

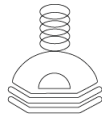
VIKING Lifecraft™ System, VLSC 812

Item no.: VLSC

The VIKING LifeCraft™ System is a true game-changer when it comes to passenger and cruise ship evacuation - making it possible to replace current evacuation options with a superior, hybrid solution. The system consists of four self-propelled inflatable.

- Better evacuation safety
- Easier crew handling
- Greater flexibility in installation choices
- More efficient maintenance
- Longer product lifetime
- Greater passenger confidence in onboard safety





Passenger

Technical Data, VLSC 4 x 203 A-pack system built-in.

The VIKING LIFECRAFT™ system, VLS, consists of a sealed housing, 4 escape ways (chutes) and a yoke with 4 LifeCraft™ Survival Crafts. The sealed housing contains a semi-automatic bowing system with wave compensation and a hydraulic driven launch system. The LifeCraft™ Survival Crafts are placed on a lifting cradle/yoke which is lowered to sea level, in case of emergency, by means of a controlled speed hydraulic winch.

The housing - being sealed and airtight - enables the S30 concept. Humidity level is kept within threshold limits by a built-in dehumidifier

SYSTEM DIMENSIONS

LENGTH 18.100 mm

DEPTH 2.660 mm

**HEIGHT INCL.
FOUNDATION** 2.990 mm

WEIGHT TOTAL 48.068 kg
(Incl. 4 LifeCraft™ Survival
Craft and EscapeWays)

**MAX WORKING LOAD
FOR LAUNCHING** 14.000 kg

**MAX WORKING LOAD FOR
MAINTENANCE AND
RECOVERY** 14.000 kg

WINCH MANUFACTURER VIKING Norsafte A/S

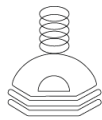
GEAR Reggiana Riduttori

MOTOR SAI Hydraulic Motors

DAVIT MANUFACTURER VIKING Norsafte A/S

LAUNCH SYSTEM TYPE Electrical/Hydraulic

**LAUNCH SYSTEM
HYDRAULIC COMPONENTS** Standard components with long MTBF (Mean Time Between Failure) from leading manufactures such as SUN Hydraulics and Danfoss Power-Solutions. All components come with proven track records from other off-shore applications and all with allowable storage temperature of -30°C - +65°C and an operational temperature range of -15°C - +40°C



Passenger

LAUNCH SYSTEM ELECTRICAL COMPONENTS Standard components with long MTBF (Mean Time Between Failure) from leading manufactures such as SUN Hydraulics and Danfoss Power-Solutions. All components come with proven track records from other off-shore applications and all with allowable storage temperature of -30°C - +65°C and an operational temperature range of -15°C - +40°C

LAUNCH SYSTEM MANUFACTURER HydraSpecma A/S

DEHUMIDIFIER TYPE Absorption with 4 holes (for best effect)

INSTALLATION HEIGHT This novel marine evacuation system is certified for use onboard appropriate ships for the following capacities and heights based on the corresponding descent rate as demonstrated during the timed capacity evaluation done from a height of 15 m

Examples:

Installation Height (m)	Evacuation Capacity (Persons)
15	1462
18.2	1200
25	884

Other installations heights/capacity combinations are accepted within the maximum limits

Maximum installation height: 25 m (based on maximum chute length)

LAUNCHING HEIGHT Approx. 4.000 - 25.000 mm

MAX TRIM/LIST 10°/20° trim/list for evacuation and 1°/2° for maintenance

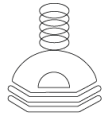
DISTANCE BETWEEN TURNBLOCKS 30 m (0/+1m) (GA drawing no. ENG-20100969)

ROPE DATA FOR LAUNCHING Dyneema, Ø 24 mm, Break load = 580 kN

MAX LOWERING SPEED 60 m/min

LIFECRAFT SYSTEM 812 persons within 30 min. by 4 escapeways

LIFECRAFT SYSTEM SURVIVAL CRAFT Survival Craft approved for 203 persons with SOLAS A type emergency pack. VIKING LifeCraft self-propelled units packed with desalination apparatus



