

RISK SAFETY SYSTEMS US Inc.

Offshore—Integrated Escape Chute System (IECSBPC66)

Risk Safety Systems are a Houston based Safety Company who manufacture and supply a comprehensive range of secondary egress solutions for the on/offshore oil and gas industry Worldwide. Escape Chute technology has been in commercial and hi-rise building for over twenty years and offers a fast and effective method of descending to ground level in an enclosed and heat protected environment.

Risk Safety Systems have developed an extensive range of fully integrated escape chute systems for fixed and variable height applications and were recently awarded a multi million dollar project to design, fabricate and supply Exxon Mobil's Kizomba A & B Floating Production Facilities with eight Integrated Escape Chute Systems.

Since July 2009 a total of eight fully Integrated Escape Chute Systems (IECS) have been built delivered, installed and tested. Further systems have been supplied for Dolphin Energy, Qatar and order books are growing as the industry recognizes the benefits of using escape chute technology as a practical and safe alternative to throw over life rafts, knotted ropes and scramble nets.

The Risk Safety Systems can supply a comprehensive range of escape chute options which include

- Basic System = EC66 drop in containerized escape chute system Basic
- Open System = IECS open system fully integrated with front life raft cradle lower chute container that houses the 30 person debarkation boarding raft and stabilization plate, this system is mechanical reducing failure to the lowest possible levels.
- IECSBPC66 fully enclosed winched system suitable for North Atlantic conditions with low temperatures requiring a fully enclosed controlled descent system.

Options IECS66 and IECSBPC66:-

Are offered for variable or fixed dual or single chute system with 2/30/37 person debarkation/boarding raft, stabilization plate and purpose built deployment container.

Arctic Condition IECSBPC66ARCTIC.

For severe operational; and low temperatures Risk Safety Systems offer the IECSBPC66 Arctic condition system this is the same as the IECSBPC66 however heat tracing is provided to ensure freezing of main components Does not occur.

Risk Safety Systems can design a system to match your exacting needs and in most cases can accommodate most design requests, full certification is provided with all systems built and tested at our facility in Houston, Texas. With an extensive range of service agents and distributors worldwide Risk Safety Systems can support our products worldwide.

Represented in the following regions:-

United States	Canada	Brazil
South Korea	Singapore	Dubai
United Kingdom	Norway	Australia

Tel: 001 281 646 8777 Toll Free: 1-866 447 8777 Fax: 001 281 646 8788

Email: sales@risksafetysystems.com www.risksafetysystems.com

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- Onshore & Offshore Escape Chute Systems:-
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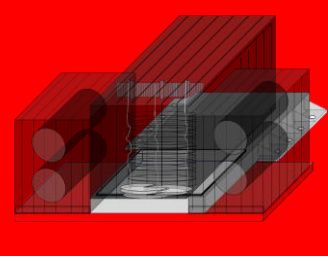
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Technical Specification Chute:

Zig-Zag netted chute are supplied as heat resistant providing heat protection of 600C° and a melting point 800C° Single layered tight knitted netted Nomex/Kevlar vertical escape chute. Each chute is supplied as a continuous length with 316 stainless steel hoops sewn into each 1.21m section.

Each section has a 1.21m Nomex/Kevlar slide these are opposing on each section and provide a zig zag effect. Each 1.21m section has a side compartment for egress to the debarkation raft and provides the required adjustable height evacuation point. This chute is designed to operate at varying heights for vessels with changes in ballast levels or locations prone to high wave, sea conditions.

At maximum operating height for both chutes the base will sit in the floor of the debarkation raft with 2.42m additional chute length provided to accommodate a 17° list condition. The additional chute length also provides a redundancy factor for low swell conditions. The last section of the netted chute is connected to the floor of the debarkation raft.

Qty 4 per system steel braided winch ropes are attached at each 2.42m section of the chute column, upon deployment the chute automatically lowers as the winching system lowers the main stabilization platform and life rafts in a controlled descent to (MSL) mean sea level.

