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**ARTA**<sup>®</sup>  
*more than stainless steel*

**NTS<sup>®</sup>-SZ**

**Safety Breakaway  
 Coupling with cable pull**

Maximum safety with a non-destructive release  
 pipe and flexible hose breakaway without  
 product loss





# CHEMICALS

## Our Company

For more than 50 years ARTA has been the market leader in innovative engineered couplings, complete system solutions and specialised service for the chemical-, petrochemical-, food- and pharmaceutical industry. We offer our costumers state of the art products and accessories through continous research and development. ARTA's products are continuously updated according to our customers' needs and our costumer service covers all areas from early budgetary planning to after-sales care.

## Applications

The ARTA NTS®-SZ system is designed to transport liquid, gas and solid products.

The NTS®-SZ utilizes a cable which is shorter than the hose or a loading arm. This allows for a total independence from any pull angle. Additionally, it operates independently from the line pressure which makes the NTS®-SZ the most predictable and versatile breakaway on the market.

ARTA NTS®-SZ protects the operator, the equipment and the environment against damages and leaks in the event of an emergency breakaway.

The ARTA NTS®-SZ controlled release between the vehicle and the equipment is activated when a tank truck, railcar or barge moves away unintentional.

## Advantages of the emergency release coupling with cable pull.

- **Independence from the pull angle**

A 360° radius of activation makes the NTS®-SZ totally independent from any pull angle.

- **High performance activation mechanism**

At no time the system ever experiences pull stress before, during and after an emergency release.

- **Non-destructive release provides maximum safety**

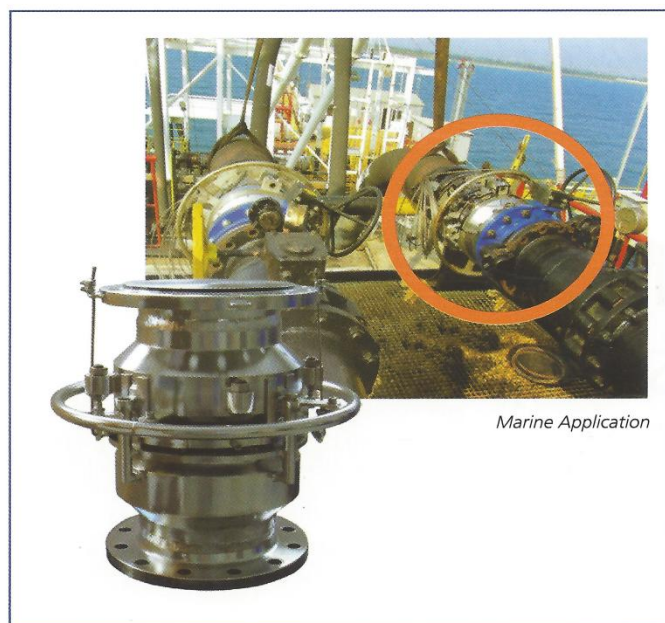
The ARTA non-destructive system insures a safe and quick release. None of the components are destroyed in case of an emergency release.

- **Fast and simple onsite assembly**

No special tools or spare parts such as shear bolts are required after an emergency breakaway. Reassemble time is minimal and can be done at the plant site.

- **Maximum flow**

The optimized design of the NTS®-SZ insures that pressure loss is minimized while the transportation volume is maximized as much as possible.



Marine Application



## Operation

Upon an unintended pull force, the NTS®-SZ separation mechanism is activated and releases both coupler halves while closing both ends instantly.

