

StepLess® Ear Clamps – Light Fit 123

Recommended for Home Appliances and various other Applications

Benefits

- Economical savings
- Corrosion resistant
- Uniform compression
- Fast and easy installation



Lighter band dimension: to save material

Closed tongue guidance: to enhance band strength

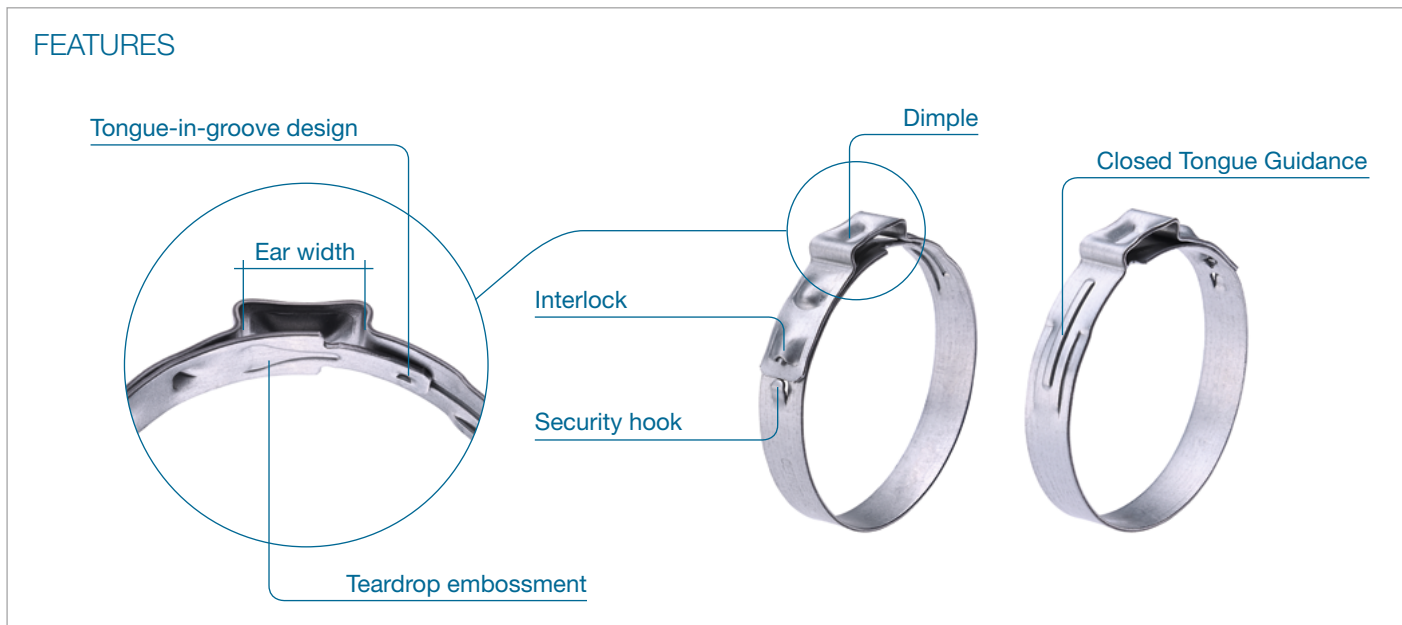
360° StepLess®: uniform compression and uniform surface pressure

Closed interlock: high radial loads, smooth outer contour

Dimple and teardrop embossment: to increase clamping force

Security hook: to prevent unintended opening during transport





StepLess® Ear Clamps – Light Fit 123

TECHNICAL DATA OVERVIEW

Material

123 High strength steel, material no. 1.0934
Zinc-magnesium coated

Standard Series

Size range	width x thickness	ear width
18.0 – 65.0 mm	7.0 x 0.6 mm	10.7 mm

Corrosion resistance according to DIN EN ISO 9227

> 144 h

PRODUCT DESCRIPTION

Oetiker StepLess® Ear Clamps – Light Fit 123 are designed for various industrial applications including White Goods as well as other suitable applications, where an optimum balance between reliable performance and economic efficiency is critical.

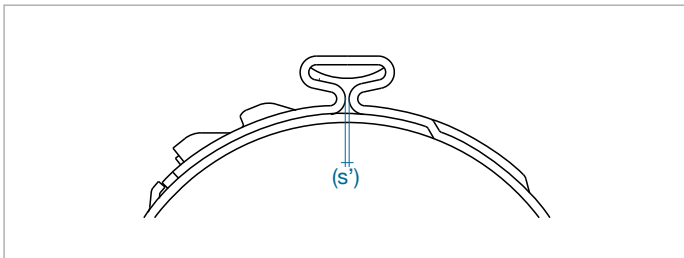
Material dimension

Light Fit 123 band dimension (7 × 0.6 mm) is optimized according to the requirement of target applications.

