BREAK-AWAY COUPLINGS

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HENDERSON HOSE & FITTINGS

WHY USE A BREAK-AWAY COUPLING?

Coupling Materials:

- Stainless Steel
- Aluminium

Coupling Gasket:

- FPM
- EPDM
- NBR
- PTFE

Thread:

- NPT
- BSP

Size:

From 1" up to 12"

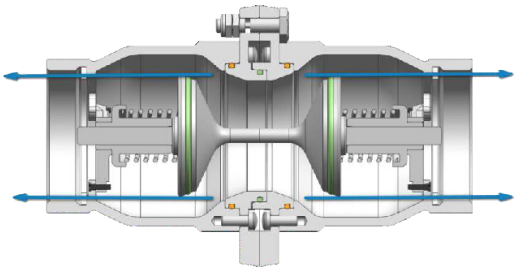
Connection:

- Thread
- Flange

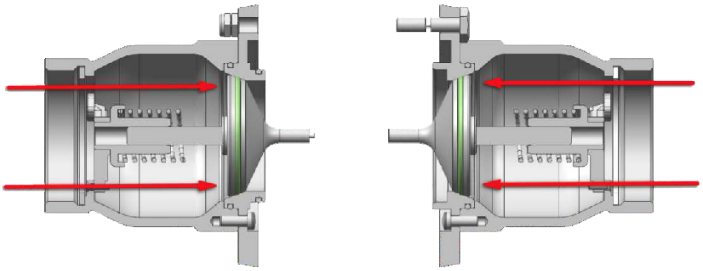
A break-away coupling is used in various industries and applications to enhance safety and prevent potential damage or accidents. Here are some reasons why a break-away coupling might be employed:

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.

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 predeterminedbreak point, which is typically a weaker section of the coupling intentionally designed to give way under certain conditions.

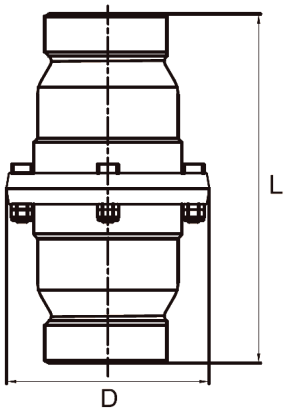
The mechanism for separation varies depending on the specific design of the breakaway coupling. However, some common mechanisms include:

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.

FEMALE TYPE (BSP)



PART NUMBER	THREAD SIZE	THREAD	MATERIAL	BREAKING FORCE	D (mm)	L (mm)
DB-BA-ALN-025	1"	NPT	Aluminium	3.2	70	124
DB-BA-ALN-050	2"	NPT	Aluminium	9	105	168
DB-BA-ALN-065	2½"	NPT	Aluminium	10	144.5	235
DB-BA-ALN-075	3"	NPT	Aluminium	15	153.5	238
DB-BA-ALN-100	4"	NPT	Aluminium	24	192	285
DB-BA-ALN-150	6"	NPT	Aluminium	54	270	367
DB-BA-SSN-025	1"	NPT	Stainless Steel	4.8	70	124
DB-BA-SSN-050	2"	NPT	Stainless Steel	13	105	168
DB-BA-SSN-065	2½"	NPT	Stainless Steel	22	144.5	235
DB-BA-SSN-075	3"	NPT	Stainless Steel	33	153.5	238
DB-BA-SSN-100	4"	NPT	Stainless Steel	52	192	285
DB-BA-SSN-150	6"	NPT	Stainless Steel	92	270	367
DB-BA-ALB-025	1"	BSP	Aluminium	3.2	70	124
DB-BA-ALB-050	2"	BSP	Aluminium	9	105	168
DB-BA-ALB-065	2½"	BSP	Aluminium	10	144.5	235
DB-BA-ALB-075	3"	BSP	Aluminium	15	153.5	238
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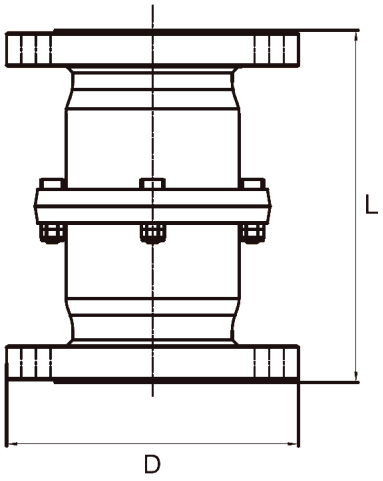
DB-BA-SSB-150	6"	BSP	Stainless Steel	92	270	367

FLANGE TYPE



PART NUMBER	THREAD SIZE	THREAD	MATERIAL	BREAKING FORCE	D (mm)	L (mm)
DB-BA-ALF-025	1"	ANSI 150	Aluminium	3.2		
DB-BA-ALF-050	2"	ANSI 150	Aluminium	9		
DB-BA-ALF-065	2½"	ANSI 150	Aluminium	10		
DB-BA-ALF-075	3"	ANSI 150	Aluminium	15		
DB-BA-ALF-100	4"	ANSI 150	Aluminium	24		
DB-BA-ALF-150	6"	ANSI 150	Aluminium	54		
DB-BA-SSF-025	1"	ANSI 150	Stainless Steel	4.8		
DB-BA-SSF-050	2"	ANSI 150	Stainless Steel	13		
DB-BA-SSF-065	2½"	ANSI 150	Stainless Steel	22		
DB-BA-SSF-075	3"	ANSI 150	Stainless Steel	33		
DB-BA-SSF-100	4"	ANSI 150	Stainless Steel	52		
DB-BA-SSF-150	6"	ANSI 150	Stainless Steel	92		