

Cruise Ships

Complete Fire Suppression & Containment Solutions



A vital part of your world

The power behind **your mission**





Single source fire and safety solutions in port, at sea and in the dockyard

Cruise ship operators pride themselves in treating their customers to a cosmopolitan, relaxed atmosphere, providing a wide variety of daytime and evening activities and entertainment. The expertise and experience of Johnson Controls Marine Services within this important marine sector is unparalleled and we remain at the forefront in this highly specialised area. Our track record in the protection of Cruise Ships for a wide range of international Shipbuilders and Fleet operators, speaks for itself.



1 Helideck Protection

Johnson Controls Marine Services can provide full helideck fire fighting and safety equipment in accordance with Civil Aviation and related codes, including fixed foam monitor systems and deck integrated fire fighting systems (DIFFS). A DIFFS unit has multiple nozzles that are installed flush with the helideck surface. In case of fire, these nozzles pop up and spray water / foam mixture evenly on to the deck.

2 Anti-Piracy and Fire Monitor Systems

Our range of fixed or oscillating monitors serve an important dual purpose. These monitors have the discharge power to provide rapid 'knockdown' of high powered speedboats and therefore prevent 'Unwanted visitors' gaining access to the ship. In the event of a fire, additional fire fighting flexibility can be quickly provided by introducing AFFF – FFFP foam into the water supply.



Machinery Spaces

The type of fire protection system installed within machinery spaces is determined by the size of the machinery space, the equipment within it and its hazard classification. Johnson Controls Marine Services has a wide range of foam, gaseous fire suppression and water based products to combat any fire risk imaginable.



High expansion hot foam discharge & the marine detection panel range

3 CO₂ Gaseous Fire Suppression

Carbon Dioxide is the original "clean" agent that is traditionally used for marine 'Total Flooding' applications to suppress fires in unmanned areas involving deep seated Class A fire risks.

Johnson Controls Marine Services can provide High Pressure cylinder systems and Low Pressure tank systems for the protection of engine rooms, pump rooms, machinery spaces and cargo holds. It is essential that all personnel be trained on CO₂ systems to ensure their safety. They must be warned not to enter the hazard area during discharge, or until the area is cleared.



4 Low Pressure Water Mist Systems

Johnson Controls Marine Services offer a variety of 'Local Application' and 'Total Flooding' Low Pressure Water Mist systems. These systems are an extremely cost effective and an efficient method of containing a suppressing high intensity fires within small to medium volume areas. These areas include ship's engine rooms, generator rooms and boiler rooms.

5 High Expansion Hot Foam

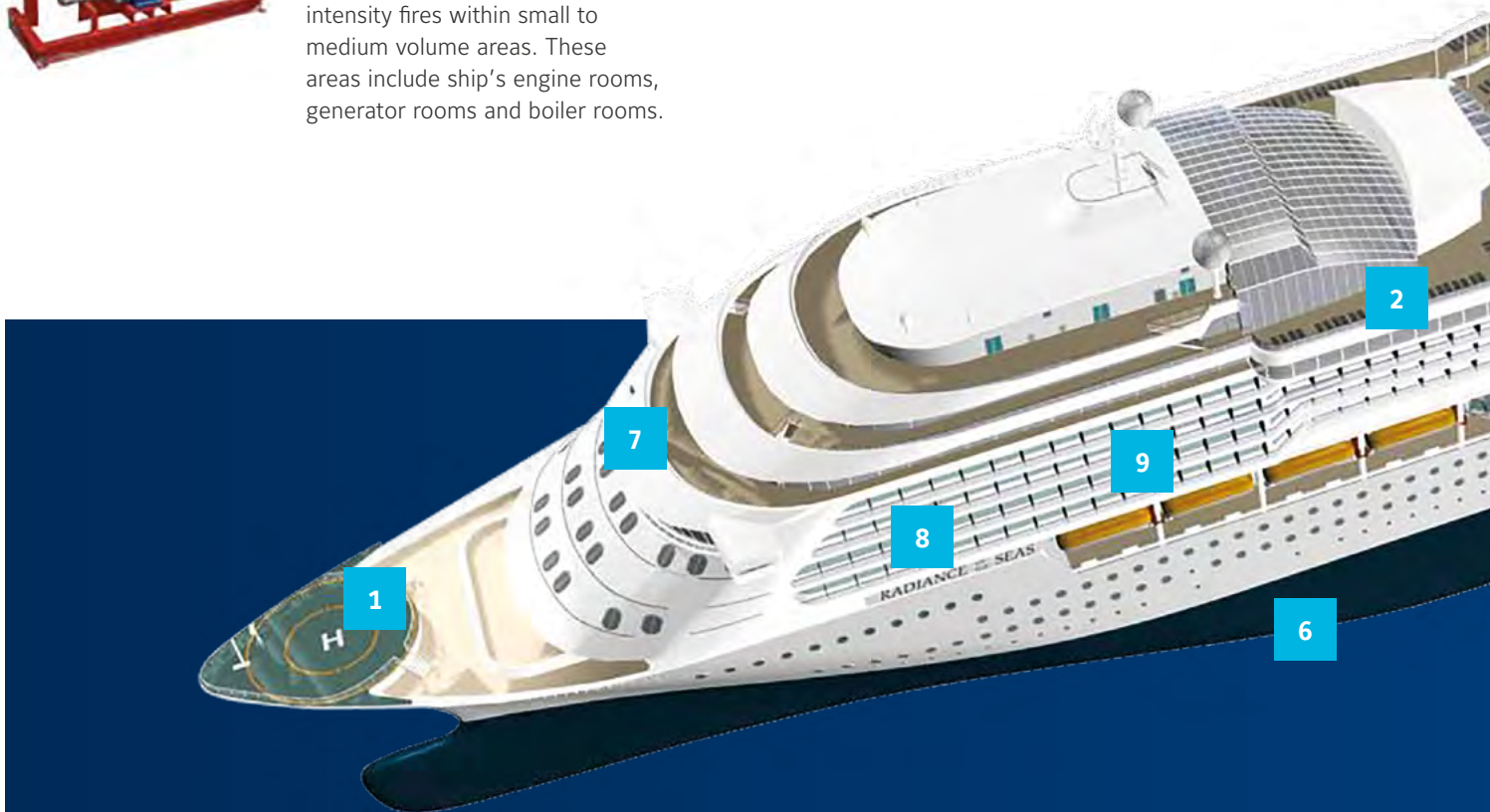
This type of foam has an undeniable track record in vapour suppression and fire control. Using a synthetic foam concentrate, high expansion hot foam generators are highly effective in fighting three dimensional fires within high volume areas.