Clamp Ear

Light Fit 123 clamp ear is optimized for higher strength so as to retain higher radial force. 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). The theoretical maximum reduction in diameter is given by the formula:

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



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

Closed interlock

Closed interlock structure enhanced the strength of band at the interlock area and therefore enables a higher closing force for installation and a higher performance.

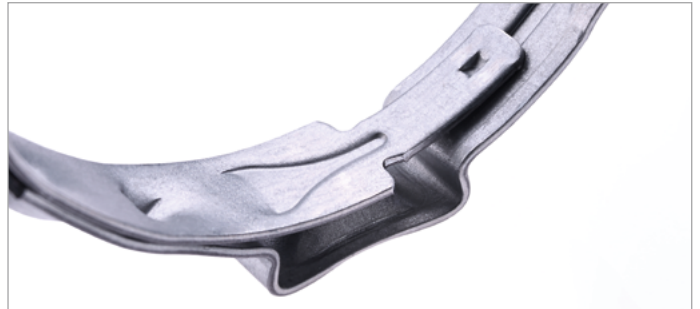
Security hook

The standard series will be delivered with security hook which prevents the clamp from unintentional opening. Optionally the clamps can be ordered without security hook.



Teardrop

The Teardrop stabilizes the band structure under the ear and helps retraining radial force.



Closed tongue guidance design for StepLess® feature

The clamp has a special recess for tongue-in-groove design. The tongue is guided via a closed structure into the recess. StepLess® feature is implemented when the tongue slides into the groove. Furthermore, the closed structure enhanced the band strength and also provides a smooth outer contour.



Block closure

Block closure is when the assembly force fully closes the ear, resulting in both ear legs touching (vertical members between the ear dimple and clamp radius). When this occurs the assembly force is absorbed by compressing the legs rather than transferring the assembly forces to the parts being clamped. If assembly forces are going to be measured, a block closure must be avoided. The block closure might not be seen after the finish of closure, because the two ear legs can be opened a little bit by the spring back force from the hose.

Closing force

As a matter of principle, the closing force selection is closely related to the desired compression or surface pressure of the material to be assembled. The resistance against the clamp corresponds to the applied force, so that the defined closing force is significantly reduced if soft materials are compressed. The maximum closing forces are displayed in the table of this datasheet, depending on the material dimension.

ASSEMBLY RECOMMENDATION

The clamp’s ear should be closed at a uniform rate not exceeding the recommended maximum closing force. This will ensure clamp tension remains constant without overloading individual components of the assembly being joined, and of the clamps. Oetiker calls this assembly method “force priority”. Force priority ensures that tolerance compensating features of the clamp remain functional for every assembly. This ensures the resulting radial force remain approximately

the same for every assembly, independent of any component’s dimensional fluctuation. Clamp installation monitoring and process data collection are available by incorporating the “Electronically Controlled Pneumatic Power Tool” Oetiker ELK in the assembly process.

Disassembly

For disassembly the Oetiker HCC 2000 is recommended.

ASSEMBLY TOOLS

Material dimensions (mm)	Size (mm)	Ear width (mm)	Closing force max. (N)	Assembly tools, force-monitored:			
				Manual	Pneumatic	Cordless	Electronically controlled
7.0 x 0.6	18.0 – 65.0	10.7	1800	HMK 01 Clamping tool and Torque wrench	HO2000 – HO4000	CP10	HO2000EL – HO4000EL

! Notice: 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

High strength steel, coating: zinc-magnesium coated
Band width 7 mm, thickness 0.6 mm (706)

