PRODUCT INFORMATION

HAMMAR MRRS

– MANUAL REMOTE RELEASE SYSTEM

HAMMAR®

BETTER SOLUTIONS FOR SAFETY AT SEA

Revision 1

SOLUTIONS THAT IMPROVE SAFETY, PERFORMANCE AS WELL AS ECONOMY

THE HAMMAR REMOTE RELEASE SYSTEMS

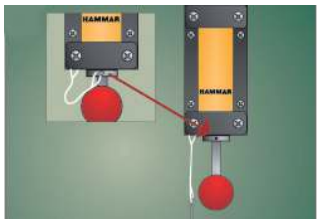
Hammar Remote Release Systems are designed to release liferafts, evacuation systems and other lifesaving equipment on board vessels of all types, with the least possible effort. Whether you are a ship owner, designer, builder or onboard safety officer, Hammar Remote Release Systems offer flexible solutions with many decisive advantages – for both safety and economy.

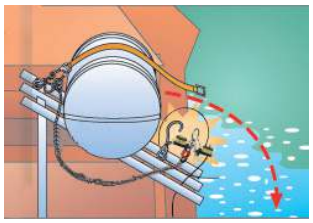
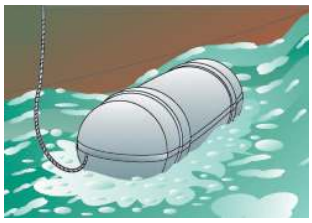
With a remote release system, lifesaving equipment can be released from the bridge or other strategic locations on board. This means that in an emergency situation, you can save precious minutes. Furthermore, the release mechanism can be deployed irrespective of factors such as weather, smoke or fire, without the crew having to take any unnecessary risks.
Remote release systems not only improve safety on board, they also represent a sound economic investment. Liferafts can be positioned in remote locations on board and valuable deck space can be freed for passengers or cargo. You get a head start by planning for a remote release system from the initial design stage, but the systems can also be retrofitted.

Since Hammar remote release systems are easy to handle, you can also minimize both crew and training costs.

Hammar Remote Release Systems require a minimum of maintenance and annual service. Check the system's function once a year, install a new release unit every two years and dispose of the old one. The whole installation is weatherproof and designed for a harsh marine environment.

MRRS: Manual Remote Release System
MRRS is suitable for installations of up to 50 metres in length. By means of a vacuum pump, which is operated manually, the vacuum is conveyed via stainless steel tubing to a release unit. When the release unit is activated, a sharp knife blade cuts the rope sling holding the liferaft to be released. Vacuum pumps can be connected in parallel to give multiple control positions.



I N D E X

Do you need help to choose your Remote Release System?

The Hammar Interactive Guide will help you to choose the right Hammar remote release system. The guide will lead you through a few essential questions. In the end it will give you a suggestion of which system to choose and which components to order. You find the guide at www.cmhammar.com

SAFETY

- Saves precious time when evacuating the ship
- Can be deployed irrespective of weather, smoke or fire
- Safer evacuation work for the crew

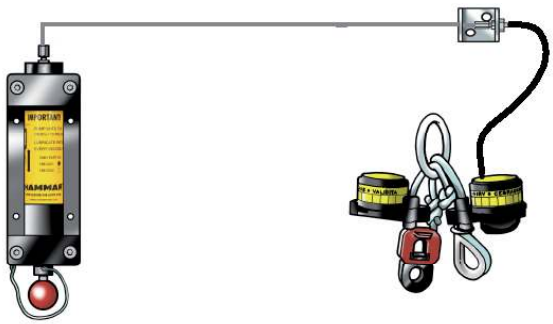
ECONOMY

- Lifesaving equipment can be position in remote locations on board and valuable deck space can be freed for passengers or cargo
- Minimize crew cost
- Reduce crew training cost

PERFORMANCE

- Minimum of maintenance and annual service
- Weatherproof and designed for harsh environment
- Simple and straight forward design
- Installations where the ship´s emergency power is unavailable

SYSTEM SET-UP



The large range of components provides the possibility to design a perfect system for most applications. A standard system consists of the following parts.

1. One vacuum pump with a non-return valve.

2. Acid resistant stainless steel tubing of sufficient lenght. For installations up to 50 metres in lenght.

3. One U-console to be installed at the liferaft cradle. The U-console acts as a connector to the stainless steel tubing.

