

1. Description



Single Ear Hose Clamps, also known as pinch clamps or Oetiker-style clamps (after a prominent manufacturer), are a type of tamper-resistant fastener used to secure hoses onto fittings. They consist of a metal band, typically stainless steel, with a single protruding "ear." Installation involves placing the clamp around the hose and fitting, and then crimping or pinching the ear with a specialized tool. This action deforms the ear, drawing the band tight and creating a uniform compression around the circumference of the hose, resulting in a secure, leak-proof seal. Due to their one-time use design and the permanent nature of the crimp, they are often chosen for applications where a tamper-evident and maintenance-free connection is desired. Many designs are "stepless," meaning there are no gaps or steps on the inner circumference of the clamp, ensuring 360° sealing.

2. Key Features

- **Tamper-Resistant Seal:** Once crimped, the clamp cannot be easily loosened or removed without destroying it, providing a secure and tamper-evident connection.
- **360° Stepless Sealing (Common):** Many designs feature a stepless inner band, ensuring uniform compression and no gaps for potential leaks.
- **Compact and Low Profile:** The single ear design results in a compact, low-profile clamp that is ideal for tight spaces where traditional screw clamps might be too bulky.
- **Quick and Easy Installation:** With the correct tool, installation is fast and straightforward, suitable for high-volume assembly lines.
- **Vibration Resistance:** The permanent crimp provides excellent resistance to loosening caused by vibration and temperature changes.
- **Cost-Effective for Mass Production:** Can be an economical solution for high-volume applications.
- **Smooth Band Edges:** Typically designed with burr-free, rounded, or specially formed band edges to prevent damage to the hose during installation and use.
- **Good Sealing Performance:** Provides a reliable seal for low to medium pressure applications.
- **Lightweight Design:** Offers minimal interference with connected components.

3. Technical Data

- **Type:** Single Ear Crimp Clamp / Pinch Clamp
- **Common Materials:**
 - Stainless Steel (most common):
 - AISI 304 (W4, 1.4301) – Offers good corrosion resistance for general applications.
 - AISI 316 (W5, 1.4401) – Offers superior corrosion resistance, suitable for marine or more aggressive environments.
 - Galvanized Steel (less common for single ear clamps, but may exist for specific applications).
- **Band Widths (Typical):** 5mm, 7mm, 9mm, Other widths may be available depending on the clamp size and series.
- **Band Thickness (Typical):** 0.5mm, 0.6mm, 0.8mm
- **Clamping Diameter Range:**
 - Available in a very wide range of nominal sizes, typically defined by the diameter of the clamp before crimping or by a specific clamping range (e.g., 7.0–8.7mm, 12.8–15.3mm, 17.8–21.0mm).
 - Sizes can range from very small (e.g., for 5mm OD hoses) up to larger diameters (e.g., 30mm, or even larger for specialized versions).
- **Pressure Rating:** Generally suitable for low to medium pressure applications. Specific pressure ratings depend on the clamp size, material, hose type, and proper installation.
- **Relevant Standards:**
 - ASTM F2098: Standard Specification for Stainless Steel Clamps for Securing PEX Tubing and ASTM F1807, F2098, F2159 Polyethylene (PEX) Tubing to Metal Insert and Plastic Insert Fittings. (Often referenced for PEX applications).
 - DIN 3017: While primarily for worm drive clamps, some aspects or quality principles might be referenced by manufacturers.
 - Manufacturer-specific standards are common (e.g., Oetiker standards).

4. Associated Products

- Single Ear Hose Clamp Pliers (Pincers): Specialized tools required for proper installation. Various types exist:
 - Standard Jaw Pincers
 - Side Jaw Pincers (for access in tight spaces)
 - Pneumatic Pincers (for production environments)
- Hoses (rubber, plastic, silicone, PEX)
- Fittings (barbed, insert)

