



# Snap-Trap<sup>®</sup>+ Tube Clamp Systems

Instrumentation Tubing Solutions

aerospace  
climate control  
electromechanical  
filtration  
fluid & gas handling  
hydraulics  
pneumatics  
process control  
sealing & shielding



ENGINEERING YOUR SUCCESS.

# Snap-Trap®+ Tube Clamps

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#### **WARNING**

FAILURE, IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker Hannifin Corporation, its subsidiaries or its authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

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The items described in this document are available for sale by Parker Hannifin Corporation, its subsidiaries or its authorized distributors. Any sale contract entered into by Parker will be governed by the provisions stated in Parker's standard terms and conditions of sale (copy available upon request).



## Introduction:

### Snap-Trap®+ Tube Clamp Systems

Snap-Trap®+ is an innovative clamp, designed to radically simplify the installation and maintenance of instrumentation tubing. It is an ideal solution for customers who are looking at corrosion resistant alloys to extend field operation for instrumentation equipment. The tube clamp perfectly complements Parker's corrosion resistant alloy offering of two ferrule compression fittings and instrumentation grade tube.

Its unique one-piece design, primarily manufactured from 6Mo, allows quick and easy fitting to cable trays, brackets and angle iron alike. The Snap-Trap®+ will fit slotted cable trays with dimensions as indicated on page 9. It can also be mounted to any other design of trays with the aid of brackets as shown in the examples on page 8.

Snap-Trap®+ fully complies with the Norwegian offshore standards "NORSOK". Section 7.3 of the NORSOK standard Z-CR-010 which covers the installation of instrumentation tubing states that: Tubing clamps shall be made of non-corrosive material, stainless steel AISI 316 or flame retardant plastic.



# Snap-Trap®+ Tube Clamps

## Snap-Trap®+ is a clamp which radically simplifies the installation and Values

- Simple and quick to assemble
- Complies fully to NORSOK standard Z-CR-010
- Compact clamp in 6Mo (316 also available)
- No loose parts
- Snap-Trap®+ tubing clamp is erected without using traditional tools - (No slippage of spanners on nut or bolt hexagons)
- No bolts to be fastened to the ladder/ tray etc
- No additional spare parts need to be ordered
- Snap-Trap®+ tubing clamp is available in 5 sizes which covers both metric and imperial tubing
- Minimal contact points reduces the risk of crevice corrosion
- Significant reduction in installation time < 2 minutes

The arm grips tubes by means of a ratchet-style mechanism - there are no nuts or bolts to tighten. A tube can be clamped in a second - and the flexibility of this 'snap' action allows Snap-Trap®+ to accommodate two sizes of tube per clamp. The action locks tubing securely; steel would have to shear before it could break free. A tool is available for ensuring the ratchet closes to the optimum tightness.



Snap-Trap®+ delivers immediate savings, minimizing purchasing overheads and cutting assembly labour costs by as much as 80%! Savings multiply throughout the life-cycle of Snap-Trap®+:



Snap-Trap®+ mounts directly on popular field ladders and trays. A hinge allows the feet to move together before locking the clamp in place. Repositionable in seconds. Repairs, refurbishment or routine maintenance may be accomplished much quicker.



# maintenance of instrumentation tubing.



## Parker Innovation

Our company philosophy Smarter, Faster, Safer, Cleaner really comes down to our belief that we can make the world a better, safer place through engineering excellence. Whether you want to reduce energy usage, reduce pollution and leakages, or increase your environmental standards, Parker is working on a unique solution that can help you achieve your goals.

### Smarter:

Designed by an offshore contractor; Snap-Trap®+ is a field proven solution with over one million installed worldwide.

### Faster:

Using Snap-Trap®+ means quicker installation, compared to traditional style clamps on the market, meaning less downtime

### Safer:

Choosing smarter solutions like Snap-Trap®+, Parker grade tube and instrumentation fittings as well as selecting the correct materials for the application means a much safer operating environment.

