

## Breakaway, Emergency Release and Dry Break Couplers

### INTRODUCTION

Product Overview: Breakaway Couplings, Dry Break Couplings and Emergency Release Couplings

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### MAINTENANCE & SERVICING

Spares Kits and Repairs

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### MARINE RANGE

Size : 1/2" - 8"

Material : 316 Stainless Steel & Aluminium

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### INDUSTRIAL RANGE

Size : 1/2" - 12"

Material : 316 Stainless Steel

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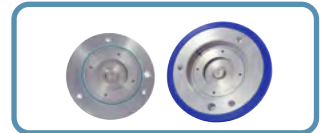


### CRYOGENIC RANGE

Size : 1/2" to 10"

Material : 316 Stainless Steel

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## Breakaway, Emergency Release and Dry Break Couplers

### Product Overview:

#### Breakaway Couplings:

Breakaway Couplings have breakstuds that hold the two halves of the coupling together. Its purpose is to resist external loads and line pressure up to a pre-determined point. The Coupling then activates when subjected to forces higher than the breakload setting. The Breakaway Coupling range offers a safe and identifiable parting point within the transfer system and will stop flow in an emergency such as a drive-off or other strain on the transfer system.

**Materials:** Stainless Steel, Carbon, C276, Titanium, Alloy 20 (not all materials can be offered on the entire range)

**Size:** 1-1/2" - 12" (not all sizes can be offered on the entire range)

**Applications:** Industrial, Cryogenic and Marine

**Breakload:** 15KN - 160KN (Breakload varies on each range)

**Breakaway Coupling Range:**

- Marine 2 Breakaway Couplings
- Marine Breakaway Couplings
- Industrial Breakaway Couplings
- TTMA Breakaway Couplings
- Non-cloure Breakaway Couplings



#### Dry Disconnect Couplings:

Connects and disconnects transfer lines with no spillage. Valves open and close automatically on connection and disconnection. This reduces the possibility of human error in transfer operations and reduces spillages to virtually zero.

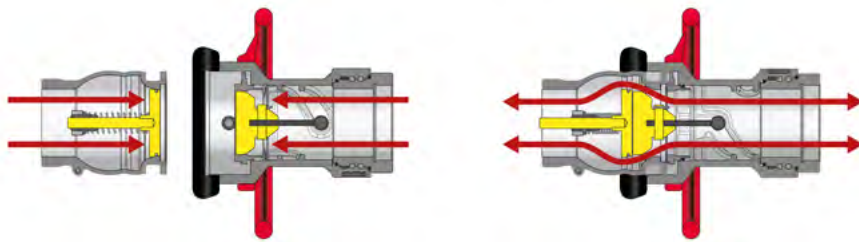
**Materials:** Stainless Steel, Aluminium

**Size:** 1/2" - 8"

**Applications:** Liquid, Dry Gas, Cryogenic

**Handle options:** Round, Square Grip, Knurled Grip, Double Square (Red, Blue and polished Stainless Steel)

**Standards:** Fully compliant to NATO/STANAG 3756, ISO 18683, ISO 21593



#### Emergency Release Couplings (ERC):

Emergency Release Couplings offer a release collar mechanism that resists operating loads via a cable or hydraulic system. A Dual release system utilising both cable and hydraulic methods is also an option. The Emergency Release System can be designed to your specific needs. In an emergency, the valves close and the ERC separates. This shuts off the downstream and upstream flows of media within the transfer system.

**Materials:** Stainless Steel, Aluminium, C276, Carbon Steel

**Size:** 1" - 10"

**Applications:** Industrial, Marine and Cryogenic

**Breakaway Type:** Cable, Hydraulic, Dual Release, Controlled Hydraulic Closure, Spring Retained, High Performance



## Breakaway, Emergency Release and Dry Break Couplers

### Maintenance:

#### Installation Operations Maintenance:

To ensure that the unit performs at its optimum level, we advise that the Installation and Operational Guidelines detailed in the IOM Manual(Installation Operations Maintenance) is read and followed.

On request we can add your coupling to our Asset Management Register (HMS) to send you maintenance reminders.

#### Service /Spares Kit:

We recommend servicing all couplings at least annually. Service/Spares Kits can be purchased to carry out maintenance and servicing. If you require a service/spares kit all we require is the serial number marked on the coupling. This will enable us to identify the component and its settings. The below image show the typical location of Serial/Reference Numbers:



### Refurbishment:

Breakaway couplings will be inspected at our facility and a quotation will then be provided detailing approximate costs and time to complete the work. As standard, the coupling will be refurbished and tested by factory trained technicians.