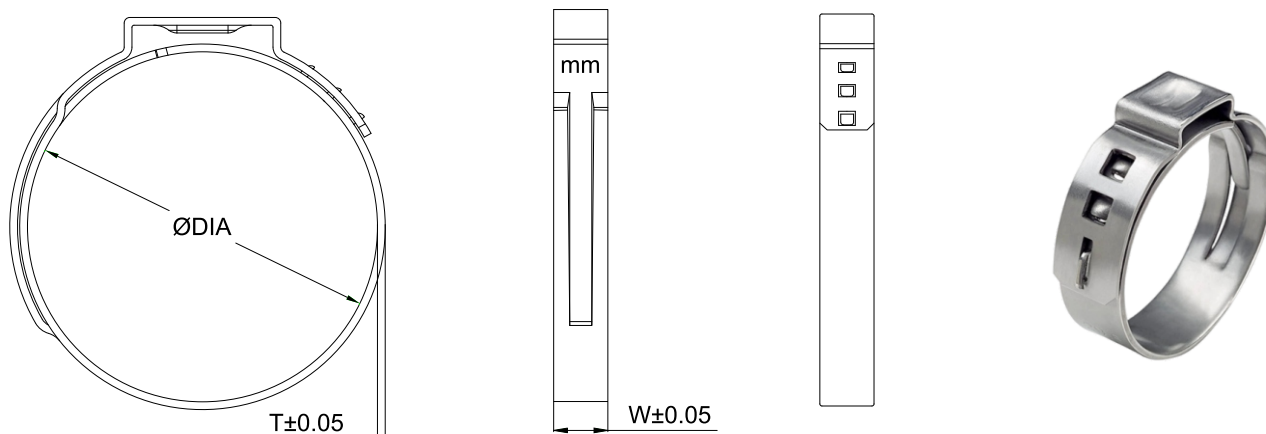
5. Common Applications

- **Automotive:** Fuel lines, coolant hoses, vacuum lines, air lines, CV joint boots, power steering hoses.
- **Industrial Machinery:** Pneumatic and hydraulic lines (low pressure), fluid transfer systems.
- **White Goods/Appliances:** Washing machines, dishwashers, coffee machines.
- **Plumbing and Heating:** PEX tubing connections, hydronic heating systems, water supply lines.
- **Beverage Dispensing:** Securing tubing in drink dispensers and breweries.
- **Medical Equipment:** Connecting tubing in various medical devices.
- **Marine Applications:** Securing hoses in boat and ship systems (stainless steel 316 recommended).
- **Agricultural Equipment:** Fluid lines on sprayers and other machinery.
- **Cable Management:** Securing cables or conduits in some applications.

6. Installation Guidance

- **Select the Correct Clamp Size:** Choose a clamp where the hose's outside diameter (OD) with the fitting inserted falls within the clamp's specified clamping range. The clamp should fit snugly over the hose and fitting before crimping.
- **Position the Clamp:** Slide the single ear clamp over the end of the hose.
- **Attach Hose to Fitting:** Push the hose onto the barbed or plain end fitting until it is fully seated.
- **Position Clamp Correctly:** Slide the clamp over the section of the hose that covers the fitting's barbs or sealing area. Ensure the clamp is positioned to provide even pressure.
- **Crimp the Ear:**
 - Place the jaws of the specialized single ear clamp pliers around the "ear" of the clamp.
 - Squeeze the plier handles firmly and in a single, smooth motion until the ear is fully compressed. The sides of the ear should nearly meet or meet according to the tool/clamp manufacturer's specification.
 - Avoid over-crimping or multiple crimps on the same ear, as this can damage the clamp or reduce its effectiveness.
- **Inspect the Crimp:** Visually inspect the crimped ear to ensure it is uniformly deformed and the clamp is providing even pressure around the hose. The connection should be secure.

7. Specifications



Code	Diameter (mm)	Width (mm)	Thickness (mm)
SE070	6.0-7.0	5	0.5
SE087	7.0-8.7	5	0.5
SE095	7.8-9.5	5	0.5
SE105	8.8-10.5	5	0.5
SE119	9.4-11.9	7	0.6
SE123	9.8-12.3	7	0.6
SE128	10.3-12.8	7	0.6
SE133	10.8-13.3	7	0.6
SE138	11.3-13.8	7	0.6
SE140	11.5-14.0	7	0.6
SE145	12.0-14.5	7	0.6
SE148	12.3-14.8	7	0.6
SE153	12.8-15.3	7	0.6
SE157	13.2-15.7	7	0.6
SE162	13.7-16.2	7	0.6
SE166	14.1-16.6	7	0.6
SE168	14.3-16.8	7	0.6
SE170	14.5-17.0	7	0.6
SE175	15.0-17.5	7	0.6
SE178	14.5-17.8	7	0.6
SE180	14.8-18.0	7	0.6
SE185	15.3-18.5	7	0.6
SE192	16.0-19.2	7	0.6
SE198	16.6-19.8	7	0.6

Code	Diameter (mm)	Width (mm)	Thickness (mm)
SE210	17.8-21.0	7	0.6
SE223	19.4-22.6	7	0.6
SE235	20.3-23.5	7	0.6
SE241	20.9-24.1	7	0.6
SE256	22.4-25.6	7	0.6
SE271	23.9-27.1	7	0.6
SE286	25.4-28.6	7	0.6
SE301	26.9-30.1	7	0.6
SE308	27.6-30.8	7	0.6
SE316	28.4-31.6	7	0.6
SE331	29.9-33.1	7	0.6
SE345	31.4-34.5	7	0.6
SE361	32.9-36.1	7	0.6
SE376	34.4-37.6	7	0.6
SE381	34.9-38.1	7	0.6
SE396	36.4-39.6	7	0.6
SE410	37.8-41.0	7	0.6
SE425	39.3-42.5	7	0.6
SE440	40.8-44.0	7	0.6
SE455	42.3-45.5	7	0.6
SE470	43.6-47.0	7	0.6
SE485	45.3-48.5	7	0.6
SE500	46.8-50.0	7	0.6

Please contact sales for more information about other sizes.

8. Maintenance & Safety

- **Proper Installation is Crucial:** The integrity of the connection depends heavily on using the correct clamp size and the proper installation tool and technique.
- **Single Use Only:** Single ear hose clamps are designed for one-time use. Once crimped, they cannot be reliably loosened and reused. Removal requires cutting or prying the clamp off, which destroys it.
- **Tool Condition:** Ensure the installation pliers are in good condition and appropriate for the clamp size and type. Worn or incorrect tools can lead to improper crimps.
- **Material Compatibility:** Select clamp material (e.g., SS304, SS316) appropriate for the application environment and any fluids or chemicals involved.
- **Application Limits:** Use within the manufacturer's recommended pressure and temperature ratings.
- **Safety Equipment:** Always wear safety glasses during installation and removal, as metal parts can spring or fragment. Wear gloves when handling clamps.

Disclaimer: This datasheet provides general information typical for Single Ear Hose Clamps. Specific technical data, materials, performance characteristics, and application suitability can vary significantly between different manufacturers and specific product lines. Always refer to the manufacturer's official documentation and specifications for the particular hose clamp and installation tool being considered or used.