TECHNICAL DATASHEET

1. Description

Center Punch Hose Clamps, also known as punch-lock clamps or preformed band clamps, are a type of hose fastener used to secure hoses onto fittings, particularly in applications where a permanent, tamper-resistant, and low-profile connection is desired. These clamps consist of a pre-formed band of metal with a buckle. Installation involves wrapping the band around the hose and fitting, tensioning it with a specific tool, and then deforming the buckle (or "bridge") by striking a raised point on it with a punch (often integrated into the installation tool) and a hammer, or by using a specialized center punch tool. This action creates a mechanical lock that secures the clamp. They are often used for low to medium pressure applications and are valued for their strong holding power once properly installed.

2. Key Features

- **Permanent, Tamper-Resistant Connection:** Once locked, the clamp is not easily removable without destroying it, providing a secure and tamper-evident seal.
- **Low Profile Design:** Offers a smooth, relatively flat profile compared to screw-type clamps, which is beneficial in tight spaces or where snagging is a concern.
- **Bolt-Free Design:** No screws or nuts are used for tightening, relying on the mechanical deformation of the buckle.
- **Strong Holding Power:** When correctly installed, these clamps provide excellent radial compression and holding strength.
- **Double Wrapped (Often):** Many center punch clamps are double-wrapped for added strength and sealing capability.
- **Pre-formed Sizes:** Available in specific inside diameters to match hose and fitting combinations.
- **Quick Installation (with proper tools):** Can be applied rapidly in production or field settings using dedicated manual or pneumatic tools.
- **Smooth Inside Diameter (on some designs):** Some designs aim for a smooth inner surface to minimize leak paths and hose damage.

3. Technical Data

- **Type:** Center Punch / Punch-Lock Preformed Band Clamp
- **Common Materials:**
- **Band & Buckle:**
  - Galvanized Carbon Steel (GCS): Offers good strength and moderate corrosion resistance.
  - Stainless Steel (e.g., Type 201, Type 301, Type 302, Type 304) for improved corrosion resistance. Buckles might be a different grade of stainless steel (e.g., 201SS buckle with 300 series band) for optimal strength and formability.
- **Band Widths (Common):** 3/8" (9.5mm), 5/8" (16.0mm)
- **Band Thickness (Typical):** 0.024" (approx. 0.6mm).
- **Clamp Inside Diameter (ID):**
  - Available in a wide range of pre-formed inside diameters, from small (e.g., 13/16") to very large (e.g., 8" or more).
  - The clamp ID selected should be slightly larger than the outside diameter of the hose it will be used on.
- **Locking Mechanism:** Mechanical deformation of the buckle via a center punch.
- **Pressure Rating:** Generally suitable for low to medium pressure applications (specific ratings depend on clamp size, material, hose type, and installation). Not typically recommended for high-pressure or steam applications.
- **Relevant Standards:** While no single universal standard like DIN for worm clamps, manufacturers often produce them to internal quality and performance specifications. Some may reference aspects of general banding or clamping standards.

4. Common Applications

- **Industrial Hose Assemblies:** Air hoses, water suction and discharge hoses, material handling hoses.
- **Agriculture:** Irrigation systems, slurry hoses.
- **Construction:** Water pumps, concrete pumping (for certain low-pressure connections).
- **Mining:** Water and slurry transfer.
- **Marine:** Various hose connections where a secure, low-profile clamp is needed.
- **Municipalities:** Water and waste management.
- **Automotive (less common for critical systems, more for auxiliary):** Some low-pressure fluid lines or exhaust wrap applications.
- **General Purpose Hose Clamping:** Where a permanent and robust clamp is preferred over screw types.

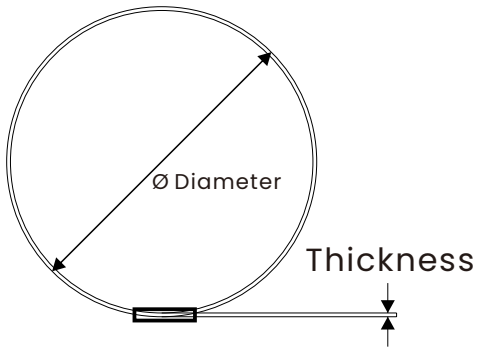
5. Associated Products

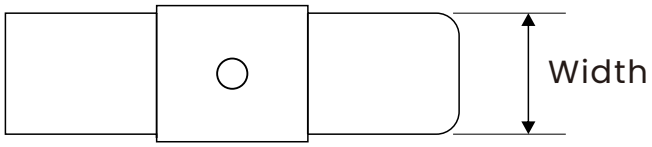
- **Center Punch Clamp Installation Tools:**
  - Manual ratchet or crank-operated tools (e.g., BAND-IT T30069, S03869).
  - Pneumatic tools for high-volume applications (e.g., BAND-IT Sm1700).
  - Adapters for tools to handle different band widths (e.g., 3/8" adapter for a 5/8" tool).
- **Hoses:** Compatible with various types of rubber, PVC, and composite hoses.
- **Fittings and Couplings:** Used to secure hoses to various types of barbed or plain end fittings.
- **Hammers or Mallets:** Used with manual punch tools.

