

**TFURTHER**<sup>®</sup>



## Manual for Ear Clamps



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NINGBO TWIN CLAMP CO.,LTD.

# NINGBO TOWIN CLAMPS CO., LTD.

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*Start your unexpected trip from here...*



**TOWIN is dedicated to produce the stepless ear clamps, and is the most professional manufacturer in China.**

**You:** Customer is first and honored; we are happy when customer is happy; we are worried when customer is worried;

**Around you:** With APP ordering system and fast global delivery, massive inventory is in your control. With suitable price system, you can ride the wind and waves in the Red Sea!

**Hose Clamps:** Create a more refined, more complete and stronger supply system.

**Expert:** 10 years of fine industry, and the great love of detail, let the quality lasts forever.

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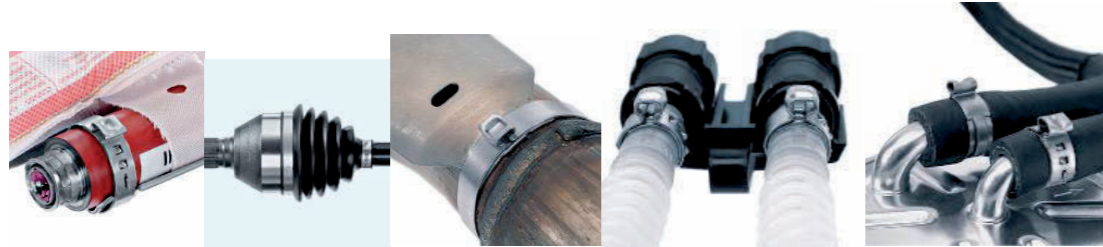
## TOWIN Concept:

### Customer Concept of TOWIN:

Help you can use, easy to use, want to use, and use for a long term.

### —Application Example

Typical areas of use: automotive pipelines, household appliance pipelines, trade exports, machinery and equipment.



### —Solution

TOWIN stepless clamps have no steps or gaps on their inner circumference. The metal tongue is inserted into the corresponding groove. The inner circumference forms a 360 degree seal on the hose surface when in use, and gives an optimum roundness. This allows extremely soft, complex or irregular surface of hose can be easily connected.

### —Safer, More Efficient, and More Stable Installation Methods

In order to enable customers to install more efficiently, TOWIN has especially developed a pneumatic clamp installation device and automatic scheduling lines so that the maximum speed reaches only two seconds, greatly saves the labor costs.



TOWIN recommended installation system

### —TOWIN After-sales Service:

Hose clamp is a kind of accessory, but TOWIN takes the lead to apply the after-sale service in the accessory, every sold-out hose clamp is regarded as an expensive device to treat and serve. It breaks the concept of traditional manufacturer, namely “the transaction is finished as long as the product leaves the factory”, which for us, the delivery of products is just the beginning of the second stage of business. From the factory to the package, and transportation, to the complete acceptance; to use, until the product is applied to the customer's product, it shall be the completion! Such babysitter service makes customers more comfortable and satisfactory!

### —Long-term Strategic Partners

**Panasonic**

**MITSUBISHI  
CHEMICAL**

**SIEMENS**

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## TOWIN Clamps Technical Data:

### 1、Chemical Composition

数据: (单位: mg/kg)

测试项目	测试结果
铬 (Cr)	$1.84 \times 10^5$
镍 (Ni)	$8.36 \times 10^5$

备注: mg/kg = ppm

### Cover with HD inspection report

TOWIN Stepless Ear Clamps are produced from austenitic grades of stainless steel. The primary composition being UNS S30400 / DIN 1.4301, an 18% chromium, 8% nickel alloy that is cold worked at the material processing and clamp manufacturing stages. This material exhibits exceptional properties such as toughness and ductility, providing good forming characteristics required for the clamp installation process. This chemistry provides excellent corrosion resistance to a wide variety of corrosive environments. Alternative materials with elevated nickel contents are available for resistance to concentrated chloride or acidic exposure.

### 2、Edge condition:



Other company



TOWIN Clamp

The unique strip grinding technology strictly guarantees the smooth edge of the clamp band and greatly reduces the potential factors of damage to the surface of the hose material.



Damage to the rubber hose caused by the use of unedging hose clamp

### 3、Tolerance Compensation:

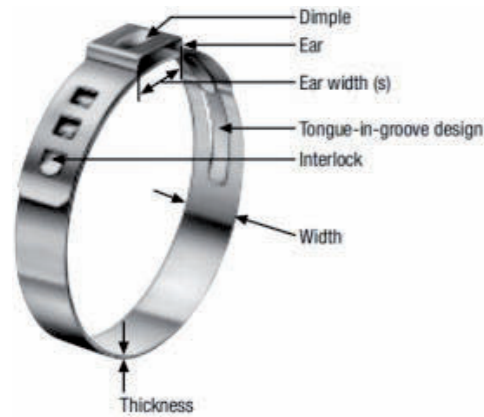
By closing the clamp ear with a recommended, uniform force with force priority: component tolerances within the working range of a Stepless Ear Clamp can be compensated. To achieve this, the ear gap must vary according to the actual size of the parts. For perfect sealing, ear clamps must be closed correctly.



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## Technical Data

### Stepless Ear Clamps



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.

There is a structure of “dimple” on the “ear” to reinforce the clamped “ear” becomes adjustable.

When the pipe fittings are affected by thermal

expansion and contraction or mechanical vibration, the clamping force of the clamp can be increased or adjusted like a spring effect, to ensure the effective and continuous clamping effect.

Standard series Stepless Ear Clamps are specially well suited to applications involving both flexible and inflexible thin-walled hoses with high “shore” hardness.

#### Features

1. Narrow band: concentrated seal compression, light weight, visible tampering
2. 360° stepless Design – no steps or gaps on inner circumference
3. Ear width: the deformation size can compensate the hose tolerance, to adjust the surface pressure, and control a tight effect.
4. Dimple: 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 influence. Specially formed strip edges reduce the risk of damage to the part being clamped .

Varieties of ear clamps series to meet different needs of customers



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## 1、Stepless Ear clamps

(Note: stainless steel series are in inventory supply)

Band width: 5MM , thickness: 0.5MM

Item No.	Size range	Ear width	Closing force	PCS/box	Weight(g/pcs)
S5065	5.3-6.5	4	1000N	20,000	0.82
S5070	5.8-7.0	4	1000N	20,000	0.885
S5080	6.8-8.0	4	1000N	20,000	0.92
S5087	7.0-8.7	5.5	1000N	20,000	1.032
S5090	7.3-9.0	5.5	1000N	20,000	0.98
S5095	7.8-9.5	5.5	1000N	20,000	1.098
S5100	8.3-10.0	5.5	1000N	10,000	1.03
S5105	8.8-10.5	5.5	1000N	10,000	1.08
S5109	9.2-10.9	5.5	1000N	10,000	1.10
S5113	9.6-11.3	5.5	1000N	10,000	1.20
S5118	10.1-11.8	5.5	2100N	10,000	1.23