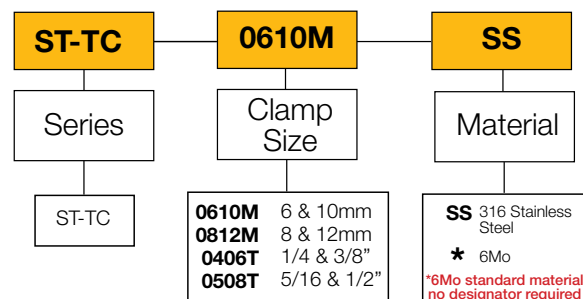
### Cleaner:

Corrosion between tubing and the support system is avoided

## How to Order - Tube Clamps

The correct part number is easily derived from the following number sequence.

The three product characteristics required are coded as shown opposite.





# WHAT COULD CORROSION COST YOU?

According to a US report, corrosion costs industry **\$276 billion every year**. Understanding how to control it is paramount to running a safe, productive and cost-effective operation.

## What is corrosion?

Corrosion is the deterioration of a substance or its properties because of a reaction with its environment. There are various kinds of corrosion, including uniform, galvanic, crevice, pitting, intergranular, and stress. Of these, crevice and pitting are among the most prevalent and problematic – particularly for marine-based industries.



## Crevice corrosion

This is an electrochemical oxidation-reduction process, which occurs within localised volumes of stagnant solution trapped in pockets, corners or beneath a shield (seal, deposit of sand, gasket or fastener, for instance). It is considered much more dangerous than uniform corrosion as its rate can be up to 100 times higher.

## Pitting corrosion

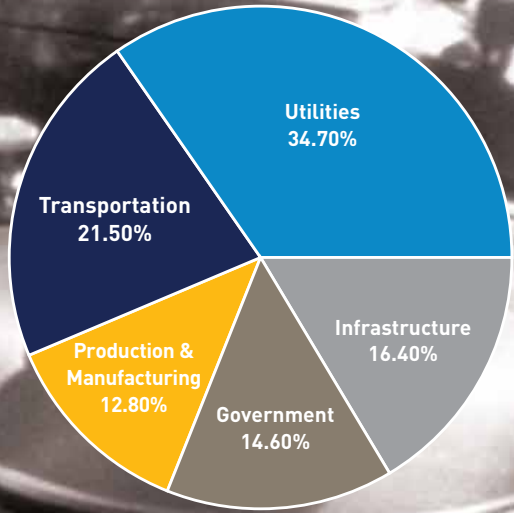
Pitting is characterised by a localised attack in the form of deep and narrow holes that can penetrate inwards extremely rapidly while the rest of the surface remains intact. It is most aggressive in solutions containing chloride, bromide or hypochlorite ions. The presence of sulphides and H<sub>2</sub>S can also promote it. Stainless steels are particularly sensitive to pitting corrosion in seawater environments.

## Costs derived from corrosion

- Replacing damaged equipment
- Overdesign
- Preventive maintenance
- Shutdown
- Contamination
- Decreased efficiency
- Failure of adjacent equipment
- Human lives



- Hazardous Materials Transportation
  - Ships & Aircrafts
  - Railroad & Vehicles
- Chemical, Petrochemical & Pharmaceutical
  - Food Processing
  - Pulp & Paper
  - Oil & Gas Exploration
  - Petroleum Refining
- Defence
  - Nuclear Waste Storage



