

BREAK-AWAY Coupling



Luxecasting
International Group

CATALOGUE

2023

G0008.2023.V001 



✚ Technical Info

| | |
|-------------------|----------------------------|
| Coupling Material | Stainless steel, Aluminium |
| Coupling Gasket | FPM , EPDM , NBR , PTFE |
| Thread | NPT, BSP |
| Size | From 1" up to 12" |
| Connection | Thread, Flange |



* Protection cover can be customized

Why use a BREAK-AWAY coupling ?

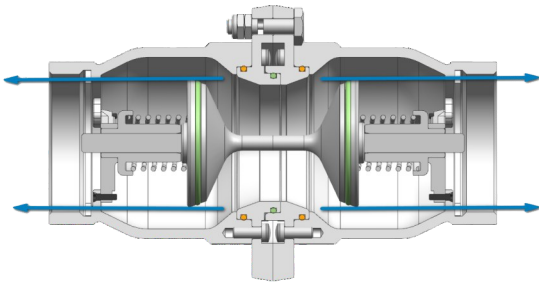
A break-away coupling is used in various industries and applications to enhance safety and prevent potential damage or accidents. Here are some reasons why a break-away coupling might be employed:

- 1. Emergency Shut-Off:** Break-away couplings are designed to disconnect two connected components or systems in an emergency situation. In case of an unexpected pull, excessive pressure, or other hazardous conditions, the coupling automatically separates to prevent further damage or danger.
- 2. Spill Prevention:** Break-away couplings are commonly used in fluid transfer systems, such as fueling stations, chemical plants, or oil refineries. If a vehicle or vessel drives away while still connected to a fuel pump or loading arm, the break-away coupling disconnects, preventing spillage and minimizing the risk of fire or environmental pollution.
- 3. Equipment Protection:** Break-away couplings can protect expensive or sensitive equipment from damage. For instance, in industrial applications where heavy machinery is involved, if a sudden jolt or pull occurs, the coupling disconnects to safeguard the machinery, hoses, or pipes from being damaged.
- 4. Worker Safety:** Break-away couplings prioritize worker safety by reducing the risk of injury. If a worker accidentally trips or gets entangled in a hose or cable, the break-away coupling will separate, preventing further harm by stopping the flow of fluid or preventing dangerous movements.
- 5. Compatibility and Flexibility:** Break-away couplings are available in different sizes, designs, and materials to accommodate various applications and fluid types. They can be customized to suit specific requirements, ensuring compatibility with existing equipment and systems.

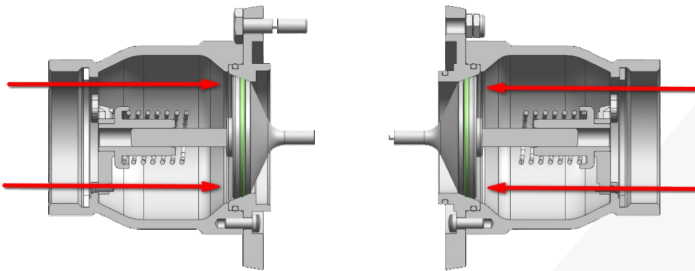
Remember that the specific reasons for using break-away couplings may vary depending on the industry and application. It is essential to consult industry standards, guidelines, and specific safety regulations to determine the appropriate use of break-away couplings for a given scenario.



How does a BREAK-AWAY coupling work?



Coupling before emergency disconnect



Coupling after emergency disconnect

A break-away coupling consists of two main components: a male part and a female part. These parts are securely connected to different sections of a hose, pipe, or system. The coupling is designed to hold the two parts together firmly, allowing fluid or material to flow through.

In the event of excessive force or sudden movement, the break-away coupling is designed to separate or disconnect. The separation occurs at a predetermined break point, which is typically a weaker section of the coupling intentionally designed to give way under certain conditions.



The mechanism for separation varies depending on the specific design of the break-away coupling. However, some common mechanisms include:

- 1. Break Pins:** Break pins are commonly used in break-away couplings. They are designed to shear or break when a specific force threshold is exceeded. The break pins are usually located within the coupling and are aligned in such a way that they keep the male and female parts together under normal operating conditions. When a force greater than the break pin's threshold is applied, the pins break, causing the coupling to separate.
- 2. Ball Bearings:** Some break-away couplings use ball bearings as a separation mechanism. The male and female parts of the coupling are connected using a ball-and-socket joint. Under normal conditions, the ball bearings keep the parts together. However, when a sufficient force is applied, the ball bearings are forced out of their sockets, allowing the coupling to separate.
- 3. Friction Rings:** Friction rings are another mechanism employed in break-away couplings. They use friction to hold the male and female parts together. When a force is applied that exceeds the frictional resistance of the rings, they slip against each other, causing the coupling to separate.



