

**ANNUAL INSPECTION
LIFECYCLE UPGRADE
SERVICE FRAME AGREEMENT
CUSTOM MADE SHIPS SPARES**

SAFETY IS NON-NEGOTIABLE

WATERTIGHT DOORS – REAL LIFESAVERS

At IMS, we believe that watertight doors are vital elements in the safety systems of any marine vessel and offshore installation. We assure our customers that IMS watertight doors are reliable. Certified by leading classification bodies and national authorities, the doors bring confidence to the end user.

A ship collision or grounding does not have to end in disaster. In case of a leak, vessels equipped with IMS watertight doors will avoid filling with water and sinking. The watertight doors will close either by electrical signal from the bridge, manually from emergency stations or at its location. Closing the doors will be possible in almost any conceivable situation, reducing and eventually stopping the flow of water. If damage to the vessel is extensive, there will be time for safe evacuation of passengers and crew. Watertight doors save lives. Our watertight doors are tested and have proven to be very efficient and reliable in critical situations. One example: A cruise vessel collided with a tug boat on the Mississippi river in August 2001. Despite a gash 70 feet long x 10 feet wide, the vessel did not sink, thanks to its IMS watertight doors working as intended.



IMS AS enjoys more than 40 years of history in the marine and offshore industries. We are recognized for world authority, technological development, and our high quality professional approach. IMS recognizes its duty to provide specialist advice and technical assistance to operators of safety equipment.

No compromise on Safety

IMS provides innovative and reliable watertight door solutions for merchant marine and offshore installations. We believe that a vessel equipped with IMS watertight doors provide the safest working and living environment for crew and passengers. That's why we highly recommend that commissioning, inspection, maintenance and service are performed regularly by qualified personnel. Unless safety is taken most seriously, lives and property are at risk.

IMS watertight doors have been type approved by:

- ABS – American Bureau of Shipping
- BV – Bureau Veritas
- DNV – Det norske Veritas
- LR – Lloyd's Register
- RMRS – Russian Maritime Register of Shipping



Hydraulic operated watertight door

IMS manufactures hydraulic doors for work boats, supply vessels and offshore installations worldwide to customers requiring the highest standards for functionality and reliability.



Electric operated watertight door

IMS manufactures electric doors for ferries and cruise vessels. These doors are designed to integrate into the ship construction without disrupting logistics or aesthetics. This often involves low-threshold door solutions, anti-crush protection and easy maintenance.



CUSTOM MADE SHIPS SPARES

IMS can deliver a wide range of custom made spare parts making use of the IMS Group's expertise. We compete in an international market and focus on quality in every aspect. Our companies are equipped with machinery and facilities representing state of the art technology. Furthermore, we employ the best engineers in the industry to make all of this possible.



IMS

MASKINERING

IMS Machining produces components made of a range of materials, including steel, brass, acid-resistant steel, plastic and aluminum. Our turning centers are suitable for series of 1-10,000 units. Our machines, skilled employees and subcontractors make IMS the most reliable and versatile supplier. The machines are set up for mass production both with and without operators.

Several of our machines run unmanned 24/7, allowing us to offer competitive prices and quick delivery times.



IMS

LASER

IMS Laser has the most powerful laser in Norway for cutting stainless steel up to 25 mm thick and 8x3 meters in size, with automatic feeding of steel sheet for automatic laser cutting. We also employ advanced CNC-operated machinery for fast bending 20 mm thick steel up to 6000 mm long.

We utilize the group's wide-range of expertise in different types of sheet metal fabrication. We can laser cut, weld, bend, machine and surface treat steel, stainless steel, acid-resistant steel and aluminum, using the very latest machinery.



IMS

AUTOMATION

IMS Automation develops and produces PC/PLC & processor-based automation solutions. Our bus-based control systems supplied to large cruise vessels is an example of a project with extremely high demands for quality and reliability. IMS has developed a redundant distributed I/O system which fulfills the toughest requirements from classification bodies. The system communicates via software developed by the IMS engineers. The hardware has been developed to monitor & control watertight doors. The software is modular and can be customized for most applications within automation.

For custom made ships spares please contact +47 3714 3200 or send an e-mail to sales@imgroup.no for a quotation.

- Provide a drawing or a sample of what you require.
- Do you require one unit or a series of units?
- Do you require urgent or planned service?

