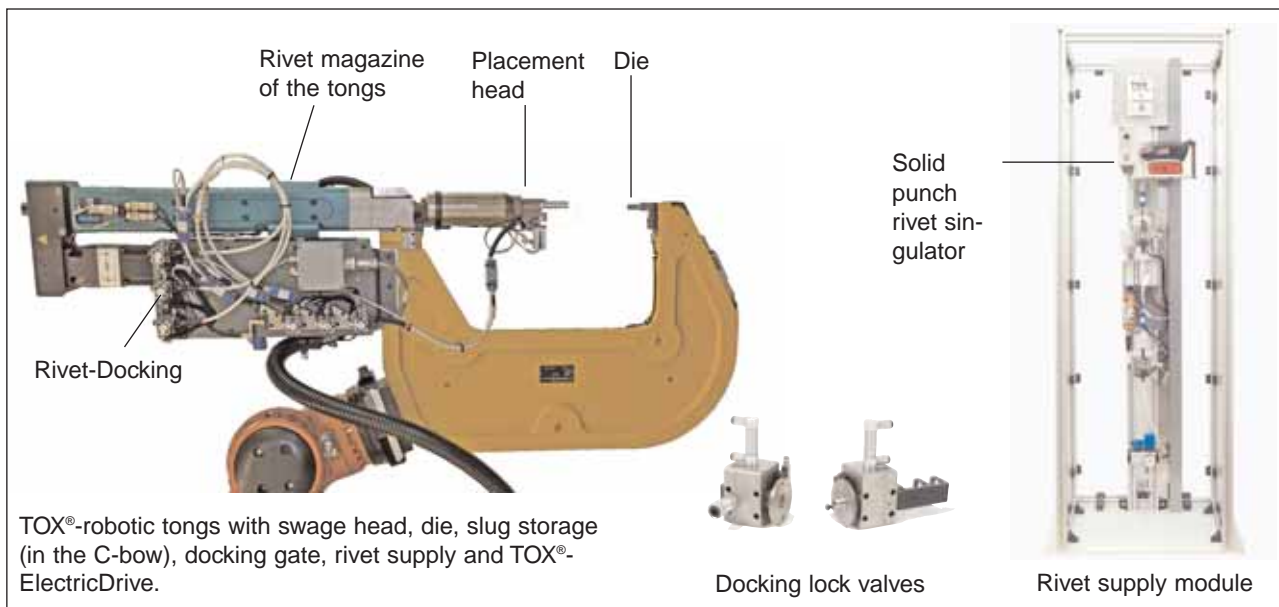


TOX®-Fastener-Insertion for solid punch rivets

Concept for optimum versatility



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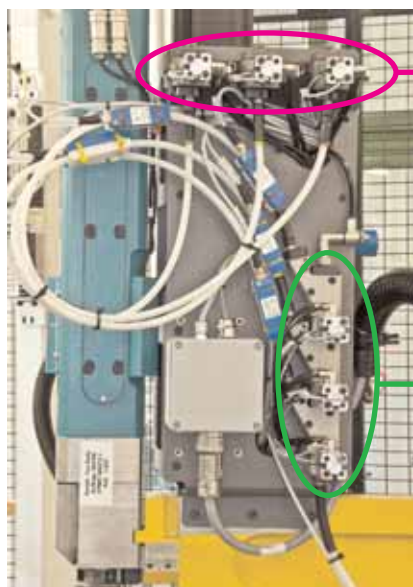
Mobile TOX® robot tongs: the rivet supply module provides a steady flow of solid punch rivets in the feeding tube. The robotic tongs gate valves dock with the loading magazine as required and fill the tongs own magazine. The loading takes only a few se-

conds during idle times and guarantees the supply and function of the tongs. Simultaneously, the slug storage is emptied during reloading. The singulator in the rivet supply module is typically located outside the robot cell and can be easily refilled at any time.

The module is connected with a magazine tube to its docking valves, which are located within easy reach of the tongs, e.g. at the robot cell guarding fence.

Multi rivet capability – flexibility results in cost efficiency

Installation plate on the tongs



Solid punch rivet docking, here for 3 rivet lengths



Self piercing rivet shooting unit, shown for 3 rivet lengths

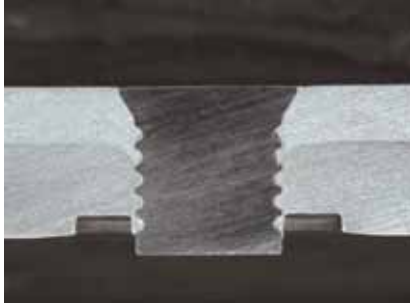


Several separators in the rivet supply module, here for 7 rivet lengths



The standard placement head can handle rivet lengths from 3.3 to 8.1 mm (at a rivet diameter of 4 mm) or 3.9 – 9.0 mm at a rivet diameter 5 mm.

Technology



AA6181A (1,5 mm) in AlMg3 (2,5 mm)



St1203 (2,0 mm) in AlMg3 (2,0 mm)



Solid punch rivet produced by Kerb-Konus

Visual appearance

Flush on punch and die side possible
Minimum piece part distortion

Range of applications

Up to 4 layers of different materials are possible, also for high strength materials with $R_m \sim 1700$ Mpa as well as cast materials on the punch side.

Example

Rivet diameter 4 mm:
Minimum flange width 12 mm
Combined sheet metal thickness up to 9 mm

Solid punch rivet, in general:

Large tolerance allowance regarding sheet metal thickness and strength variations. Generally, one die shape is enough for the joining requirements of a project.

Complete systems



- + Modular setup, based on the TOX® modular kit
- + Docking philosophy. No moving rivet- or slug tubes
- + Supply distance up to 25 m
- + Overhead riveting possible
- + Minimized contour even for multi rivet applications due to universal placement head and shooting unit
- + Slug disposal occurs simultaneously with reloading of rivets at the docking station

Customer proximity

We develop the best solution together with our customers. Please contact us!