

**K L A W**

## Emergency Release Couplings



### Typical media applications

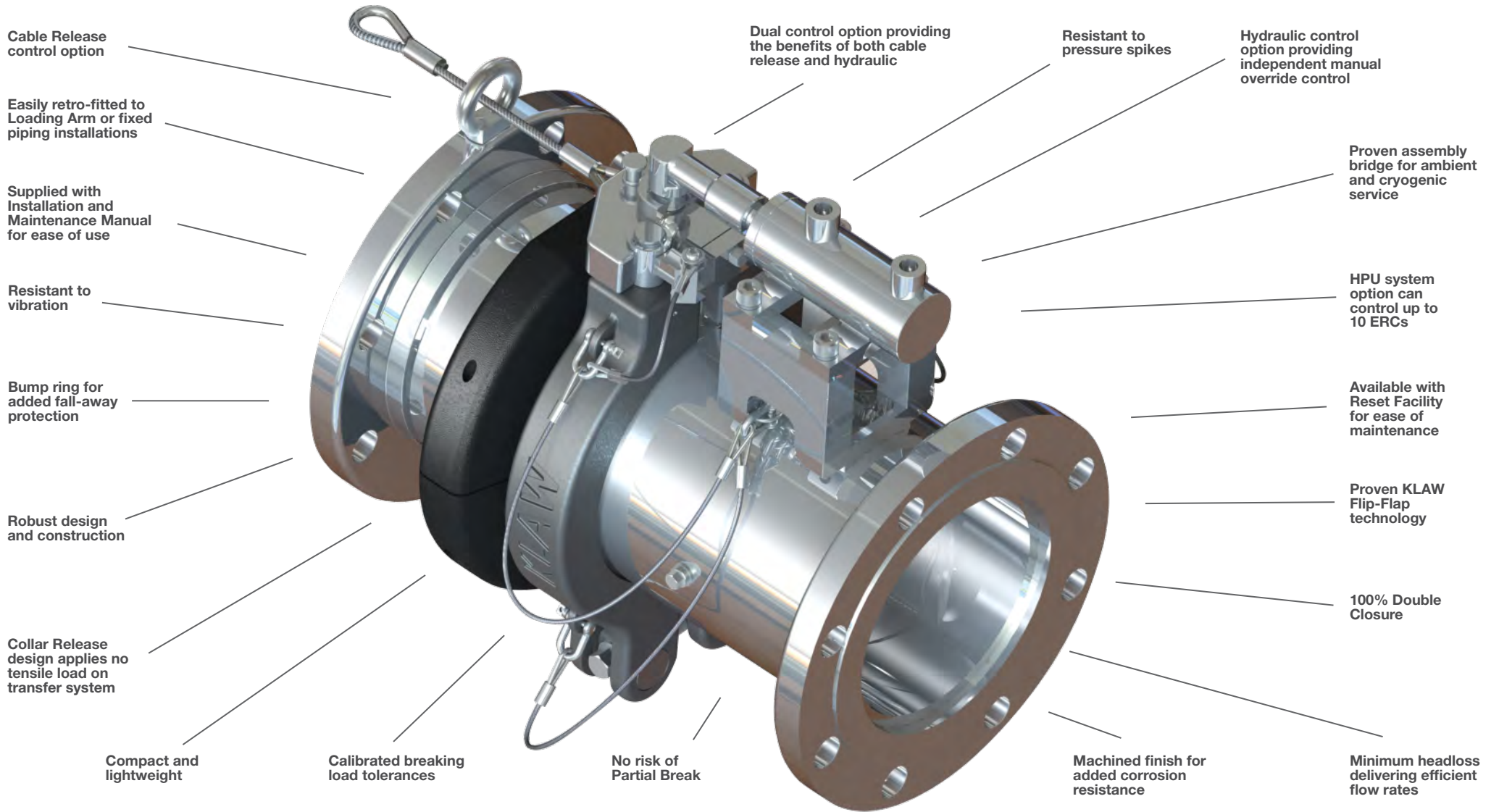
LPG, Fuels, Chemicals, Petrochemicals,  
Industrial Gases, Hydrocarbons, Crude Oil.

**KLAW**

[Product Guide](#)



# Technical specifications



## Performance and features

### 100% closure of flow

In an emergency, the Flip-Flap Valves close and the ERC separates. This shuts off the downstream and upstream flows of media within the transfer system.