## Breakaway, Emergency Release and Dry Break Couplers - Marine

### Marine Coupling Range:

## MARINE

BREAKAWAY // COUPLINGS

#### MARINE2 BREAKAWAY

Size : 4"  
Material : Stainless Steel

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#### MARINE BREAKAWAY

Size : 3" - 8"  
Material : Stainless Steel

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#### DRY DISCONNECT HOSE UNIT

Size : 1/2" to 8"  
Material : Stainless Steel, Aluminium

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#### DRY DISCONNECT TANK UNIT

Size : 1/2" - 8"  
Material : Stainless Steel, Aluminium

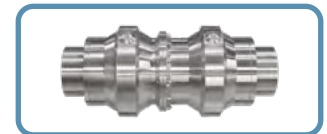
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#### KLAWZERO FULLBORE MARINE BREAKAWAY

Size : 4" - 8"  
Material : Stainless Steel & Aluminium

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#### EMERGENCY RELEASE COUPLING

Size : 1" - 10"  
Material : Carbon Steel, Stainless Steel

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#### QUICK CONNECT FLANGE

Size : 8" - 24"  
Material : Forged Steel ASTM 105, Stainless Steel

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## Breakaway, Emergency Release and Dry Break Couplers - Marine



### MARINE2 BREAKAWAY COUPLING

Designed to limit stress and fatigue on hoses, especially when wound on hose reels. The Marine2 Breakaway Coupling is 32% shorter and 25% lighter than alternatives.

**Sizes:** 4"

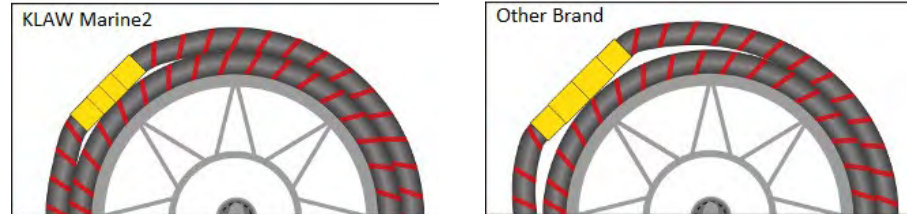
**Housing Material Options:** Stainless Steel

**Body and Seat Seal Options:** Viton, Nitrile, EPDM, Chemraz, Kalrez

**End Connections:** ANSI 150/300lb, BSPP, BSPT, NPT, Hammer Fig 50/100/200 (MxF)

**Break Load:** 30KN to 80KN

**Breakstud Materials:** Stainless Steel 303, Titanium, Inconel 625



### MARINE BREAKAWAY COUPLING



Marine Breakaway Coupling provides an identified and safe parting point within the hose transfer system. When tensile forces exceed predetermined tolerances, the coupling activates.

**Sizes:** 2 - 8"

**Housing Material Options:** Stainless Steel

**Body and Seat Seal Options:** Viton, Nitrile, EPDM, Chemraz, Kalrez, Low Temp. Nitrile

**End Connections:** ANSI 150/300lb, BSPP, BSPT, NPT, Hammer Fig 50/100/200 (MxF)

**Break Load:** 20KN to 80KN

**Breakstud Materials:** Stainless Steel 303, Titanium, Inconel 625

### DRY DISCONNECT / DRY BREAK COUPLINGS



#### HOSE UNIT

The Dry Disconnect automatic valve open and closure design means there is no spillage on connection or disconnection. This prevents costly clean-up costs. These couplings are fully interchangeable with couplings that conform to STANAG 3756.

**Size :** 1/2" to 8"

**Material :** Stainless Steel, Aluminium

**End Connections:** ANSI 150/300lb, PN10, TTMA, PN40, BSPP, BSPT, NPT

**Seal Type/Dust Seal Options:** Viton, Chemraz, EPDM, GLT, Isolast, Kalrez, Low Temp Nitrile, Nitrile, NBR, Silicon, Neoprene, Cryo PTFE

**Handle Options:** Round, Square Grip, Knurled Grip, Double Square Grip

**Handle Colour:** Red, Polished ST/ST, Blue

**Plug Options:** Rubber, Aluminium,

#### TANK UNIT

The Dry Disconnect automatic valve open and closure design means there is no spillage on connection or disconnection. This prevents costly clean-up costs. These couplings are fully interchangeable with couplings that conform to STANAG 3756.

