

OETIKER

Clamps and Rings



Connecting Technology

OETIKER Connecting Technology Clamps and Rings

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The OETIKER Group Worldwide

The primary objective of the OETIKER Group is to supply OETIKER customers with safe and reliable products.

For over 60 years, OETIKER has revolutionized clamping of hoses, pipes and other objects with a great variety of clamps and rings for a wide range of materials – all of it complemented by a full choice of quick action or swing couplings. The OETIKER Group was founded in Switzerland in 1943 and is now a multinational company with a worldwide network of companies which together offer their customers comprehensive planning, construction, design and service support.

OETIKER companies are strategically placed throughout the world to produce and supply connecting products. Manufacturing is standardized across all OETIKER production companies. OETIKER products are sold both by companies within the OETIKER Group and via a specially selected distributor network.

The OETIKER name is a protected trademark which stands for quality, innovation and continuous improvement, both literally and in the spirit intended by the founder of the company, Hans Oetiker. Numerous connecting technology patents are directly related to the OETIKER name.

OETIKER Quality Standards

All companies within the OETIKER Group have quality certificates ISO/TS 16949.

OETIKER companies already comply with the newly formulated environmental guidelines detailed in ISO 14000 which involve the careful use of resources, the use of recyclable materials and minimal use of chemical additives. In order to ensure optimum quality throughout the world, all OETIKER companies use the latest in production and inspection equipment.



OETIKER Clamps and Rings Product Chart



Page	Clamp Type	Product Group	Size range (mm)	Width (mm)	Thickness (mm)	Zinc plated	Stainless Steel	Axial installation	Radial installation
5	Stepless® Ear Clamps	167	6.5 - 120.5	5.0 - 10.0	0.5 - 1.0		x	x	x
6	Stepless® Ear Clamps – with Tolerance Compensation	167	U n d e r D e v e l o p m e n t						
7	Stepless® Low Profile Clamps	168	10.5 - 120.0	7.0 - 9.0	0.5 - 0.6		x	x	x
8	Stepless® Low Profile Clamps – with Tolerance Compensation Type 1	168	19.5 - 120.0	9.0	0.6	x	x	x	
8	Stepless® Low Profile Clamps – with Tolerance Compensation Type 2/3	168	U n d e r D e v e l o p m e n t						
9	1-Ear Clamps with Mechanical Interlock	105 & 155	10.5 - 99.5	7.0	0.6 - 0.75	x	x	x	
10	1-Ear Clamps	103 & 153	3.3 - 30.7	3.0 - 7.0		x	x	x	
11	1-Ear Clamps with Insert	104 & 154	2.9 - 30.0	5.5 - 9.2		x	x	x	
12	2-Ear Clamps	101 & 151	4.1 - 46.0	3.5 - 10.0		x	x	x	
13	Closed Twin Clamps	108	5.0 - 23.0	6.0 - 10.0		x		x	
13	Open Twin Clamps	158	U n d e r D e v e l o p m e n t						
14	Stepless® Self-Tensioning Spring Clamps	178	19.0 - 255.0	9.0	0.6		x	x	x
15	Stepless® Self-Tensioning Ear Clamps	167	U n d e r D e v e l o p m e n t						
15	Stepless® Self Tensioning Clamps	168	U n d e r D e v e l o p m e n t						
16	Spring Band Clamps	199	U n d e r D e v e l o p m e n t						
17	Multi Crimp Rings	150	5.0 - 120.0	4.0 - 10.0			x	x	
18	Stepless® Screw Clamps	178	18.0 - 255.0	9.0	0.6		x	x	x
19	Worm Drive Clamps	126 & 177	8.0 - 160.0	7.5 - 13.0	0.6 - 1.0	x	x	x	x
20	Universal Clamps	174	≥ 35.0	5.0 - 18.0	0.5 - 0.8		x	x	x
21	Universal Clamps with Ratchet Locks	174	≥ 35.0	10.0	0.5		x	x	x
21	Lever Clamps® with Tolerance Compensation	125 & 175	U n d e r D e v e l o p m e n t						

Safe and secure – no matter where or what needs to be connected: OETIKER Clamps and Rings

Whatever the media – OETIKER clamps and rings will put it in its place! There is hardly any connection problem which cannot be solved. For hoses, pipes, cables, ropes and other objects, in all different materials and under the toughest conditions, OETIKER clamps and rings can connect practically anything, securely and permanently – disconnection only as required.

OETIKER clamps and rings offer safe and fast solutions in a wide variety of areas and branches of industry and prove their worth day in, day out in a mass production environment.

For all types of applications OETIKER clamps and rings are used in the following industries:

- Agriculture
- Respiratory Protection
- Building
- Mining
- Chemicals and Petrochemicals
- Electrical and Electronics Industries
- Drinks and Food Industries
- Aerospace Industry
- Medical Industry
- Automotive Industry
- Military
- Rail Industry
- Ship Building
- Welding
- Repair and Maintenance
- Automotive Supply Industry



OETIKER Clamps and Rings

Technical Information

The OETIKER System – a wide range of clamps and rings developed by Hans Oetiker – a pioneer in connection technology

Materials

Only the very highest quality of austenitic, ferritic or corrosion protected ferrous strip and band is used in the manufacture of OETIKER Clamps and Rings. The standard material used for the majority of products is stainless steel to DIN 1.4301 or UNS S30400. The chromium-nickel content of the stainless steel gives excellent corrosion resistance when exposed to a variety of aggressive environmental influences, both atmospheric and aqueous. The specific mechanical and physical characteristics of these materials guarantee high strength and excellent stability. The OETIKER strip processing facilities apply stringent controls to ensure that bandsteel edges are smooth which greatly reduces the potential for damage to the hose material.