Passenger

MATERIALS

Housing, rafts, cutes, escapeway dispenser and service youk

Plates Steel, Q345D

Profiles Steel, Q345D/AISI316L

Davits Q690

Escapeway sections Outer liner of synthetic fire-retardant fabric.
Each section mounted on stainless steel rings (AISI316)

Liferafts Nylon webbing covered with natural rubber, fire retardant canopy fabric

Cover plate Fire retardant GRP, lifeboat spec. confirming to IMO MSC circular 1006

PHYSICAL INTERFACE TO SHIP

The housing is bolted to the foundation. Foundation is welded to deck. See drawing G-5031419

ELECTRICAL INTERFACE TO THE SHIP

380-480VAC 50/60HZ, Power consumption max. 25KW

DESIGN CRITERIA

According to LSA. The structure is designed with Factor Of Safety (FOS) 4.5 Falls, links, blocks with FOS 6

APPROVALS

Approved according to SOLAS III, Regulation 38 and MSC. 1/Circ. 1455. The VIKING LIFECRAFT™ is approved to A520(13)

CLASS APPROVAL

Lloyd's register – Prototype approval

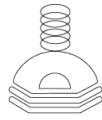
FLAG APPROVAL

Danish Maritime Authority, Bahama Maritime Authority

ACTIVATION

The LifeCraft™ system is activated by means of hydraulic pressure contained in accumulators. In case of missing oil pressure, the electric motor/oil pump in the system is used as back up - driven by the vessels emergency power. To secure, a failsafe launch, the possibility of faulty use of the system is reduced to an absolute minimum. I.e., each individual sequence can be initiated only in a predefined order and only when the previous sequence is completed. Each individual sequence can be stopped – and reactivated – at any given time as needed.

As a last resort, the launch sequence can be initiated by operating the hydraulic valves manually. I.e., one valve to operate each of the 4 sequences described below – 4 valves in total.



Passenger

The sequences are

- 1: Unlocks sea lashings and tighten up lowering lines
- 2: Opens hatch lock and hatch
- 3: Lifting yoke is lifted out
- 4: Lowers yoke

Launch is complete when LifeCraft™ survival crafts inflate

The two internally installed davits rotate about the floor-mounted pivots, bringing the lifting yoke with 4 Survival Craft and 4 escapeways out of the container

DISPENSER FUNCTIONALITY

The escapeways are automatically pulled out into operational length while the yoke is lowered to the sea surface. This is facilitated by the escapeway dispenser, which is an all-mechanical device, measuring the lowering distance of the lifting yoke and, from this, releasing the appropriate number of escapeway sections.

When the Survival Crafts are waterborne, the yoke sinks away and pulls the inflation lines for the Survival Crafts. When the two innermost Survival Crafts inflate, they will automatically place the escapeway outlet in position in the designated openings in the Survival Craft canopies.

All 4 Survival Crafts are inflated simultaneously while the vessels safety crew makes the escapeway dispensers ready for entry. All 4 escapeways can be used for disabled, elderly and others with special needs by means of a controlled speed descent-device.

Once boarding of the two outermost Survival Crafts is completed, they can be manoeuvred to safe distance of the vessel by means of own propulsion. Here after boarding of the remaining Survival Crafts starts and the procedure is repeated.

SUPPLIER DATA

Viking will, as supplier of the Viking LifeCraft System to yard or owner supply the following supplier data:

1. Detailed installation drawing based on final GA Drawing received from the yard or owner.
 2. Ship specific Crew Training and onboard Maintenance Manuals for the Viking LifeCraft System.
 3. Detailed progress plan on production and delivery of the Viking LifeCraft System with reference to the detailed delivery schedule provided by yard or owner.
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