

# Technical Data Sheet

## 1-Ear Clamps, 2-Ear Clamps

### Product Group 153/154, 101 & 151

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Connecting Technology



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  $\geq 800$  h

PG 154  $\geq 800$  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.

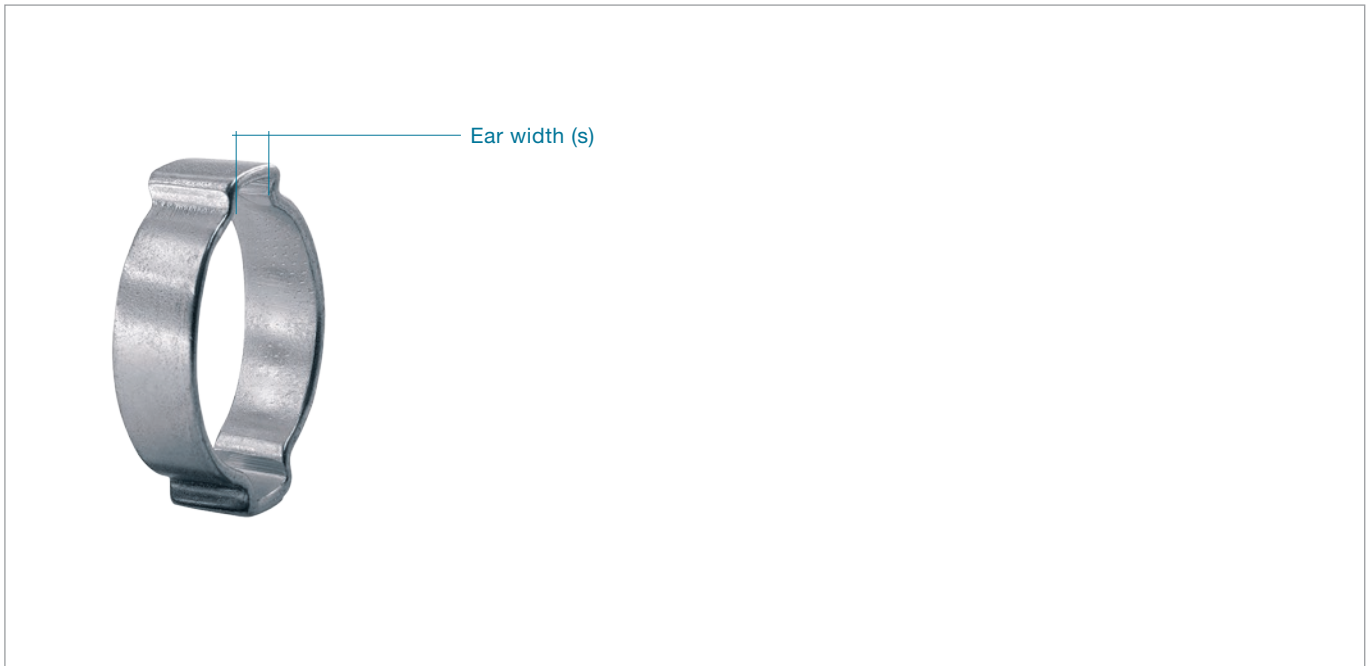
The maximum reduction in diameter is given by the formula:

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

### 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.

## Installation data

Size (mm)	Closing force max. (N)		Installation tools force-monitored <sup>1</sup> :			
	galvanized	stainless	Manual	Pneumatic	Cordless	Electronically controlled
<b>PG 153</b>						
3.3 – 11.0	-	1400	HMK 01/S01	HO ME 2000	CP 01	HO EL 2000
11.3 – 20.7	-	2300	HMK 01/S01	HO ME 3000	CP 01	HO EL 3000
21.0 – 30.7	-	2800	-	HO ME 3000	CP 01	HO EL 3000
<b>PG 154</b>						
3.3 – 11.8	-	1500	HMK 01/S01	HO ME 2000	CP 01	HO EL 2000
12.0 – 20.7	-	2500	HMK 01	HO ME 3000	CP 01	HO EL 3000
21.0 – 30.7	-	3600	-	HO ME 4000	CP 01	HO EL 4000
<b>PG 101 &amp; 151</b>						
4.1 – 20.0	2200	2500	HMK 01/S01	HO ME 3000	CP 01	HO EL 3000
22.0 – 46.0	3400	3600	-	HO ME 3000	CP 01	HO EL 4000