Use and Selection

The clamp sealing performance (static pressure and tightness) is dependent on several factors:

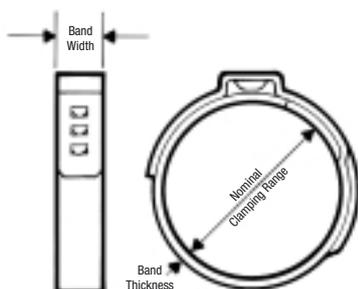
- Material and design of the flexible or inflexible hose material
- Geometric formation of hose bore and connecting part or surface
- Factors such as, for example, pressure, temperature, environmental influences, type of media, mechanical load, e.g. vibration
- Correct selection and installation of clamp

OETIKER will be happy to help you to make the right choice for your specific application. If you provide us with the relevant application samples and as much information as possible about your application, we can recommend the best product type, diameter and installation to suit your needs.

Dimensions, Identification and Ordering

OETIKER clamps are manufactured to metric dimensions. For identification purposes, the nominal diameter is stamped on each product. For example, "145" stands for an open (nominal) clamp diameter of 14.5 mm. As a general rule, a nominal diameter should be chosen so that when assembled on to the connecting part (hose stem), the outside diameter of the hose lies approximately in the middle of the clamping range (see page 3 and price lists for OETIKER clamps).

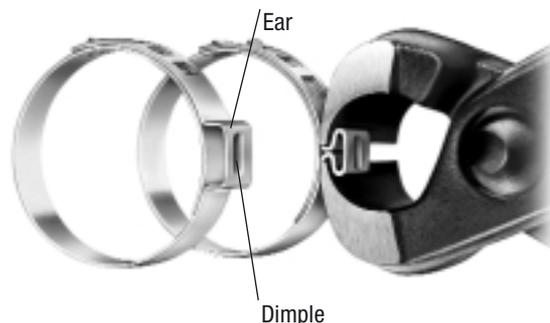
Please always quote the 8 digit article number when ordering. (See OETIKER Clamps and Rings price lists)



OETIKER Ear Clamps with Dimple – The Original

The OETIKER system has the ear with a dimple. As the geometry of the closed ear is kept very low, clamping force is increased and creates a spring effect when the hose material expands or contracts in response to thermal or mechanical influences such as temperature, vibration, etc.

For a proper installation and seal, the ear must be closed correctly when installed.



OETIKER 360° Stepless® Design – The Original

OETIKER Stepless clamps have no steps or gaps on their inner circumference. They are designed in such a way that at installation, a metal tongue slips into a corresponding groove. The inside circumference of the clamp fits 360° and stepless onto the hose material and thus gives optimum seal and roundness. This allows very soft and also very inflexible materials to be connected easily.



Worm Drive clamp

OETIKER Stepless® 1-Ear Clamp

OETIKER Stepless® Ear Clamps

Product Group **167**



Features

- 360° stepless design – no steps or gaps on inner circumference
- Narrow band, concentrated seal compression
- Special smooth edged band steel for less risk of damage to hose
- Light weight design
- Tampering is visible



The term "Stepless" refers to the absence of steps or gaps on the inner circumference of the clamp. The ingenious stepless design provides uniform compression and a 360° seal.

Standard series Stepless ear clamps are especially well suited to applications involving both flexible and inflexible thin-walled hoses with high "Shore" hardness.

OETIKER heavy duty series Stepless clamps with particularly high retained loads are especially well suited to applications involving, for example, moulded thermoplastics or other less malleable materials with high "Shore" hardness which are often used in the automotive industry.

Material

- **167** Stainless steel DIN 1.4301 or UNS S30400
- Alternate materials optional

Standard Series

<i>Size range</i>	<i>Width / Thickness</i>
6.5 - 11.8 mm	5.0 x 0.5 mm
11.9 - 120.5 mm	7.0 x 0.6 mm
21.0 - 120.5 mm	9.0 x 0.6 mm

Heavy Duty Series

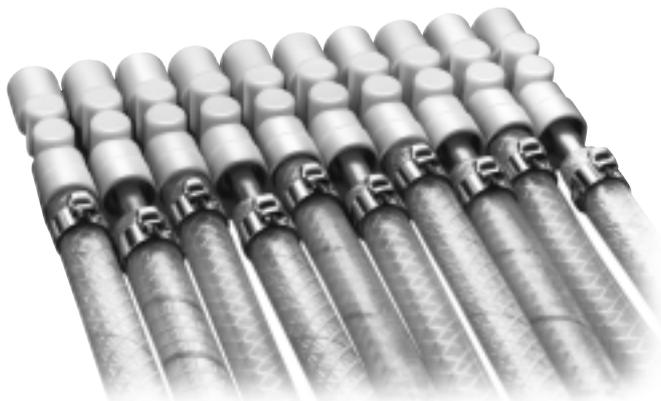
<i>Size range</i>	<i>Width / Thickness</i>
25.0 - 120.5 mm	9.0 x 0.8 mm
21.5 - 120.5 mm	10.0 x 0.8 mm
62.0 - 120.5 mm	10.0 x 1.0 mm

Custom sizes on request.

