

# 1-Ear Clamp with stud 103

Recommended for Occupant Safety Systems

## Benefits

- Secure and reliable connection for inflators
- Safe and easy assembly
- Flexible design
- Space efficient



---

**Secure:** reliable fixation of airbag inflators within Occupant Safety Systems

---

**Cost effective:** allows a versatile alternative to attaching inflators, eliminating the need for custom brackets

---

**Space saving:** ear position of 180° or 45° offers easy assembly

---

**Flexible:** easily adjustable clamp positioning

---

**Made to measure:** various diameters available with M5 or M6 studs for standard size inflators

---

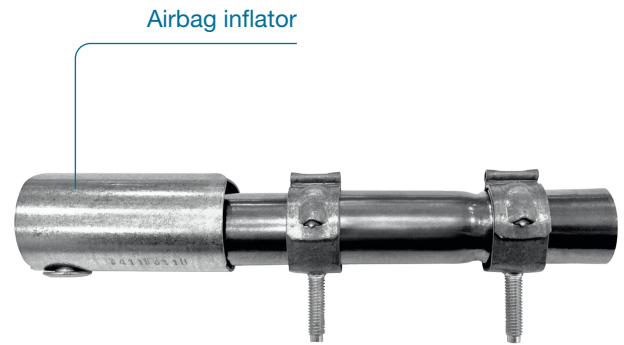
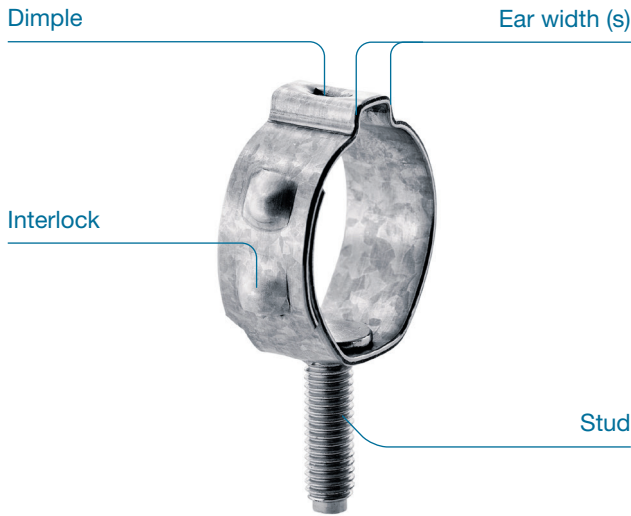
**Strong:** high strength low alloy material with high retention properties + good corrosion resistance

---

**Reliable assembly:** quick and easy assembly with process monitoring equipment

---

FEATURES AND APPLICATION



# 1-Ear Clamp with stud 103

TECHNICAL DATA OVERVIEW

**Material**

**Band:** High strength steel, material no. 1.0934

**Band Coating:** Galfan

**Stud:** Alloy steel, material no. 1.5525

**Stud Coating:** Zinc-plated, blue chromated

**Corrosion resistance according to DIN EN ISO 9227**

≥ 72 h

Size range	width × thickness	stud size
20.6 – 50.0 mm	10.0 × 1.0 mm	M5 and M6
20.6 – 50.0 mm	14.0 × 1.0 mm	M5 and M6

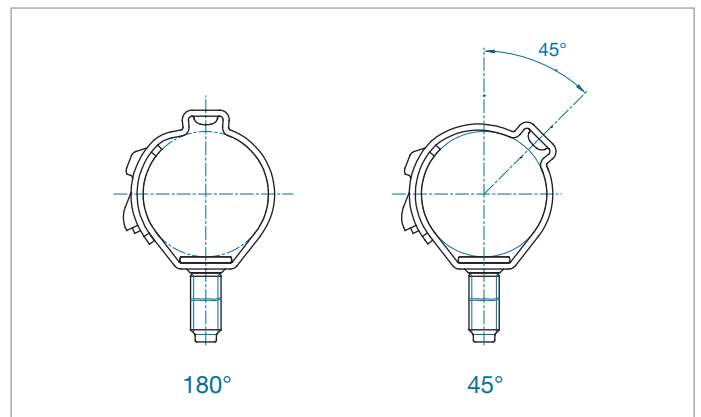
**Material**

The band of Oetiker 1-Ear Clamps with stud are made from high strength steel that is Galfan-coated. The studs are made from alloy steel that are zinc-plated, blue chromated.