Band width:7MM, thickness: 0.6 MM

Item No.	Size range	Ear width	Closing force	PCS/box	Weight(g/pcs)
S7119	9.4-11.9	8	2100N	5000	2.39
S7123	9.8-12.3	8	2100N	5000	2.41
S7128	10.3-12.8	8	2100N	5000	2.44
S7133	10.8-13.3	8	2100N	5000	2.47
S7138	11.3-13.8	8	2100N	5000	2.50
S7140	11.5-14.0	8	2100N	5000	2.52
S7142	11.7-14.2	8	2100N	5000	2.53
S7145	12.0-14.5	8	2100N	5000	2.60
S7148	12.3-14.8	8	2100N	5000	2.64
S7153	12.8-15.3	8	2100N	5000	2.70
S7157	13.2-15.7	8	2100N	5000	2.71
S7160	13.5-16.0	8	2100N	5000	2.80
S7162	13.7-16.2	8	2100N	5000	2.83
S7166	14.1-16.6	8	2100N	5000	3.18
S7168	14.3-16.8	8	2100N	5000	3.20
S7170	14.5-17.0	8	2100N	5000	3.08
S7175	15.0-17.5	8	2100N	5000	3.20
S7178	14.6-17.8	10	2400N	5000	3.20
S7180	14.8-18.0	10	2400N	5000	3.20
S7185	15.3-18.5	10	2400N	5000	3.20
S7192	16.0-19.2	10	2400N	5000	3.33
S7198	16.6-19.8	10	2400N	5000	3.43
S7210	17.8-21.0	10	2400N	5000	3.60
S7226	19.4-22.6	10	2400N	5000	3.68
S7235	20.3-23.5	10	2400N	5000	3.70

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Item No.	Size range	Ear width	Closing force	PCS/box	Weight(g/pcs)
S7241	20.9-24.1	10	2400N	5000	3.79
S7256	22.4-25.6	10	2400N	5000	4.03
S7271	23.9-27.1	10	2400N	5000	4.27
S7286	25.4-28.6	10	2400N	5000	4.00
S7301	26.9-30.1	10	2400N	5000	4.448
S7308	27.6-30.8	10	2400N	2000	4.56
S7316	28.4-31.6	10	2400N	2000	4.63
S7331	29.9-33.1	10	2400N	2000	4.73
S7346	31.4-34.6	10	2400N	2000	5.01
S7361	32.9-36.1	10	2400N	2000	4.94
S7376	34.4-37.6	10	2400N	2000	5.01
S7381	34.9-38.1	10	2400N	2000	5.07
S7396	36.4-39.6	10	2400N	2000	5.14
S7410	37.8-41.0	10	2400N	1000	5.35
S7425	39.3-42.5	10	2400N	1000	5.58
S7440	40.8-44.0	10	2400N	1000	5.81
S7455	42.3-45.5	10	2400N	1000	6.01
S7470	43.8-47.0	10	2400N	1000	6.235
S7485	45.3-48.5	10	2400N	1000	6.37
S7500	46.8-50.0	10	2400N	1000	6.51
S7515	48.3-51.5	10	2400N	1000	6.675
S7530	49.8-53.0	10	2400N	1000	6.84
S7545	51.3-54.5	10	2400N	1000	7.01
S7560	52.8-56.0	10	2400N	1000	7.17
S7575	54.3-57.5	10	2400N	1000	7.335
S7590	55.8-59.0	10	2400N	1000	7.50
S7605	57.3-60.5	10	2400N	1000	7.665
S7092	88.8-92.0	10	2400N	500	11.14

### Standard Series

Size Band Width \*Thickness

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

Size Band Width \*Thickness

24.5 - 120.5 mm 10.0 x 0.8 mm

62.0 - 120.5 mm 10.0 x 1.0 mm

Other diameters available on request

Size of the heavy duty series ranges from 24.5 to 120.5 mm, these clamps are available in 0.5mm steps on request.

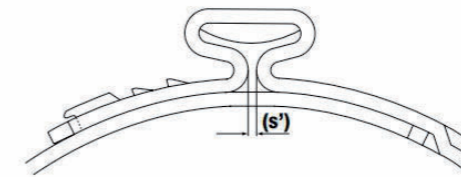
These figures may vary depending on type and tolerances of the products being clamped. To ensure the best clamping condition, we recommend making functional tests with several assemblies to achieve the best selection.

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## How to Choose the Right Model?

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.

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



Note: The above sketch symbolizes a closed "ear" (s') geometry and is not necessarily indicative of an effective closed assembly.

As a rule, the clamp nominal diameter should be selected so that the outside diameter of the hose, after it has been pushed on to the component to which it is to be fastened (e.g. a hose nipple), is approximately in the middle of the diameter range of the chosen clamp.

### Ear closing

A clamp can only be considered adequately closed when the ear width (s) has been reduced by at least 40%, and the correct closing force was used for assembly.

### Mechanical interlock

The interlock is a mechanically jointed design for securing the clamp in the round condition. The strength of the lock is a calculation based on the mechanical properties of the raw material and the smallest cross sectional area through the clamp. Individual interlock designs can be opened for radial installation prior to closure.

### Closing force

The closing force is a factor established by the preferred material compression or surface pressure and should be qualified through dimensional evaluations and experimentation. The resistance against the clamp should equal the applied force, therefore, when compressing malleable material the closing force is greatly reduced.

The following is the comparison of theoretical clamp selection: (some commonly used)

Material diameter	Item No.	Material diameter	Item No.	Material diameter	Item No.
7.0+1.0/-0.5	S5080	17.0+1.0/-0.5	S7175	12.5	S7128
8.4+1.0/-0.5	S5090	18.0+1.0/-0.5	S7185	14.1	S7145
9.4+1.0/-0.5	S5100	19.0+1.0/-0.6	S7198	15.7	S7162
10.6+1.0/-0.5	S5113	20.0+1.0/-0.6	S7210	18.1	S7185
11.6+1.0/-0.5	S7123	22.0+1.0/-0.6	S7226	18.9	S7192
13.0+1.0/-0.5	S7138	23.0+1.0/-0.6	S7235	21.5	S7226
14.0+1.0/-0.5	S7145			24.7	S7265
15.0+1.0/-0.5	S7153			28.6	S7296
16.0+1.0/-0.5	S7162			31.8	S7331

Silicone tube

Silicone tube

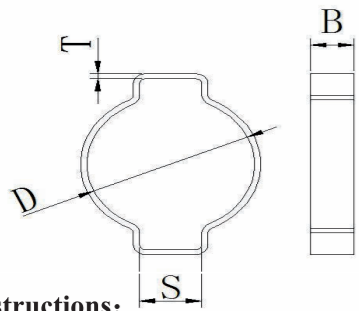
Other tube

Remarks: If the extra large tube is more than 100, the stepless ear clamps can also be used. The pressure measurement needs to be confirmed by TOWIN before it can be used normally.

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## 2、2-Ear Clamps (Note: zinc-plated steel series are in inventory supply)

### Series 1: 2-ear clamps, zinc-plated steel



**Instructions:**

This ear clamp is specially made of high-quality seamless steel tube, the surface is made of high-quality galvanized steel. It has good sealing, strong clamping force and not easy to loose. This clamp is widely used in fastening oxygen transmission and liquid pipeline joints.