Advantages

- 1. Safety Enhancement:** Break-away couplings significantly improve safety by preventing accidents, injuries, and property damage. They provide a quick and automatic disconnection when excessive force or movement occurs, reducing the risk of spills, leaks, or equipment damage. This helps protect workers, the environment, and valuable assets..
- 2. Regulatory Compliance:** Break-away couplings help companies meet regulatory requirements and industry standards. Many industries have specific safety regulations that mandate the use of break-away couplings in certain applications. By incorporating these couplings, businesses demonstrate their commitment to safety and compliance.
- 3. Peace of Mind:** The presence of break-away couplings instills confidence and peace of mind for operators, workers, and stakeholders. Knowing that a reliable disconnection mechanism is in place provides reassurance that potential accidents or incidents will be minimized, thus enhancing overall safety culture.

It is important to note that break-away couplings should be selected, installed, and maintained according to industry standards and guidelines to ensure their proper functionality and effectiveness.

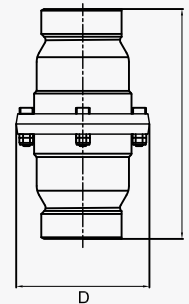
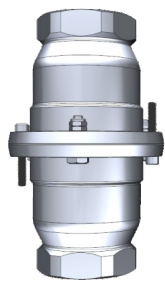




Female Type (BSP)

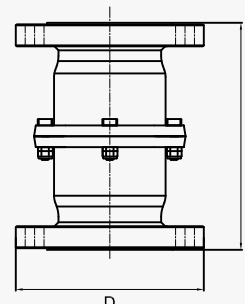
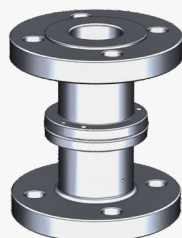
| Type-ØA | Code | | Breaking Force(KN) | | Ø D (mm) | L (mm) |
|-------------|----------|----------|--------------------|-----|----------|--------|
| | SS | AL | SS | AL | | |
| DN25-1" | L1604110 | L1604108 | 4.8 | 3.2 | 70 | 124 |
| DN50-2" | L1604111 | L1604023 | 13 | 9 | 105 | 168 |
| DN65-2 1/2" | L1604074 | L1604114 | 22 | 10 | 144.5 | 235 |
| DN80-3" | L1604058 | L1604118 | 33 | 15 | 153.5 | 238 |
| DN100-4" | L1604064 | L1604121 | 52 | 24 | 192 | 285 |
| DN150-6" | L1604066 | L1604125 | 92 | 54 | 270 | 367 |

*BSP/NPT thread can be customized according to customer's requirements



Flange Type

| Type-ØA | Standard | Code | | Breaking Force(kN) | | Ø D (mm) | L (mm) |
|-------------|------------------------|----------|----------|--------------------|-----|----------|--------|
| | | SS | AL | SS | AL | | |
| DN25-1" | HG/T2059 PN25/40 | L1604048 | L1604112 | 4.8 | 3.2 | 70 | 124 |
| DN50-2" | HG/T2059 PN25/40 | L1604046 | L1604113 | 13 | 9 | 105 | 168 |
| DN65-2 1/2" | EN1092-1 PN25/40 | L1604116 | L1604117 | 22 | 10 | 144.5 | 235 |
| DN80-3" | ANSI B16.5 Class 150LB | L1604042 | L1604124 | 33 | 15 | 153.5 | 238 |
| DN100-4" | EN1092-1 PN25 | L1604123 | L1604120 | 52 | 24 | 192 | 285 |
| DN150-6" | EN1092-1 PN25 | L1604133 | L1604132 | 92 | 54 | 270 | 367 |
| DN200-8" | ANSI B16.5 Class 150LB | L1604084 | L1604128 | 165 | 96 | 322 | 420 |
| DN200-8" | EN1092-1 PN25 | L1604085 | L1604129 | 165 | 96 | 270 | 416 |
| DN250-10" | EN1092-1 PN25 | L1604131 | - | 151 | - | 396 | 510 |
| DN300-12" | EN1092-1 PN25 | L1604130 | - | 217 | - | 520 | 560 |





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