

## 1. Description



**Ratchet Lock Stainless Steel Banding Buckles** are high-performance fastening components designed for use with stainless steel banding to create extremely secure and vibration-resistant clamps. These buckles feature an integrated ratchet mechanism that engages directly with the banding, allowing for high tension application and providing a non-slip, self-locking grip once tensioned. Constructed from durable stainless steel, they are ideal for heavy-duty applications in demanding environments requiring superior strength and long-term reliability.

## 2. Key Features

- **High Strength & Secure Lock:** Provides exceptional clamping force and a positive, permanent lock via the integrated ratchet mechanism.
- **Ratchet Tensioning:** Allows for high tension to be applied using compatible banding tools, ensuring a tight fit.
- **Vibration Resistance:** The ratchet design prevents loosening even under significant vibration or load cycling.
- **Stainless Steel Construction:** Offers excellent durability and resistance to corrosion, chemicals, UV, and extreme temperatures. Available in various grades for specific environmental needs.
- **Permanent Installation:** Designed for non-releasable, long-term fastening applications.
- **Heavy-Duty Performance:** Suitable for securing heavy bundles, large diameter hoses, and applications requiring maximum holding power.

## 3. Applications

- Ideal for heavy-duty clamping and fastening where maximum strength and vibration resistance are critical:
- **Pole Mounting:** Securing heavy enclosures, transformers, or equipment to utility poles.
- **Hose Clamping:** High-pressure industrial hose connections, large diameter hose securing.
- **Cable Management:** Bundling and securing large, heavy power or communication cables.
- **Marine & Offshore:** Securing fixtures, cables, and equipment in harsh saltwater environments (SS316 recommended).
- **Oil & Gas:** Fastening applications on pipelines, rigs, and processing facilities.
- **Transportation:** Securing components in heavy vehicles, rail applications.
- **Construction:** Heavy-duty structural fastening, securing large conduits or pipes.
- **General Industrial:** Any application requiring a high-strength, vibration-proof banding clamp.

## 4. Technical Data

- **Material:**
  - Buckle Body & Ratchet Mechanism: Typically Stainless Steel Type 201, Type 304 (SS304 / UNS S30400), or Type 316 (SS316 / UNS S31600).
  - Note: Grade selection depends on required strength and corrosion resistance (Type 316 for marine/chemical environments).
- **Buckle Type:** Integrated Ratchet Lock Buckle.
- **Compatible Band Widths:** 3/8" (10.0mm), 5/8" (15.0mm), 3/4" (19.0mm).
- **Compatible Band Thickness:** Suitable for use with standard banding thicknesses, 0.010" to 0.020" / 0.25mm to 0.50mm.
- **Locking Mechanism:** Internal ratchet teeth/pawl engaging directly with the banding strap.
- **Operating Temperature Range:** Consistent with the stainless steel grade used, typically -80°C to +538°C (-112°F to +1000°F).
- **Resistance:** Excellent resistance to corrosion (grade-dependent), UV radiation, vibration, abrasion, and weathering.

