

K L A W

## TTMA Breakaway Couplings



Protecting Terminal Loading Arms  
from the risk of truck or railcar drive-off.

**KLAW**

[Product Guide](#)



# TTMA Breakaway Couplings

## Truck and Trailers Manufacturers Association (TTMA) Breakaway Coupling for truck loading at terminals using bottom Loading Arms

- This vital piece of equipment significantly reduces the consequences of a truck or railcar drive-off.
- Separation of the Breakaway Coupling protects the Loading Arm and loading vehicle (truck or railcar) from damage. Downtime and clean-up costs are also greatly reduced.
- Instantaneous closure of upstream and downstream flow reduces the risk of asset damage and injury potentially caused by spillage.

## Typical Applications

The KLAW TTMA Breakaway Coupling is suitable for Bottom Loading Arm environments where there is risk of explosive atmospheres due to flammable gases, mists, vapours or combustible dusts.



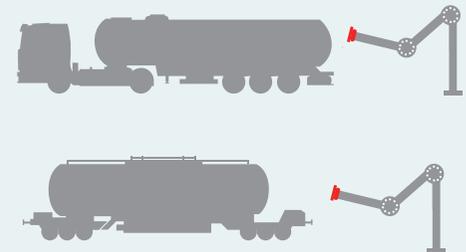
## Avoid the consequences of drive-off



The lack of a Breakaway System in the event of a drive-off can be catastrophic.



■ KLAW Breakaway Coupling



KLAW Breakaway Systems prevent spillage, damage to assets and injury to personnel.

## Available as Breakstud or Cable Release

### Breakstud Activated Breakaway Coupling (BAC)

Delivers an effective and simple safety breakaway solution.



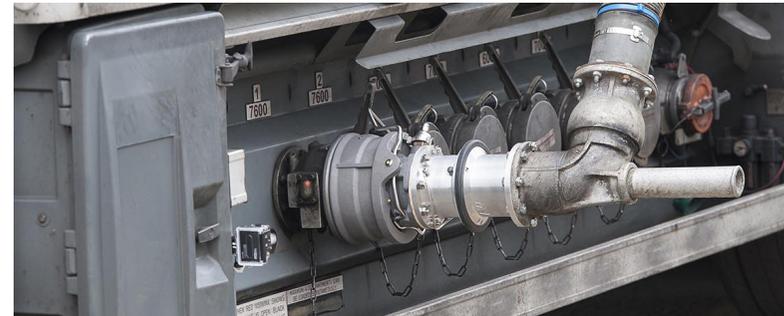
### Cable Release Emergency Release Coupling (ERC)

Delivers no strain on the Loading Arm.



### The lightest TTMA Breakaway Coupling on the market

- Both BAC and ERC options are made with aluminium casing.
- The KLA W Flap-Flap Valve mechanism is less complex and therefore lighter than other valve options such as poppet.



# Designed for tight spaces

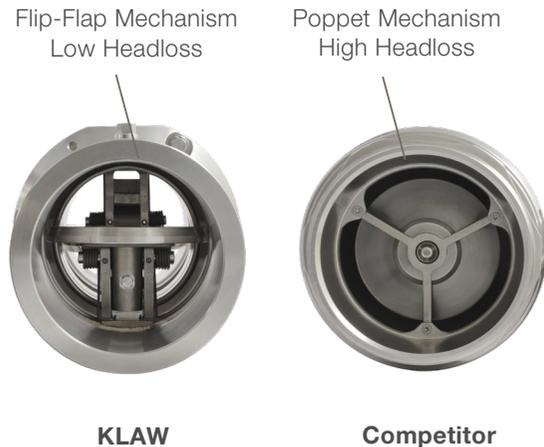
## The shortest and most compact TTMA Breakaway Coupling on the market

- The KLAW Flip-Flap Valve design allows for a more compact solution compared to other Valve options such as Poppet.
- The coupling also replaces the spool piece.
- Designed for the specific balancing requirements of Loading Arms.
- Easy lightweight handling therefore improves operational efficiency: crucial where available space at loading terminals is often limited.

## Minimum pressure drop

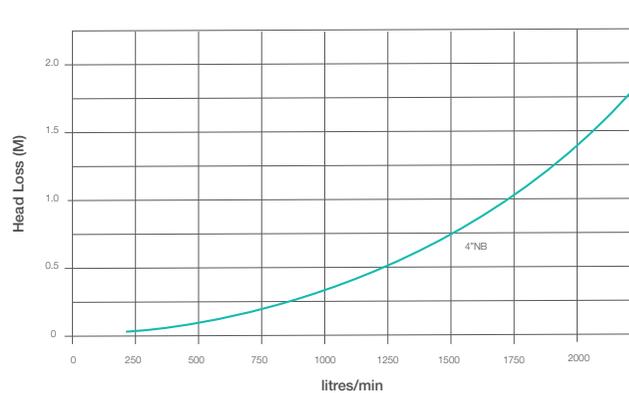
KLAW Flip-Flap Valve technology offers minimum pressure drop and significant flow advantages over alternative competitor valve designs.

