



Sherlog

Hatch cover tightness testing



Ultrasound
Solutions

www.sdtultrasound.com

The SDT solution for tightness testing of hatch covers

Since its foundation in 1975, SDT has placed continuous efforts in manufacturing high quality ultrasonic testing equipment and engineering tailor made ultrasonic solutions for the shore based and marine industry.

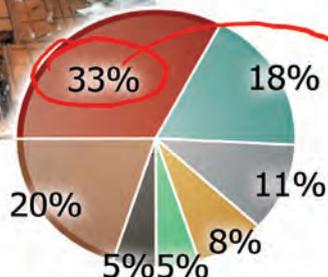
Leaking hatch covers are a recipe for commercial disaster. The burden of enormous financial claims continues to weigh on the global shipping industry. **SDT therefore invented the best possible solution to test the integrity of vessels for weather-tightness.**

After several years of pioneering work with the well known **SDT 150** equipment in the late eighties and early nineties, SDT convinced the marine industry that the combination of artificially created ultrasounds (generated by an ultrasonic transmitter) and an ultrasonic receiver provided useful information about the **compression status** of the hatch cover packing rubber.

Further R&D, new technologies, experience and feedback from operators throughout the years; have culminated in the latest creation of SDT, i.e. the **SDT270** receiver which includes many new features and, at the same time, a genuine **Sherlog product range with different kits** that suit the needs of every operator.



Cause of large claims by value*



Hatch cover leaks

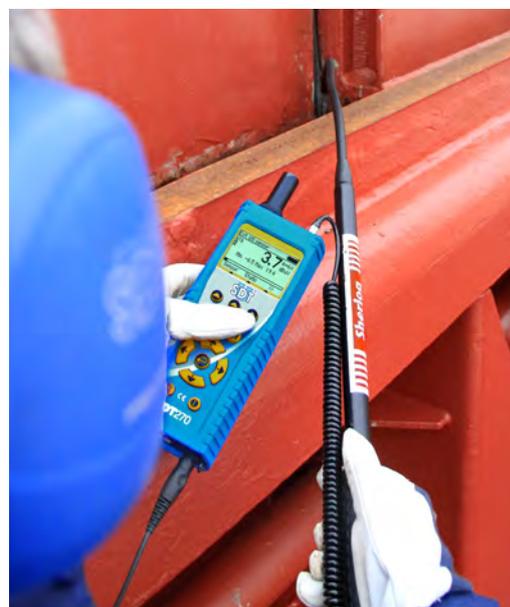
* Dry bulk and general cargo vessels (The London Club)

SDT Sherlog equipment = Enhanced safety for ship, crew and cargo

As per the International Convention of Load Lines, hatch cover tightness is of crucial importance for safeguarding life and property at sea.

Whereas the traditional hose testing method provides information on whether or not there is contact between the packing rubber and compression bar, ultrasound testing provides information on the compression status of the hatch cover packing rubber. This is extremely important as the packing rubber compression determines the capacity of the packing rubber to compensate for the relative movement between the hatch covers and the hatch coaming and therefore helps in maintaining a tight seal under dynamic conditions when at sea.

By allowing checking packing rubber compression in an easy, reliable and repeatable way, the SDT Sherlog equipment helps ship owners comply with international rules and regulations.



The SDT Sherlog product range:

Sherlog kit CADET



This entry-level kit of the SDT Sherlog product range includes;

- **SDT FLEX.US** receiver, with flexible sensor which allows the operator to bend and flex the sensor to gain access to hard-to-reach areas
- **SDT 8 MS** transmitter
- Noise isolating headphones

Furthermore, the **SDT FLEX.US** receiver;

- Is powered by ordinary AA batteries
- Allows accurate and quick pin-pointing of areas where lack of compression exists on basis of an audible signal
- Is able to work in the continuous or non-continuous mode
- Has an easily adjustable volume control.

Customer/Operator profile:

This low budget, but robust and reliable equipment is an ideal solution for operators who are interested in quick, reliable and easy detection of leaky spots with a high level of precision. As detection of leaky spots is based on evaluating the received audible sound only, the Sherlog kit "CADET" combines easy and accurate testing with a minimum of training.

Sherlog kit MATE



The Sherlog "MATE" kit includes the **SDT200** receiver which is a high quality ultrasonic receiver which allows to easily identify areas where compression is affected and evaluate measurements which are shown digitally on the LCD display.