Item No.	Ref. No.	Ear width inside (mm)	Size range (mm)	Item No.	Ref. No.	Ear width inside (mm)	Size range (mm)
12301055	018.0-706	10.7	14.6 - 18.0	12301062	038.0-706	10.7	34.6 - 38.0
12301069	018.5-706	10.7	15.1 - 18.5	12301104	038.5-706	10.7	35.1 - 38.5
12301070	019.0-706	10.7	15.6 - 19.0	12301105	039.0-706	10.7	35.6 - 39.0
12301071	019.5-706	10.7	16.1 - 19.5	12301106	039.5-706	10.7	36.1 - 39.5
12301072	020.0-706	10.7	16.6 - 20.0	12301107	040.0-706	10.7	36.6 - 40.0
12301073	020.5-706	10.7	17.1 - 20.5	12301108	040.5-706	10.7	37.1 - 40.5
12301074	021.0-706	10.7	17.6 - 21.0	12301109	041.0-706	10.7	37.6 - 41.0
12301075	021.5-706	10.7	18.1 - 21.5	12301110	041.5-706	10.7	38.1 - 41.5
12301076	022.0-706	10.7	18.6 - 22.0	12301111	042.0-706	10.7	38.6 - 42.0
12301077	022.5-706	10.7	19.1 - 22.5	12301112	042.5-706	10.7	39.1 - 42.5
12301078	023.0-706	10.7	19.6 - 23.0	12301113	043.0-706	10.7	39.6 - 43.0
12301079	023.5-706	10.7	20.1 - 23.5	12301114	043.5-706	10.7	40.1 - 43.5
12301067	024.0-706	10.7	20.6 - 24.0	12301115	044.0-706	10.7	40.6 - 44.0
12301057	024.5-706	10.7	21.1 - 24.5	12301116	044.5-706	10.7	41.1 - 44.5
12301054	025.0-706	10.7	21.6 - 25.0	12301117	045.0-706	10.7	41.6 - 45.0
12301080	025.5-706	10.7	22.1 - 25.5	12301118	045.5-706	10.7	42.1 - 45.5
12301081	026.0-706	10.7	22.6 - 26.0	12301119	046.0-706	10.7	42.6 - 46.0
12301082	026.5-706	10.7	23.1 - 26.5	12301120	046.5-706	10.7	43.1 - 46.5
12301083	027.0-706	10.7	23.6 - 27.0	12301121	047.0-706	10.7	43.6 - 47.0
12301084	027.5-706	10.7	24.1 - 27.5	12301122	047.5-706	10.7	44.1 - 47.5
12301085	028.0-706	10.7	24.6 - 28.0	12301123	048.0-706	10.7	44.6 - 48.0
12301086	028.5-706	10.7	25.1 - 28.5	12301124	048.5-706	10.7	45.1 - 48.5
12301087	029.0-706	10.7	25.6 - 29.0	12301125	049.0-706	10.7	45.6 - 49.0
12301088	029.5-706	10.7	26.1 - 29.5	12301126	049.5-706	10.7	46.1 - 49.5
12301089	030.0-706	10.7	26.6 - 30.0	12301127	050.0-706	10.7	46.6 - 50.0
12301090	030.5-706	10.7	27.1 - 30.5	12301128	050.5-706	10.7	47.1 - 50.5
12301091	031.0-706	10.7	27.6 - 31.0	12301129	051.0-706	10.7	47.6 - 51.0
12301061	031.5-706	10.7	28.1 - 31.5	12301130	051.5-706	10.7	48.1 - 51.5
12301092	032.0-706	10.7	28.6 - 32.0	12301131	052.0-706	10.7	48.6 - 52.0
12301093	032.5-706	10.7	29.1 - 32.5	12301132	052.5-706	10.7	49.1 - 52.5
12301094	033.0-706	10.7	29.6 - 33.0	12301133	053.0-706	10.7	49.6 - 53.0
12301095	033.5-706	10.7	30.1 - 33.5	12301134	053.5-706	10.7	50.1 - 53.5
12301096	034.0-706	10.7	30.6 - 34.0	12301135	054.0-706	10.7	50.6 - 54.0
12301097	034.5-706	10.7	31.1 - 34.5	12301136	054.5-706	10.7	51.1 - 54.5
12301098	035.0-706	10.7	31.6 - 35.0	12301137	055.0-706	10.7	51.6 - 55.0
12301099	035.5-706	10.7	32.1 - 35.5	12301138	055.5-706	10.7	52.1 - 55.5
12301100	036.0-706	10.7	32.6 - 36.0	12301139	056.0-706	10.7	52.6 - 56.0
12301101	036.5-706	10.7	33.1 - 36.5	12301140	056.5-706	10.7	53.1 - 56.5
12301102	037.0-706	10.7	33.6 - 37.0	12301141	057.0-706	10.7	53.6 - 57.0
12301103	037.5-706	10.7	34.1 - 37.5	12301060	057.5-706	10.7	54.1 - 57.5

ORDER INFORMATION

High strength steel, coating: zinc-magnesium coated
 Band width 7 mm, thickness 0.6 mm (706)

Item No.	Ref. No.	Ear width inside (mm)	Size range (mm)
12301143	058.0-706	10.7	54.6 - 58.0
12301144	058.5-706	10.7	55.1 - 58.5
12301145	059.0-706	10.7	55.6 - 59.0
12301058	059.5-706	10.7	56.1 - 59.5
12301056	060.0-706	10.7	56.6 - 60.0
12301146	060.5-706	10.7	57.1 - 60.5
12301147	061.0-706	10.7	57.6 - 61.0
12301148	061.5-706	10.7	58.1 - 61.5
12301149	062.0-706	10.7	58.6 - 62.0
12301150	062.5-706	10.7	59.1 - 62.5
12301151	063.0-706	10.7	59.6 - 63.0
12301152	063.5-706	10.7	60.1 - 63.5
12301153	064.0-706	10.7	60.6 - 64.0
12301154	064.5-706	10.7	61.1 - 64.5
12301155	065.0-706	10.7	61.6 - 65.0

The above part numbers represent the standard product range. For more information, including pricing and availability schedule, please check with your Oetiker contact.