### Flip-Flap Valve v Poppet



Both couplings shown in the 'open' position.

### KLAW TTMA BAC 4" Flow Rate Characteristics



Typical flow rate: 4" DN100 – 2250 LPM.

## Approvals

The KLAW TTMA Breakaway Coupling is approved and used by major operators throughout the world.

The TTMA Breakaway Coupling from KLAW is the Industry Standard.

## Specifications

**Weight:** BAC 5.80 Kg    ERC 8.98 Kg

**Length:** BAC 227 mm    ERC 217 mm  
Based on 4"

**Sizes:** 4" DN100

**Material:** Lightweight aluminium.

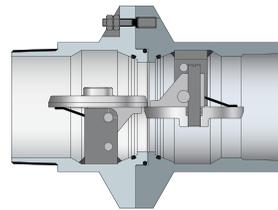
ATEX compliant strap is anti-static and fitted as standard.

# KLAW Flip-Flap Valve Technology

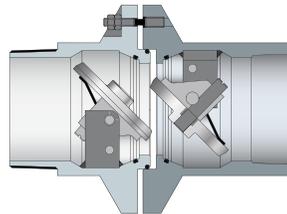
## BAC: Sequential Closure using KLAW Breakstud Release technology

### Sequential Closure using KLAW Breakstud Release technology

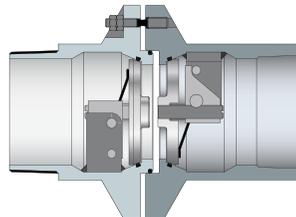
1. Internal flaps are positioned in line with the flow. These keep each other open, offering minimum headloss.



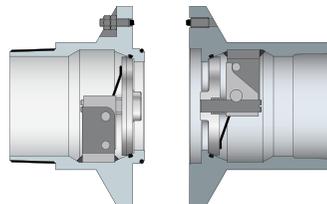
2. As the unit begins to separate, the discs flip through a controlled arc.



3. The discs snap onto their seats, providing 100% shut-off.



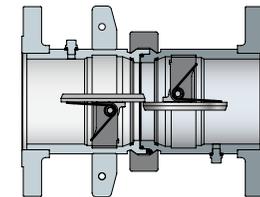
4. With the valves in the closed position the coupling now separates.



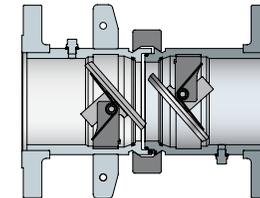
## ERC: Sequential Closure using KLAW Collar Release technology

### ERC Flip-Flap valve: Sequential Closure using KLAW Collar Release technology

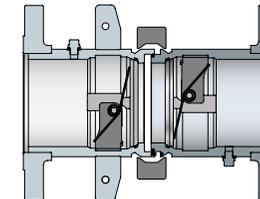
1. Flip-Flap Valve mechanism is in open flow status.



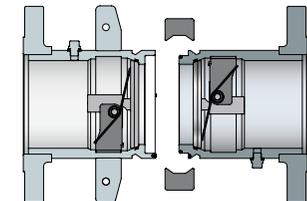
2. Collar Release is activated (via Cable or Hydraulic system).



