PG 153

PG 154

Compact one-piece clamp: for robust, secure connections, miniature sizes
Clamp ear: fast and simple installation, visible deformation provides evidence of proper closure
Deburred edges: reduced risk of damage to parts being clamped
With insert
Pre-shaped insert: effective and powerful all-round seal

1-Ear Clamps
Product Group 153 & 154

Material
PG 153 Stainless Steel, Material no. 1.4307/UNS S30403
PG 154 Clamp: Stainless Steel, Material no. 1.4307/UNS S30403
Insert: Stainless Steel, Material no. 1.4310/UNS S30100

Corrosion resistance according to DIN EN ISO 9227
PG 153 ≥ 800 h
PG 154 ≥ 800 h

Size range
PG 153 3.3 – 30.7 mm
PG 154 2.9 – 30.0 mm

Some sizes are only available if an appropriate minimum quantity is ordered.

Process
The manufacturing process for Oetiker 1-Ear and 2-Ear Clamps commences with the spiral roll-forming and welding of raw material into lengths of tube, a technique developed to obtain a robust, continuous welded ring.

Oetiker 1-Ear Clamps with insert
This type of clamp combines the geometry and properties of the 1-Ear Clamp with an insert made of stainless steel.

These clamps are ideal for demanding applications involving soft or hard rubbers and plastics. The thin-walled insert ring (up to 0.3 mm thick), with an oval protrusion that locates in the ear space, bridges the ear gap and ensures almost uniform compression around the whole circumference of a clamp.

Edge condition
Burrs generated during the shearing and forming processes are entirely eliminated in a barrel-finishing operation.

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 proportional to the open “ear” width.
The maximum reduction in diameter is given by the formula:

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

Important
Single tool stroke closure only, do not apply secondary crimping force.

The data in this catalog are based on many years experience. They are intended for reference, not as design specifications.

2-Ear version: extended clamping range
Compact one-piece clamp: for robust, secure connections
Clamp ear: fast and simple installation, visible deformation provides evidence of proper closure
Deburred edges: reduced risk of damage to parts being clamped

2-Ear Clamps
Product Group 101 & 151

Material

PG 101	Steel, Material no. 1.0338/SAE 1008/1010, zinc-plated
PG 151	Stainless Steel, Material no. 1.4307/UNS S30403

Corrosion resistance according to DIN EN ISO 9227

PG 101	≥ 96 h
PG 151	≥ 800 h

Size range

4.1 – 46.0 mm

Some sizes are only available if an appropriate minimum quantity is ordered.

Oetiker 2-Ear Clamps

The ears of these clamps do not have a dimple and nearly double the clamping range, compared to the 1-ear clamp. 2 ears provide a degree of elasticity to accommodate changes in size of the parts being joined, such as that which may be caused by thermal expansion or vibration.

Installation techniques are similar to those for 1-Ear Clamps, but the force applied when closing the second ear may react against the opposing closed ear and make a second crimping operation necessary. For perfect sealing, the ears must be adequately closed during installation.

Assembly recommendations

The ears of these clamps should be closed with the recommended, uniform force (known as force priority). This method will result in a constant, reproducible stress within the clamp material, without overloading either the clamp or the parts being assembled. The nominal diameter of the clamp should always be chosen so that, when installed with the correct clamping force, the ears are almost closed. Complete process monitoring and 100% process documentation are available using the “Electronically Controlled Pneumatic Power Tool” Oetiker ELK.

Closing force

The following table shows the maximum applied closing force for different material dimensions.

Important

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