**Surface treatment types:**

White zinc, color zinc and nickel plating, etc. Compared with other ear clamps, 2-ear design gives greater adjustment range and clamping range. The thicker material of steel band has a larger clamping force and can effectively prevent loosening in the flow of high-pressure gas liquid. It is widely used in household appliance pipes, automobile pipes, mechanical and hydraulic pipes.



**Application example of 2-Ear clamps**

Item No./D	Band width/B	Thick/T	Ear width/S	MIN	MAX	
5-7	7	0.7	2.4	5	7	
7-9			3.2	7	9	
9-11			3.5	9	11	
11-13	7.5	1	4.3	11	13	
13-15			4.3	13	15	
15-18			4.3	15	18	
17-20	9	1.2	5.0	17	20	
20-23			1.3	5.8	20	23
22-25				6.5	22	25
23-27	1.4	6.5		23	27	
25-28		6.5	25	28		
28-31		6.5	28	31		
31-34	9.5	1.5	6.5	31	34	
34-37			6.5	34	37	
37-40			7.0	37	40	
40-43	9.5	1.5	7.5	40	43	
43-47			7.5	43	47	

Unit: mm

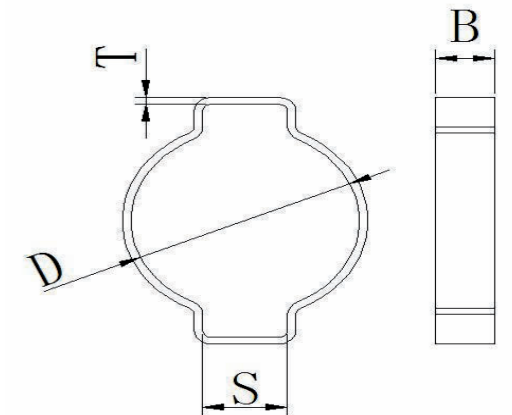
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### Series 2、2-ear clamps, stainless steel:

Common material: SUS304

Name	Size range	Band width	Thickness	Ear width	Closing force	Weight (g/pcs)
2-ear clamps of stainless steel 304	5-7	7	0.6	3.3	3600N	0.8
	7-9	7	0.7	3.3	3600N	1.3
	9-11	7	0.7	4	3600N	1.8
	11-13	7	0.7	4	3600N	2.0
	13-15	7	0.8	4.5	3600N	2.6
	14-17	7	0.9	4.5	3600N	3.5
	15-18	7.5	0.9	5	3600N	3.9
	17-20	7.5	0.9	5.5	3600N	4.8
	20-23	8	0.9	6.5	3600N	5.3
	22-25	8	0.9	7	3600N	6.3
	23-27	8.5	1.0	8	3600N	7.5
	25-28	9	1.2	10	3600N	8.6
	28-31	10	1.2	10	3600N	10
	31-34	10	1.2	10	3600N	11
	34-37	10	1.2	10	3600N	12.3
	37-40	10	1.2	10	3600N	14.5

**Installation methods: (for stainless steel and carbon steel)**

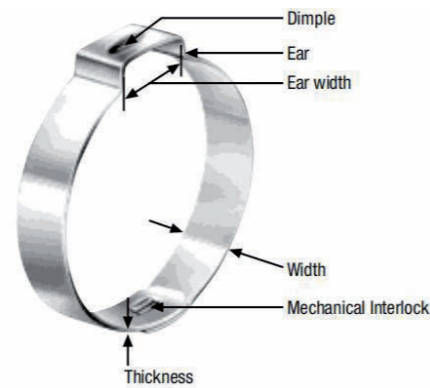
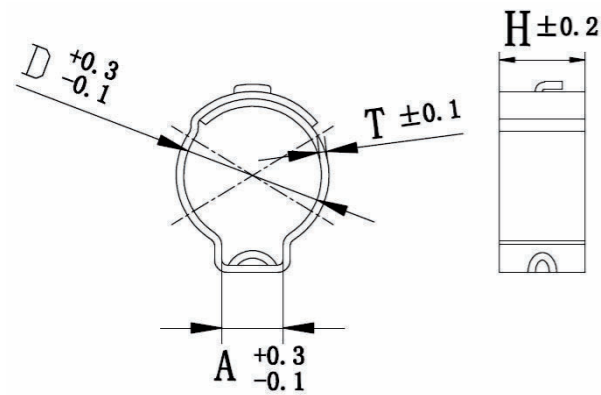


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### 3、 1-Ear Clamps with Mechanical Interlock

(Note: stainless steel series are in inventory supply)

Material: stainless steel SUS304 (7\*0.6MM) / zinc-plated steel (thickness0.8MM)



Features: The weight is lighter and the price is lower if the quantity is large.

The commonly used sizes below 36.1 have ready-made molds, small sizes are all available in stock.



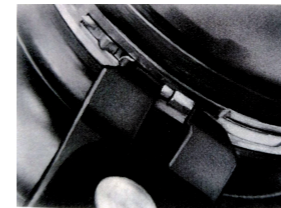
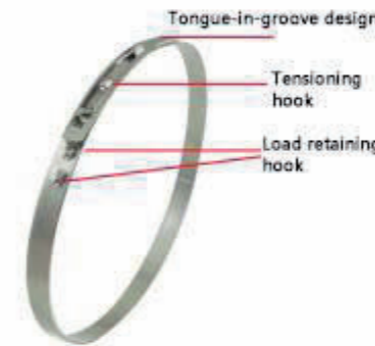
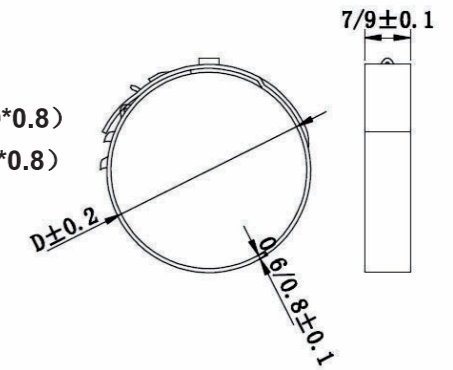
No.	Size range	Ear width (mm)	Closing force	Weight (g)
5105	8.8-10.5	5	1200N	1.45
5113	9.6-11.3	6	1200N	1.46
7123	9.8-12.3	6	1200N	1.47
7133	10.8-13.3	6.5	1200N	1.48
7138	11.3-13.8	6	1200N	1.5
7140	11.5-14.0	6.5	1200N	1.75
7145	12.0-14.5	6	1200N	1.75
7157	13.2-15.7	7	1200N	1.90
7170	14.5-17.0	6	1200N	1.98
7185	15.3-18.5	9	2000N	2.0
7192	16.0-19.2	9	2000N	2.1
7198	16.6-19.8	9	2000N	2.1
7210	17.8-21.0	9	2000N	2.26
7226	19.4-22.6	9	2000N	2.42
7241	20.9-24.1	9	2000N	2.58
7256	22.4-25.6	9	2000N	2.74
7271	23.9-27.1	10	2000N	2.9
7286	25.4-28.6	10	2000N	3.06
7301	26.9-30.1	10	2000N	3.22
7316	28.4-31.6	10	2000N	3.38
7331	29.9-33.1	10	2000N	3.54

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### 4、 Stepless Low Profile Clamps

Material: SUS304 (band width\*thickness: 7\*0.6 9\*0.8)

Zinc-plated (band width\*thickness: 7\*0.8 9\*0.8)



Installation methods: or use pneumatic ( TM3000/ TM7000 ) and manual pincers to install or remove. Products are reusable.