The Sherlog kit "MATE" includes;

- High-performance **SDT 200** receiver
- **SDT 8 MS** ultrasonic transmitter
- Noise isolating headphones
- Icon based menus for intuitive navigation
- 6 integrated linguistic versions
- External flexible sensor
- Storage capacity for 4000 time- and date-stamped measurements
- Tailor made DataDump software for data transfer to computer and printing
- Independent adjustments of listening volume and amplification level which enhances user's comfort.

Customer/Operator profile:

The Sherlog kit "MATE" is recommended to users who value the importance of both measuring and evaluating the weathertight integrity of hatch covers, as well as the transfer of survey data to their computer to facilitate reporting and record keeping. In order to interpret readings and test results in a correct manner, following the SDT-IMCS training course will enhance understanding and knowledge of the operator.

SDT 8 MS transmitter

The **SDT 8 MS** transmitter, which is the core equipment of each Sherlog kit, features:

- Eight (8) frequency and power stabilized ultrasonic transducers, transmitting 8 x 125 mW ultrasonic power in the volume of a hemisphere
- Two commutating ultrasonic frequencies (bi-sonic sound)
- A 6 position selector switch to control and adjust the output power to obtain a correct Open Hatch Value and reliable test results.



Sherlog kit MASTER



New technologies, experience and feedback from operators throughout the years have culminated in the latest creation of SDT, i.e. the **SDT270** receiver. The **Sherlog kit "MASTER"** completes the SDT Sherlog product range with state of the art equipment which allows for enhanced performance, accurate measuring and instant reporting.

The Sherlog kit "MASTER" includes;

- The ultimate performance receiver (**SDT270**)
- SDT 8 MS ultrasonic transmitter
- Noise isolating headphones
- Icon based menus for intuitive navigation
- 6 integrated linguistic versions
- External flexible sensor
- Red/green indicator for indicating measurements >10% OHV
- Tailor made DataDump software for data transfer to computer through USB
- Independent adjustments of listening volume and amplification level for a real comfort of use.

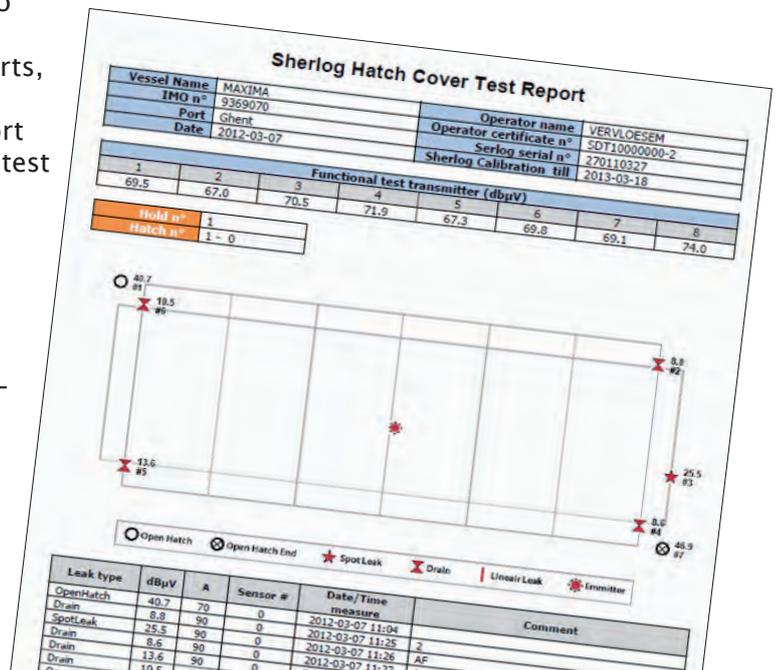


The Sherlog SDT270 further allows:

- Logging of functional test
- Selecting the number of hatch covers panels
- Navigating on the receiver's display in order to position and log leaky areas
- Indicating additional openings like loading ports, ventilators and access hatches
- Storing of operator, equipment, certificate, port and ship information for inclusion in the final test report
- Immediate generation of a fully detailed, comprehensive and tamperproof test report.

Customer profile:

In addition to high quality performance, the unique screen navigation feature adds considerably to the user friendly measuring and logging of data during the execution of tightness test on board. Moreover, the enhanced reporting features of the SDT270 allow producing detailed and comprehensive survey reports in MS-Word format immediately after completion of the tightness test which is a major step forward in facilitating the reporting work of every surveyor, consultant or superintendent.



The SDT Sherlog product range: three kits built around the same transmitter

Within the Sherlog product range SDT offers three kits all built around the same SDT 8 MS transmitter. Customers who have an SDT kit of an older vintage, and now want to purchase Sherlog receivers of the latest generation, can continue to use their original SDT 8 MS transmitter.