**Size :** 1/2" to 8"

**Material :** Stainless Steel, Aluminium, Super Duplex, Duplex, C276, Carbon Steel, Hastelloy

**End Connections:** ANSI 150/300lb, PN10, TTMA, PN40, BSPP, BSPT, NPT

**Seal Type/Dust Seal Options:** Viton, Chemraz, EPDM, GLT, Isolast, Kalrez, Low Temp Nitrile, Nitrile, NBR, Silicon, Neoprene, Cryo PTFE

**Cap Options:** Rubber, Aluminium





## Breakaway, Emergency Release and Dry Break Couplers - Marine



### EMERGENCY RELEASE COUPLING (ERC)

Emergency Release Couplings (ERC) and Emergency Release Systems (ERS) minimise risk of spills by closing both downstream and upstream flows of media within the Hose or Loading Arm transfer system. When an event occurs, Flip-Flap Valves close and the Emergency Release Coupling separates. These couplings therefore minimise risk to assets and the environment and help protect personnel from injury. Clean-up costs and downtime are also greatly reduced.

**Sizes:** 1" - 10"

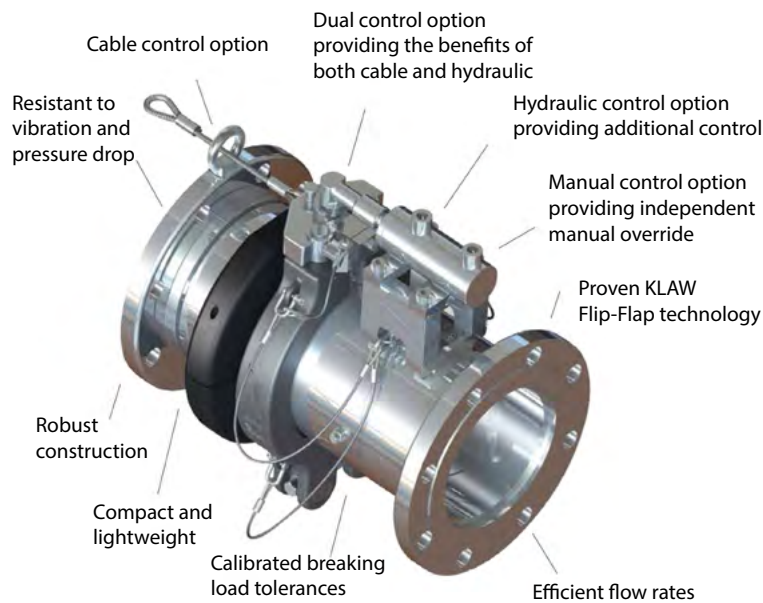
**Pressure:** 10 - 40 Bar (depending on size)

**Housing Material Options:** Stainless Steel, Carbon Steel

**Body and Seat Seal Options:** Viton, Nitrile, EPDM, Chemraz, Kalrez, Silicon, PTFE, Low Temp Nitrile, Isolast

**Breakaway Type:** Cable, Hydraulic, High Performance, Dual Release, Spring Retained

**End Connections:** ANSI 150/300lb, PN 10, 16, 25,40, BSPP, BSPT, NPT, SHD 40 Butt Weld



### KLAWZERO FULLBORE MARINE BREAKAWAY



The KLAWZERO is the most efficient and robust 100% double clourse coupling in the Marine Industry. Its full bore design provides full flow with no head loss Ideal for cuttings fluid, well testing, mud and hydrocarbons in flowback operations.

**Size:** 4" - 8"

**Housing Material Options:** Stainless Steel, Aluminium

**Internal Material Options:** Stainless Steel, Aluminium, Titanium

**Body and Seat Seal Options:** Viton, Nitrile, EPDM, Chemraz, Kalrez

**End Connections:** ANSI 150/300lb, BSPP, BSPT, NPT

**Breakstud and nut Materials:** Stainless Steel 303, Titanium, Inconel 625

**KLAWZERO**

### FLANGE LOCK: QUICK CONNECT FLANGE



The quick connect Flange Lock is up to 50 times faster than traditional flange connections and is ideal for ship terminals wanting cost efficient and safe transfer solutions. No nuts, bolts or gaskets required so vessels can spend less time at berth and that means more ships off-loaded each week – delivering higher profits.