Installation

See page 23.

OETIKER will be happy to help you to make the right choice for your specific application. If you provide us with the relevant application samples and as much information as possible about your application, we can recommend the best product type, diameter and installation to suit your needs.





OETIKER Stepless® Ear Clamps with Tolerance Compensation

Product Group **167**



Features

- Tolerance compensating segments to overcome outside diameter tolerance deviations
- 360° stepless design – no steps or gaps on inner circumference
- Standard ear configuration is retained for installation – no need for oversized ear to overcome significant tolerance deviations
- Special smooth edged band steel for less risk of damage to hose
- Tampering is visible
- Custom sized

OETIKER Stepless® Ear Clamps with Tolerance Compensation

Under Development

Stepless ear clamps will also be available with tolerance compensation features. Single or multiple wave-like tolerance compensating segments are integrated into the clamp band.

The effect of the tolerance compensating segments are useful in the event that, at connection, tolerance deviations from nominal diameters exceed the standard clamping range of the ear.

The tolerance compensating segments can then be used if, due to excessive tolerance deviations, the ear cannot be closed sufficiently.

Material

- **167** Stainless steel DIN 1.4301 or UNS S30400
- Alternate materials optional

Installation

Installation instructions on request.

OETIKER will be happy to help you to make the right choice for your specific application. If you provide us with the relevant application samples and as much information as possible about your application, we can recommend the best product type, diameter and installation to suit your needs.

OETIKER Stepless® Low Profile Clamps

Product Group **168**



Features

- Low profile for restricted spaces
- Minimal imbalance on rotating parts
- 360° stepless design – no steps or gaps on inner circumference
- Special smooth edged band steel for less risk of damage to hose
- Reusable
- Tampering is visible



OETIKER Stepless low profile clamps have only a 1.6 mm protrusion above the clamp band and have been specially developed for applications with clearance restrictions. They are custom sized to ensure the correct compression ratio for individual applications.

OETIKER Stepless low profile clamps do not have the inherent spring action normally associated with OETIKER ear clamps. Their seal retention relies mainly on the expansion force created by the elasticity of the material being clamped.

OETIKER Stepless low profile clamps are reusable. They can be opened and installed time and again, for example for maintenance and servicing in the automotive industry and they can also be installed both axially and radially.

When ordering:

Please note that, unlike ear clamps, low profile clamps have the nominal closed diameter marked on the clamp band, i.e. "195" indicates a closed clamp diameter of 19.5 mm.

Material

- **168** Stainless steel DIN 1.4301 or UNS S30400
- Alternate materials optional

<i>Size range</i>	<i>Width / Thickness</i>
10.5 - 19.0 mm	9.0 x 0.5 mm
19.5 - 110.0 mm	7.0 x 0.6 mm
25.0 - 120.0 mm	9.0 x 0.6 mm

Custom sizes on request.

Installation

Installation instructions on request.

OETIKER will be happy to help you to make the right choice for your specific application. If you provide us with the relevant application samples and as much information as possible about your application, we can recommend the best product type, diameter and installation to suit your needs.



OETIKER Stepless® Low Profile Clamps with Tolerance Compensation

Product Group **168**



OETIKER Stepless® Low Profile Clamps with Tolerance Compensation – Type 1 Single Segment

Currently available and performance proven. The single wave-like tolerance compensating segment in the clamp band becomes effective when the pre-determined clamp size is not sufficient due to tolerance deviations. When the clamp ends cannot be engaged due to excessive deviations in the material to be clamped, the tolerance compensation segment expands to accommodate the difference.

Material

- **168** Stainless steel DIN 1.4301 or UNS S30400
- Alternative materials also available

Size range	Width / Thickness
19.5 - 120.0 mm	9.0 x 0.6 mm

Custom sizes on request.

Installation

Installation instructions on request.



OETIKER will be happy to help you to make the right choice for your specific application. If you provide us with the relevant application samples and as much information as possible about your application, we can recommend the best product type, diameter and installation to suit your needs.

Features

- Tolerance compensating segments to overcome outside diameter tolerance deviations
- 360° stepless design – no steps or gaps on inner circumference
- Low profile for restricted spaces
- Minimal imbalance on rotating parts
- Special smooth edged band steel for less risk of damage to hose
- Reusable
- Tampering is visible

OETIKER Stepless® Low Profile Clamps with Tolerance Compensation – Type 2 Multiple Segments

Under Development

In the event that, due to tolerance deviations, a single tolerance compensation segment in the clamp band is not sufficient, clamps can be produced with multiple expansion segments. The number of wave-like tolerance compensation segments increases in line with the increase in the diameter of the clamp.

Material

- **168** Stainless steel DIN 1.4301 or UNS S30400
- Alternate materials optional



OETIKER Stepless® Low Profile Clamps with Tolerance Compensation – Type 3 Heavy Duty

Under Development

Developed for the sealing of thin-walled thermoplastic or materials with low compression factors, these clamps incorporate all the benefits of the low profile product range with the addition of a tolerance compensating feature. The clamp material at the reduced cross sectional area elongates, maintaining high loads when the components are at the maximum assembled diameter.