4. One Hammar H20 Remote Release Unit (MRU) for vacuum or a Dual Assembly Remote/H20 unit.

Please consult us for more detailed information.

Note: *In all liferaft systems it is important to ensure float free function in all conditions and as the liferafts must be connected to the ship via its painter line and strong point (such as the deck), it is necessary to have a standard Hammar H20 hydrostatic release arrangement as well. This could be a separate unit or in combination with the remote release unit. Further information can always be obtained from CM Hammar AB.*

COMPONENTS

MRRS SYSTEM

Part no.

HM-0301 Vacuum pump complete with S/S coupling for S/S tubing connection

HM-0302 Vacuum pump complete with connection for nylon tubing

HM-0305 U-console stainless steel, complete with S/S coupling for S/S tubing connection

Part no.

HM-0321 U-console stainless steel, complete for nylon tubing connection

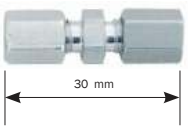
HM-0311 Tubing stainless steel, 3/2 mm diameter, supplied by metre. 10/20/30/40 m rolls also available

HM-0306 H20 HRU console, stainless steel, complete

MRRS SYSTEM OPTIONS

Part no.

HM-0307 Interconnection tube coupling, stainless steel, complete



HM-0308 T-piece coupling, stainless steel, complete

HM-0312 Ball valve, 2-ways, stainless steel, complete

Note: Used in set-up with one pump and two or more liferafts in the same system

HM-0313 Non-return valve, stainless steel, for 3 mm S/S tubing, complete

Note: Used in set-up with two or more pumps connected to one MRU in the same system

MRRS DUAL ASSEMBLY

Part no.

HM-0300 MRU – manual remote unit complete with 1 m tubing and two sleeve hoses

HC-0200 H20/Remote dual assembly, RFD MES type, CE approved

HC-0210 H20 Dual Assembly, Viking Type FDB CE approved

Only available through Viking network

HC-0207 H20/Remote dual assembly, DSB type CE approved

HC-0208 HC-0208 H20/Remote Dual Assembly, Hamma Heavy Load Type

Part no.

HC-0213 H20/Remote dual assembly, Hammar type for raft in MES system, CE approved

HC-0214 H20/Remote dual assembly, Hammar type for raft, CE approved

HC-0219 HC-0219 H20/Remote Dual Assembly, Hammar Type 4 metres

HR-0130 H20 for raft/MES installations, no weak link, to be used for cutting the MRU plastic tubing, MCA/CE approved

MRRS SPARE PARTS

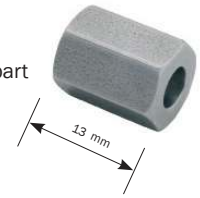
Part no.

HM-0309 Nut, stainless steel, to S/S couplings above, spare part

HM-0310 Olive, stainless steel, to S/S couplings above, spare part

HM-0370 Olive, stainless steel, to non-return valve, spare part

HM-0375 Nut, stainless steel, to non-return valve, spare part



HM-0329 Coupling stainless steel, to U-console, spare part

HM-0328 Nipple stainless steel, to U-console, spare part

HM-0303 End part to vacuum pump for S/S tubing connection, spare part

Part no.

HM-0304 End part to vacuum pump for nylon tubing connection, spare part

HM-0314 Nylon tubing 6/4 mm diameter, black, to MRU, spare part

HM-0332 Nylon tubing 8/6 mm diameter, black

HM-0331 Sleeve hose, 1 cm of black nylon tubing 8/6 mm diameter

HM-0335 Safety seal for vacuum pump

Safety seal correctly mounted and easy to break in an emergency situation

MRRS TOOLS

Part no.

HM-0315 Tube cutter for stainless steel tubing

Part no.

HM-0333 Vacuum pressure gauge for testing of vacuum pressure

HM-0324 End part tool, to stainless steel tubing. Ensures tight connection.