LIFECYCLE SERVICES

IMS believes in being available to our customers throughout the lifetime of our products. We have qualified personnel performing service, maintenance and upgrading assignments all over the world. In addition, we maintain a large stock of spare parts for most of our doors. Non inventoried equipment, we can manufacture immediately in-house.

The watertight doors onboard your vessel or installation is part of the Safety system which should be certified regularly by annual inspections. IMS Lifecycle Service provides all service, warranty and after sales activities, including upgrades from our main plant in Akland & Risør Norway and our office in the United States. Our network includes service facilities in the US, Europe, Singapore and Korea.

New Installations

We have developed routines for welding, installation, and commissioning, which have to be followed by the yard before testing and handing over the doors to the end user.

Installation Supervision

IMS Lifecycle Service engineers have extensive experience with installation supervision and will assure that the installation work is done according to the customer's and IMS' specifications. Installation supervision will normally be followed by the immediate commissioning of the system. This enables the customer to avoid costly delays and expenses which could occur due to disruptions in the project.

Pre Commissioning

IMS Lifecycle Service can assist with the mechanical installation, and even offer a turnkey solution on special projects.



For Lifecycle services please contact +47 3714 3200 or send an e- mail to one of our coordinators:

Commissioning

The final touch of an installation is the commissioning. We perform complete service to ensure that the watertight sliding doors are working optimally before the vessel is taken into operation. Prior to commissioning, we check the complete installation, with emphasis on the mechanical work, to ensure that every aspect is according to the specification. All functions and every part of the WTD systems are tested, and any defect or discrepancy is rectified prior to handing over to the end user. The commissioning is performed by our experienced service engineers, together with the customer's representatives and the classification company. If this option is purchased, we will supply all necessary commissioning spare parts at no extra cost to the customer.

After sales

An important part of our business is to satisfy our customer's needs as related to spare parts, service, and support. IMS provides comprehensive after sales service of our watertight doors worldwide. We maintain a large stock of spare parts for most of our doors. Equipment we do not have in stock can be manufactured immediately in-house.

Inspections

We perform complete inspections to ensure that the watertight doors are working safely. During inspection we check the complete installation with emphasis on the mechanical, hydraulic and electrical systems, to ensure that every aspect is within the regulations. All functions and every part of the system are tested, and any defect or discrepancy is rectified. The certification is performed by our experienced service engineers, together with the customer's representatives and other requested parties. IMS will issue an annual inspection certificate which can be provided to any third party.

Training

IMS Lifecycle Service offers training courses including theoretical and practical instructions of operation and maintenance of relevant IMS doors. Tailored courses are available upon request.

E-mail: service@imgroup.no for service & support

E-mail: spareparts@imgroup.no for spare parts

E-mail: training@imgroup.no for training

E-mail: warranty@imgroup.no for warranty

LIFECYCLE UPGRADE

IMS doors are the key part of the on board safety system. Routines for maintenance and service have to be followed for safe operation. After many years of operation, every installation needs an upgrade.

IMS Hydraulic Upgrade

For Fjord Lines MS Bergensfjord we have performed a major upgrade, including replacement of new valve blocks. Older systems can suffer failure due to pressure loss, wear and tear or lack of maintenance.



MS Bergensfjord



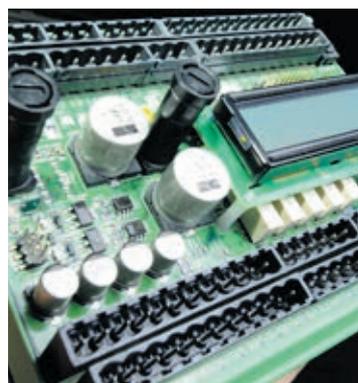
Special valve block for conversion



IMS Safety Strip

We can retrofit new safety functions, such as anti-crush protection. Using laser beam sensors, which can be worth the investment of upgrading a door to state-of-the-art technology.

Incidents that could cause serious accidents have happened at installations in the North Sea. To prevent accidents we recommend upgrading older doors with the IMS Safety Strip.