### Instantaneous closure

Instant closure of the KLAW Flip-Flap Valves delivers crucial advantage of minimal spillage upon activation.

### Reduces stress on hoses or loading systems

The release mechanism is designed to limit stress to hoses, loading systems, fixed piping and other connections such as flange joints.

### Compact and lightweight

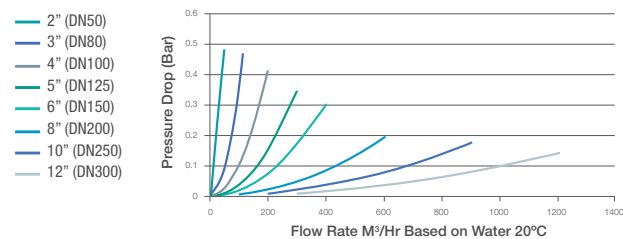
Valuable for handling, balanced systems and post-activation control.

### Easily retro-fitted

Designed to easily fit existing Loading Arms\* and fixed piping systems.

\*Rebalance may be required.

### Flow rates



### Material options

Stainless Steel

Carbon Steel

Aluminium

Electroless Nickel

### End connection options

Flanged

Threaded Male

Threaded Female

Tapered or Parallel

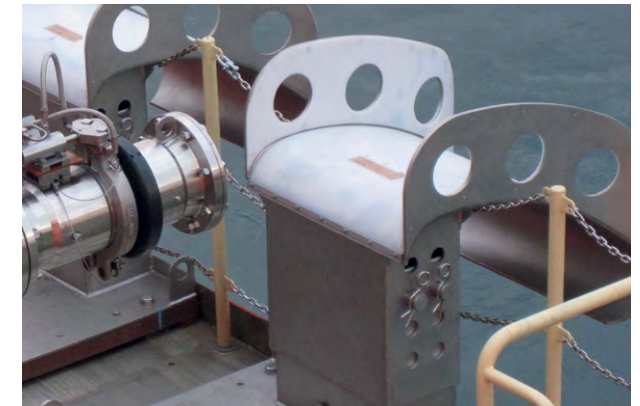
Weld Prepared Ends

### Sizes and pressure ratings

Inch	DN	Pressure rating
1"	DN25	40BAR
1½"	DN40	40BAR
2"	DN50	40BAR
2½"	DN65	40BAR
3"	DN80	40BAR
4"	DN100	30BAR
5"	DN125	27BAR
6"	DN150	23BAR
8"	DN200	17BAR
10"	DN250	14BAR
12"	DN300	10BAR

Non-standard configurations are also available.

### KLAW ERC Accessories



#### Hose Saddle

Protects handrails and provides hose support.



#### Camlock Coupling

The fast, reliable and safe way of making and breaking hose connections.

# Typical Emergency Release System applications



## Minimising risk

The Klaw ERC is the breakpoint within a transfer system and is designed to minimise risk to assets, personnel, reputation and the environment.

## Typical Media

- Hazardous media
- Non-hazardous media

## Specific examples

- LPG
- Fuels
- Chemicals
- Industrial Gases
- Hydrocarbons
- Crude Oil

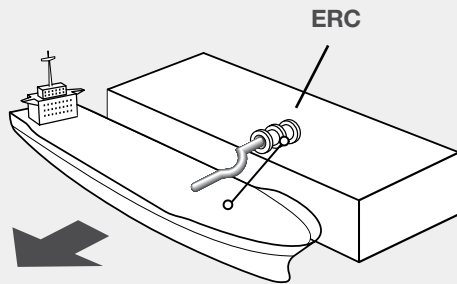
## Applications

- Loading Arms
- Hose Assemblies
- Truck Loading Arms
- Ship-to-Ship transfer
- Ship-to-Shore transfer
- Ship Jetties
- Ship Terminals

## Typical systems

### ERS Ship-to-Shore Cable Release System

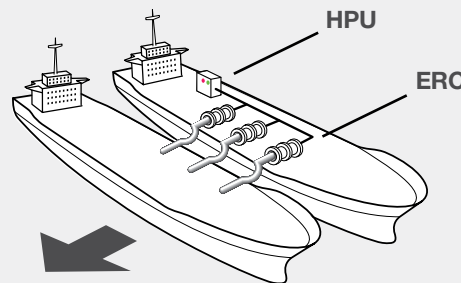
The ERC is controlled via cable release.