**Band edge condition**

Stringent controls are maintained at the Oetiker strip process, conditioning the slit material and forming a machined or rolled edge radius. This process reduces the potential for damage caused by sharp or square edges, when the clamp compresses adjacent material.

**Ear positioning options**



**Clamp ear (closing element)**

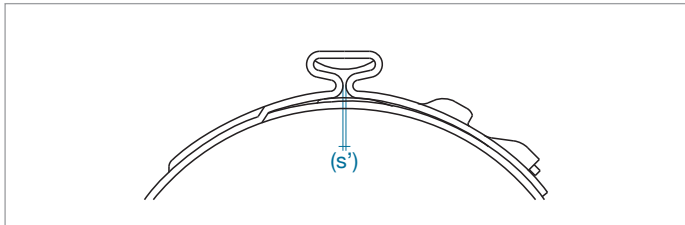
Using tools designed or endorsed by Oetiker, the clamp is closed by drawing together the lower radii of the “ear”. The maximum diameter reduction is proportionate to the open “ear” width (s), for example standard ear width is 5.5 mm.

The theoretical maximum reduction in diameter is given by the formula:

$$\text{Max. diameter reduction} = \frac{\text{Ear width (s)}}{\pi}$$

TECHNICAL  
DATA OVERVIEW

**Clamp ear (closing element)**



! Notice: the above sketch shows the appearance of a closed “ear” (s’); it does not necessarily indicate an effective closed assembly.

**Mechanical interlock**

The interlock is a mechanically jointed design for securing the clamp in the round condition.

**Ear design**

The integrated dimple in the ear effectively increases the clamping force and provides a spring effect when the diameter of the application contracts or expands due to thermal or mechanical influences.

Typical Inflator Diameter (mm)	Open Clamp Diameter (mm)
20.0	20.6
20.4	21.2
25.0	25.7
25.4	26.2
30.0	30.8
35.0	35.8

**Stud features**

The standard stud is produced in accordance to ISO 898-1 property class 9.8, and the dog-point, core beginning of the stud is produced in accordance to DIN ISO 4753 SD to prevent cross-threading during nut assembly. Optionally, the studs can be supplied with a “peak” of additional material added to the top side of the head, and when closed upon the application can reduce axial translation of the clamp.

**Assembly recommendations**

The clamp “ear” is deformed with a constant tool jaw force; this practice is referred to as “force priority closure”. The assembly method assures that a uniform and repeatable stress is applied to the application in addition to a consistent tensile force on the clamp interlock. Employing this methodology when closing the 103 series clamp will compensate for any component tolerance variations, assuring that the clamp applies a constant radial force on the application. Fluctuations in component tolerances are absorbed by the changing “ear” gap (s’). Clamp assembly monitoring equipment and process data collection is available by incorporating the “Electronically Controlled Pneumatic Power Tool” **Oetiker ELK** within the assembly process.

! Notice: Single tool stroke closure only, do not apply secondary crimping force.

ASSEMBLY DATA

Material dimensions (mm)	Size (mm)	Stud	Tightening Torque of the Nut max. (Nm)	Closing Force max. (N)
10.0 × 1.0	20.6–50.0	M6 × 1.0	10.0	4600
10.0 × 1.0	20.6–50.0	M5 × 0.8	6.0	5000
14.0 × 1.0	20.6–50.0	M6 × 1.0	10.0	7000
14.0 × 1.0	20.6–50.0	M5 × 0.8	6.0	7400

Recommended pneumatic pincer	Recommended pincer head EL	Recommended pincer head ME
HO 5000 EL/ME	13900772	13900773
HO 5000 EL/ME	13900772	13900773
HO 7000 EL/ME	13900772	13900773
HO 7000 EL/ME	13900772	13900773