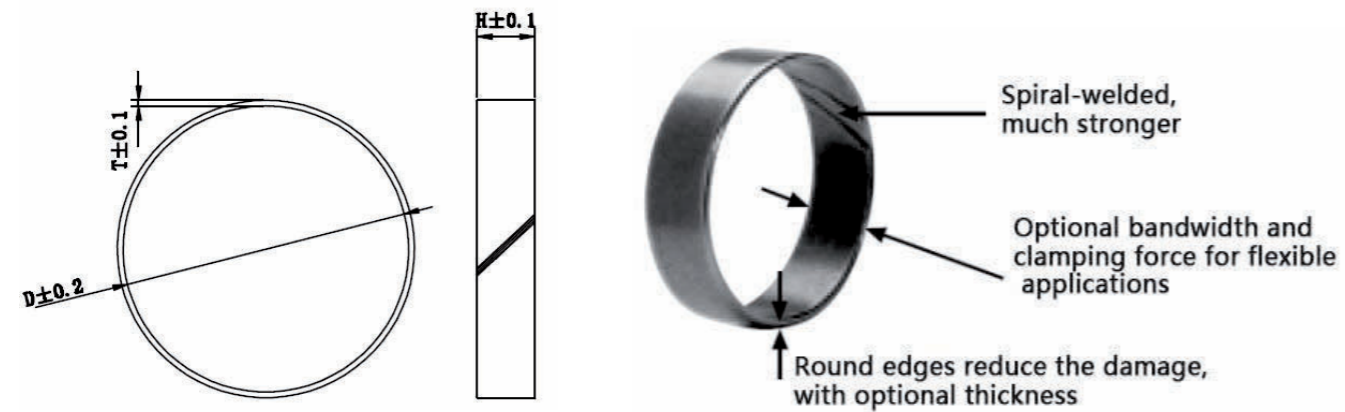
**Features:**

The stepless low profile clamps with tolerance compensation can be reused within a limited range. They can be installed axially or radially, and are also reusable-they can be repeatedly opened and reinstalled, e.g. in the vehicle industry for service and maintenance work. When removing the clamps, the pincer jaws must aim at the grooves at both ends and apply force. The applied force slightly reduces the diameter of the clamp and releases the hook from the groove. Space saving: The stepless low profile clamps have been specially developed for applications where space or clearance is restricted. They have a low installed height in the closure area, and can be supplied in very small nominal diameter steps. At the same time, the need to compensate for the tolerance of the clamped parts is taken into account.

Size (7*0.6)	Upon delivery	Closed diameter
0600-706	64.6	60
0605-706	64.9	60.5
0610-706	65.4	61
0615-706	65.9	61.5
0620-706	66.4	62
0625-706	66.9	62.5
0630-706	67.4	63
0635-706	67.9	63.5
0640-706	68.4	64
0645-706	68.9	64.5
0650-706	69.4	65
0655-706	69.9	65.5
0660-706	70.4	66
0665-706	70.9	66.5
0670-706	71.4	67
0675-706	71.9	67.5
06380-706	72.4	68
0685-706	72.9	68.5
0690-706	73.4	69
0695-706	73.9	69.5
0700-706	74.4	70
0705-706	74.9	70.5
0710-706	75.4	71
0715-706	75.9	71.5
0720-706	76.4	72
0725-706	76.9	72.5
0730-706	77.4	73
0735-706	77.9	73.5
0740-706	78.4	74
0745-706	78.9	74.5

## 5、Stainless Steel Crimp Rings

Material: stainless steel SUS304 (band width\*thickness: 9\*1.0 )



Large sizes:

Size	Clamping range
52.5	46.5 - 52
53	47 - 52.5
53.5	47.5 - 53
54	48 - 53.5
54.5	48.5 - 54
55	49 - 54.5
55.5	49.5 - 55
56	50 - 55.5
56.5	50.5 - 56
57	51 - 56.5
57.5	51.5 - 57
58	52 - 57.5
58.5	52.5 - 58
59	53 - 58.5
59.5	53.5 - 59
60	54 - 59.5
60.5	54.5 - 60
61	55 - 60.5
61.5	55.5 - 61
62	56 - 61.5
62.5	56.5 - 62
63	57 - 62.5

Small sizes:

Size	Clamping range
28	23 - 27.5
29	24 - 28.5
30	25 - 29.5
31	26 - 30.5
32	27 - 31.5
33	28 - 32.5
34	29 - 33.5
35	30 - 34.5
36	31 - 35.5
37	32 - 36.5
38	33 - 37.5
39	34 - 38.5
40	35 - 39.5
41	35 - 40.5
42	36 - 41.5
43	37 - 42.5
44	38 - 43.5

**Features:**  
 1. 360 degree complete seal: constant, uniform, circumferential compression; 2. Flexible shrinking diameter: large radial pressure and adjustable surface pressure; 3. Application space: optimal dynamic balance effect, no spatial interference. Specially treated strip; 4. Stainless steel: better mechanical properties

Small ring installed



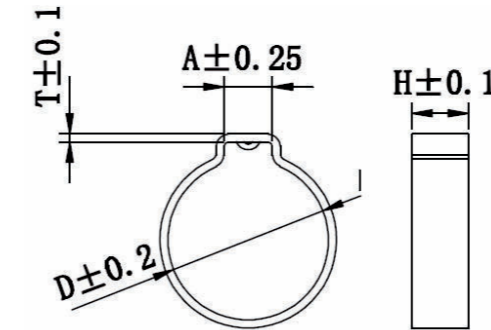
Large ring installed



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## 6、1-Ear Clamps with Insert

Material: stainless steel SUS304 and zinc-plated steel



### Features:

Compact and integrated design: stable, reliable connection for small parts

Ear: fast and simple installation, provides visual indication that clamp is closed

Smooth de-burred edges prevent damage to clamped parts

To ensure complete circumferential sealing



With insert ring, concave head



Without insert ring, flat head

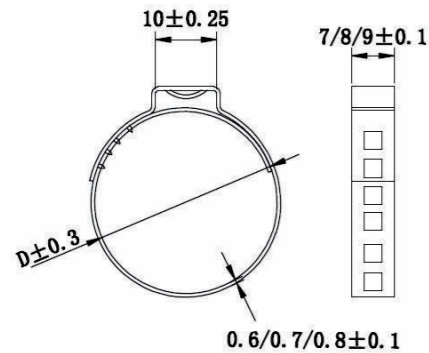
Size range	Band width	Thick ness	Ear width
5.5-6.6	5	0.6	3.2
6.0-7.0	5	0.6	3
6.3-7.5	5	0.6	3.5
6.7-8.0	5	0.6	4
7.4-8.7	5	0.6	4
7.4-9.0	5	0.6	5
7.9-9.5	5	0.6	5
8.4-10.0	5	0.6	5
8.7-10.5	5	0.6	5
9.5-11.3	7	0.7	5.5
10.2-12.0	7	0.7	5.5
10.2-12.3	7	0.7	6.5
10.7-12.8	7	0.7	6.5
11.2-13.3	7	0.7	6.5
11.7-13.8	7	0.7	6.5
11.9-14.0	7	0.7	6.5
12.4-14.5	7	0.7	6.5
14.3-15.5	7	0.7	6.5
13.7-16.0	7	0.7	7
14.5-16.8	7	0.7	7
15.2-17.5	7	0.7	7
16.2-18.5	7	0.7	7
16.9-19.2	7	0.7	7
17.5-19.8	7	0.7	7