HM-0334 Lubricant TP55 for piston in vacuum pump

COMPARISON MATRIX

Products		Operates without power supply	System check	Multiple control posistions	Number of MRU units	Installation lenght (max)
Part no.	Part					
HM-0301	Pump	Yes	No	Yes	1	50 m
HM-0450	RS	No, needs 24 V	No	No	1	150 m
HM-0462	LRS	No, needs 24 V	Yes	Yes	2	150 m

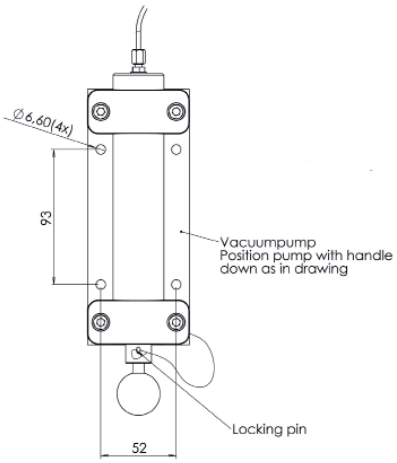
Following comprehensive product information may be downloaded at www.cmhammar.com

- MRRS Interactive Guide: Help to choose the right system
- MRRS User Guide/Safety Information
- MRRS Product Information
- MRRS Installation & Maintenance information

TECHNICAL SPECIFICATIONS

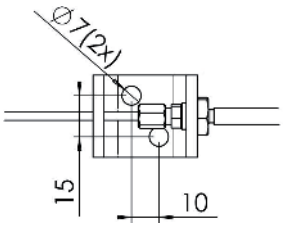
VACUUM PUMP

Material	Anodised Alloy Glassfibre reinforced nylon Stainless steel coupling/pist
Size base plate	70 x 176 mm
Hole size	6,6 mm
Size operating requirement	176 + 300 mm = 476 mm
Weight	640 grs



U-CONSOLE

Material	Acid resistant stainless steel
Size base plate	30 x 38 mm
Hole size	7 mm
Weight	85 grs



H20 REMOTE RELEASE

Material	Glassfibre reinforced nylon Stainless steel knife and nipple Polyester rope, breaking strength 15 kN Nylon tubing, black
Rope sling length	155 + 15 mm/- 0 mm
Weight	185 grs

TUBING

Material	Acid resistant stainless steel
Dimension	Outer diameter 3 mm +0,05/-0 mm Inner diameter 2 mm +/- 0,1 mm
Weight	30 grs per metre
Hardware (couplings etc)	Acid resistant stainless steel

TEMPERATURE RANGE

MRRS system and its components	-30°C to +65°C

APPROVALS

Approved to SOLAS and EU directive by leading shipping authorities. For further details please consult our web-site: www.cmhammar.com

DOCUMENTATION

Product leaflet
Product Information

MAINTENANCE

MAINTENANCE INTERVAL

The MRRS system shall be tested and checked on a regular basis and at least once a year. The Hammar Manual Release Unit (MRU) or dual assembly must be replaced after two years of service.

TESTING THE SYSTEM

To test the system: cut the nylon tubing close to the U-console and remove the remaining part on the nipple. Use a vacuum gauge to test the system and attach this to the free end of the U-console. A few slow pulls of the pump will give enough vacuum to release. Please note that due to the small bore diameter of the stainless steel tubing, the vacuum may take a few seconds to build up if the distance from the pump is 20 metres or more. The reading should be at least minus 0,6 Bar (- 600 millibar) or minus 8,7 PSI. In a properly installed system the vacuum will be kept for hours.

After successful testing of the system, connect the black nylon tubing from the Remote Release Unit (MRU) to the nipple of the U-console and lock the tube with the spare nylon sleeve hose. If the nylon tube is too tight to connect to the nipple, it might be gently heated.

Make sure that the water is not entering the tubing during service.

Do not rinse the MRRS components or tubing with hot water.

VACUUM PUMP LUBRICANT INSTRUCTION

Lubricate piston every second year. Always use lubricant approved by CM Hammar - Lubricant TP55 - part no HM-0334 or Molycote 55.

If the vacuum pump does not hold the vaccum after lubrication service is done disassemble the stainless steel tubing and make sure that no dirt or burr is affecting the air flow.

Do not disassemble the non-return valve in the end part. If the failure continue, a new complete part should be ordered.

NEW MODEL (INTRODUCED 1999)

1. Vacuum pump

2.Remove lower bracket and take out the piston rod.

3. Clean the piston. Do not disassemble the piston.

4. Apply a layer of new lubricant to the outer surface of the piston.

5. Carefully insert the piston rod and refit the bracket.

6. After service always perform a vacuum test

7. Install the safety seal to prevent un-authorized activation.

OLD MODEL (BEFORE 1999)

1. Vacuum pump

2.Remove lower bracket and take out the piston rod.