Because high expansion hot foam generators require minimal amounts of water to produce large amounts of foam, moisture damage is minimised, the potential water run-off is limited and greater use in and around electrical or electronic components is possible. Post fire residue is also very easily cleaned.

6 Novec™ 1230 Gaseous Fire Extinguishing System

Novec 1230 is ideally suited to safeguard vital electrical infrastructure within electrical spaces. It is supplied in cylinders with a small footprint that requires minimal storage space. Novec 1230 fluid has a boiling point of 49°C and therefore exists as a liquid at room temperature. It is super-pressurised with nitrogen to 25bar and rapidly extinguishes a fire through a combination of heat absorption (its main action) and some chemical interference with the flame.

Although stored in liquid form, Novec 1230 fluid will vaporise easily upon discharge, making it an effective total flooding agent for a variety of hazards. As a clean agent, it leaves no residue and is therefore ideally suited for Marine applications where high margins of safety and long term sustainability are considered as important features.



Living Spaces and Working Areas

A small fire can quickly develop into a high intensity fire that could quickly endanger the safety of the ship and its crew. With these facts in mind, Johnson Controls Marine Services have designed and developed a wide range of International Marine Approved systems for both life and fire safety protection within vulnerable living spaces and working areas.

7 Fire Detection & Alarm

Johnson Controls Marine Services can provide a wide range of conventional and addressable fire control panels and initiating devices to protect the 'Ship's Bridge' and crew accommodation areas.

Utilising the latest technology, they can detect a fire in its earliest stages to prevent a small fire from developing into a high intensity fire with the potential to spread to vulnerable high risk areas of the vessel.

Johnson Controls Expert Graphics (TXG) is a Microsoft Windows® based graphical interface with a high resolution colour display. Responsive touch-screen (optional) buttons with realistic icons provide control switches specific to the operation being performed. Utilising a combination of symbols, floor plans, pictures, text, voice messages and video input, TXG displays the precise location and gives instructions on what emergency action should be taken.