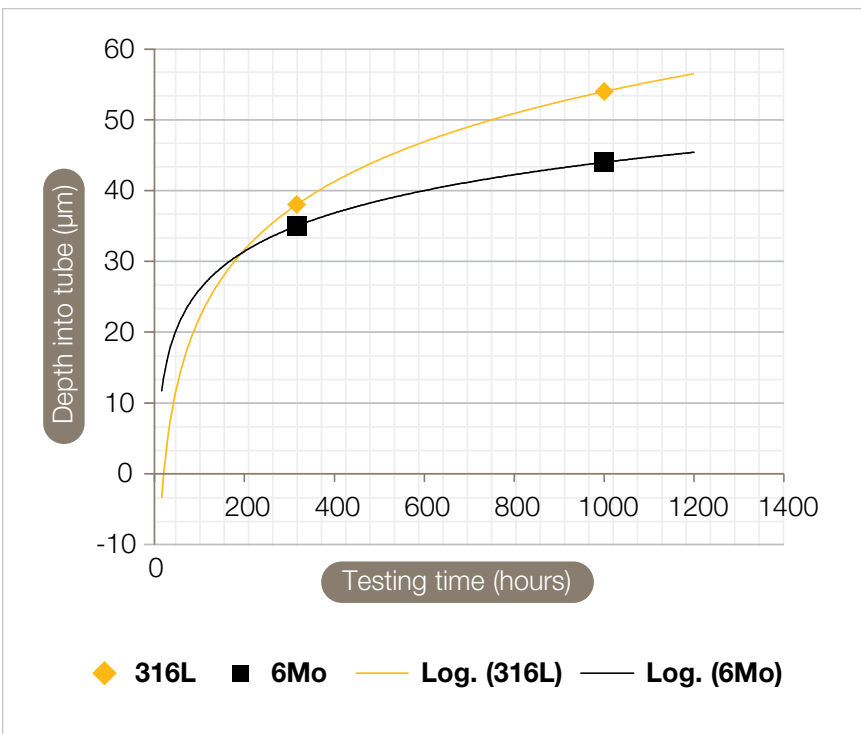
- Drinking Water & Sewerage
  - Gas Distribution
  - Electrical Utilities
- Gas & Liquid Transmission
  - Airports
  - Waterways & Ports



### Corrosion control

Certain measures, such as avoiding stagnant areas, installing draining systems or using cathodic protection, can help avoid both crevice and pitting corrosion. Perhaps more critical is choosing the best possible components for the given application and environment.

**Parker 6Mo Snap-Trap<sup>®</sup>+ tube clamps** have minimal tube contact points, making them a much better solution for avoiding crevice corrosion compared to traditional clamps, particularly in marine environments. And **Parker 6Mo tubing** is more resilient to uniform and pitting corrosion, with every batch tested as per the ASTM G48 standard. Together with Parker's 6Mo fittings, they give you far greater confidence in your long-term corrosion control.



### Tested, trusted

- An independent testing house performed a salt spray test of Parker tubing and clamps of different sizes and material combinations
- The test was performed according to ASTM B-117 / ISO 9227 which is testing in salt fog containing 5% NaCl and has a temperature of 35°C
- The testing time was 312 hours (13 days). This corresponds to about 5 years of vibration on an offshore platform. A second test lasting 1000 hours was also conducted as a comparison
- The 6Mo and 316L clamps and tube were attached to a common canal of AISI 316 and exposed to vibrations during the whole testing period
- The results clearly show no ill effects on the 6Mo tube from the clamp regardless of time spent under vibration

# Snap-Trap®+ Tube Clamps

## Clamps, Keys, Brackets and Cable Trays

Description	Size*	Part Number**
Tube Clamp to suit 6 & 10mm tube	6mm & 10mm	ST-TC0610M
Tube Clamp to suit 8 & 12mm tube	8mm & 12mm	ST-TC0812M
Tube Clamp to suit 1/4" & 3/8" tube	1/4" & 3/8"	ST-TC0406T
Tube Clamp to suit 5/16" & 1/2" tube	5/16" & 1/2"	ST-TC0508T
Snap-Trap®+ assembly key for ST-TC	Small clamp key	TC-01-KEY
Small bracket for use with ST-TC Clamps	75 x 40mm	ST-MC-S
Double bracket for use with ST-TC Clamps	75 x 75mm	ST-MC-D
Side rail cable ladder bracket	75 x 53mm	ST-TUB