Illustrations are conceptual of the applications shown.

### ERS Ship-to-Ship with HPU Control

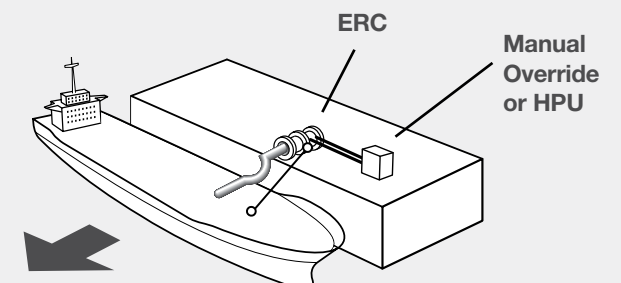
The Emergency Release Couplings are controlled by the on-board HPU central control unit.



**ERS:** Emergency Release System

### Dual Release

The Dual Release ERC can be activated via the central control HPU or by the cable release mechanism.



**ERC:** Emergency Release Coupling

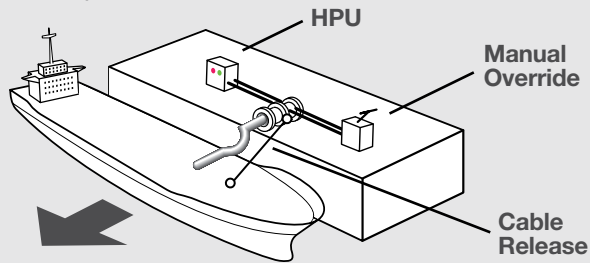
**HPU:** Hydraulic Power Unit

# Typical Emergency Release System applications

## Typical systems

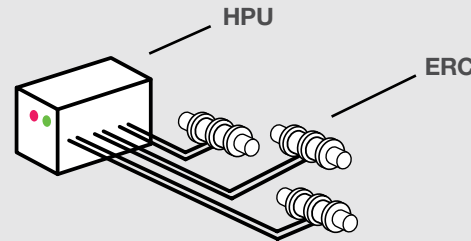
### Dual Release with Manual Override

This ERC can be activated via a cable or by a hydraulic release mechanism that is controlled by the HPU. A Manual Override Hand Pump is also a control option.



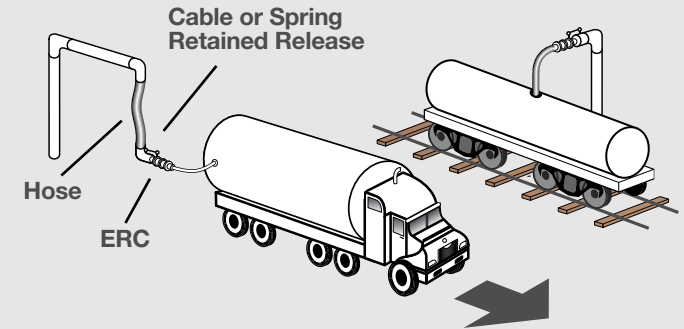
### HPU with ERS

The HPU controls the ERS system and can accommodate up to 10 ERC units.



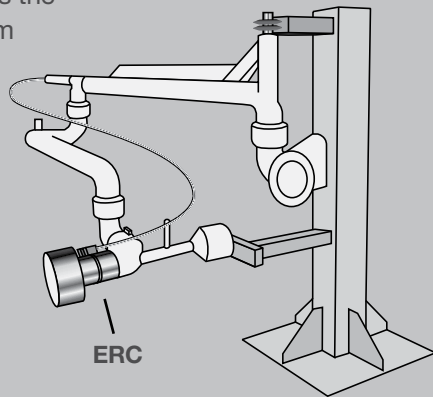
### Cable Release Loading Arm

This ERC can be activated via a cable release mechanism (e.g. accidental vehicle drive-away).



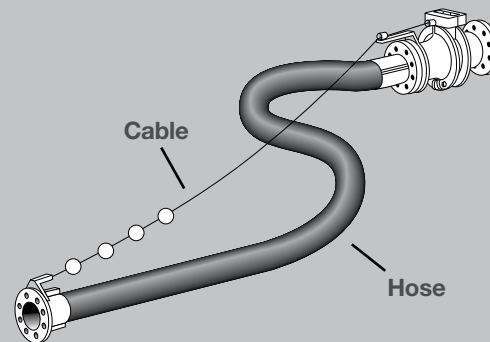
### Loading Arm Protection

The ERC protects the Loading Arm from over-extension.