Bomb Proof Containment (BPC) System:

The Bomb proof containment system is designed to provide protection in volatile situations where there is a possibility of explosion and gas leak. The system is modular and is provided with a main 3.03m L x 2.12m W x 2.12m H container which is bolted to the main cantilever frame.

Attached to the main container are two additional containers, these are used to store the life rafts; the system is fully integrated and supplied as a complete unit. Qty 4 x heavy duty 9071.847Kg each lifting shackles are provided for lifting the bomb proof container into position, providing ease of installation.

BPC Specification:-

Qty 1 x main BP container size: 3.03m L x 2.12m W x 2.12m H

Qty 1 x L/H/side mounted BP container size: 1.82m L x 1.21m W x 2.12m H

Qty 1 x R/H/side mounted BP container size: 1.82m L x 1.21m W x 2.12m H

API 753 Compliant

ASCE Medium Response

5/8/10/PSI

Red or White exterior paint 3 coat epoxy with rubberized roof coating suitable for marine applications. Steel reinforced corrugated wall and roof panels

Qty x 2-35° C 1041mm windows

Icynene insulation throughout

OSB Interior finish

Apitong floor finish

Qty 1 x 100 Amp breaker panel,

Qty 1 x wall mount HVAC

Tamperproof shielded fluorescent lighting

Qty 4 x CAT 5E Communications (phone jacks)

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Qty x 1 Smoke/carbon monoxide detector

Qty x 1 2.3kgs ABC fire extinguisher



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Supplied with a 30 Person SOLAS B, Pack Debarkation/Boarding Raft:

Each system is supplied with a debarkation/boarding platform which is packed and sits on the main stabilization plate within the chute container. The raft is self inflating and designed to commence inflation as soon as it reaches sea level. This is achieved by attaching the painter line to the stabilization plate, as the stabilization deck continues to sink when lowered and deployed the shortened debarkation raft painter line releases the inflation valve and is fully inflated in less than 60 seconds.

A range of 12/25/30/37/50 Person Zodiac SOLAS A pack self righting life rafts.

Life Raft configuration is decided by the customer and the system can be designed to take 2 each side of 12/25/30/37/50 or 4 each side dependent on POB requirements

The main rafts are lowered with the main skid assembly and upon reaching sea level roll off their stacking frames. The painter lines are attached to the debarkation/ boarding platform and make ease of recovery when at sea level. The first persons into the debarkation boarding raft pull the main rafts in and pull the painter lines to inflate. The rafts are then tied off to the debarkation raft until completion of cross boarding. Upon full evacuation the rafts are released and float free awaiting recovery.

Operational & System Performance:

The Escape Chute System is designed to be overhung and in all cases requires an uninterrupted drop to sea level. The stabilization platform when not in use fits directly into the opening of the BPC container and acts as the floor deck for the front section of the evacuation system. The debarkation raft and chute are packed into the centre of the stabilization platform with the life rafts stored in containers and stacked two high each side, or 2 x rows of two stacked each side.

The winching system uses braided steel wire that run down and connect to each chute section at 1.21m intervals through the floor of the debarkation raft and attached to the stabilization platform in four places using heavy duty 9071.847kg eyes and shackles.

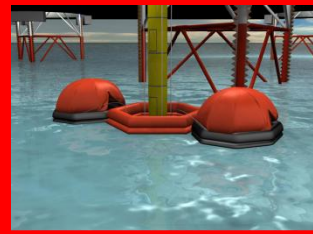
For deployment the winch requires no power, this is required in cases of black out condition. For recovery the system is recovered using the electric motor.

Deploying the System

Open the main container door and step inside, using the pneumatic knife cut the secondary deployment retaining strap; this is provided to ensure the system is not deployed in error or by accident during inspection or drills. Release the four stabilization platform retaining bars by pulling up on the floor mounted lever and lock in place. The system is now ready for deployment.

Release the break of the winch on move the control lever to the forward position, the main platform will start to deploy at a controlled speed. Check to ensure all winch cables are tight and that the system is deploying evenly. When fully deployed check to ensure the chute has deployed and has not tangled or snagged, check to ensure the boarding raft has fully inflated and that the main life rafts are floating free and attached by there painter lines to the boarding raft.

