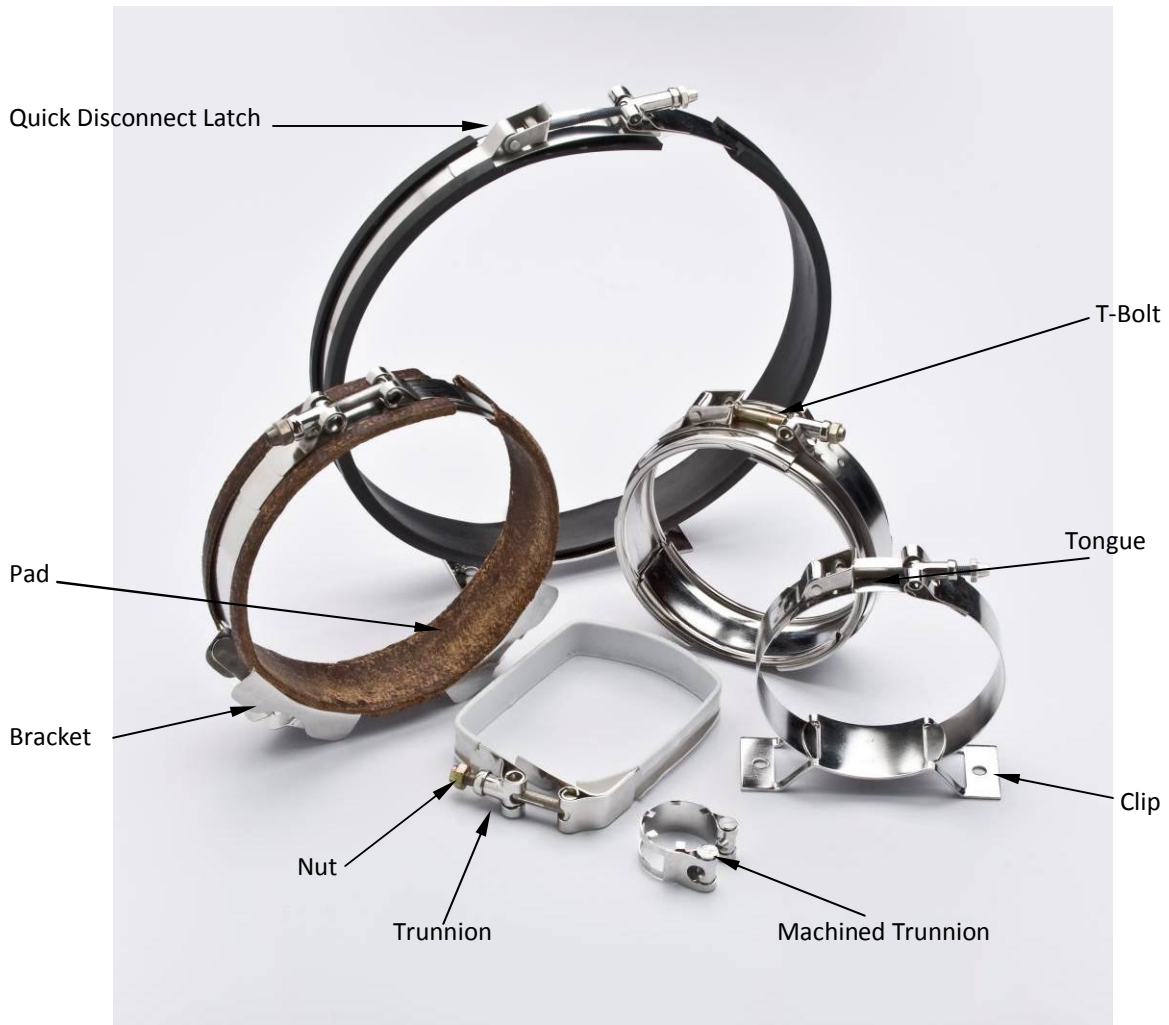


NUCO Band Clamps

Contents	Page
How Band Clamps Work	2-2
Application	
Design Environment	
Band Design	2-3
Latch Style	2-4
Nominal Diameter	2-5
T-Bolt and Nut Selection	2-6
Attachments	2-7
Multiple Take-Up Clamps	2-7



When proper mounting and attachment is key, customers return to National Utilities Band Clamps for quality and performance. With infinite combinations of latch styles, diameters, band widths or thicknesses, and lug or clip configurations, National Utilities Band Clamps have the strength to withstand the most critical pressure, temperature and vibration conditions.

How Band Clamps Work

Application

NUCO band clamps are available in a variety of latch styles, diameters, and band thicknesses, widths, and configurations. They are used in numerous applications where conditions demand reliable performance under vacuum, internal pressure, extreme temperature ranges, severe vibration, and hot, corrosive environments. Typical applications are the attachment of ducting to supporting structures for heating, air conditioning, and ventilation systems, the attachment of flexible hose to rigid tubing and the attachment of cylindrical objects (i.e., fire extinguishers and oxygen bottles) to a base.