3. Remove the O-ring from the piston with a blunt tool. Do not damage the O-ring or the piston. Clean the O-ring and the piston recess.

4. Apply a layer of new lubricant to the O-ring and piston recess. Put the O-ring back in position and apply a thin layer of lubricant to the outside of the O-ring.

5. Carefully insert the piston rod and refit the bracket.

6. After service always perform a vacuum test

7. Install the safety seal to prevent un-authorized activation.

INSTALLATION

MRRS

Installation of the MRRS system should always be done by trained service or shipyard staff and in accordance with instructions or drawings from liferaft manufacturer or CM Hammar AB

The U-console is mounted on the cradle and in a position close to the liferaft lashing. If possible, mount the U-console with the connection pointing downwards, in order to avoid water ingress during service. The flexible nylon tubing on the Hammar Remote Release Unit (MRU) is approx. 1 m in length.

Start the installation of stainless steel tubing from the liferaft end. The location of the tubing will have to be individually designed to each installation. Make sure that entrance through bulkhead is properly protected from abrasion. In exposed areas make sure that the tubing is protected. If a stainless steel tube is used as protection make sure that the tube is drained and have access to be rinsed with fresh water. The tubing can easily be bent by hand and the minimum radius should be 2,5 cm. If a part of the tubing needs to be more flexible, you can obtain that by making an extra large loop on the tubing, preferably with a diameter of 20 cm or more.

The tubing must be properly mounted and secured against wind, waves and other weather conditions. Vibrations and wind may cause fatigue or damage to the tubing.

Cut the stainless steel tubing with a tube cutter and finish it off with an end part tool. This will ensure a tight connection. If these tools are not available, make sure that the cut is perpendicular, clean and free from burr.

The Vacuum pump must be placed with the red handle pointing downwards to avoid water ingress via the handle. If the pump is placed in a position, with no risk of rain or water, it can be positioned in another direction. The pump needs 300 mm free operating space below the pump (measured from the lower screw holes in the pump base).

Bend the stainless steel tubing before assembly to the pump, not afterwards, and make sure that the end is cylindrical, clean and free from burr.
Before connecting the system, make sure that the tubing is cleaned with compressed air.

Push the tubing into the coupling as far as it stops. Turn the nut 1,5 turns, and then slightly slacken off the nut again to relieve stresses. Finally tighten the nut again ¼ turn (max torque 5Nm).

Note: The front of the pump is not designed to hold the nut in place when tightening. The nut on the pump must be held in position with a spanner, when connecting the stainless steel tubing to the pump.

Install the Hammar Remote Release Unit (MRU) or a dual assembly unit on the outboard side of the liferaft. This side is preferred to ensure that the lashing is easily releasing the liferaft.

Note: In all liferaft systems it is important to ensure free float function in all conditions and as the liferafts must be connected to the ship via its painter line and a strong point (such as the deck), it is necessary to have a standard Hammar H20 hydrostatic release arrangement as well. This could be a separate unit or in combination with the remote release unit (dual assembly). Further information can always be obtained from CM Hammar AB.

Make sure that all the Hammar units in the release arrangement are properly marked with two year expiry date upon installation onboard. The Hammar H20 units require no annual service, but must be replaced after two years of service.

TESTING THE SYSTEM

Use a vacuum gauge to test the system and attach this to the free end of the U-console.

A few slow pulls of the pump will give enough vacuum to release. Please note that due to the small bore diameter of the stainless steel tubing, the vacuum may take a few seconds to build up if the distance from the pump is 20 metres or more. The reading should be at least minus 0,6 Bar (- 600 millibar) or minus 8,7 PSI. In a properly installed system the vacuum will be kept for hours.

FINAL ASSEMBLY

After successful testing of the system connect the black nylon tubing from the Remote Release Unit (MRU) to the nipple of the U-console and lock the tube with the nylon sleeve hose. A second sleeve hose is supplied on the nylon tube for intermediate testing. If the nylon tube is too tight to connect to the nipple it might be gently heated.

TECHNICAL SUPPORT

If you have a problem with your MRRS system or if the system needs to be upgraded for another number of liferafts, please contact the company who performed the installation or contact CM Hammar AB directly.

CONTACT:

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