8 Cabin Fire Protection

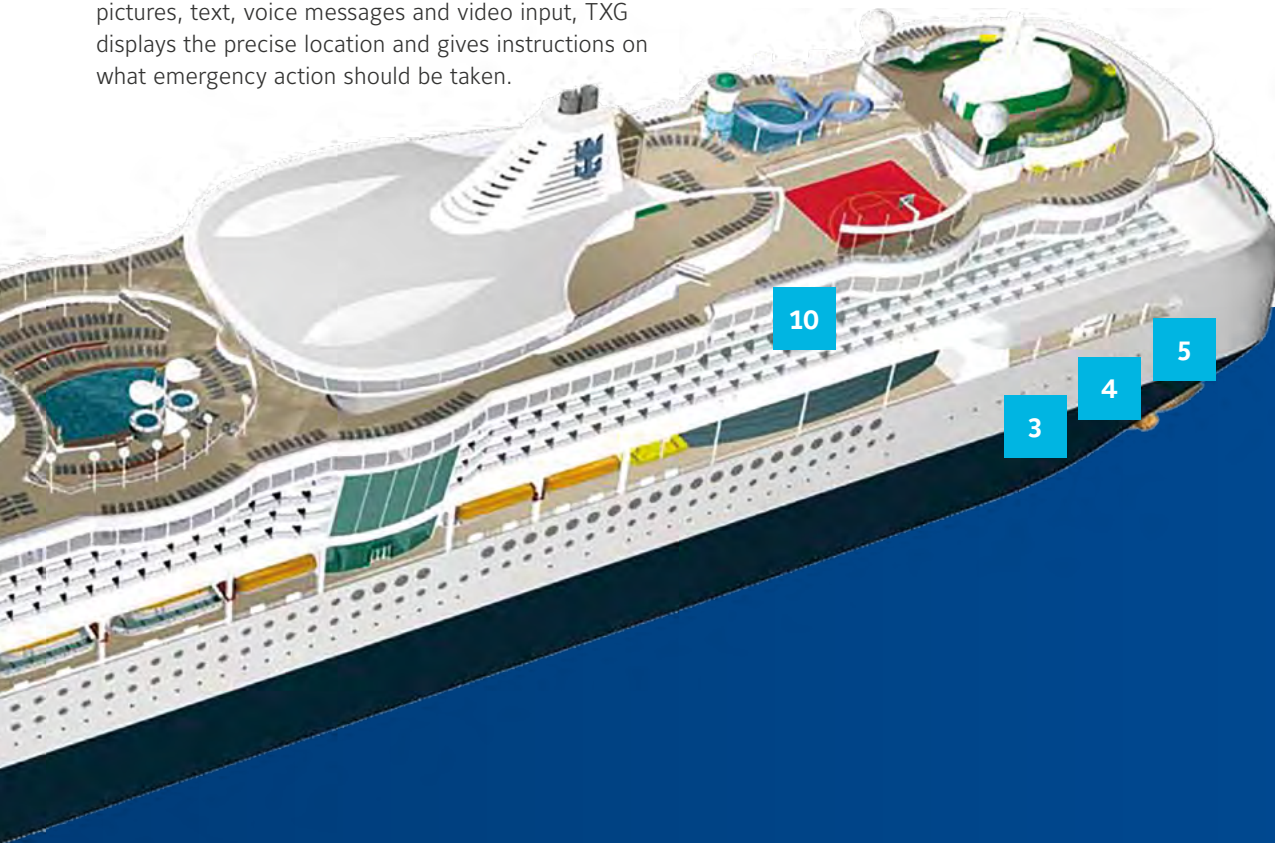
The minimal amount of water used by a Low Pressure Water Mist Cabin Protection system in the event of a fire significantly reduces the threat of water damage reaching other areas or decks. This feature reduces the time taken for 'Post Fire' clean up requirements and enables other 'Normal Ship's Activities' in 'Non Fire' areas of the Cruise Liner to continue without disruption.

9 Portable Fire Extinguishers

In the right hands, first aid fire fighting equipment can prevent a small fire from becoming a large one. Johnson Controls Marine Services provide a comprehensive range of high quality, cost-effective fire extinguishers, hose reels, stands and cabinets that are designed and produced to the latest standards.

10 Galley Fire Suppression

A galley fire can be highly dangerous. It can quickly spread and turn a galley into a blazing inferno. The Ansul R102 systems uses a specially formulated aqueous solution of organic salts designed for fast 'knockdown' and suppression of grease related fires. Agent storage life expectancy is twelve years.



Johnson Control Marine Services, unrivalled knowledge and expertise in fire safety

Our expertise range of products and systems combined with our special marine expertise, ensure that Johnson Controls Marine Services is truly the one source that you will ever need to protect people and ships from fire. Also, because we operate in over 100 countries and hold nearly every international marine approval, we can perform your work wherever you need us. At port, at sea and in the dockyard, one call is all it needs.

Assets we help to protect

- LNG / LPG vessels
- Tankers
- Container vessels
- Tugs & fire fighting vessels
- RO-RO passenger vessels
- Mega yachts
- Cruise vessels
- Naval vessels
- FPSO's

How we operate

- Manufacturing and product development to ISO 9001:2000 standards
- Application engineering develops innovative solutions with a customer focused approach
- Our multi-disciplined marine consultants and project management teams are co-ordinated across countries with a single point of contact
- Installation and commissioning is performed in port, at sea or in the shipyards
- Our service and maintenance strategy is based on support from people and 24 hour parts warehouses located at strategic points around the world to provide assistance when needed.

Global Strength

Local Expertise. At your service.

Other Marine Fire Suppression & Containment Solutions Include

- Oil & chemical tankers
- Cruise ships
- LNG carriers
- Offshore support vessels

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To find out more about how Johnson Controls Marine Services can help you to meet your fire protection challenges, contact your local office:

www.johnsoncontrols.co.uk