\* Large clamps available on request with sizes up to 25mm & 1"

\*\* Please note that these clamps come in 6Mo as standard, to order stainless steel version please add "-SS" suffix to the end of the part number



Snap-Trap®+ Tube Clamp



Snap-Trap®+ Tube Clamp



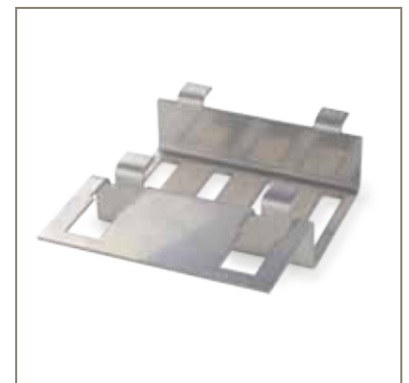
Snap-Trap®+ Assembly Key



Small Bracket



Double Bracket



Side Rail Ladder Bracket



## Cable Trays 20mm high x 3 metres long

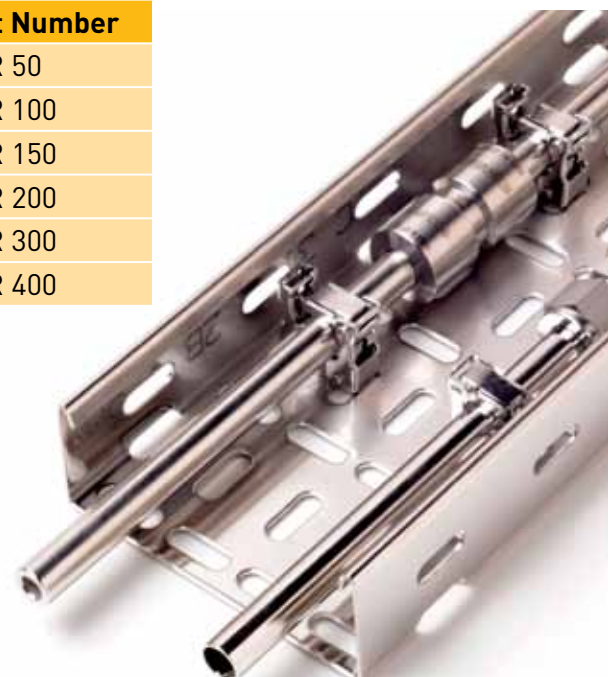
Description	Size	Part Number
CT Type Cable Tray	50mm w x 20mm h	KB 50/20
CT Type Cable Tray	100mm w x 20mm h	KB 100/20
CT Type Cable Tray	150mm w x 20mm h	KB 150/20
CT Type Cable Tray	200mm w x 20mm h	KB 200/20
CT Type Cable Tray	300mm w x 20mm h	KB 300/20
CT Type Cable Tray	400mm w x 20mm h	KB 400/20
CT Type Cable Tray	500mm w x 20mm h	KB500/20
CT Type Cable Tray	600mm w x 20mm h	KB600/20

## Cable Trays 40mm high x 3 metres long

Description	Size	Part Number
CT Type Cable Tray	50mm w x 40mm h	KB 50/40
CT Type Cable Tray	100mm w x 40mm h	KB 100/40
CT Type Cable Tray	150mm w x 40mm h	KB 150/40
CT Type Cable Tray	200mm w x 40mm h	KB 200/40
CT Type Cable Tray	300mm w x 40mm h	KB 300/40
CT Type Cable Tray	400mm w x 40mm h	KB 400/40

## Cable Trays 40mm high with return flange x 3 metres long

Description	Size	Part Number
CTR Type Cable Tray with return flange	50mm w x 40mm h	KBR 50
CTR Type Cable Tray with return flange	100mm w x 40mm h	KBR 100
CTR Type Cable Tray with return flange	150mm w x 40mm h	KBR 150
CTR Type Cable Tray with return flange	200mm w x 40mm h	KBR 200
CTR Type Cable Tray with return flange	300mm w x 40mm h	KBR 300
CTR Type Cable Tray with return flange	400mm w x 40mm h	KBR 400