3. Body seal retains media until the valves close. With the Flip-Flap Valves closed, the separation sequence continues.



4. Collar Release is detached and the coupling is separated.



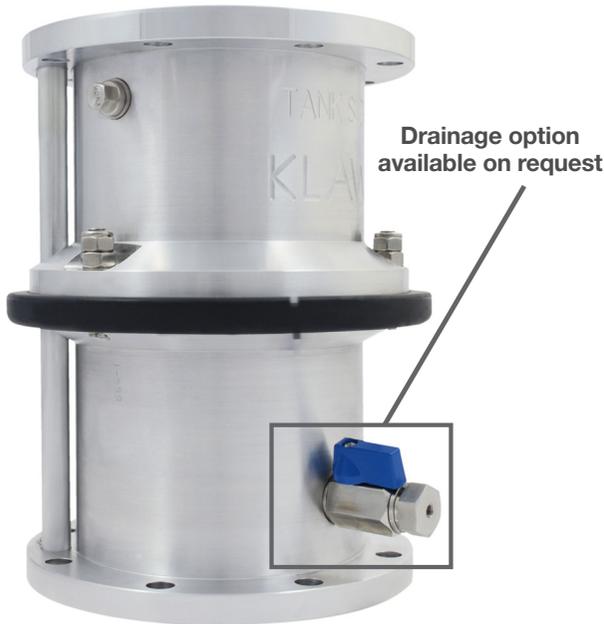
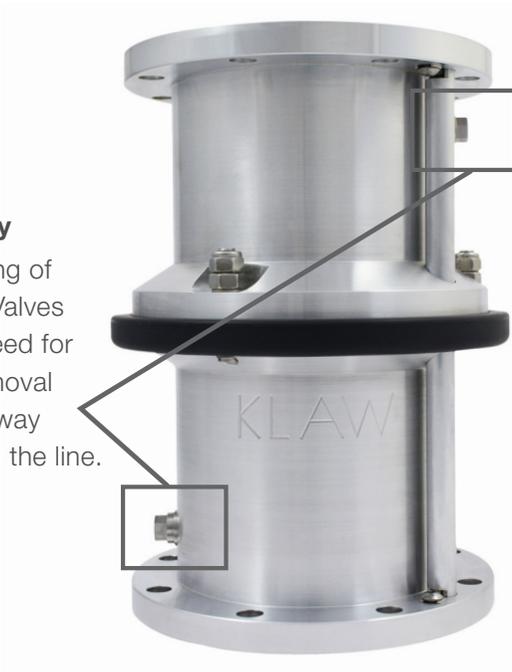
Conceptual illustrations shown. Contact KLAW for technical representations.

# Practical solutions for safer transfers

## Designed for easy maintenance

### KLAW Easy Reset Facility

Allows resetting of the Flip-Flap Valves without the need for chocks or removal of the Breakaway Coupling from the line.



## Avoid the consequences of partial break

**The valve mechanism within the KLAW range is designed to avoid the risk of partial break.**

Partial break occurs when a coupling only partially separates. A partial break event provides a situation where spillage is uncontrollable.



**Other Breakaway Couplings can result in uncontrolled spillage in the event of a partial separation.**



**KLAW Breakaway Couplings provide 100% closure even on partial separation.**

## Industrial Breakaway Couplings

### FLOW BREAK

THE INDUSTRIAL BREAKAWAY COUPLING

- 100% instantaneous closure.
- Minimum headloss.
- Compact and lightweight.
- ATEX cable fitted as standard.
- Reset plugs deliver easy to reset procedure after service or activation.



Shown size 1"

Threaded / Flanged or Weld End Connections available.

Sizes available: 1/2" to 12"



## Emergency Release Couplings



- 100% instant closure in the event of an emergency.
- Collar Release Couplings offer controlled, automatic and manual override options.
- Minimises stress on Loading Arm, hose or pipework assembly.
- Available as Cable, Hydraulic or Dual Release.

Sizes available: 1" to 12"

## Dry Break Couplers



- Single action grip and lock.
- No spillage.
- Safety Locking Pin.
- Selectivity options.

## Flange cam connections

### FLANGE LOCK

- Up to 50 times faster than traditional methods of connecting flanges.
- No need for nuts, bolts or gaskets.
- Reduces risk of hand and finger injuries.
- Simply use a round steel bar or locking wrench to tighten or release the cam.



## Non-Closure Breakaway Couplings



- Provides a defined parting point within the transfer system.
- Minimises strain on the loading arm or pipework when an event occurs.
- Ideal for transfer operations designed for non-hazardous permissible spills.

## The advantages of KLAW transfer safety systems

KLAW designs and supplies a range of systems designed to improve safety and efficiency during the transfer of media.

This enables you to minimise risk to assets, personnel, the environment and reputation and protect against downtime and clean-up costs, litigation, injury, increased insurance and investment costs caused by higher risk.

KLAW offers experience and a track-record for innovation and reliable solutions.

## The KLAW range

Marine Breakaway Couplings  
Industrial Breakaway Couplings  
Full Bore Marine Breakaway Couplings  
Emergency Release Couplings  
Emergency Release Systems  
Cryogenic Emergency Release Systems  
Dry Disconnect Couplings  
Camlocks  
Swivel Joints

### IMPORTANT:

**Specification:** KLAW recommends that all information and data are confirmed with the KLAW Technical Department before specifying, ordering or commissioning.

**Usage:** Please refer to the correct Installation and Maintenance Manual for information or instruction regarding the installation, handling, operation, maintenance and servicing of any product mentioned in this literature. Further advice is available from the KLAW Technical Department.

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