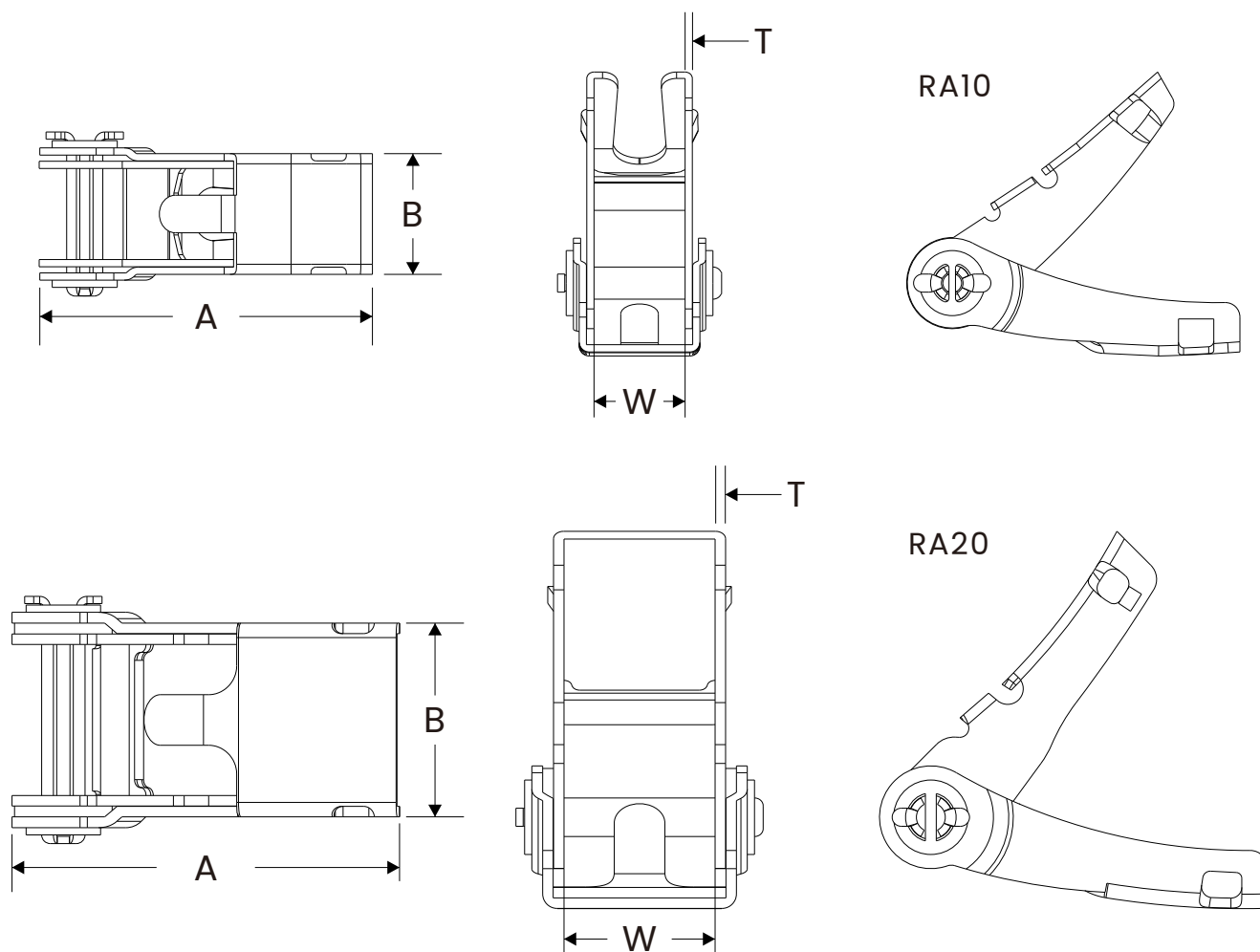
## 5. Installation Guidance

- **Thread Buckle:** Feed the end of the stainless steel band through the ratchet lock buckle according to the manufacturer's instructions (typically through a specific path engaging the ratchet mechanism).
- **Wrap Band:** Wrap the banding around the object(s) to be secured.
- **Feed Tail:** Insert the free end (tail) of the band back through the buckle's designated slot.
- **Apply Tension:** Operate the tensioning tool to pull the band tight. The tool will engage the buckle's ratchet mechanism to hold the tension. Continue tensioning until the required tightness is achieved or the tool reaches its preset tension limit.
- **Cut Band:** Once tensioned, use the tool's integrated cutter (or separate shears if necessary) to cut the excess band tail close to the buckle.
- **Inspect:** Verify the band is securely locked by the ratchet mechanism and properly tensioned.
- **Safety:** Always wear appropriate safety gloves (cut-resistant) and eye protection during installation. Be aware of the high tension involved and potential energy release if the band slips or breaks. Follow tool safety guidelines precisely.

## 6. Associated Products

Stainless Steel Banding: Must match the buckle's specified width and thickness compatibility. Material grade should typically match the buckle.

## 6. Specifications



Code	For Band Width		Dimensions(mm)				Pack Quantity
	inch		A	B	W	T	
RA10	3/8	9.5	47.0	16.8	11.4	1.0	50
RA20	3/4	19.0	54.0	26.8	20.2	1.5	50

The above measurement data may have errors. All is subject to the actual situation.

**Disclaimer:** The information provided in this datasheet is intended as a general guide. Specific performance characteristics can vary based on the application conditions, the banding used, installation quality, and the specific product variant. Users should evaluate the product suitability for their specific requirements and consult the manufacturer's specific data. Manufacturer reserves the right to change specifications without notice.