This significantly reduces the investment to upgrade to the latest technology. SDT offers a solution that meets everyone's needs, expectations, and budget.

3 SDT Sherlog kits that match every operator's profile:

- Sherlog kit "CADET" (With the SDT FLEX.US receiver)
- Sherlog kit "MATE" (With the SDT200 receiver)
- Sherlog kit "MASTER" (With the SDT270 receiver).



Class type approval

Like its predecessor – the SDT Sherlog TA – both the **Sherlog SDT200** and **Sherlog SDT270** have been developed in order to meet with Class criteria for Type Approval. Both equipment have the necessary features on board to comply with, and exceed, Class type approval requirements.

The high quality of SDT equipment reassures ship owners and their managers that their ships have been inspected with state of the art equipment that meets with the highest industry standards.

The Nautical Institute Accredited SDT – IMCS training program

With the slogan «*Using the best stethoscope only is not a guarantee for a correct diagnosis*» SDT fully supports the IACS UR Z17 procedural requirements for class service suppliers. UR Z17 demands operators of ultrasonic tightness testing equipment be familiar with different hatch cover designs, their sealing systems, maintenance, operation, as well as with the ultrasonic equipment used.

Together with IMCS Belgium, SDT has developed the "SDT – IMCS Training program for operators using SDT Sherlog equipment for testing weathertightness of hatch covers".

This training program is **accredited by the Nautical Institute** and is recognized by the maritime industry to be useful for everyone who is dealing with hatch covers and tightness testing.

More information about the trainings can be found on the SDT website on www.sdtultrasound.com



From the classroom ...



to theoretical exercises ...



and on board training.

Preventive, Predictive and Condition Based Monitoring on board:

Both the SDT200 and SDT270 receivers allow checking of the health, performance and safety status of on board equipment and machinery.

Within the scope of shipboard PM, PdM and CBM schemes, and by using the right ultrasonic techniques and sensors, the SDT200 and SDT270 receivers integrate standard features allowing to carry out:

- Bearing condition monitoring and ultrasound based lubrication
- Detection of pump cavitation
- Detection of internal blockage or leaks in valves and hydraulic equipment
- Measurements of temperatures, RPM, ...
- Leak detection in compressed air, steam, vacuum, gaseous fluid systems
- Steam trap inspections
- Partial discharge localization in electric switchboards
- Tightness testing of hatches, doors, ramps with or without the ultrasonic transmitter.



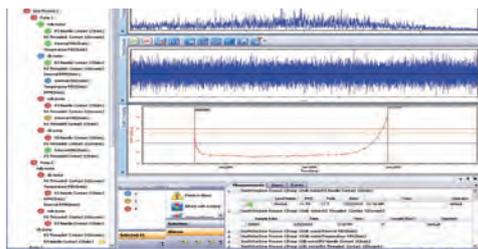
Benefits of using Sherlog SDT200 or SDT270 equipment on board:

Integrating the Sherlog SDT200 or SDT270 in a shipboard maintenance system allows detecting upcoming problems in an early stage before other techniques will detect them. Recognizing the advantages and benefits of using Sherlog SDT200 or SDT270 receivers will not only add significantly to efficient managing the budget for maintenance, but will also help in avoiding costly downtime as a result from breakdowns, extending the in-service life of your ship borne equipment, enhancing reliability and safety. Using Sherlog SDT200 or SDT270 equipment will also allow shipboard crew and managers to organize and plan maintenance where and when it is needed most.



Optional sensors and software:

- Parabolic sensor with laser beam
- Contact probe
- Threaded sensor with magnetic and mounting pads
- Built-in pyrometer and built-in tachometer
- Data acquisition possibility: Ultranalysis Suite software for static and dynamic measurements (for time and spectrum analysis of ultrasonic data).



The SDT200 and SDT270 receivers, the flexible sensor, the contact probe, the threaded sensor and the headphones are available in ATEX version for potentially explosive environments. ATEX Directive 94/9/CE (II 1 G / Ex ia IIC T3/T2 Ga).

Trust the specialist

SDT designs and produces ultrasonic measuring instruments. Thanks to its 40 years of experience, the company has become the undisputed leader in the field of plant and shipboard maintenance. The Sherlog range was developed by SDT for the marine sector, for weathertightness testing, detection of leaks and on-board predictive maintenance. The success of the company is based on its core philosophy of providing state-of-the-art technology along with cost efficient solutions to its user's problems.



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