary to use all available methods to protect against this hazard effectively. Reducing noise at its source is certainly the most tangible response.

Compressed-air nozzles that are often used in the cleaning, transportation, cooling, and drying of products can cause noise that can damage hearing. Specially designed noise-reducing compressed-air nozzles are available on the market.

Activities

Noise and performance measurements were taken on 60 of these noise-reducing compressed-air nozzles that are available on the market. These were measured in different situations, such as blowing edges and corners clean or blowing away particles from drilling. The blowing force and the air flow rate were determined.

Results and Application

The use of noise-reducing compressed-air nozzles instead of the common one-hole nozzles can substantially reduce the noise level for almost any use:



Noise-reducing compressed-air nozzles

- In the pressure range up to 15N, in cleaning and transport: reductions of 8 to 15dB(A)
- In the volume flow range up to 150m³/h, in cooling and drying: reductions of 18 to 27dB(A)

The so called working paper on noise protection LSA 05-351 (previously BGI 680) contains the noise and performance data of the 60 noise-reduced compressed-air nozzles tested. The tables presented provide the user with a targeted selection of suitable nozzles for specific practical applications.

Area of Application

All industrial-type fields of industry, with a focus on the metal-working industry, electrical industry, and chemical industry.

Additional Information

- Hertwig, R.: Geräuschgeminderte Druckluftdüsen – Ergebnisse aus Labormessungen. Kennzahl 230 241. In: IFA-Handbuch Sicherheit und Gesundheitsschutz am Arbeitsplatz. Lfg. 2 – XII/2013. Hrsg.: Deutsche Gesetzliche Unfallversicherung, Berlin. 2. Auflage. Erich Schmidt, Berlin 2003 – Losebl.-Ausg.
www.ifa-handbuchdigital.de/230241

Expert Assistance

IFA, Division 4: Ergonomics – Physical environmental factors

Literature Requests

IFA, Central Division