

CRYOGENIC APPLICATIONS

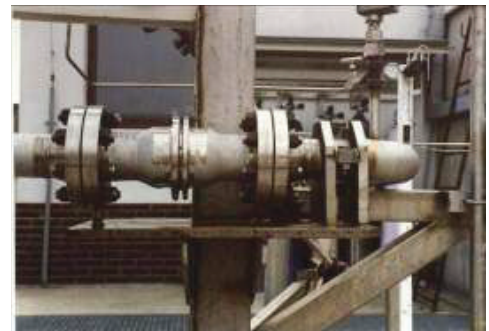
Cryogenic applications test a product to the limit, the components and design need to handle a wide temperature range whilst maintaining their functional ability, and for a safety device this is vital. The APC Safety Breakaway Coupling meets these stringent conditions.

The implications of a Driveaway incident on a cryogenic application are very serious, not only is there the cold burn risk from the gas cloud or liquid, but in many cases the product itself can cause serious safety problems. Oxygen can cause a fire and explosive hazard because of its nature to allow combustion if a powerful explosive mixture is formed. Other gases, such as nitrogen, can displace oxygen from the atmosphere that can cause asphyxiation, breathing atmospheres with less than 10% oxygen can cause permanent brain damage or death.

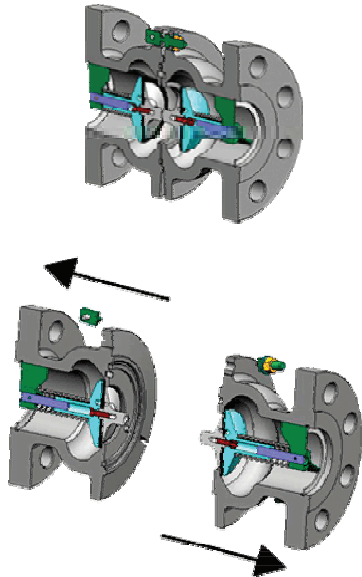
The APC Safety Breakaway Coupling has had wide use in handling cryogenic fluids. It and its component parts have undergone a wide variety of tests by the major handlers of cryogenic products in a number of different countries, including:- Air Products, Bracknell, L'Air Liquide, France, BOC, AGA Gas. These trials have included comprehensive test on material suitability and have included a number of live breakaway situations all of which have demonstrated the suitability of the coupling for these extreme conditions.

APC have on-site facilities to ensure that the couplings are supplied in a 'clean' condition to meet customer requirements. Including inspection by ultraviolet ('black') and white light to remove any evidence of moisture, oil, grease, cleaning agents, flux or any other matter that may be present. All APC Couplings are rigorously pressure tested for nitrogen gas prior to despatch using our custom designed apparatus.

The APC Safety Breakaway Coupling's simple operating mechanism allows reliable use in the difficult media of cryogenic fluids, thus ensuring that the product flow is stopped, with minimal product loss, and results in a safer operating environment.



HOW IT WORKS



The breakaway coupling is normally flanged on the terminal pipe-work at one end and to the flexible loading hose at the other, allowing free flow of product in both directions.



During a driveway incident the flexible loading hose comes into tension, transmitting the load to the breakaway coupling which causes the pre-determined break bolts to snap, allowing the coupling halves to separate.



Each half of the coupling seals immediately, preventing major product spillage.

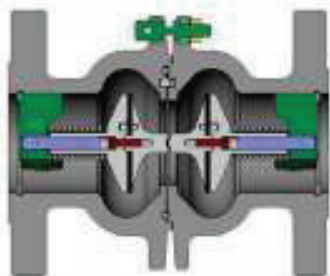


Typical Breakaway Coupling Installations



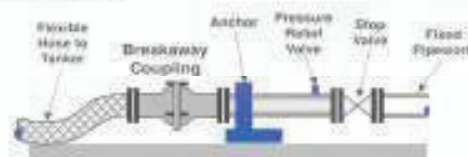
**REDUCE THE RISK
OF ACCIDENTS LIKE THESE
INSTALL APC BREAKAWAY COUPLINGS**





SIZES	LENGTH
1.5" (DN 32)	166 mm
2.5"(DN65)	201 mm
3" (DN80)	360 mm
4"(DN100)	340 mm
6"(DN100)	480 mm
8"(DN200)	648 mm

TYPICAL INSTALLATION:



SIZES: 1 1/2", 2 1/2", 3", 4", 6", 8" or metric equivalents.

CONNECTIONS: Flanged variations, 1" to 8" to most standards including ANSI; BS; DIN; ISO; TTMA.

MATERIALS: Standard Material: Stainless Steel 316.
Duplex, Hasteloy, and Monel available on request.

SEALS: Viton®, Buna, PTFE, Kalrez®, Chemraz®, others on request.
All trademarks acknowledged

WORKING PRESSURE
26.5 barg

TEST PRESSURE
40 barg

TEMPERATURE RANGE
- 196°C TO 100°C

APPLICATIONS

LIQUIFIED GASES

LPG, Butane, Propane and Blends.
Co2, DME, LNG,

CRYOGENIC LIQUIDS

Nitrogen, Oxygen, Argon, Co2.

CHEMICALS & HYDROCARBONS

Aromatics, Ethylenes & Propylenes, VCM
Alcohols & Acids, Diesel, Jet A1. Refrigerants Forane
(see detailed list for more product applications).

SPECIALITY

Hydraulic Oils, Inks, Paints, Solvents,
Locomotive Fuelling,
Helicopter Fuelling.

OIL & PETROCHEMICAL

Bulk Loading/Unloading
Road Tankers
Rail tankers
Process Product Transfer

MARINE/OFFSHORE

Ship to Rig Fluid Transfer
Ship to Shore Fluid Transfer
Ship to Ship Fluid Transfer
Barge Loading
Bunkering
Marine Refuelling

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