Special orders and custom sizes on request.

Material

- **168** Stainless steel DIN 1.4301 or UNS S30400
- Alternate materials optional



OETIKER 1-Ear Clamps with Mechanical Interlock

Product Group **105 & 155**



Features

- Narrow band – 7 mm
- Light weight
- Special smooth edged band steel for less risk of damage to hose
- Fast and simple to install
- Mechanical interlock allows use of precoated materials
- Tampering is visible



Economical quality clamp for low pressure applications. Developed for a variety of applications in the automotive industry, general industry and for applications involving synthetic tubing.

The mechanical interlock also eliminates the need for spot welding at the join which would then make it vulnerable to corrosion.

Mechanical interlock



Material

- **105** Galvanized or zinc plated steel band
- **155** Stainless steel DIN 1.4301 or UNS S30400

<i>Size range</i>	<i>Width / Thickness</i>
10.5 - 99.5 mm	7.0 x 0.6 / 0.75mm

Custom sizes on request.

Installation

See page 23.

OETIKER will be happy to help you to make the right choice for your specific application. If you provide us with the relevant application samples and as much information as possible about your application, we can recommend the best product type, diameter and installation to suit your needs.

OETIKER

1-Ear Clamps

Product Group **103 & 153**



OETIKER 1-ear clamps are commonly used where a minimal protrusion and a small clamping range is essential.

OETIKER 1-ear clamps are well suited for Original Equipment Manufacturing (OEM) and Maintenance Repair and Overhaul (MRO). They are also suitable for use with rubber hoses, plastic tubing, electrical cables, welding hoses and other materials.

The OETIKER system – the ear with a dimple. As the geometry of the closed ear is kept very low, clamping force is increased and creates a spring effect when the hose material expands or contracts in response to thermal or mechanical influences such as temperature, vibration, etc.

For a perfect seal, the ear must be closed correctly at installation.

Material

– **103** Zinc plated steel DIN 1.0338 or SAE 1008/1010

– **153** Stainless steel DIN 1.4301 or UNS S30400

Size range

3.3 - 30.7 mm

Custom sizes on request.

Installation

See page 23.



OETIKER will be happy to help you to make the right choice for your specific application. If you provide us with the relevant application samples and as much information as possible about your application, we can recommend the best product type, diameter and installation to suit your needs.

Features

- For small diameters from 3.3 mm
- Fast and simple installation
- Surface technique treated edges for less risk of damage to hose
- Tampering is visible
- For compressed air and fluid media lines as well as electrical and electronic components.



Actual size



OETIKER 1-Ear Clamps with Insert

Product Group **104 & 154**



Features

- Specially recommended for small diameters from 2.9 mm
- Fast and simple installation
- Curled insert prevents damage to hose
- Curled insert bridges the gap below the clamp ear and thus provides an effective all-round seal
- Tampering is visible



Actual size



OETIKER 1-ear clamps with Insert are ideal for demanding hose or tubing clamping applications involving soft or hard rubber or plastic materials. The insert bridges the gap below the clamp ear and its curled edge prevents cutting or other damage to the hose.

The thin insert has an oval outward dimple which is positioned precisely under the clamp ear, effectively preventing material from being lifted into the ear gap during clamp closure, something which often happens with soft hose material. This double dimple combination in both insert and clamp creates a strong all-round effective compression seal.

The OETIKER system – the ear with a dimple. As the geometry of the closed ear is kept very low, clamping force is increased and creates a spring effect when the hose material expands or contracts in response to thermal or mechanical influences such as temperature, vibration, etc.

For a perfect seal, the ear must be closed correctly at installation.

This type of clamp is especially suited for use in the automotive industry, medical technology and with electrical and electronic components.

Material

- **104** Clamp: Zinc plated yellow chromated steel
DIN 1.0338 or SAE 1008/1010
Insert: Stainless steel DIN 1.4310 or UNS S30200
- **154** Clamp: Stainless steel DIN 1.4301 or UNS S30400
Insert: Stainless steel DIN 1.4310 or UNS S30200

Size range

2.9 - 30.0 mm

Installation

See page 23.

OETIKER will be happy to help you to make the right choice for your specific application. If you provide us with the relevant application samples and as much information as possible about your application, we can recommend the best product type, diameter and installation to suit your needs.

OETIKER 2-Ear Clamps

Product Group **101 & 151**



The first "Original" OETIKER Ear Clamp

This Hans Oetiker design was the first of its kind when it came onto the market in 1951 and, since then, it has revolutionized connection technology throughout the world. To this day, it has remained a best seller.

OETIKER 2-ear clamps are suitable for Original Equipment Manufacturing (OEM) and Maintenance Repair and Overhaul (MRO). These clamps are also suitable for use with rubber hoses, plastic tubing, electrical cables, welding hoses and other materials.

The 2-ear clamps, in comparison to the 1-ear clamps, have a larger clamping range. Due to the specific geometry of the closed ear, clamping force is increased and creates a spring effect when the hose material expands or contracts in response to thermal or mechanical influences such as temperature, vibration, etc.

For a perfect seal, the ear must be closed correctly at installation.

