SOFTTOOL ENGINEERING



2026 CATALOG

Nut and stud insertion machines

Hydraulic presses and servo CNC insertion centers to install self-clinching hardware in sheet metal.

softooling.com info@softooling.com

SOFT TOOL ENGINEERING

Hardware installed right, the first time

A badly installed nut is a part rejected at assembly. Our insertion machines control force and position to install nuts, studs and standoffs without damaging the part.

From manual to automatic

From the STE-6E18 hydraulic press to servo CNC centers with automatic feeding.

Tooling included

Set of punches and anvils for the most common M3 to M8 hardware.

Installation and training

Delivery to your plant, commissioning and operator training.

> **For a faster quote**
>
> Send us the hardware type and size, the sheet material and thickness, the part size and your volume to **info@softooling.com**.

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01 Hydraulic insertion press

Press for installing self-clinching nuts, studs and standoffs in sheet metal, with PLC control and safety system.



MODEL STE-6E18

6-ton nut and stud insertion press

57 kN of force and 450 mm (18") throat depth, with touchscreen, PLC control and operator safety system.

- Adjustable force with pressure gauge and force database by hardware
- Installs M3 to M10 nuts, studs and standoffs
- Optional automatic feeding for continuous production

SPECIFICATIONS

Insertion force	2 to 57 kN (500 to 12,825 lb)
Maximum capacity	M10 nut, M8 stud, M6 standoff in carbon steel
Throat depth	450 mm
Throat height	400 mm
Stroke	200 mm
Power	1.5 kW
Power supply	4 A
Hydraulic oil	ISO VG 46 / 32
Oil tank	60 L
Air pressure	0.4 to 0.6 MPa
Power supply	380 V, 3-phase, 50/60 Hz (optional 220, 240, 400, 415 or 480 V)
Machine dimensions	930 × 1100 × 2000 mm (width × depth × height)
Packing dimensions	1050 × 1200 × 2200 mm
Weight	650 kg

STANDARD EQUIPMENT



A Positive stop

Precisely sets the cylinder stop point. Improves consistency on soft or delicate parts, small hardware and aluminum, fiberglass, circuit boards and composites.



B Touchscreen (HMI)

7" screen instead of knobs and buttons; PLC control that simplifies communication with automation.



C Double-sided anvil base

Anvil base that allows insertion in already bent parts.

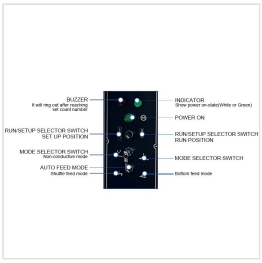
D Batch counter

Tracks total hardware installed, hardware per part and finished parts; sounds an alarm when each part is complete.



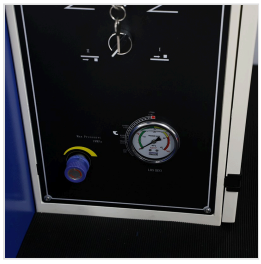
E Safety system

Protection in conductive and non-conductive modes, with mandatory safety test and alarm. The operator works without risk.



F Control panel

Selector for operation and setup mode, conductive or non-conductive mode, and feed mode (shuttle or bottom).



G Quick force adjustment

Force gauge and adjustment knob: turning clockwise increases pressure.

H MSTP-14 tooling set

14 punches and anvils for M3 to M8 nuts, studs and standoffs, lengths up to 35 mm, in a case.

MOST REQUESTED OPTIONS

TIS turret system

Installs up to 4 different fasteners in a single part handling.

Modular automatic feeding (MAS)

Vibratory bowl with digital piezoelectric controller. Feeds M3 to M5 nuts, studs and standoffs, up to 25 mm long.

Laser locator

Laser light reference to locate the insertion point on large parts that cover the lower tool.



Automatic nut feeding



Insertion with shuttle feeding



Finished part

STANDARD AUTOMATIC TOOLING (OPTIONAL)

Nut shuttle	S-M3/M4/M5/M6/M8-0,1,2
Automatic bottom feeding	S-M3/M4/M5/M6/M8-0,1,2
Bottom feeding with part clearance (ABFT)	S-M3/M4/M5/M6/M8-0,1,2
Stud shuttle	FH: M3 6–25, M4 8–25, M5 10–25, M6 10–25, M8 15–25 mm
Standoff shuttle	SO/BSO: M3 5–25, 3.5M3 5.8–25, M4 9–25, 3.5M4 and M5 8–25 mm

Special automatic tooling: S-M10-0,1,2 / S-M12-0,1,2 · FH-M10 · B/BS-M3, M4, M5 · F-M5/0.32-2 · PF-M3, M4, M5, M6 · TPS-M6 · KS-M3, M4, M5 · M6 rivet nut.

02 XYZ-R servo insertion centers

CNC cells that automatically install up to 8 types of hardware in large flat parts, programmed from CAD.



STE-E8 XYZ-R SERIES

Error-free automatic insertion

- Offline software and CAD drawing import
- Programming in under 15 minutes per new part
- Insertion from both sides of the part and up to 8 hours of unattended production
- Detects wrong or missing hardware and incorrectly sized holes
- CCD camera that verifies and compensates hole position

Model	STE-E824-4 XYZ-R	STE-E831-8 XYZ-R
Insertion force	0.5 to 80 kN, adjustable (50 to 8000 kg)	
Throat depth	600 mm	1200 mm
Repeatability	±0.01 mm	
Hardware	M3 to M8 in carbon steel	
Maximum hardware length	25 mm	
Speed	5 s per piece	
Part area	800 × 600 mm	1200 × 800 mm
Automatic feeding stations (MAS)	4	8
Maximum part weight	40 kg	60 kg
Maximum bent flange height	60 mm	
Maximum surface height difference	30 mm	
Power	11.5 kW	13 kW
Voltage	380 V, 3-phase, 50 Hz	
Dimensions	3500 × 2400 × 2550 mm	4100 × 3050 × 2500 mm
Weight	2300 kg	4100 kg



STE-E831-8 XYZ-R · 8 stations, 1200 × 800 mm part



STE-E887-8 XYZ-R gantry · 80 kN force, 2200 × 1500 mm part, 8 feeding stations

IDEAL FOR

Large flat parts

With hardware on both sides of the part.

Several fasteners per part

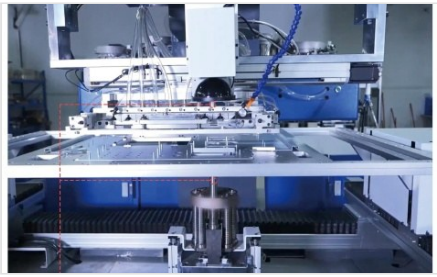
Up to 6 to 8 different fasteners in the same part.

Single-operator cells

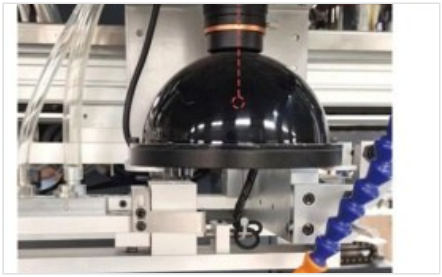
Works in parallel with a manual insertion press or a press brake.



Mobile worktable



4-station automatic changer



CCD camera compensation

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Which hardware do you need to install?

Send us the drawing or a photo of your part and we'll recommend the insertion machine and tooling.

EMAIL

info@softooling.com

WEBSITE

softooling.com

Images for reference only; specifications may change without notice.