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## 7、Adjustable Ear Clamps

Material: stainless steel SUS304 (width\*thickness; 7\*0.6, 7\*0.8, 8\*0.6, 8\*0.8, 9\*0.8 )  
 Zinc-plated steel (width\*thickness 7\*0.8 9\*0.8)



### Features:

Installation position of the hook is optional: achieve a wider clamping range by increasing or reducing the number of holes.

Clamps can be adjusted to several nominal diameters

The advertisement is used in the after-sale auto repair market.



Adjustable clamp is used

The following are types of adjustable clamps upon delivery:



Straight type



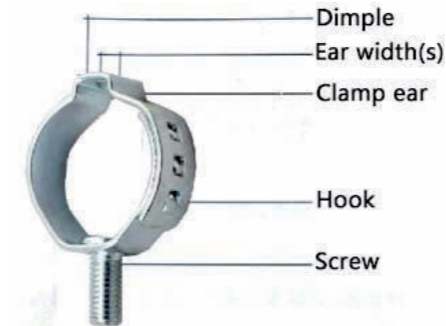
Circle type

Size	Adjust range	Inner ear width
32	10-32	10mm
40	20-40	10mm
45	25-45	10mm
50	30-50	10mm
55	35-55	10mm
60	40-60	10mm
65	45-65	10mm
70	50-70	10mm
75	55-75	10mm
80	60-80	10mm
85	65-85	10mm
90	70-90	10mm
95	75-95	10mm
100	80-100	10mm
105	85-105	10mm
110	90-110	10mm
120	100-120	10mm
130	110-130	10mm
140	120-140	10mm
150	130-150	10mm

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## 8、1-Ear clamps with Screw

Material: zinc-plated steel (width\*thickness: 10\*1.0 14\*1.0)

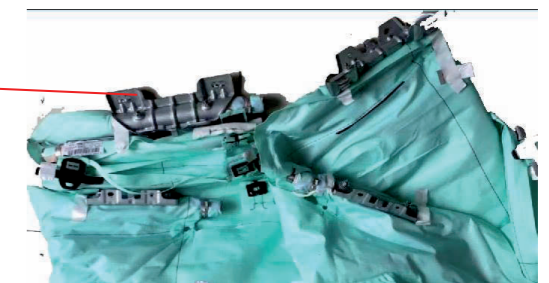
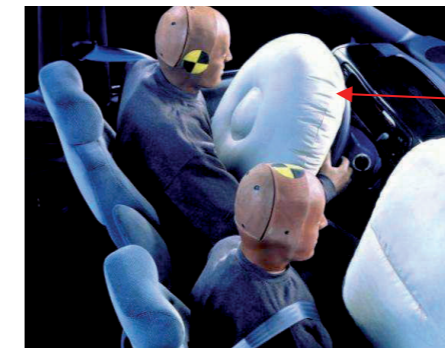


Note: Screw M5 or M6 is optional and the length is optional. The screw is a high-strength screw with a torsion force of more than 10N/M.

### Features:

Special types and functions can be customized on customer's request.

### Application Example:



Material (width*thickness)	Diameter	Screw	Clamping force	Pneumatic pincers	Manual pincers
10*1.0	20.6-50	M6	4600	TM5000	M03
10*1.0	20.6-50	M5	5000	TM5000	M03
14*1.0	20.6-50	M6	7000	TM7000	M03
14*1.0	20.6-50	M5	7400	TM7000	M03

Note: this model of the ear clamp is designed for hard tubes. The clamping range is 2-3MM.

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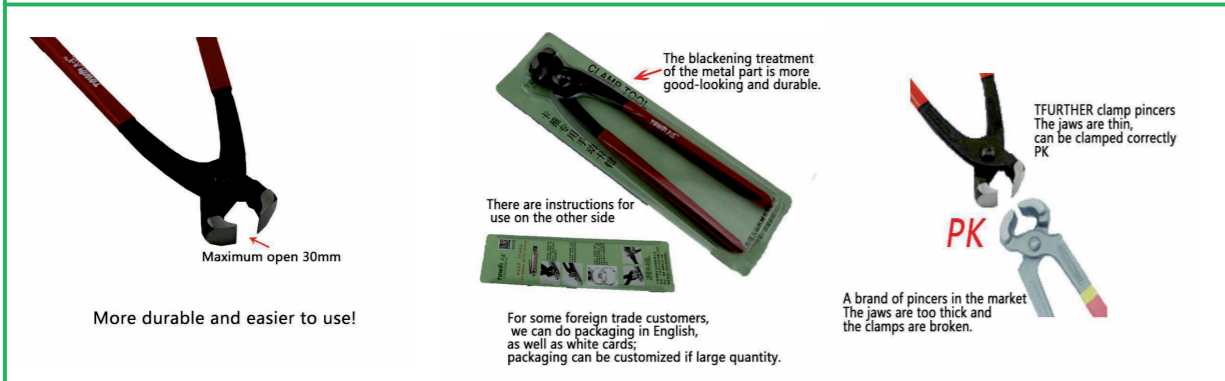
## 9、 Manual Clamp Pincers

TOWIN manual pincer is a convenient tool widely used in the sample stage.

Please use TOWIN manual pincers correctly for better and safer assembly clamps.