6. Installation Guidance

- **Select the Correct Clamp Size:** Choose a clamp with an inside diameter slightly larger than the outside diameter of the hose over the fitting.
- **Position the Clamp:** Slide the preformed center punch clamp over the end of the hose.
- **Attach Hose to Fitting:** Push the hose onto the fitting until it is properly seated.
- **Position Clamp Correctly:** Move the clamp over the barbed or sealing area of the fitting, ensuring it's not too close to the hose end.
- **Tension the Clamp:**
  - Insert the free end (tail) of the clamp band into the installation tool.
  - Operate the tool (crank handle or ratchet mechanism) to pull the band tight around the hose. Ensure even tension.
- **Lock the Clamp:**
  - Once the desired tension is achieved, position the tool's conical punch (or a separate punch) over the designated raised point on the clamp's buckle.
  - Strike the punch firmly with a hammer (for manual tools) or activate the pneumatic tool. This deforms the buckle, creating a permanent lock.
- **Remove the Tool:** Disengage the installation tool from the clamp. The excess band tail may be cut or folded back, depending on the tool and clamp design.
- **Inspect:** Check the clamp for proper tension and secure locking. Ensure the buckle is adequately punched.

7. Specifications





Code	Width		Thickness		Diameter		Weight		Pack Qty.
	inch	mm	inch	mm	inch	mm	lbs	kg	
CP020	3/8	9.5	0.024	0.60	13/16	20	3.6	1.6	100/BOX
CP035	3/8	9.5	0.024	0.60	1-3/8	35	4.6	2.1	100/BOX
CP025	5/8	16.0	0.024	0.60	1	25	8.3	3.8	100/BOX
CP032	5/8	16.0	0.024	0.60	1-1/4	32	8.7	4.0	100/BOX
CP038	5/8	16.0	0.024	0.60	1-1/2	38	9.7	4.4	100/BOX
CP044	5/8	16.0	0.024	0.60	1-3/4	44	10.6	4.8	100/BOX
CP051	5/8	16.0	0.024	0.60	2	51	11.5	5.2	100/BOX
CP057	5/8	16.0	0.024	0.60	2-1/4	57	12.6	5.7	100/BOX
CP064	5/8	16.0	0.024	0.60	2-1/2	64	6.8	3.1	50/BOX
CP070	5/8	16.0	0.024	0.60	2-3/4	70	7.3	3.3	50/BOX
CP076	5/8	16.0	0.024	0.60	3	76	7.7	3.5	50/BOX
CP089	5/8	16.0	0.024	0.60	3-1/2	89	8.7	4.0	50/BOX
CP102	5/8	16.0	0.024	0.60	4	102	4.9	2.2	25/BOX
CP114	5/8	16.0	0.024	0.60	4-1/2	114	5.5	2.5	25/BOX
CP127	5/8	16.0	0.024	0.60	5	127	5.9	2.7	25/BOX
CP152	5/8	16.0	0.024	0.60	6	152	6.8	3.1	25/BOX
CP165	5/8	16.0	0.024	0.60	6-1/2	165	7.1	3.3	25/BOX
CP178	5/8	16.0	0.024	0.60	7	178	7.4	3.4	25/BOX
CP203	5/8	16.0	0.024	0.60	8	203	8.2	3.7	25/BOX

Please contact sales for more information about other sizes.

8. Maintenance & Safety

- **Proper Installation is Key:** The integrity of the connection heavily relies on correct installation procedures and tool usage.
- **Tool Condition:** Ensure installation tools are in good working condition, especially the punch component.
- **Material Compatibility:** Select clamp material appropriate for the application environment (e.g., stainless steel for corrosive conditions).Not Reusable: Center punch clamps are designed for single use; once locked, they must be cut off for removal and cannot be reliably reused.
- **Safety Equipment:** Wear safety glasses during installation, especially when striking the punch with a hammer. Wear gloves when handling metal bands.
- **Application Limits:** Do not use for applications exceeding the clamp's pressure rating or for incompatible hose/fitting types (e.g., some plastic fittings may crack from the impact of punching). Avoid use in steam service unless specifically rated.

Disclaimer: This datasheet provides general information typical for Center Punch Hose Clamps. Specific technical data, materials, and performance characteristics 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