# Snap-Trap®+ Tube Clamps

## Accessories



Pan Head Screw



Locking Bolt



Hexagon Head Set Screw



Plain Nut



Flange Nut



Flat Washer



Lock Washer



Star Washer

Description	Size	Part Number
Locking bolt	M6 x 16mm long	M6LBX16-316
Locking bolt	M6 x 20 mm long	M6LBX20-316
Pan head screw	M6 x 16mm long	M6PHSX16-316
Pan head screw	M6 x 20mm long	M6PHSX20-316
Pan head screw	M6 x 25mm long	M6PHSX25-316
Pan head screw	M6 x 30mm long	M6PHSX30-316
Hexagon head set screw	M6 x 16mm long	M6HHSSX16-316
Hexagon head set screw	M6 x 20mm long	M6HHSSX20-316
Hexagon head set screw	M6 x 25mm long	M6HHSSX25-316
Plain nut	M6	M6PLNUT-316
Flange nut	M6	M6FLNUT-316
Flat washer	M6	M6FLWASHER-316
Lock washer	M6	M6LKWASHER-316
Star washer	M6	M6STWASHER-316

# Weld and Tray Rail Brackets

Description	Size	Part Number	Length "L" (mm)
Weld rail	44 x 27mm with 13mm return	ST-WR-0	57
Weld rail	44 x 27mm with 13mm return	ST-WR-1	217
Weld rail	44 x 27mm with 13mm return	ST-WR-2	297
Weld rail	44 x 27mm with 13mm return	ST-WR-3	3000
Tray rail	44 x 13mm with 13mm return	ST-TR-0	97
Tray rail	44 x 13mm with 13mm return	ST-TR-1	137
Tray rail	44 x 13mm with 13mm return	ST-TR-2	197
Tray rail	44 x 13mm with 13mm return	ST-TR-3	817
Splice plate	45 x 20mm x 200mm long	SP-SM/20	20
Splice plate	45 x 40mm x 200mm long	SP-SM/40	40



Weld Rail



Tray Rail



Splice Plate

# Snap-Trap<sup>®</sup>+ Tube Clamps

## Assembly Instructions



### To open Snap-Trap<sup>®</sup>+

- Open clamp fully by simply squeezing the clamp at point A1 by hand
- Insert clamp feet into the slots on the bracket or trays
- Once feet are in position, simply snap the two clamp sides together
- Instructions can also be viewed on [YouTube.com/ParkerIPDE](https://www.youtube.com/ParkerIPDE)



### To assemble Snap-Trap<sup>®</sup>+

- Position tubing into the clamp and hook the assembly key at the back of the clamp
- Apply pressure until the clamp top plate engages behind the lugs on the lug side of the clamp. Ensure that the top plate is located firmly against the tubing
- The top plate is designed to cater for any tolerance variants within the tube



### Additional notes

- When mounting clamps in any tubing run, ensure all of the clamps are mounted with their hinges facing the same way. This will ensure there is no twist transmitted to the tubing run.

**Time savings:** on a witness trial against competitive systems, 3 tube runs requiring 6 Snap-Trap<sup>®</sup>+ fittings were completed in less than 2 minutes - compared with over 5 and 11 minutes - a remarkable gain in productivity.