Material

- **101** Zinc plated steel DIN 1.0338 or SAE 1008/1010
- **151** Stainless steel DIN 1.4301 or UNS S30400

Size range

4.1 - 46.0 mm

Narrow version on request.

Installation

See page 23.

OETIKER will be happy to help you to make the right choice for your specific application. If you provide us with the relevant application samples and as much information as possible about your application, we can recommend the best product type, diameter and installation to suit your needs.

Features

- Robust construction with tamper proof durable seal
- For air and fluid media lines
- Fast and simple installation
- 2-Ear version for extended clamping range
- Surface technique treated edges for less risk of damage to hose
- Tampering is visible



Actual size



OETIKER Twin Clamps

Product Group **108 & 158**



Features

- Parallel alignment of hoses, cables, pipes or rope connections
- Parallel alignment of unequal diameters and/or at different centre distances
- Surface technique treated edges for less risk of damage to hose
- Fast and simple installation
- Robust construction

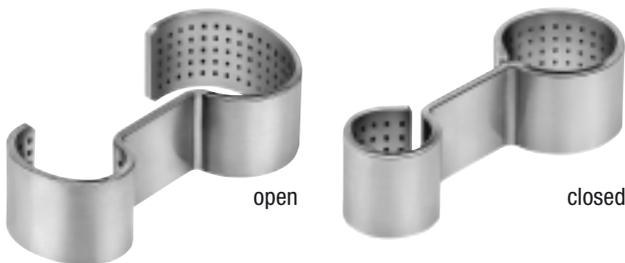
OETIKER twin clamps are available in open and closed versions. Both models are strong and designed for the sole purpose of parallel objects in place.

The closed clamp is mainly intended for industrial applications, i.e. for the parallel alignment of welding hoses, whereas the open clamp is suitable for instance in the automotive industry for fastening pipes, cables and hoses.

Both models are suitable for use as pre-assembled clips.

OETIKER Open Twin Clamps

Under Development



OETIKER open twin clamps are made from band steel and are wrapped around the parallel held objects.

Material

– **158** Stainless steel

Installation

Open twin clamps are placed in an axial position to the parallel objects which need to be held together. Both ends of the clamp will then be depressed individually or, in the case of different diameters, a specially designed installation device can be used.



OETIKER Closed Twin Clamps

OETIKER closed twin clamps are made as a complete unit, shaped from one piece of cut tube.



Material

– **108** Zinc plated steel DIN 1.0338 or SAE 1008/1010

Size range

5.0 - 23.0 mm

Installation

The closed twin clamps are placed in an axial direction over the objects which are to be held parallel. They are then depressed slightly in the middle using OETIKER pincers so that the clamp can no longer be moved laterally.



OETIKER will be happy to help you to make the right choice for your specific application. If you provide us with the relevant application samples and as much information as possible about your application, we can recommend the best product type, diameter and installation to suit your needs.

OETIKER

Self-Tensioning Clamps

OETIKER Stepless® Self-Tensioning Spring Clamps

Product Group **178**



OETIKER Stepless® self-tensioning spring clamps are specially designed for engine cooling systems (petrol and Diesel engines), particularly in conjunction with black EPDM and silicon hoses.

The narrowness of OETIKER constant tension clamps in relation to other clamps of this type, together with a low installation torque, combine to produce a strong uniform seal with the hose. The term "stepless" refers to the absence of steps or gaps on the inner circumference of the clamp. The ingenious stepless design provides uniform compression and a 360° seal.

As a rule, coolant leaks from vehicles occur when the engine is switched off and the relevant parts cool down. Components such as hoses, hose stems, etc shrink during this process and, up until now, clamps have not been able to respond to this contraction. This has led to permanent loss of coolant due to leakage, unnecessary damage to the environment and potential damage to the engine. OETIKER Stepless® self-tensioning spring clamps can prevent this as the design of this type of clamp enables it to adjust to the reduction in diameter described above and thus stop leaks.

Material

- 178 Band steel, spacer	
Retaining segments (D-nuts):	Stainless steel DIN 1.4301 or UNS S30400
Screw:	Stainless steel DIN 1.4310 or UNS S30200
Spring:	17-7PH (aircraft quality)

Size range	Width / Thickness
19.0 - 255.0 mm	9.0 x 0.6 mm

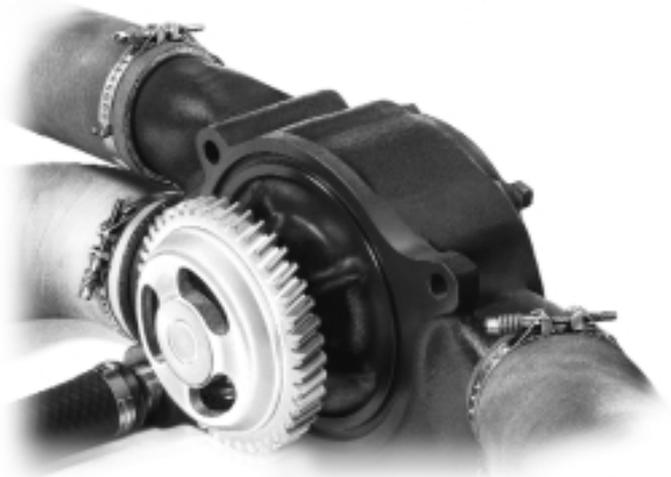
Installation

Torque guide and installation instructions on request.