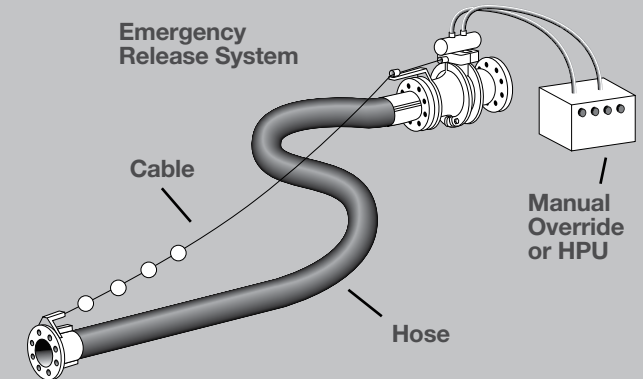


Illustrations are conceptual of the applications shown.

### Cable Release System



### Dual Release System

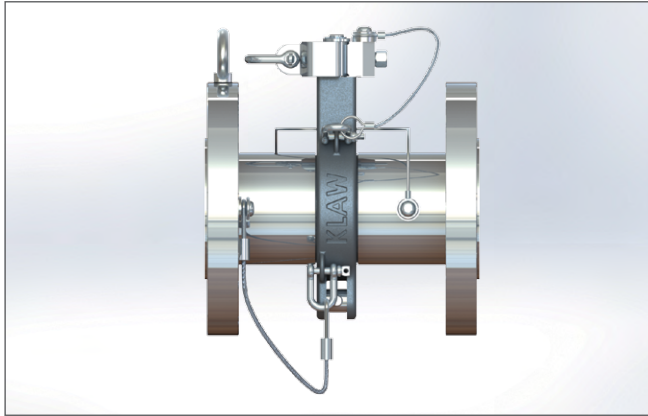


**ERS:** Emergency Release System

**ERC:** Emergency Release Coupling

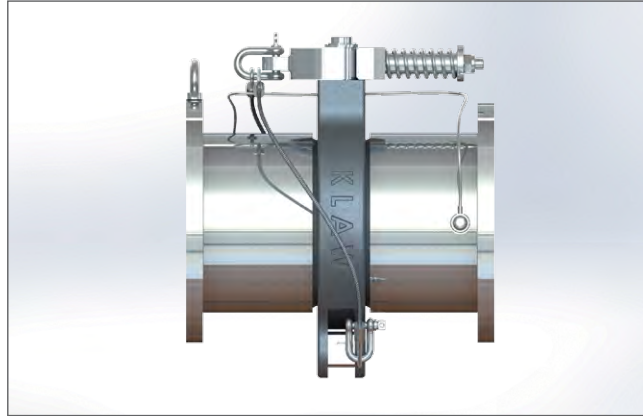
**HPU:** Hydraulic Power Unit

## Control system options



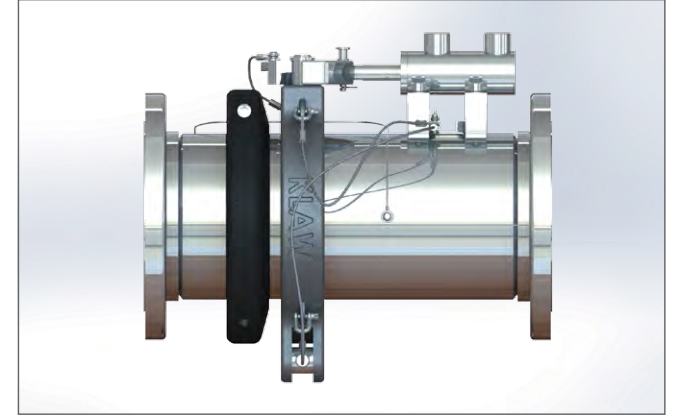
### Cable Release System

The high tensile Cable is shorter than the hose system and is set to activate the ERC before force is applied to the transfer system. This prevents stress to hoses and loading arms.



