



DOUBLE BALL VALVE DESIGN

Marine Breakaway Coupling - HBU

This system is the MIB marine breakaway coupling based on **Double Ball Valve** closure. This safety device provides automatic protection of floating and submerged hoses when subject to excessive axial load, a surge pressure, or a combination of the two. It ensures **100% leak-tight sealing** when closed under all design conditions.

Description

The unit comprises two ball valves positioned either side of a circumferential calibrated titanium alloy weak-bolt flange assembly.

The partial sphere “ball” valves are housed in the outer annulus of each body, clear of the flow path and sealed against ingress of product.

Between the valves, a central sleeve assembly, when in position, maintains the valves “open”.

The unit is self contained and does not require any external energy source to operate. The valve drive comprises a dual rack and pinion assembly powered by a spring pack mounted around the periphery of the internal body pipe.

At the other end of each rack is a hydraulic cylinder, which acts as a damper to control the valve closure speed.

Key Features

- **100% leak-tight sealing** when closed
- Closure **is provided under any operating condition** (pressure and flow rate)
- **Easy reassembling** after a disconnection
- **Special titanium** weak-bolt alloy
- **20 years** design life
- Suitable for all import or export marine terminals (MBM, SPM, FSO & FPSO).

Valve Closure Times

Adjustable for both upstream and downstream valves to suit the specific needs of a given installation.

Parting Load

Adjustable (up to 50 tons) to suit any specific installation by changing the titanium alloy weak-bolts, without disassembling the unit.

Options

Locking Device

Design

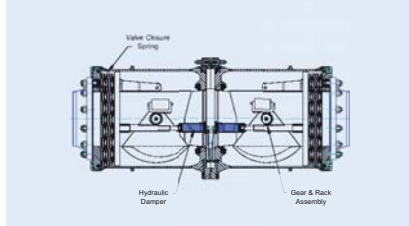
Sizes:	12”-16” FB
Flanges:	ASME B16.5 Class 150 – RF or FF
Design Pressure:	275 psig / 19 barg
Test Pressure:	413 psig / 28.5 barg
Design Fluid Temp.:	0°C +85°C
Design Ambient Temp.:	-10°C +55°C



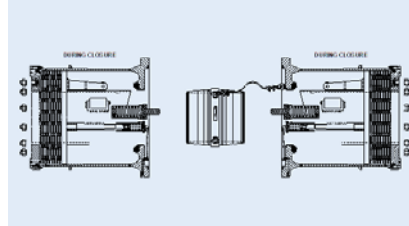


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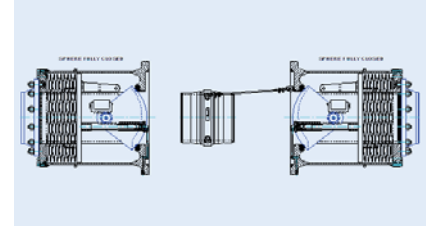
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Unit in operating mode with weak-bolts intact and valves open. The two halves of the unit will part when a preset load, or a preset load/internal pressure combination is reached and the weak bolts break.



Unit shortly after "breakout" with the central flange/sleeve assembly is pushed out of either of the two separated halves by means of spring pushers (two off). This mechanism ensures that the central flange/sleeve is fully removed and allows both valves to close.



Unit separating and central flange/sleeve assembly fully disengaged, valves closed.

Painting and overlay

Specific coating cycle applied to protect against corrosion the external surfaces of the valve:

- Sand Blasting
- Two pack ceramic composite epoxy 800 µm



Materials

Main Body:	ASTM A105 - ASTM A240 TP 316 - ASTM A479 TP 316
Sphere:	ASTM A351 CF8M
Flange:	ASTM A105
Valve Seat:	PTFE
O Ring Seals:	Nitrile/Viton
Internal Sleeve:	ASTM A182 F316 - ASTM A240 TP 316 - ASTM A276 TP 316
Shear Bolts:	TITANIUM



For further information contact:



Emergency Disconnect System
for the Oil & Gas & Petrochemical
Onshore & Offshore industries

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