**Size:** 8" - 24"

**Fitment Types:** Short Spool Piece, Weld Neck, Studded, Slip-on

**End Connections:** ASME Class 150, 300, 600, DIN PN10, 16, 25, 40, JIS, etc.

**FLANGE LOCK**

## Breakaway, Emergency Release and Dry Break Couplers - Industrial

### Industrial Coupling Range:

# FLOW BREAK

THE INDUSTRIAL BREAKAWAY COUPLING

#### INDUSTRIAL BREAKAWAY COUPLING

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Size : 1/2" - 12"

Material : Stainless Steel, Aluminium, C276, Carbon Steel, Titanium, Alloy 20



#### DRY DISCONNECT HOSE UNIT

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Size : 1" to 8"

Material : Stainless Steel, Aluminium



#### DRY DISCONNECT TANK UNIT

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Size : 1" - 8"

Material : Stainless Steel, Aluminium

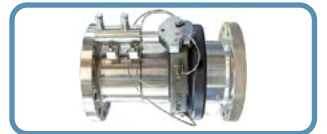


#### EMERGENCY RELEASE COUPLING

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Size : 1" - 10"

Material : Carbon Steel, Stainless Steel



#### QUICK CONNECT FLANGE

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Size : 8" - 24"

Material : Forged Steel ASTM 105, Stainless Steel



Safety Breakaway Coupling are suitable for 99% of all liquids and gases.

## Breakaway, Emergency Release and Dry Break Couplers - Industrial



**FLOW BREAK**  
THE INDUSTRIAL BREAKAWAY COUPLING

### INDUSTRIAL BREAKAWAY COUPLING

In the event of drive-off or extreme pressure surge the Flowbreak activates and delivers 100% instantaneous closure of both upstream and downstream flow. The coupling then separates therefore minimising risk of damage to assets such as loading arms, hoses, mountings and other parts of the transfer system.

**Sizes:** 1-1/2" - 12"

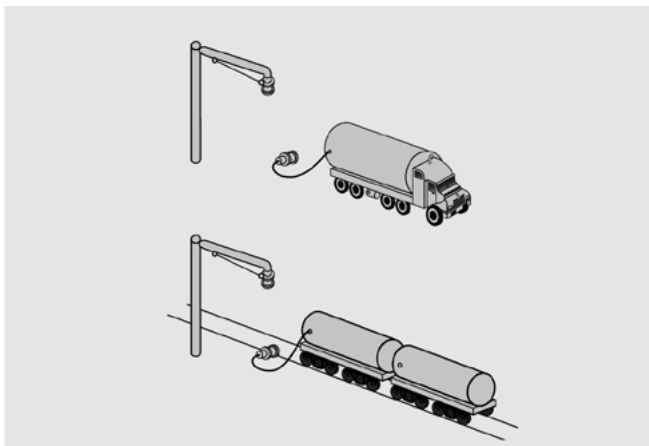
**Housing Material Options:** Aluminium, Stainless Steel, Carbon Steel, C276

**Body and Seat Seal Options:** Encapsulated PTFE, Viton, Nitrile, EPDM, Chemraz, Kalrez, Silicon, Isolast, Cryogenic PTE, White PTFE

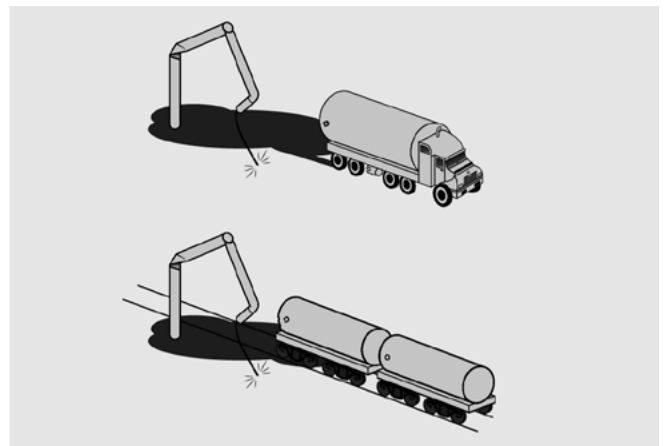
**End Connections:** ANSI 150/300lb, PN10, PN25, PN40, TTMA, BSPP, BSPT, NPT, SCH40 Butt Weld

**Break Load:** 15KN to 160KN

**Breakstud Materials:** Stainless Steel 303/316, Titanium, Inconel 600/686



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



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



### DRY DISCONNECT / DRY BREAK COUPLINGS



#### HOSE UNIT

The Dry Disconnect automatic valve open and closure design means there is no spillage on connection or disconnection. This prevents costly clean-up costs. These couplings are fully interchangeable with couplings that conform to STANAG 3756.

**Size :** 1/2" to 8"

**Material :** Stainless Steel, Aluminium

**End Connections:** ANSI 150/300lb, PN10, TTMA, PN40, BSPP, BSPT, NPT

**Seal Type/Dust Seal Options:** Viton, Chemraz, EPDM, GLT, Isolast, Kalrez, Low Temp Nitrile, Nitrile, NBR, Silicon, Neoprene, Cryo PTFE

**Handle Options:** Round, Square Grip, Knurled Grip, Double Square Grip

**Handle Colour:** Red, Polished ST/ST, Blue

**Plug Options:** Rubber, Aluminium



#### TANK UNIT

The Dry Disconnect automatic valve open and closure design means there is no spillage on connection or disconnection. This prevents costly clean-up costs. These couplings are fully interchangeable with couplings that conform to STANAG 3756.