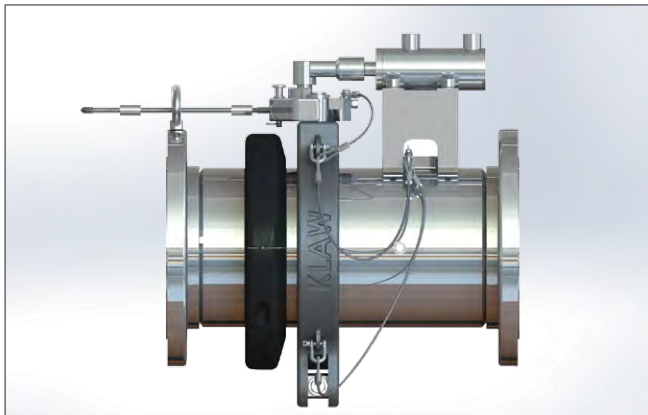
### Spring Retained ERC

The Spring Retained ERC is available in sizes 4" and below and has no sheering parts on activation. This means there is less need for spares.



### Hydraulic Release System

The Hydraulic Release System is operated either by Hand Pump or through the HPU. The Cable System is replaced by Hydraulic Power Cylinder, allowing manual control of ERC activation.



### Dual Release System

A Dual system delivers the advantages of both Cable and Hydraulic systems.

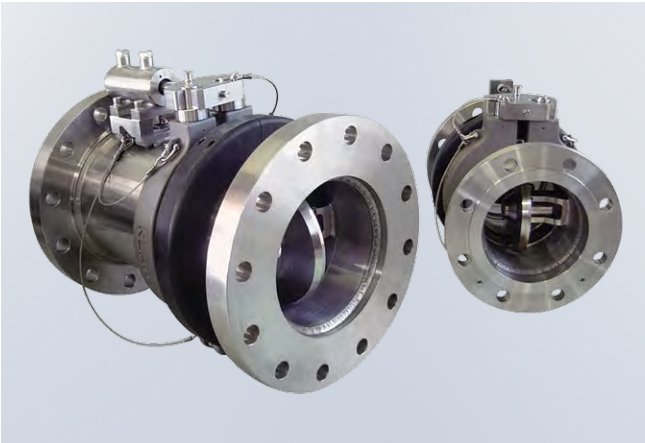
### Hydraulic Power Unit (HPU)

A completely independent hydraulic power unit for ERC Activation. The HPU offers the operator a single point of control over the whole Emergency Release System which means the ERC can be activated for other reasons beyond stress on the hose line. There are many control variables that can be integrated into the HPU system including automated options. The HPU can operate a single ERC or a system of up to 10 ERCs.

### Manual Override Hand Pump system

This manual override is an independent and self-reliant portable option operated by hand pump.

# Release mechanism



## Flip-Flap Valve closing mechanism

### Efficient flow transfer

The Klaw Flip-Flap design provides minimal flow restriction and low pressure drops. The flow characteristics of the valve mechanism are the most efficient when compared to other valve options.

**The Klaw Flip-Flap Valve delivers minimum spillage and 100% shut-off**

## Collar Release Activation system

### Resistant to vibration and pressure spikes

Activation is controlled by the Collar Release Mechanism. This delivers the benefit of tensile loads not being exerted upon the transfer system; including the coupling, hose assembly and flanges.

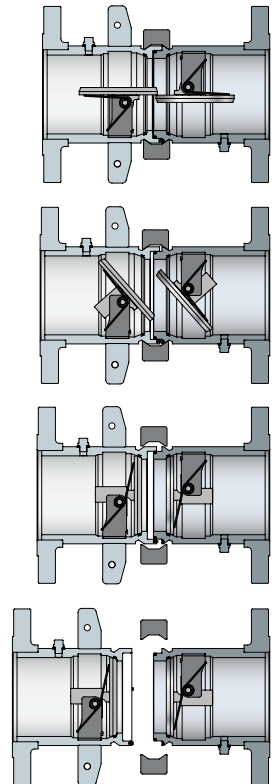
### Control systems

The Collar Release system allows for different control system options.

The ERC can be controlled by Cable, Manual Hydraulic Pump or Hydraulic Power Unit. Another option is the Dual Control System which uses both Cable and Hydraulic systems.

## Sequential closing of Flip-Flap Valve using Collar Release mechanism

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 only. Contact Klaw for technical representations.

## 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.

### LNG Applications contact KLAW LNG.

**KLAW LNG** is a leading provider of safety transfer systems for the LNG sector. Applications include Ship-to-Ship, Ship-to-Shore, Mobile Response and Bunkering.

# KLAW

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## 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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