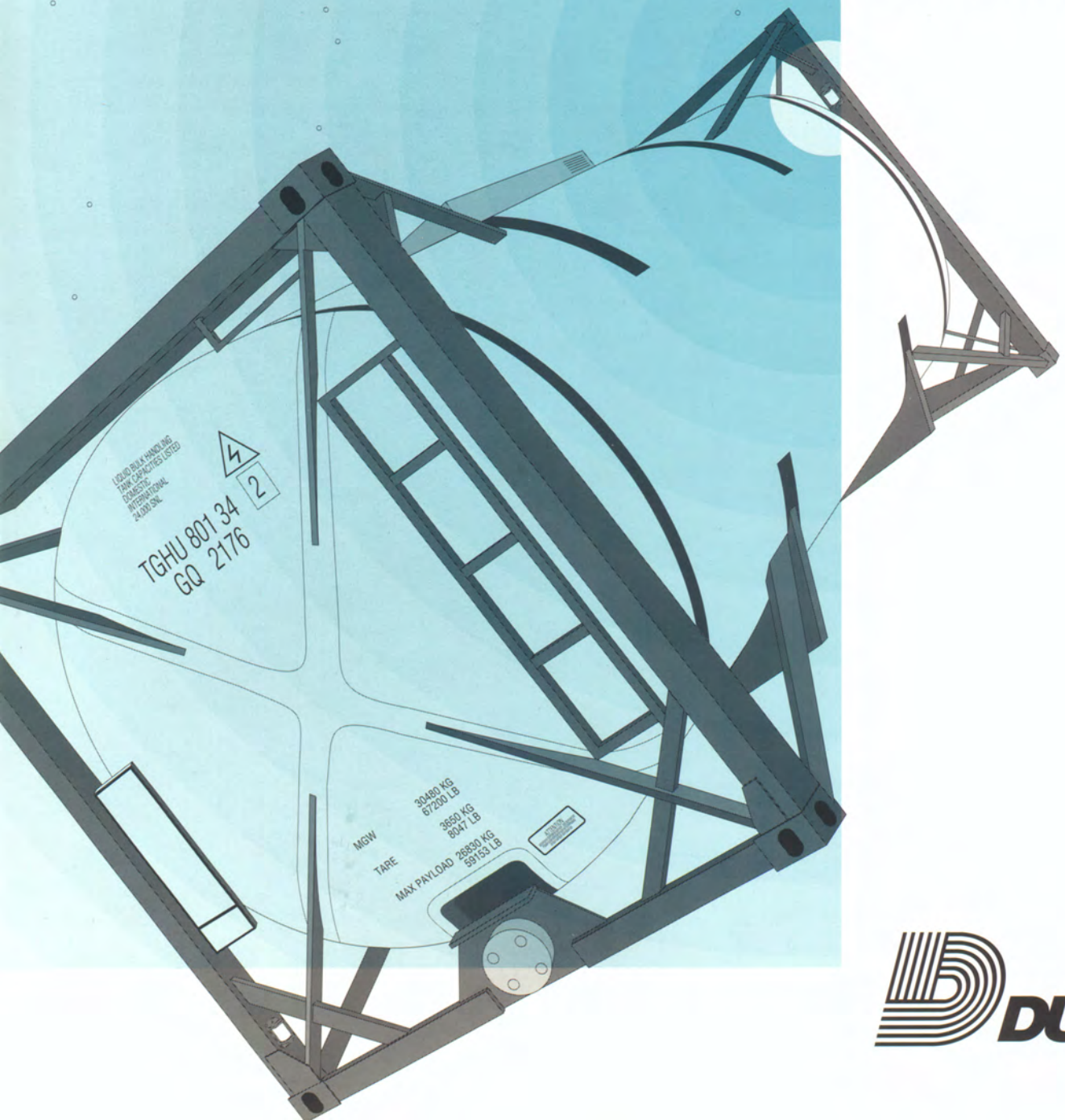
Dukane Container Location and Recovery Systems from Dukane/United Towing

How to Quickly and Economically Locate Containers Lost at Sea



DUKANE

- **Chemical Producers**
- **Tank Container Operators**
- **Tank Container Leasing Companies**
- **Ship Owners**
- **Ship Charterers**
- **Property and Liability Insurers**

What happens if a container filled with hazardous cargo is lost at sea?

First, your exposure to adverse publicity and potential claims could be staggering. Second, if a pinger isn't installed on the container to aid in recovery, costs for locating it could be enormous. Consider, too, the risk of environmental damage, and the potential human health threats -- it's not surprising that companies who produce or transport hazardous cargoes are turning to Dukane's Seacom Division for a full range of reliable location devices known as "Pingers".

The fact is, if your container is lost at sea, a Dukane Underwater Acoustic Pinger can be used to quickly and cost effectively locate it, making recovery possible. This dramatically reduces potential damage to human health and the environment, and saves you time and money.

Tank container recovery attempts are difficult and time consuming.

Tank containers loaded with hazardous cargo aren't lost overboard everyday, but every year many such losses do occur. The probability of locating and recovering these containers is extremely remote—experience has shown that searches for lost containers can take weeks, and that even with this kind of effort the containers may never be found. The Chicago Tribune recently carried this report of a lost cargo incident:

Cargo of Arsenic Lost Off East Coast

BALTIMORE—The Coast Guard on Sunday searched for five cargo containers loaded with arsenic that were lost at sea between New York City and Baltimore during the weekend's violent coastal storm. Where and when the containers slid overboard wasn't known, the Coast Guard said. If the poison gets out near shore, it could cause problems, a Maryland official said. A Coast Guard plane searched from Delaware Bay to New York City for the containers, which resemble tractor-trailer rigs.

