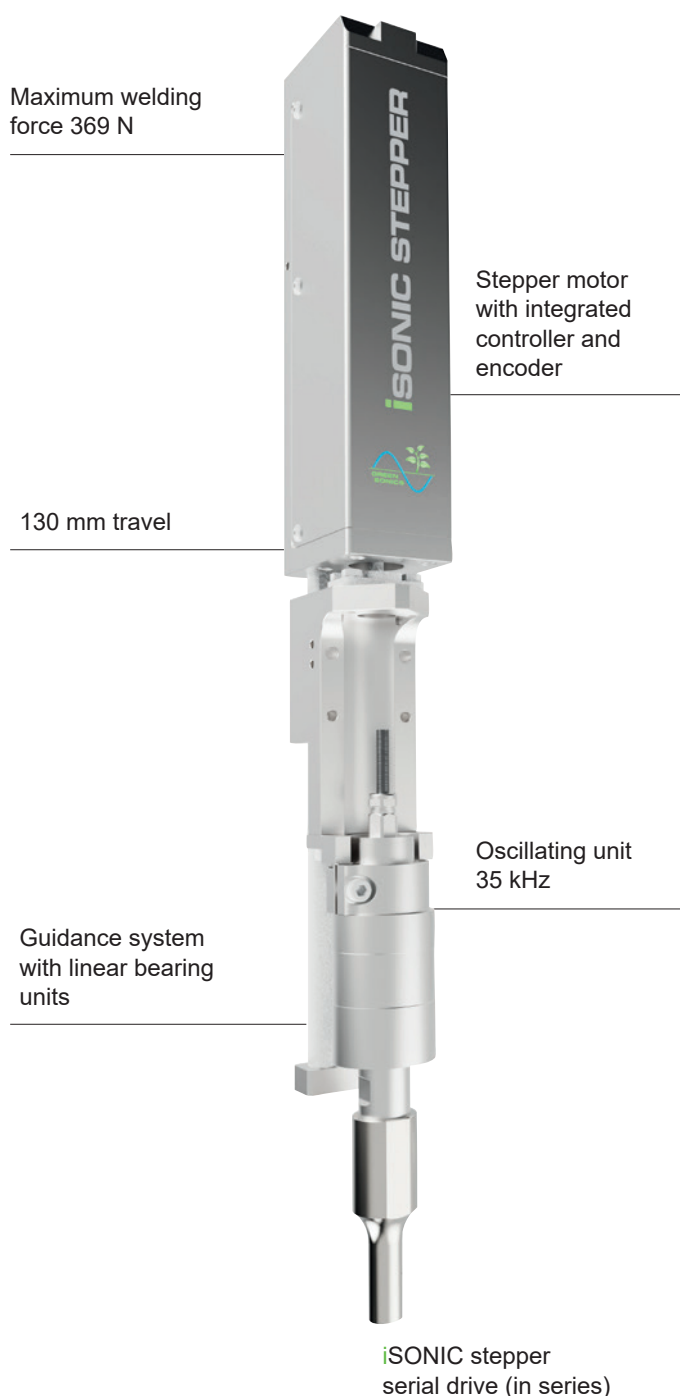


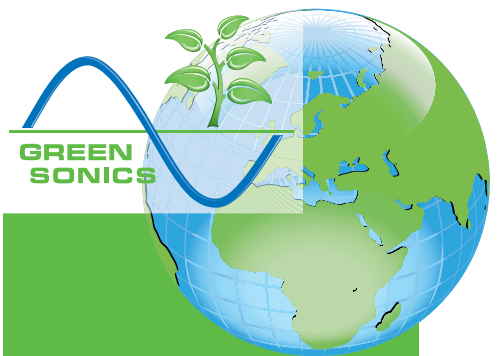
iSONIC stepper feed units with stepper motor – the economical alternative to servo or pneumatic drives

iSONIC steppers are industrial linear actuators and are used for ultrasonic riveting or surface welding in delicate applications or small rivet domes. In many cases, they replace pneumatic or servo-driven feed units in machine and plant construction. The main reasons for this are the adjustable and continuous welding speed, the compact and space-saving tools and the low energy consumption. Stepper motors are mainly used when two or more positions need to be controlled or when simple changes of the positions by means of software are key.



Characteristics and advantages

- High process stability
- Position monitoring
- Better welding results
- Low energy costs
- Long operational lifetime



Energysufficient

A modern stepper motor requires 18-times less energy than a pneumatic feed unit. That is a very important argument when it comes to long-term use. The inexpensive costs of purchase were long one of the most common justifications for pneumatic systems. In long term-use, the stepper feed units are significantly cheaper due to their low operating costs.

Energy consumption under identical welding parameters

Unit with stepper motor

Energy [kwh]	0.0031 kwh
Energy [wh]	3.0680 wh

Pneumatic unit

Energy [kwh]	0.0551 kwh
Energy [wh]	55.1070 wh

iSONIC stepper – energy- and space-saving feed units

The iSONIC stepper feed units have integrated controllers. This makes for a narrow and slim-line design, for space-saving welding working areas. A further advantage is the exact positioning for welding, taking account of individual basic positions and welding depths. The connection to the higher-level control system is via CAN bus.

Characteristics

The central connection of the iSONIC stepper controls the position monitoring function and detects even the smallest of deviations. Constant welding processing parameters are ensured by the integrated drive and controller. The use of these compact tools is suitable for special purpose machinery manufacture where feed units with servo drives or pneumatic drives are not economical.

Process reliability

In the welding process it is possible to run through an exact force curve. In addition, the stepper motor can also stop the welding operation at an exact position to enable the welding point to be externally cooled. For ultrasonic applications, the exact positioning of the iSONIC stepper feed unit proves to be a particular advantage.