### M01 Manual pincers with standard jaw:

Commonly use Length: 28CM Net weight: g

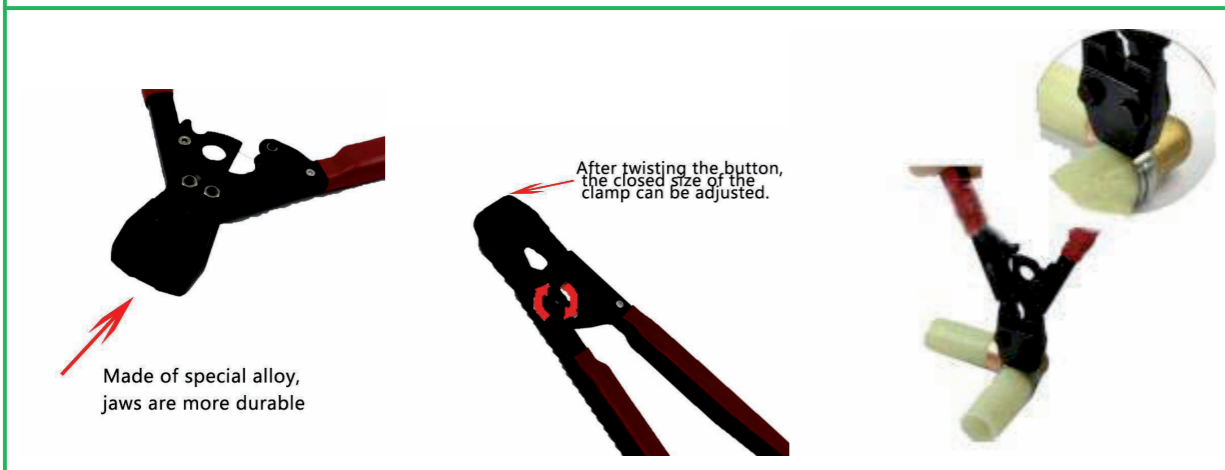


### M02 Manual pincers with side jaw: using in the restricted space



### M03 Manual clamp pincers with PEX jaws:

Specially using for widening and thickening clamps 10\*1.0 10\*0.8 9\*0.8 series



Features: the pincer jaw is made of chromium-vanadium steel, durable, will not open or deform, so that the installation effect is consistent. The pincer jaw is polished so well that the clamped ear is tightened more firmly. It is fundamentally different from the ordinary nutcracker sold on the market.

Note: these three types of pincers can be produced by OEMs, and the designated trademark can be printed according to customer requirements. You can apply for a low price if order in large quantities.

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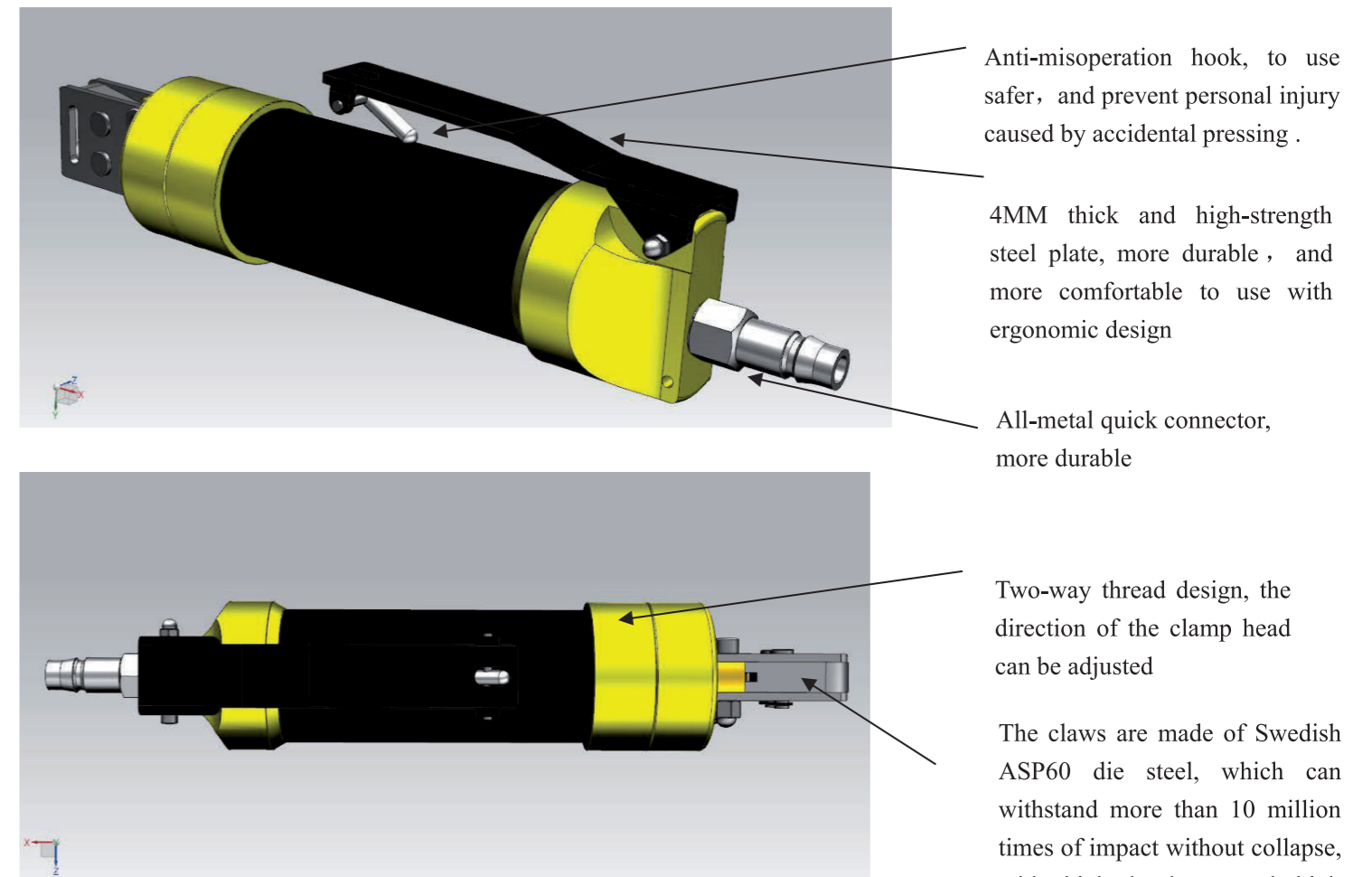
## Installation Tools

Material size Width*thickness	Size range MM	Closing force N/M	Manual pincers	Pneumatic pincers Model
5*0.5	6,5-11.8	1000	Standard jaw	TM3000
7*0.6	11.9-17.5	2400	Model: M01	TM3000
7*0.8	17.8-120.5	2800		TM3000
9*0.6	21.0-120.5	2800	PEX jaw	TM3000
9*0.8	25.0-120.5	4100	Model: M02	TM7000
10*0.6	21.0-120.5	2900		TM7000
10*0.8	24.5-120.5	5000		TM7000
10*1.0	60.0-120.5	7000		TM7000

MOQ:1 PCS; the jaw, the body and other parts of pneumatic pincers can be sold separately, there is a certain price discount or even free express delivery.

## 10、 TOWIN Pneumatic Clamp Pincers

TOWIN recommends to use pneumatic pincers with an electronic gauge to ensure correct and uniform closure, especially for high-volume production. it is an efficient installation tool.



Note: TOWIN has applied for appearance patent. The counterfeit will be investigated.

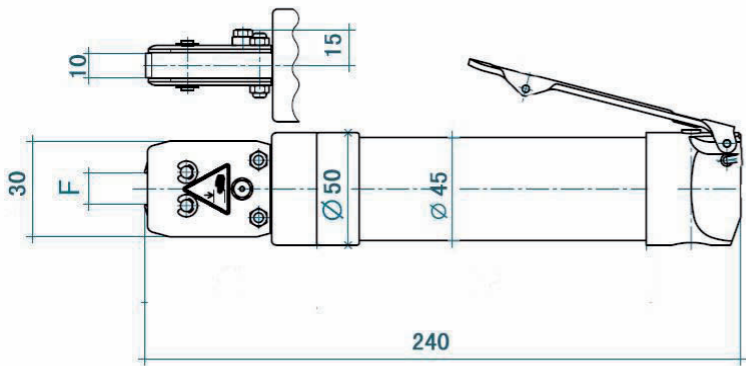
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Each product has a unique serial number to track product usage and customer service work.