Band clamps are used extensively in aerospace, chemical processing, automotive, marine and nuclear industries. The wide range of sizes and shapes available permits the designer to fulfill the demands of a variety of design application under extreme operating conditions.

NUCO V-Band Couplings provide a fast, dependable, and economical method for joining tubing and pipe as well as sections and covers of equipment such as filters, separators, and regulators.

Design Environment

Band Design

No Tongue

Acceptable solution when 360° clamping is not necessary

Tongue

Useful when clamping soft or flexible materials to ensure material does not wrinkle and cause a poor seal.

Perfect Circle

A smooth inner surface provides consistent contact throughout the entire clamping area.

Light Duty

These economical clamps use a machine screw and nut to tighten the band.

Selecting Latch Style

[INSERT PHOTO]

The **conventional latch** uses a captive T-Bolt and Sheetmetal trunnion. Recommended for use on normal permanent and semi-permanent installations.

[INSERT PHOTO]

This **double latch** uses two conventional latches on opposite sides of the coupling. Recommended for use on permanent or semi-permanent installations. This combination of latches on the same coupling provides for more diametral take up and permits more uniform circumferential distribution of band tension. Particularly suited to large-diameter couplings.

[INSERT PHOTO]

The **quick-disconnect latch** uses a quick-disconnect cup and permits latching or unlatching without complete removal of the nut. Used for quick, easy, and frequent installation or removal.

[INSERT PHOTO]

The **combination latch** combines one conventional latch and one quick-disconnect latch on opposite sides of the coupling. The combination of the two latches on the same coupling provides for more diametral

take-up and permits more uniform circumferential distribution of band tension. Recommended for used where frequent removal is a requirement and allows disassembly without complete removal of the nut. Particularly suited for large diameter couplings.

[INSERT PHOTO]

The **tack-on latch** replaces the continuous band with “tack-on” band ends spot or fusion welded to the V-retainer. This means that less material is used, so the coupling weighs less. This latch is available on one and two segment-couplings.

With any of the above latches, the standard short loop will automatically be furnished. This loop provides a lighter coupling and, in very small sizes, is the only option available. In later sizes, a longer tangential loop can be furnished.

Specify Nominal Diameter

Tube size will establish a coupling nominal diameter.

Nominal Diameter = Tube Outer Diameter

If a range of diametrical adjustment is necessary, please indicate the needed range to engineering.

Selecting a T-Bolt and Nut

Standard T-bolts, both alloy and stainless steel (CRES), are forged to meet the requirements of NASM6821.

Material: 8740 alloy bolts per AMS6322, 431 CRES bolts per MIL-S-18732 and A-286 bolts per AMS5731 or AMS5732

Finish: Alloy bolts are cad plated per AMS-QQ-P-416. CRES bolts are passivated only. CRES bolts are automatically furnished when a CRES nut is called out in the part number.

On smaller diameters, T-bolt is curved to facilitate latching.

Unless otherwise specified, a SH nut will be furnished. To avoid galling, CRES nuts are automatically furnished with CRES T-bolts, all other clamp components are furnished in CRES. CRES nuts should be specified for high temperature or corrosive application environments.

Code	Description	Temperature Rating	Material
S	Self-Locking	250°F	Alloy Steel, Cad Plated
SH	Self-Locking	550°F	Alloy Steel, Cad-Plated
R	Self-Locking	550°F	Alloy Steel, Cad-Plated
N	Self-Locking	450°F	A-286 CRES
ST	Self-Locking	800°F	A-286 CRES
M2	Self-Locking	1200°F	A-286 CRES
SS	Self-Locking	800°F	CRES, Silver Plated
DS	Plain Hex, Drilled	800°F	CRES, Silver Plated
M1	Self-Locking	1200°F	CRES, Silver Plated

Nut Torque

An optimum torque value for the T-bolt nut will produce a sufficient degree of tightening of the V-retainer over the flange to accomplish the following:

- Overcome inherent friction between the retainer and flanges.
- Properly seal two flanges
- Provide a sufficient amount of residual compressive load to hold the two flanges together
- Offset the total load to which the joint may be subjected in service.

Attachments

Brackets

Both clips and lugs can be added in any number and position around the clamp to attach it to adjoining ducts, hoses, longerons, or bulkheads.

Handles

[INSERT PHOTO]

Multiple Take-Up Clamps

Ideal for installations requiring a large clamping area. Used for joining two metal ducts and joining nonmetallic hose connections, such as on ground handling equipment. Available with standard T-bolt latches or quick disconnect latches.

[INSERT PHOTO]