After carrying out these checks the evacuation can proceed.



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IECSBPC with rotating Table for deck storage;

Frame with hydraulic rotating table:

Risk Safety Systems supply a purpose built rotary mounting table designed to allow the main cantilever assembly to be dropped and bolted into place. This is useful when deck space is at a minimum.

The cantilever frame is required to accommodate the RSS-100-12BPC container offering blast protection whilst evacuation is underway. The cantilever frame is designed to take a dead weight of 14 tons and sits out over the deck when in deployment position by 7ft-8". The system is supplied with full structural analysis and fitting method. Refer to drawing – RSS101-BP. 9071.847kg lifting eyes are provided for lowering the cantilever into position.

An electric motor is supplied with accumulated back up to enable the system to be moved into its deployed position. The system offers a 100% redundancy and can be mechanically deployed using the hand pump.

The system when in its stored position is easily serviced and maintained offering availability on demand. From the deck stored position to fully cantilevered takes approximately 3 minutes.

Technical, Testing and Individual Component Certification:

Full technical drawings are submitted for customer approval prior to the commencement of work scope. This quotation has been based on the information supplied. In all cases full testing is carried out ensuring that the integrated system performs correctly. Chute drop tests are performed at our facility in Katy.

All components will be supplied with individual certification, covering: Escape Chute, Debarkation Raft, Main Life Rafts, BPC container, Cantilever Skid, Rotary Table and Winch assemblies.

Full operational and maintenance manuals are supplied in electronic and paper format with full onsite training provided during installation including all key personnel and persons as selected by the customer.

Train the Trainer Program:

Risk Safety Systems have included the provision to supply Train the Trainer courses whereby the customer's key personnel are trained to become certified trainers. The Train the Trainer courses can be carried out at one of our training facilities, or on site. The Train the Trainer program requires a morning classroom session and actual training using the training chute

Upon completion and satisfactory training the Trainer becomes certified and issued with a two year certificate. He/she in turn trains on-site personnel. Risk Safety Systems manage the process on behalf of the customer. **Please refer to the train the trainer manual.**



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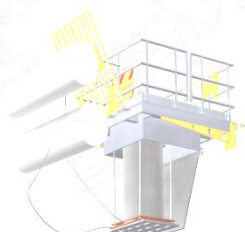
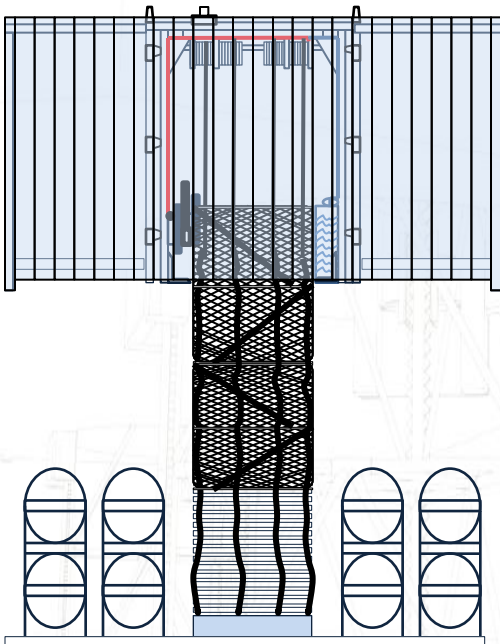
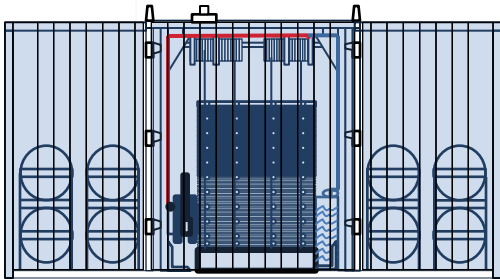
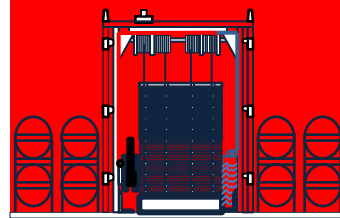
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