

# EcoPulser – Revolution in size reduction. Chances and limits.

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## Abstract

Any kind of mechanical size reduction – i.e. grinding, tearing and cutting, absorbs energy by friction. The tool-free size reduction method of the EcoPulser, based on shock waves, is an innovative non-contact concept and realizes outstanding energy efficiency: The process for the size reduction of wood chips and for the production of surface layer material is non-cutting and nearly wear-free. Shock waves, generated by interferences of impacting pressure fronts, act on the material and thereby break the structure.

Even heavily abrasive materials can be perfectly size reduced with this non-contact process as they are broken up in the air. No cutting or impact edges are used for this type of size reduction. Therefore, any re-sharpening or replacement of knives, hammers or other grinding elements is no longer necessary. The EcoPulser is even resistant to contaminants such as rocks or metal pieces, as there is no material contact with the vane rings. The result: High efficiency, low maintenance and high machine availability.

## Key advantages

- High power efficiency – Up to 80 % energy saving compared to standard size reduction concepts
- Extremely low machine wear due to contact-less size reduction
- Low maintenance cost due to long lifetime of tools
- High resistance against impurities like stones, glass, plastic and smaller metallic parts