Safety strip control card



Laser beam sensor

IMS WTD Control System – "State of the Art"

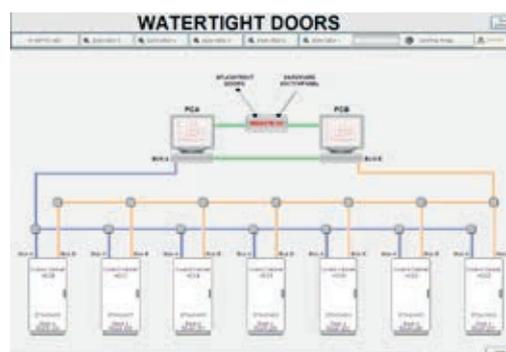
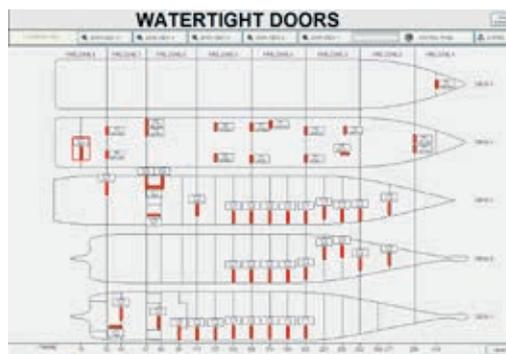
Advanced Control Systems for Cruise Vessels and Offshore Installations. We replace all the hydraulic and electronic systems on the door, using modern components at competitive prices and short delivery times.

The Generation 1 IMS Control System is now replaced by the Generation 3 Control System with the following features:

Alarm handling functionality that also provides a detailed alarm list.

- Detailed information about system status.
- Software closing switch panel, possibilities to include software closing of fire zones/all WTD's from both computers.
- Interface with the possibility of zooming in to each deck on a detailed level.
- Service interval notifications.

IMS will issue a certificate which can be provided to any third party.



IMS WTD Control System 3. Generation

ANNUAL INSPECTION

Although annual inspections are not mandatory, we highly recommend inspections and the execution of maintenance procedures annually. Routine maintenance and service have to be followed weekly, monthly and annually by competent personnel.

Maintenance for every 20,000 operations or every 6 months:

- Check oil level and refill if necessary.
- Clean the gasket and lubricate with silicone grease.
- Check wheels and bearing for excessive wear.
- Test battery capacity for control/indications.

Maintenance for every 40,000 operations or every year:

- Replace springs for operation mechanism.
- Replace wheels and bearings if necessary
- Check rails for excessive wear. Replace if necessary.
- IMS will issue a certificate which can be provided to any third party.



Four Service Engineers from the IMS Lifecycle Service team mobilized within 72 hours of first contact, carrying necessary equipment and spare parts for a fortnight job. Their mission: To provide service and lifecycle upgrade to the IMS watertight doors onboard Ocean Rig "Leiv Erikson" at the Yard in Turkey.



Annual Inspection.



Spring replacement.



Rubber Gasket



Both springs must always be replaced simultaneously.

Wheel replacement.



Rubber gasket replacement.

SERVICE FRAME AGREEMENT

Routines for maintenance and service have to be followed for safe operation, as IMS doors are a part of the safety system on board your installation.

Customers with an IMS Frame Agreement will obtain:

- Close follow up of each individual installation regarding validity of the certificates.
- Annual inspection at a fixed price.
- Supply of all necessary spare parts at a discounted price.

IMS is an ideal partner for the maintenance of safety equipment, providing:

- Fully skilled technical staff with years of practical experience and training, with performance guaranteed by the IMS quality system.
- Effective maintenance programs for fleet operators, with all costs according to our menu price system.
- Fully SOLAS compliant upgrading of watertight doors.
- Worldwide, 48 hour service for the delivery of spare parts is our target - if required.

Recommended service to the doors on your installation

- Mandatory parts to be changed within a specified interval.
- Rubber gasket to be checked and replaced as needed. The rubber gasket is a crucial safety issue!
- Depending on door running frequency - the wheels need to be checked and/or replaced.
- The oil & filter is to be changed within the specified interval. The system can be upgraded with an outside oil filter.
- The control system is to be inspected and tested.
- The IMS annual inspection certificate will be provided for third party inspection.

SERVICE WORLD WIDE

Time: 16:00 – 01:00 GMT

Time: 07:00 – 16:00 GMT

Time: 01:00 – 07:00 GMT



IMS, Inc. – U.S.

Phone: +1 239 772-9299

IMS AS – Norway

Phone: +47 3714 3200

IMS Singapore Pte. Ltd.

Phone: +65 6546 6364



(In progress)



(In progress)



24/7 service phone: +47 37 14 32 60