For an alternative option, see our manual pincers on page 104

<sup>1</sup> Further information on page 84

## Important note

These figures are intended as a guide, they may vary depending on the type and tolerances of parts being clamped. To ensure optimum clamp selection, we recommend making functional tests with several assemblies.

## Order information

Item No.	Ref. No.	Ear width inside (mm)	Size range (mm)	Item No.	Ref. No.	Ear width inside (mm)	Size range (mm)
1-Ear Clamps, stainless				1-Ear Clamps, stainless			
15300000	03.3R	1.4	2.9 – 3.3	15300021	13.3R	6.5	11.3 – 13.3
15300001	03.5R	1.4	3 – 3.5	15300022	13.8R	6.5	11.8 – 13.8
15300002	04.1R	2.5	3.3 – 4.1	15300023	14.0R	6.5	12 – 14
15300054	04.6R	3	3.8 – 4.6	15300024	14.5R	6.5	12.5 – 14.5
15300003	05.1R	3.2	4.1 – 5.1	15300025	15.0R	6.5	13 – 15
15300055	05.6R	3.2	4.6 – 5.6	15300026	15.5R	6.5	13.5 – 15.5
15300004	06.1R	3.2	5.1 – 6.1	15300027	16.0R	7	13.8 – 16
15300005	06.6R	3.2	5.6 – 6.6	15300028	16.5R	8	14 – 16.5
15300006	07.0R	3	6.1 – 7	15300029	16.8R	7	14.6 – 16.8
15300007	07.5R	3.5	6.5 – 7.5	15300030	17.5R	7	15.3 – 17.5
15300008	08.0R	4	6.8 – 8	15300031	18.5R	7	16.3 – 18.5
15300009	08.3R	4	7.1 – 8.3	15300032	19.5R	7.5	17.2 – 19.5
15300010	08.7R	4	7.5 – 8.7	15300033	20.0R	7.5	17.7 – 20
15300011	09.0R	5	7.5 – 9	15300034	20.7R	9	17.9 – 20.7
15300012	09.5R	5	8.1 – 9.5	15300035	21.0R	7.5	18.7 – 21
15300013	10.0R	5	8.5 – 10	15300036	21.8R	7.5	19.5 – 21.8
15300014	10.5R	5	9.1 – 10.5	15300037	22.5R	8.5	19.9 – 22.5
15300015	11.0R	5.5	9.3 – 11	15300038	23.5R	8.5	21 – 23.5
15300016	11.3R	5.5	9.6 – 11.3	15300040	24.5R	9	21.7 – 24.5
15300017	11.8R	5.5	10.1 – 11.8	15300041	25.5R	9	22.7 – 25.5
15300018	12.0R	6.5	10.1 – 12	15300043	26.3R	8.5	23.6 – 26.3
15300019	12.3R	6.5	10.3 – 12.3	15300044	27.0R	9.5	24.1 – 27
15300020	12.8R	6.5	10.8 – 12.8	15300045	30.7R	11	27.2 – 30.7