**Size :** 1" to 8"

**Material :** Stainless Steel, Aluminium, Super Duplex, Duplex, C276, Carbon Steel, Hastelloy

**End Connections:** ANSI 150/300lb, PN10, TTMA, PN40, BSPP, BSPT, NPT

**Seal Type/Dust Seal Options:** Viton, Chemraz, EPDM, GLT, Isolast, Kalrez, Low Temp Nitrile, Nitrile, NBR, Silicon, Neoprene, Cryo PTFE

**Cap Options:** Rubber, Aluminium



## Breakaway, Emergency Release and Dry Break Couplers - Cryogenic

### Cryogenic Coupling Range:

# CRYO BREAK

THE CRYOGENIC BREAKAWAY COUPLING

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#### CRYOGENIC BREAKAWAY

Size : 1/2" - 4"

Material : Stainless Steel

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#### CRYOGENIC DRY DISCONNECT HOSE UNIT

Size : 1" - 8"

Material : Stainless Steel

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#### CRYOGENIC DRY DISCONNECT TANK UNIT

Size : 1" - 8"

Material : Stainless Steel

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#### CRYOGENIC EMERGENCY RELEASE COUPLING

Size : 1" - 10"

Material : Stainless Steel

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#### QUICK CONNECT FLANGE

Size : 8" - 24"

Material : Forged Steel ASTM 105, Stainless Steel

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## Breakaway, Emergency Release and Dry Break Couplers - Cryogenic



### CRYOGENIC BREAKAWAY COUPLING

The Cryobreak Breakaway Coupling minimises the risk of cryogenic media spills; this reduces the risk of both damage to assets and injury to personnel in the event of a drive-off or extreme pressure flow. It has been designed and manufactured for the safe transfer of media at cryogenic temperatures.

**Sizes:** 1/2" - 4"

**Temperature:** -196°C to +70°C

**CRYO BREAK**  
THE CRYOGENIC BREAKAWAY COUPLING

**Housing Material Options:** Stainless Steel

**Sealing Options:** Cryo, Viton, Nitrile, EPDM, Low Temp Nitrile, Chemraz, Kalrez, PTFE Isolast, GLT Viton

**End Connections:** ANSI 150/300lb, PN10, PN25, PN40, TTMA, BSPP, BSPT, NPT, SCH40 Butt Weld

**Break Load:** 15KN to 60KN

**Breakstud Materials:** Stainless Steel 316

**CRYODC**  
HOSE AND TANK COUPLINGS

### CRYOGENIC DRY DISCONNECT / DRY BREAK COUPLINGS



#### HOSE UNIT

The CryoDC is simple to use, fast to connect and disconnect, reliable and much safer than traditional flange connections or CGA fittings. Designed and interchangeable to ISO 18683

**Size :** 1" to 8"

**Material :** Stainless Steel

**End Connections:** ANSI 150, NPT Female (other connections available)

**Seal:** PTFE

**Applications:** LNG, Cryogenic gas, Bunkering, Tank Storage, Refuelling, Air Separation, Railcards and Trucks, ISO Tanks.



#### TANK UNIT

The CryoDC is simple to use, fast to connect and disconnect, reliable and much safer than traditional flange connections or CGA fittings. Designed and interchangeable to ISO 18683

**Size :** 1" to 8"

**Material :** Stainless Steel

**End Connections:** ANSI 150, NPT Female (other connections available)

**Seal:** PTFE

**Cap Options:** Aluminium (pictured below)



## Breakaway, Emergency Release and Dry Break Couplers - Cryogenic



### CRYOGENIC EMERGENCY RELEASE COUPLING

Emergency Release Couplings (ERC) minimise risk of spills by closing both downstream and upstream flows of media within the Hose or Loading Arm transfer system. With utilisation of a collar release mechanism rather than the regular breakstud release options the collar release offers a set predetermined activation point before there is any over extension of the attached loading system or hose assembly. The Cryogenic ERC ensuring 100% closure: even in the most demanding of operating conditions.

**Temperature:** -196°C to +70°C

**Housing Material Options:** Stainless Steel, Carbon Steel

**Seal:** Cryogenic PTFE

**End Connections:** ANSI 150/, NPT Female (other connections available)



LNG Emergency Release Systems