**Serial number: T 201501 — A — 006**  
 TOWIN code      Production date      7000N      The 6<sup>th</sup> product of the day

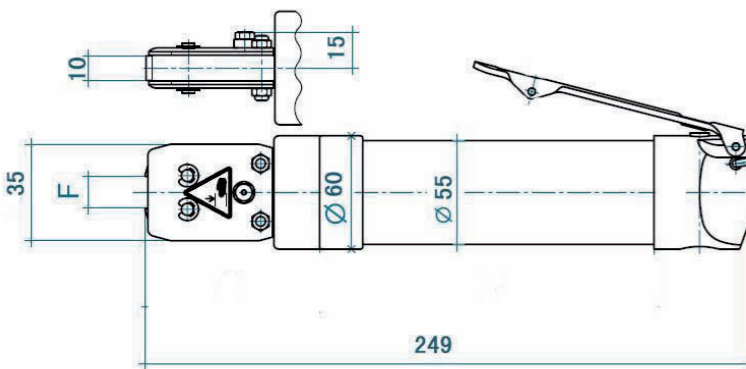
Remarks: there is a QR code on the body, users can log on to the website to inquire about the clamp pincers' condition, maintenance service and instructions for use.

**MODEL: TM3000**



Ear width(MM): 13mm    F=16.2mm  
 Ear width(MM): 10mm    F=13.2mm  
 Ear width(MM): 8mm    F=11.6mm  
 The above are three different pincers, please choose and use according to the actual needs.  
 TM3000 is only used for 5\*0.5 / 7\*0.6 series

**MODEL: TM5000/TM7000**



Note: This pincers is continuously upgraded, the appearance and size may not be the same as this drawing. Please follow up the actual product.

Ear width(MM): 10mm    F=13.2mm  
 Ear width(MM): 13mm    F=16.2mm  
 TM7000 is only used for 7\*0.8/9\*0.6/9\*0.8/10\*1.0 series

**Selection example**

The 3000N clamping force uses TM3000 type. The available intake pressure must be greater than 6 kg. To change the clamping force, the intake pressure must be changed. If you need to test the clamping force, you can order it from TOWIN.

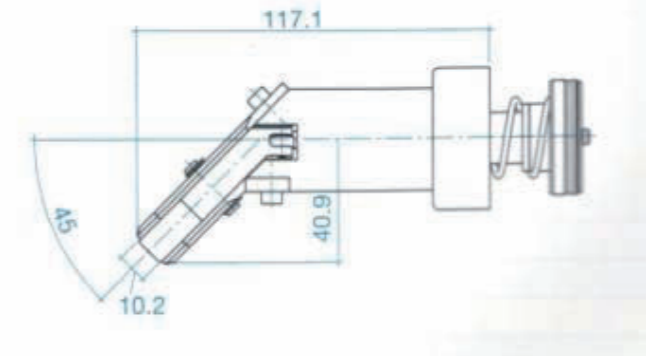
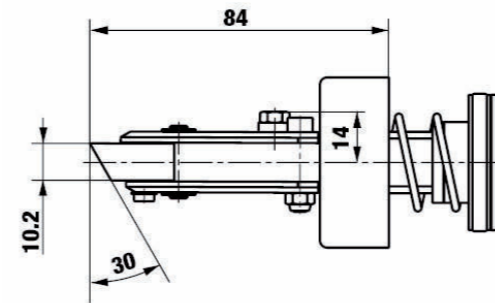
The jaws must be at least 0.5 mm wider than the band of the installed clamp. The jaw opening gap should be wide enough for the largest ear.

It is suggested that before ordering, users can send the supporting products to TOWIN Company for trial installation, qualified samples and pincers will be provided to customers if appropriate.

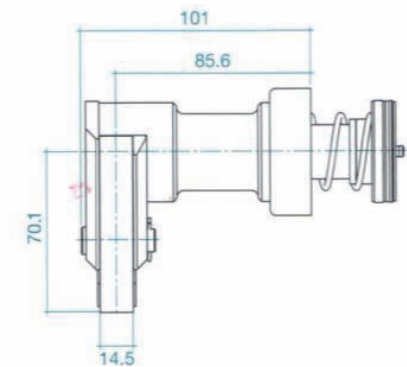
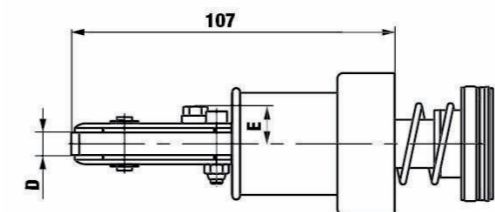
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Special pincer head: (needs to be redesigned and customized according to customer requirements, the following is for reference only)

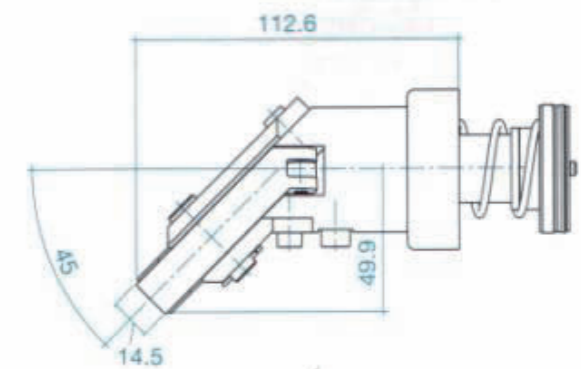
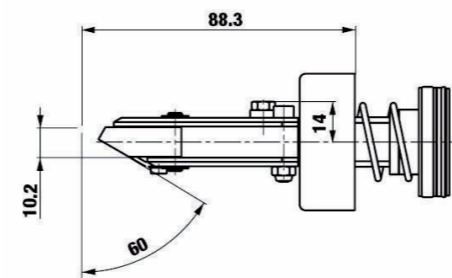
**Jaws angled at 30°**



**Extension length 34.5 mm**



**Jaws angled at 60°**



The above schematic diagrams of the pincer heads are only for reference. Customers can communicate with TOWIN technology according to the actual demands to obtain solutions. TOWIN makes special pincer heads to solve the installation problem and the MOQ of the custom-made pincer head is only 1 piece.

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## Installation Instructions:



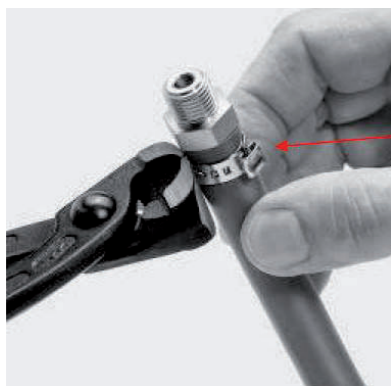
Position a properly-sized ear clamp on the hose fitted with a hose stem. Close clamp ear fully. Using standard jaw pincer for Ear Clamps



When space is restricted, use a side jaw pincers and hold it parallel to the hose during closure



To remove a clamp, place the pincer jaws across the ear and cut through it



To remove a clamp, use the pincer to open the third tongue-in-groove



Scan to view usage video

Your Expert in Hose Clamps!