OETIKER will be happy to help you to make the right choice for your specific application. If you provide us with the relevant application samples and as much information as possible about your application, we can recommend the best product type, diameter and installation to suit your needs.

Features

- Self-tensioning spring reacts to thermal cycle diameter changes to maintain a strong uniform seal to prevent leakage
- 360° stepless design – no steps or gaps on inner circumference
- Special smooth edged band steel for less risk of damage to hose
- Reusable
- Narrow band, concentrated seal compression
- Conforms to: SAE J1508 Type SSPC, TMC RP332 Type SSPC
- Multiple diameter settings



The design of OETIKER Stepless® self-tensioning spring clamps allows multiple diameter settings, thereby considerably increasing the range of diameter related applications of a single clamp.



OETIKER Self-Tensioning Clamps

Product group **167 & 168**



Features

- Resistance to extraordinary pressure and pull forces
- The combination of spring element and the OETIKER ear clamp guarantees a constant seal under most conditions, such as large variations in temperature, etc
- 360° stepless design – no steps or gaps on inner circumference
- Special smooth edged band steel for less risk of damage to hose

Following on from the success of OETIKER Stepless® self-tensioning spring clamps (product group 178), OETIKER developed also self-tensioning ear clamps. These are designed to compensate for thermally induced changes in diameter, variations in pressure and axial mechanical influences, thus fulfilling the ever increasing demands of modern technology.

A correspondingly strong spring element guarantees a constant spring force in the pretensioned clamp, adding the "self-tensioning" feature to well-known OETIKER clamps.

OETIKER Stepless® Self-Tensioning Ear Clamps

Product Group **167**

Suitable for all connections for which, even when allowing for the distortion of the ear, OETIKER standard ear clamps cannot provide the sufficient inherent force required. This can arise in the case of extreme variations of temperature or where pliable, thick-walled material such as silicon is being used. In these circumstances, an extra spring element may be necessary.

Material

– **167** Stainless steel, spring band steel

Installation

Installation instructions on request.

Under Development



OETIKER Stepless® Self-Tensioning Low Profile Clamps

Product Group **168**

An excellent, reusable solution for extremely demanding applications such as those encountered in the case of fuel filler neck hoses – variations in temperature, crash test resistance, etc.

Material

– **168** Stainless steel, spring band steel

Installation

Installation instructions on request.

Under Development



OETIKER will be happy to help you to make the right choice for your specific application. If you provide us with the relevant application samples and as much information as possible about your application, we can recommend the best product type, diameter and installation to suit your needs.

OETIKER Spring Band Clamps

Product Group **199**



Under Development

OETIKER Spring Band Clamps

Once development is completed, OETIKER intends to offer a self-tensioning clamp made from spring band steel. The design of this OETIKER clamp has another practical advantage in that it can be supplied "pretensioned" if required.

The design advantages of spring band clamps make them particularly well suited for hose connections in cooling, heating and ventilation systems. They can also be used as retaining clamps. The clamp's practically constant spring tension force will compensate for cold/heat load and shrinkage of the hose due to ageing.

Material

– 199 Spring band steel

Installation

Installation instructions on request.

Features

- Self-tensioning clamp, highly effective with temperature-induced changes in diameter
- When correctly fitted, uniform radial clamping force on circumference of hose
- Supplied pretensioned or expanded
- Special smooth edged band steel for less risk of damage to hose
- Reusable

OETIKER will be happy to help you to make the right choice for your specific application. If you provide us with the relevant application samples and as much information as possible about your application, we can recommend the best product type, diameter and installation to suit your needs.

OETIKER Multi Crimp Rings

Product Group **150**



Features

- Constant uniform circumferential compression
- Aluminium model – light weight
- Low profile – corresponding to gauge of material
- No imbalance on rotating parts
- Special smooth edged band steel for less risk of damage to hose
- Special shrinking device on request
- Made to customer specification if required
- Suitable for use as pre-assembled clamp connection



OETIKER Multi Crimp Rings are made from band steel, have a T-lock and their low profile makes them particularly suitable for large rotating parts as they have no protruding parts to obstruct the space surrounding the hose.

OETIKER Multi Crimp Rings must only be closed using tooling which have been specially developed for this purpose. The design of this tooling allows several Multi Crimp Rings to be closed simultaneously.

As well as their application for use on rotating components, OETIKER Multi Crimp Rings are suitable for fixing boots on steering gears, shock absorbers, coolant systems and ventilation systems as the profile of these rings is only limited by their material thickness.

Material

- 150 Aluminium DIN 3.3535 or
Stainless steel DIN 1.4301 or AISI 409

Size range

5.0 - 120.0 mm

Custom sizes on request.

Installation

Installation instructions on request.



In the size range ≤ 30 mm, OETIKER Multi Crimp Rings are available in stainless steel tube as a solid unit.

This model is used in the automotive industry, for other industrial applications and also in medical technology.



OETIKER will be happy to help you to make the right choice for your specific application. If you provide us with the relevant application samples and as much information as possible about your application, we can recommend the best product type, diameter and installation to suit your needs.

OETIKER Stepless® Screw Clamps

Product Group **178**



OETIKER Stepless® screw clamps are designed for extremely demanding applications where reusability and the assurance of a leak free seal is not compromised while tightening. This unique design draws the clamp band evenly around the circumference of the hose.