## Applications

The NTS®-SZ finds its use in unloading or fill lines for liquids, gases or solids. It operates under vacuum or positive pressure conditions. Adequate for liquid, gas or solid products - vacuum or supply connections:

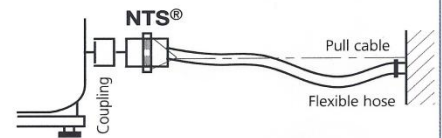
- Tank trucks (truck and railcar)
- Barges
- Containers
- Pumping, mixing and loading stations
- Hose stations

## High performance in:

- Low and high temperature applications
- Vacuum and high pressure applications

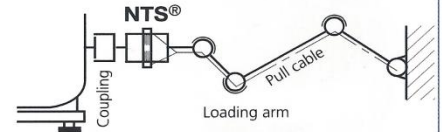
### Loading hose

Tank truck  
Railcar  
Tanker ship



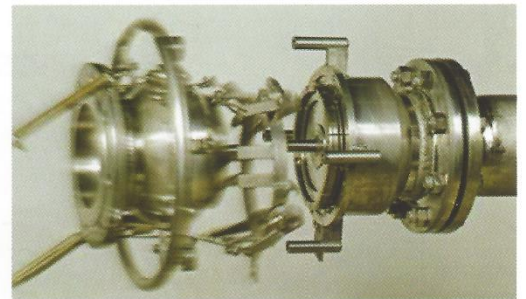
### Loading arm

Tank truck  
Railcar  
Tanker ship



## Technical specifications

<b>Nominal diameter:</b>	DN25 to DN300 (1" – 12")
<b>Pressure rating:</b>	PN16 to PN40, 225-600 psi
<b>Working temperatures:</b>	Standard -50°C to +180°C (-58°F to +356°F), heating and cooling jackets available
<b>Materials of construction:</b>	Stainless steel (e.g. 304, 316) or Hastelloy® and PTFE internal parts for aggressive products
<b>Seal materials:</b>	Elastomers, perfluorelastomers and others depending on the product to be handled
<b>Connections:</b>	Threads: NPT, BSP, ISO, others Flanges: DIN, ANSI, ISO, ASME, others
<b>Accessories:</b>	Proximity switches Pre alert system Manual activation system Remote control system (hydraulic, pneumatic)



### Non-destructive release with NTS®-SZ

No components are destroyed during an emergency breakaway. Since no spare parts are required, the simple reassembly can be done easily.

**Approved by: TÜV, CE, Abz**





**CHEMICALS**



**OIL & GAS**



**PHARMA**

## NTS<sup>®</sup>-family of emergency breakaway couplings



### NTS<sup>®</sup>-PI - release under straight pull - no angle



The NTS<sup>®</sup>-PI enables a safe non-destructive spill-free breakaway of hoses and loading-arm systems regardless of system pressure.

Both halves of the NTS<sup>®</sup>-PI device are equipped with spring-loaded check valves that prevent product spills on both ends in case of an emergency breakaway. The manual release mechanism is activated by the axial tensile load and disconnects the system without spills.

The NTS<sup>®</sup>-PI is typically built into the hose string and the release is triggered by an axial tensile load. The integrated swivel function protects flexible hoses and loading arms. It does not require spare parts or special tools for a quick and safe assembly after a breakaway.



### NTS<sup>®</sup>-PU - release at any pull angle from 180°



The NTS<sup>®</sup>-PU can be built into a hose string or mounted onto a manifold. The pull-away usually occurs at an angle but straight pull-aways are also possible to trigger a safe separation. The NTS<sup>®</sup>-PU enables non-destructive, safe and spill-free breakaways of flexible hoses and pipe systems for loading and unloading. Further, the NTS<sup>®</sup>-PU system responds to unexpected pressure spikes by triggering a separation. Both halves of the NTS<sup>®</sup>-PU are equipped with spring-loaded check valves that prevent potential fluid spills on both ends in the case of an emergency breakaway. The manual release is also available. No spare parts or special tools are required for a quick and safe assembly after a breakaway.



### NTS<sup>®</sup>-SZ-CS for aggressive products – release by cable pull



The NTS<sup>®</sup>-SZ-CS works under the same principle as the NTS<sup>®</sup>-SZ (cable pull) and has been designed to handle aggressive organic, inorganic, acid or base products.

Bottomloading with **NTS<sup>®</sup>-PU**

Toploading with **NTS<sup>®</sup>-PI**

Loading-Arm with **NTS<sup>®</sup>-SZ**