	Clamp A	Clamp B	Snap-Trap <sup>®</sup> +
# parts for one tube size	12	7	1
# parts for range of tubing	29	12	2
typical assembly time for 6 clamps	11m 35s	5m 17s	1m 55s





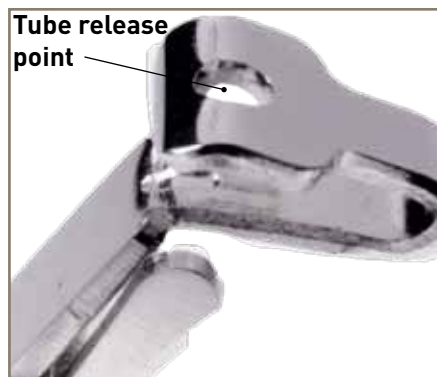
Scan this QR code to view  
YouTube assembly videos

## Disassembly Instructions



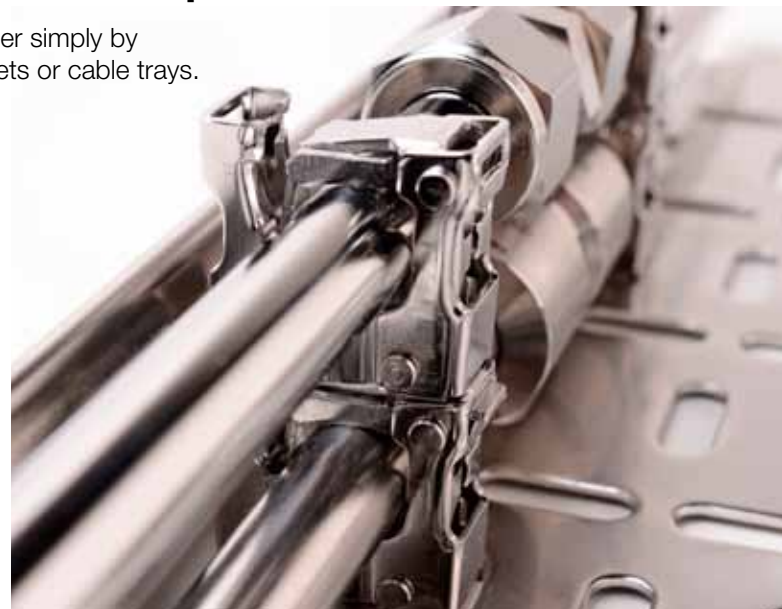
### To disassemble Snap-Trap<sup>®</sup>+

- Using the assembly key, insert centre pin into the tube release point on the arm
- Apply pressure to ease the top plate away from the tube and the clamp lugs



### To stack mount the Snap-Trap<sup>®</sup>+ tube clamp

Snap-Trap<sup>®</sup>+ tubing clamps can be stack mounted on to each other simply by following the same instructions as those for mounting on to brackets or cable trays.



# Snap-Trap®+ Tube Clamps

## Training - Small Bore Expert

### The Right Tube + The Right Tubing Support + The Right Fitting + A Parker Trained Fitter = A High Integrity Solution

The course has been developed as an upgrade and replacement to our industry leading Safety at Work Programme, providing material that is relevant to your on site engineers.

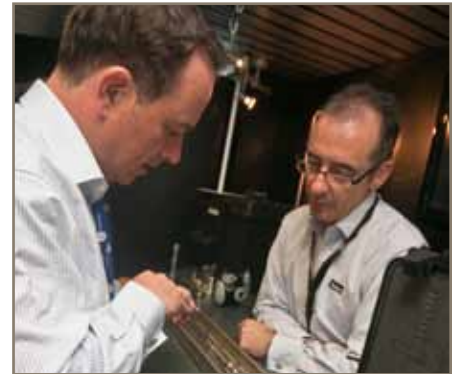
#### Some of the advantages over our existing programme are:

- Greater knowledge of small bore tubing systems
- Increased product familiarity
- Improved selling and presentation ability
- Increased skills and confidence in dealing with small bore systems
- Ability to deliver chargeable training

#### The benefits that your trained engineer will get, include:

- Increased understanding of their own systems and installation practices
- Improvements in the safety and integrity of their small bore tubing system
- Overall asset integrity improvement

This will be the only licensed and certified training course that we will allow to be run with our support



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