The narrowness of OETIKER constant tension clamps compared with other clamps of this type and a low installation torque combine to produce a strong uniform seal with the hose.

The term "stepless" refers to the absence of steps or gaps on the inner circumference of the clamp. The ingenious stepless design provides uniform compression and a 360° seal.

Already proven to seal medical grade tubing, thin-walled and/or hard synthetic material, etc, this model can also be custom made for individual applications.

Material

- **178** Band steel, spacer
- Retaining segments (D-nuts): Stainless steel
 DIN 1.4301 or UNS S30400
- Screw: Stainless steel
 DIN 1.4310 or UNS S30200

Size range *Width / Thickness*
18.0 - 255.0 mm 9.0 x 0.6 mm

Installation

Installation instructions on request.

Features

- 360° stepless design – no steps or gaps on inner circumference
- Special smooth edged band steel for less risk of damage to hose
- Reusable
- Narrow band, concentrated seal compression
- Conforms to: SAE J1508 Type SSPC
- Multiple diameter settings



OETIKER will be happy to help you to make the right choice for your specific application. If you provide us with the relevant application samples and as much information as possible about your application, we can recommend the best product type, diameter and installation to suit your needs.

OETIKER Worm Drive Clamps

Product Group **126 & 177**



Features

- Large clamping range
- Embossed clamp band – non-perforated
- Hexagonal slotted screw head (SW 7)
- Conforms to DIN 3017
- Specially curled band edge for less risk of damage to hose
- Choice of material to suit application



The embossed, non-perforated band on OETIKER worm drive clamps prevents radial damage to the hose. OETIKER worm drive clamps conform to all requirements of DIN 3017, in particular to the required installation torque.

OETIKER worm drive clamps can be used universally. Due to its wide clamping range, the same clamp size can be used for different hose diameters. The correct choice of material and the availability of a variety of band sizes enable worm drive clamps to be used at low and medium pressure.

Material

- **126 W2** = Band and housing: stainless chromated steel
DIN 1.4016, Hexagonal screw:
Zinc plated steel, yellow chromated
- **126 W2B** = Band and housing: stainless chromated steel
DIN 1.4016, Hexagonal screw:
Zinc plated steel, olive chromated
- **177 W4** = All parts: stainless steel
DIN 1.4301 (UNS S30400)

Size range

Size range	Width / Thickness
8.0 - 18.0 mm	7.5 x 0.6 mm
8.0 - 110.0 mm	9.0 x 0.7 mm (0.6 mm)
16.0 - 160.0 mm	12.0 / 13.0 x 0.8 / 1.0 mm

Installation

Installation instructions on request.

OETIKER will be happy to help you to make the right choice for your specific application. If you provide us with the relevant application samples and as much information as possible about your application, we can recommend the best product type, diameter and installation to suit your needs.



OETIKER Universal Clamps

Product Group **174**



The versatility of OETIKER universal clamps is second to none as they can be used as an alternative to most OETIKER clamps as long as pressure remains low.

OETIKER universal clamps are ideal for use as an alternative in maintenance and after sales, particularly in kit form.

Not suitable for high pressure applications!

Material

– 174 All parts stainless steel DIN 1.4301 or UNS S30400

Size range
≥ 35.0 mm

Width / Thickness
5.0 / 18.0 x 0.5 / 0.8 mm

Installation

Installation instructions on request.



Screw lock 18 mm

Screw lock 10 mm

Features

- Separate locks and perforated steel band
- Especially well suited to maintenance, after sales, prototype production
- Can be universally applied at various widths
- Supplied in kit form or to customer specification
- Specially designed band edge for less risk of damage to hose
- Reusable depending upon model
- Can be used as an alternative to most OETIKER clamps at low pressure



Ear Clamp Element



OETIKER will be happy to help you to make the right choice for your specific application. If you provide us with the relevant application samples and as much information as possible about your application, we can recommend the best product type, diameter and installation to suit your needs.



OETIKER Installation Tools

Product Group **139 & 141**

OETIKER Manual Pincers



Standard Jaw Pincers



Side Jaw Pincers



Narrow Jaw Pincers



Pincers for Low Profile Clamps

Other OETIKER installation tools on request.

OETIKER will be happy to advise you on tooling and clamp installation procedures. For serial clamping, OETIKER can supply connection and other special equipment which has been designed for use with individual OETIKER products and which can also be integrated into the process of assembly lines.

OETIKER Pneumatic Pincers

OETIKER recommends the use of pneumatic pincers and electronic timing equipment in order to guarantee correct installation and an even seal on all clamps, especially in serial clamping.



NEW

OETIKER Electronically Controlled Pneumatic Power Tool ELK 01

The OETIKER ELK 01, this technologically new closure design guarantees safe clamp installation whilst, at the same time, ensuring that all necessary parameters are observed. The ELK 01 combines the advantages of OETIKER 1-ear clamps – tolerance compensation of the whole connection, constant radial force and optimum roundness – with those of the OETIKER stepless clamps – 360° surface pressure with no overlaps. Details of any parameters which need to be observed will be obtained from the user in the form of a checklist and the values will be shown visually on the display. The OETIKER ELK 01 includes software, a control and pincer unit. Quantify, qualify, verify and install clamps with new electronically controlled pneumatic power tool OETIKER ELK 01.