The Coast Guard planned to resume the search Monday.

Your ability to find a lost container depends on knowing the ship's exact position at the time the container went overboard. You also need to know whether the container sank immediately or drifted before sinking. And you need to be able to mobilize appropriate personnel and equipment immediately. Quite often, this just isn't possible.

Dukane pingers aid in tank container location and recovery.

By fitting tank containers or any other type of cargo with Dukane Underwater Locating Pingers (the term "pinger" is derived from the pinging signal emitted when the device is activated) you can take much of the guesswork out of cargo recovery operations.

Our vast experience in the recovery of aircraft that have crashed at sea shows that it often takes just hours or days to locate aircraft flight recorders fitted with Dukane pingers. This is considerably better than the weeks or months of intense searching to find a lost tank container that does not have a pinger.

By rapidly locating and recovering a container of hazardous cargo you can substantially reduce the unfavorable publicity associated with this type of incident. You can turn a negative attitude by the press and authorities into a positive attitude, which may help reduce insurance and other claims that might be made against your company. Plus, by locating and recovering the hazardous materials you can reduce the adverse environmental impact of the incident.

How does underwater acoustics work?

In actual applications, two battery powered pingers are attached to an object such as a cargo container. When immersed in water, the pingers are activated and transmit a signal in all directions. This allows you to locate, or "see" the pingers even though they are a considerable distance from where the search procedure is being conducted.

A directional locator system which contains a hydrophone, is used to search for the pinger's transmission. Upon detecting the signal, the directional receiver can easily track the signal to the pingers' location, so that the lost container can quickly be found.

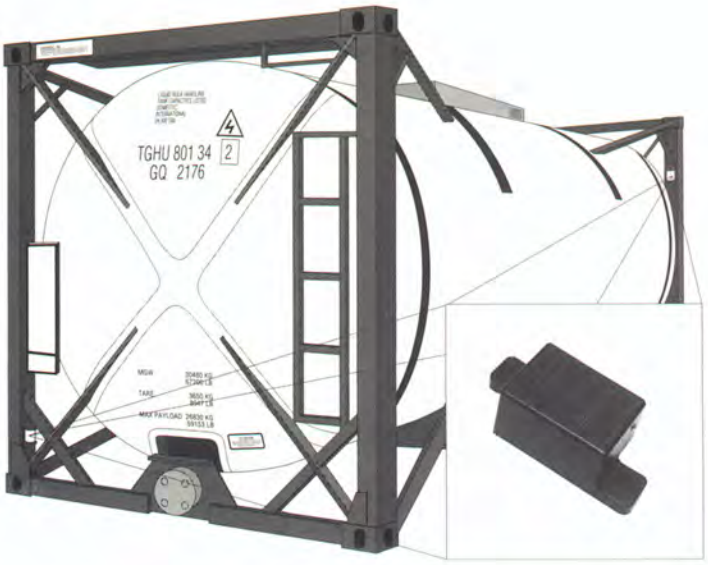
This type of pinger/receiver locating system is the prime method of communicating in water. It has been in use for more than 25 years, and continues to be a reliable means for locating and recovering aircraft (or their flight recorders) that have crashed in the sea.

How can Pingers be used with tank containers?

The low cost DK470 Pinger is quite small and weighs approximately 1/2 kilogram. With simple welds, bolts or straps, two of these compact devices can be fitted to a hazardous cargo container (at diagonally opposite corners) in a matter of minutes. Then, if the cargo container goes into the water, it can be quickly located via the pinger's signal. This reduces the time you would otherwise spend searching for the container, and reduces the threat to human health and the environment.

DK470 Specifications

- Frequency ..... 37.5 kHz
- Operating Life ..... 30 Days
- Useful Life ..... 5 Years
- Range ..... 1 to 2 Miles
- Size (cm) ..... 15.9 x 7.0 x 5.4
- Weight (gr) ..... 560 (approx.)
- Activation ..... Delayed Water Switch to Protect Against Unintentional Activation



Experience and reliability you can count on.

For more than 25 years Dukane's Seacom Division has provided high-impact, remote control, and pressure activated beacons, transponder and ranging systems, underwater locating receivers, and towed hydrophone systems to the aircraft, military and offshore markets.

Today, pingers are used in all types of underwater applications. In addition to NASA, the U.S. military, and the commercial airline industry, Dukane's Seacom Division supplies underwater locating equipment to independent airline/helicopter operators and international government organizations. Marine biologists and oceanographers use Seacom's products to track and monitor marine life for scientific study, and the offshore oil industry uses pingers to mark the location of pipes and valves.

Known for their extremely reliable operation, all Seacom underwater location products are designed, manufactured and tested to stringent and exacting specifications -- many according to standards set by the U.S. Government. Because of the adverse conditions in which acoustic underwater location and recovery systems must function, Seacom has its own unique manufacturing and test area housing a 36,000 gallon water tank. This tank, which simulates an underwater environment, is used to test every pinger to ensures its precise conformance to published specifications.

For more information about the benefits of underwater location and recovery systems, call Seacom at (708) 584-2300. Or write us at:

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