## Order information

Item No.	Ref. No.	Ear width inside (mm)	Size range (mm)	Item No.	Ref. No.	Size range (mm)
<b>1-Ear Clamps with insert, stainless</b>				<b>2-Ear Clamps, zinc-plated</b>		
15400010	03.3RER	1.4	2.5 – 2.9	10100000	0041	3.1 – 4.1
15400011	03.5RER	1.4	2.7 – 3.1	10100001	0045	3.5 – 4.5
15400012	04.1RER	2.5	2.9 – 3.7	10100002	0305	3.4 – 5
15400063	04.6RER	3	3.4 – 4.2	10100004	0507	5 – 7
15400013	05.1RER	3.2	3.7 – 4.7	10100008	0709	7 – 9
15400064	05.6RER	3.2	4.2 – 5.2	10100011	0811	8.1 – 11
15400014	06.1RER	3.2	4.7 – 5.7	10100016	1113	10.8 – 13
15400015	06.6RER	3.2	5.2 – 6.2	10100019	1315	12.5 – 15
15400016	07.0RER	3	5.6 – 6.5	10100022	1517	14 – 17
15400017	07.5RER	3.5	5.9 – 7	10100024	1518	15 – 18
15400018	08.0RER	4	6.3 – 7.5	10100097	1619	16 – 19
15400019	08.3RER	4	6.6 – 7.8	10100027	1720	16.2 – 20
15400020	08.7RER	4	7 – 8.2	10100029	1922	18 – 22
15400021	09.0RER	5	7 – 8.5	10100030	2023	19 – 23
15400022	09.5RER	5	7.5 – 9	10100032	2225	21 – 25
15400023	10.0RER	5	8 – 9.5	10100034	2327	22.5 – 27
15400024	10.5RER	5	8.5 – 10	10100035	2528	24 – 28
15400025	11.0RER	5.5	8.8 – 10.5	10100037	2731	26.3 – 31
15400026	11.3RER	5.5	9.1 – 10.8	10100041	3134	29.3 – 34
15400027	11.8RER	5.5	9.6 – 11.3	10100043	3437	32 – 37
15400028	12.0RER	6.5	9.5 – 11.5	10100045	3740	35 – 40
15400029	12.3RER	6.5	9.8 – 11.8	10100047	4043	37.6 – 43
15400030	12.8RER	6.5	10.3 – 12.3	10100049	4346	40.6 – 46
15400031	13.3RER	6.5	10.6 – 12.6	<b>2-Ear Clamps, stainless</b>		
15400032	13.8RER	6.5	11.1 – 13.1	15100000	0041R	3.1 – 4.1
15400033	14.0RER	6.5	11.3 – 13.3	15100001	0045R	3.5 – 4.5
15400034	14.5RER	6.5	11.8 – 13.8	15100002	0305R	3.4 – 5
15400035	15.0RER	6.5	12.3 – 14.3	15100003	0507R	5 – 7
15400036	15.5RER	6.5	12.8 – 14.8	15100004	0709R	7 – 9
15400037	16.0RER	7	13.1 – 15.3	15100023	0811R	8 – 11
15400038	16.5RER	8	13.2 – 15.8	15100006	1113R	11 – 13
15400039	16.8RER	7	13.9 – 16.1	15100007	1315R	12.5 – 15
15400040	17.5RER	7	14.6 – 16.8	15100008	1517R	14 – 17
15400041	18.5RER	7	15.6 – 17.8	15100009	1518R	15 – 18
15400042	19.5RER	7.5	16.5 – 18.8	15100010	1720R	16.2 – 20
15400043	20.0RER	7.5	17.1 – 19.3	15100011	1922R	18.1 – 22
15400044	20.7RER	9	17.1 – 20	15100012	2023R	19.1 – 23
15400045	21.0RER	7.5	18 – 20.3	15100013	2225R	21.1 – 25
15400046	21.8RER	7.5	18.8 – 21.1	15100014	2327R	22.5 – 27
15400065	22.5RER	8.5	19.2 – 21.8	15100015	2528R	24 – 28
15400048	23.5RER	8.5	20.2 – 22.8	15100016	2731R	26.3 – 31
15400049	24.5RER	9	21 – 23.8	15100018	3134R	29.3 – 34
15400050	25.5RER	9	22 – 24.8	15100019	3437R	32 – 37
15400051	26.3RER	8.5	23 – 25.6	15100020	3740R	35 – 40
15400052	27.0RER	9.5	23.3 – 26.3	15100021	4043R	37.6 – 43
15400053	30.7RER	11	26.5 – 30	15100022	4346R	40.6 – 46

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