OETIKER

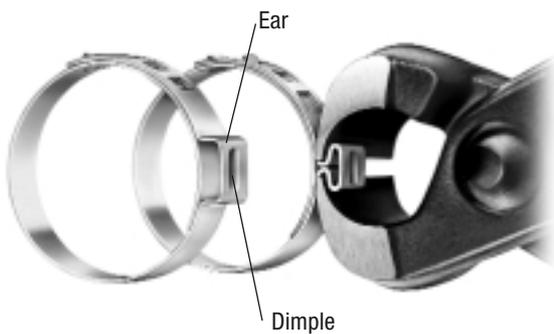
Instructions for Ear Clamp Installation



Careful selection and installation of an OETIKER clamp is important to ensure an even seal or connection. OETIKER can advise on and supply suitable tools. OETIKER ear clamps should only be used once and then discarded, the opening of the fitted clamp renders the product non-functional, tampering is visible.

OETIKER will be happy to help you to make the right choice for your specific application. If you provide us with the relevant application samples and as much information as possible about your application, we can recommend the best product type, diameter and installation to suit your needs.

As a general rule, the nominal size of clamp should be chosen so that when assembled on the connecting part (hose stem), the outside diameter of the hose lies approximately in the middle of the clamping range of the clamp (see also page 3 and price lists for OETIKER clamps). Please always quote the 8 digit article number when ordering.



Installation

Only OETIKER recommended tools must be used to close OETIKER clamp ears. It is also important that a constant stress should be applied to close OETIKER clamp ears. This method ensures positive stress on the hose which does not result in excessive compression or expansion of the band material.

Radial and Axial Clamp Installation

All ear clamp models which are also "stepless" and have a diameter ≥ 30 mm can be applied axially over the hose and radially as the hook lock on these clamps is easy to open. This enables it to be used on parts which are already installed as in repair and maintenance work.



Installation Techniques

Position clamp on hose fitted with hose stem.
Close clamp ear fully.

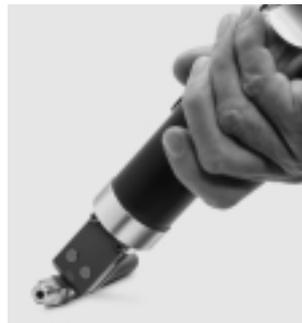


Permitted opening after closure

Using Standard Jaw Pincers



Using Side Jaw Pincers
– held parallel to hose



Using Pneumatic Pincers



To release clamp, position the pincers across the ear and cut through



To release stepless clamps, grip end of band with pincers and pull off.

Please contact OETIKER for further details about the correct installation of OETIKER Clamps and Rings. OETIKER would be happy to give individual advice about specific applications.

OETIKER International

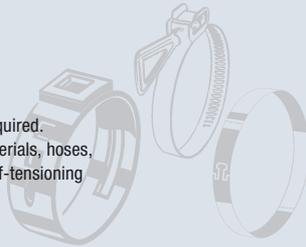
OETIKER Product Lines and Companies

Clamps and Rings

Permanent, tight connection will only be released if required.

For all clamping and pressure ranges, hard or soft materials, hoses, cables or ropes. Made from tube or band, stepless, self-tensioning or reusable. Also in rust and acid-resistant materials.

Simple and straightforward installation.



Couplings

Swing Couplings SC:

Safely swing to connect. Connects easily and quickly with no force required and no loss of pressure in the system. Full flow.

Quick Action Couplings SV:*

Fast and safe connection due to two-stage uncoupling.

Non-interchangeable and heavy duty ranges also available.



Hinged Steel Belts and Conveyor Chains*

Hinged Steel Belts:

In a wide range of pitches and widths. Flat, dimpled, perforated, slotted – customer-specific production.

Conveyor Chains:

Chains and sprockets for a wide variety of applications in industry and mechanical engineering. There are also rust, acid and heat-resistant versions.



Formed and Stamped Parts*

Holders, rings, special clamps, and many other fastening components for a wide variety of industries. Manufactured using multi-stage tools in presses with up to 4000 kN load capacity.



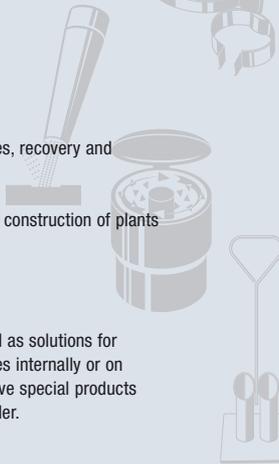
Sandblasting and Surface Technique*

Sandblasting Technique:

Sandblasting equipment, jet rooms and cubicles, recovery and filter plants, safety equipment.

ROTOL Surface Technique:

Deburring and polishing machines, design and construction of plants for rational surface treatment and finishing.



Special Products*

Research and development of products as well as solutions for them to be integrated into assembly procedures internally or on customer's request repeatedly lead to innovative special products such as the dismantlable OETIKER crutch holder.



* Not available in all countries

Internet: www.oetiker.com
www.oetiker.com

OETIKER
Connecting Technology

OETIKER has been developing connecting technology for over 60 years.

OETIKER products are manufactured by its own companies in line with ISO/TS 16949 and sold worldwide in over 40 countries. Numerous patents are proof of continuous innovation.

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