## PEX Stepless Ear Clamp

**Note:** PEX series clamps are only applicable for the connection of PEX pipes.

PEX:

PEX pipe, also known as cross-linked polyethylene, is made of polyethylene materials, which turns the linear molecular structure of polyethylene into a 3D network structure through physical and chemical methods, so as to improve the performance of polyethylene.

Application field:

1. Indoor supply pipes for cold water, hot water and purified water
2. Liquid food pipelines in food industry.
3. Water heating system, central air-conditioning pipeline system, surface radiation heating system, solar water heater, etc.
4. Telecommunications and electrical piping
5. Electroplating, petroleum, and chemical plant pipeline system.

This special clamp is applicable for fast and reliable connection of PEX lines in the field of pipe engineering. The specification and size of the clamp is specially designed for each corresponding PEX pipeline. The powerful and solid hook is designed and developed with dedicated PEX applications to provide higher clamp radical loading.

**Reminder:**

In highly chlorinated water environments, only plastic components are applied.

It shall not be installed in touch with the concrete.

Installation method:

Clamps must be completely closed when properly installed. When using wheel pincers, it can be opened only when the clamp is fully tightened.

### Installation Data

PEX Inch	Width*thick MM	Size range MM	Ear width MM	Closing force N	Manual tools	Pneumatic pincers
3/8	7*0.6	13.3	8	2200	Standard Jaw	TM3000
1/2	7*0.8	17.5	10	3900	Model: M01	TM5000
5/8	7*0.8	20.8	10	3900	Side Jaw	TM5000
3/4	9*0.8	23.3	10	5000	Model: M02	TM7000
1	10*1.0	29.6	10	7000		TM7000



Yo

Clamps!





**宁波出入境检验检疫局检验检疫技术中心**  
Ningbo Entry-Exit Inspection and Quarantine Bureau Technical Center

231800019663  
2018-05-30  
第 1 页 共 2 页

**检测报告**

申请人: 宁波天远五金有限公司  
宁波江北区江北大道 225 号  
样品名称: 单耳卡箍  
样品规格: 28.5  
样品数量: 1 份  
收样日期: 2018-05-25  
检测日期: 2018-05-25~2018-05-30  
检测要求: 铬、镍含量检测  
检测方法: SN/T 4336-2002  
检测结果:

检测项目	检测结果	单位
铬 (Cr)	18.4	%
镍 (Ni)	8.05	%

注: 本检测结果仅对来样负责。

Report No. 48.400.18.7545.00-00/01  
Dated 2018-05-30



3. Test Result

3.1 ROHS Test (Metallic)

Test Item(s)	Limit	Unit	001
Cadmium (Cd)	100	mg/kg	<2
Lead (Pb)	1000	mg/kg	<5
Mercury (Hg)	1000	mg/kg	<5
Hexavalent Chromium (Cr(VI))	\$	µg/cm <sup>2</sup>	Negative

Remarks:

1. Detected limit of Cd: 2mg/kg Pb, Hg : 5mg/kg, Cr(VI): 0.1 µg/cm<sup>2</sup>.
2. "<" = Less than.
3. "mg/kg" denotes "milligram per kilogram"; "µg/cm<sup>2</sup>" denotes "microgram per square centimetre."
4. The Chromium (VI) content in surface layer have been confirmed with reference to EN62321-7-1:2015



## Test Report

No. NGBML1701397201

Date: 14 Apr 2017

Page 1 of 4

NINGBO TOWIN CLAMP CO.,LTD

255# JIANGBEI ROAD , JIANGBEI DISTRICT , NINGBO CITY, ZHEJIANG PROVINCE

The following sample(s) was/were submitted and identified on behalf of the clients as : HOSE CLAMP

SGS Job No. : NBIN1704003223PC - NB  
 Product Specification : 21.0  
 Material and Mark : SUS304  
 Buyer : CHINA NABAICHUAN HOLDING CO.,LTD  
 Manufacturer : NINGBO TOWIN CLAMP CO.,LTD  
 Date of Sample Received : 10 Apr 2017  
 Testing Period : 10 Apr 2017 - 14 Apr 2017  
 Test Requested : Selected test(s) as requested by client.  
 Test Method : Please refer to next page(s).  
 Test Results : Please refer to next page(s).

Signed for and on behalf of  
 SGS-CSTC Standards Technical Services Co., Ltd. Ningbo Branch

Iris Xiao  
 Approved Signatory



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## Test Report

No. NGBML1701397201

Date: 14 Apr 2017

Page 2 of 4

Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	NGB17-013972.001	SILVERY-GREY METAL

Remarks :

- (1) 1 mg/kg = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected ( < MDL )
- (4) "-" = Not Regulated

### RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

Test Method : (1) With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES.  
 (2) With reference to IEC 62321-5:2013, determination of Lead by ICP-OES.  
 (3) With reference to IEC 62321-4:2013, determination of Mercury by ICP-OES.  
 (4) With reference to IEC 62321-7-1:2015, determination of Hexavalent Chromium by Colorimetric Method using UV-Vis.

Test Item(s)	Limit	Unit	MDL	001
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	ND
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))*	-	µg/cm <sup>2</sup>	0.10	ND

Notes :

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863. IEC 62321 series is equivalent to EN 62321 series [http://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP\\_ORG\\_ID,FSP\\_LANG\\_ID:125863,7,25](http://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:125863,7,25)
- (2) \* = a. The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than 0.13 µg/cm<sup>2</sup>. The sample coating is considered to contain Cr(VI)  
 b. The sample is negative for Cr(VI) if Cr(VI) is ND (concentration less than 0.10 µg/cm<sup>2</sup>). The coating is considered a non-Cr(VI) based coating  
 c. The result between 0.10 µg/cm<sup>2</sup> and 0.13 µg/cm<sup>2</sup> is considered to be inconclusive - unavoidable coating variations may influence the determination  
 Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.



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# TOWIN GLORY

## History

### Our Development Process

- 2010 ● — The parent company of Towin was established (Haishu Towin)
- 2012 ● — After two years of hard research, development and market promotion, the market position of Towin stepless clamps has officially established
- 2014 ● — After four years of hard research, development and market promotion, Towin's pneumatic clamp pincers have been officially recognized by the market, and made up the shortage of pneumatic clamp pincers in domestic market
- 2016 ● — Moving into a new factory, the production line of stepless ear clamps achieve a daily output of at least 300,000
- 2018 ● — It is our greatest honor to know you!

Your Expert in Hose Clamps!

# Labs



## Keep Improving

The product is deeply researched and analyzed for the application. Whether product development or product production, the spirit of lean production is throughout.



# Workshop

## FAMILY DECOATION 5S Management

Strict 5S management, neat placement of common items, can make more efficient and careful in production work, it is the biggest guarantee for customers.



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# Storage

Export Area



# Test Room

## Test Control

FAMILY DECOATION

Regularly there is a unique identity for the product. As long as the product is unusual in use, the measuring tool can be used by a third party, and strict checking process will be carried out. The responsible person will be found out to change and improve, just in case next time.

2. Edge condition:



Other company



TOWIN Clamp



# Cooperation Example

