# LNG BUNKER BOOM

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LNG LONAN

### **RELIABLE LNG** BUNKERING SOLUTION

Our Bunker Boom has been developed from existing, field proven hydrocarbon systems, applied for many years in leading ports such as Rotterdam, Amsterdam, Antwerp and Hamburg and is now successfully in action for LNG bunkering in both North-European and Asian ports.

More and more ships are adapting their engines and changing their running energy to LNG.

- LNG provides less Co2 emissions and is therefore a part of environmental shipping regulations
- LNG pricing is more cost-effective and stable than conventional fuels.
- LNG fuel supply / logistics from source to bunker spot provides more possibilities

Kanon Loading Equipment and van Wijk-Werkendam, adapted an existing bunkering system to meet current and future LNG bunkering demands, the Bunker Boom. The technology of this solution allows for a much larger connection range than the

conventional fully rigid marine loading arms. It provides fast connections possibilities to low and high receiving ship's manifolds, combining the rigidity of hydraulically driven hard piping with the flexibility of hoses at the ships interface side, making connection possible to almost all receiving ships. The Bunker Boom will save manpower and improve ease of use.

What differs from the older fuel oil and diesel bunkering facilities is the fact that for LNG, an Emergency Release System (ERS/ERC) is an absolute requirement. This system, comprising of two valves that are closing and then separating from each other, serves as a 'drybreak' system preventing uncontrolled spillage in case connected ships accidentally move too far away from each other.



### NO DEDICATED WHARF NECCESSARY

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## **FUTURE FORWARD LNG BUNKERING**

The major advantages of our bunkering solution, mounted on a bunkering vessel:

#### Minimizing docking time

The bunkering vessel is used for parallel berthing to allow simultanuous bunkering of receiving vessels with their commercial loading and offloading activities, thus minimizing docking time.

#### Flexibility and operational range

To ensure a good variety of connection possibilities the boom provides maximum flexibility and a very wide operational range, as the position of bunker connections on commercial vessels are not standardized as oil and LPG/LNG carriers may be (ref. OCIMF). Bunker connections can be found in various places, sometimes only reachable via a hatch in the hull of the ship. The



Bunker Boom can reach all different locations and compensate for important height differences between the bunker vessel and the receiving vessel.

### **Bi-directional**

The same bunker arm can be used to fill the bunker vessel from storage tank on shore.

#### Safety

The Emergency Release drybreak system of the Bunker Boom prevents uncontrolled spillage in ship2ship bunkering in case the ships accidentally move too far away from each other.

#### **Indifferent Manifold positions**

Fast connection possibilities to low and high receiving ship's manifolds.

### **BUNKERING IN LESS TIME**

One of the most interesting advantages of a bunker boom for LNG, is the possibility to proceed with LNG bunkering without interruption of the receiving vessel's normal activities, as proven in Stockholm for the Viking Grace: for example, a passenger cruise ship can moor at its standard wharf at the harbour, off-load its passengers while bunkering (refueling) at the same time. No need for it to wait and to sail on to a dedicated LNG bunkering jetty.

BUNKERING WITHOUT INTERRUPTION OF THE RECEIVING VESSEL'S NORMAL ACTIVITIES This is a non-negligible time/money saving. For normal marine diesel applications, it is already a standard.

Safety being of the essence, the Bunker Boom is executed with an automated Emergency Release System to allow safe disconnection in case either ship would drift away from each other or in case of any other emergency. This safety system is SIL 2 classified. IMPROVED BUNKERING RANGE

The Bunker Boom' technology allows for a connection range much larger than the conventional LNG transfer system.

Fast connection is possible to low and high receiving ship's manifolds combining the rigidity of hard piping, hydraulically driven with the flexibility of hoses at the ships interface side. Making connection possible to all receiving ships. it will save manpower and improve ease of use.





MAKING CONNECTIONS POSSIBLE TO ALL RECEIVING SHIPS



## **SAFETY FIRST**

ERC's: one on the liquid line, the other on the vapour line: They ensure safe release in case either ship would drift away further than the maximum hose length. The system is SIL 2 and provided with a 2003 voting principle for ESD2

THE DRY BREAK EMERGENCY RELEASE COUPLER IS HYDRAULICALLY ACTIVATED AND TESTED AT THE LNG OPERATING TEMPERATURE



### **EXTRA FEATURES**

- VACUUM INSULATED PIPING
- FREE CHOICE ERC
- VARIOUS HOISTING AIDS
- PURGING

## BUNKERING PARTNERSHIP

### Kanon Loading Equipment B.V.

Founded in 1978, Kanon Loading Equipment B.V. develops high-quality custom loading arms for Marine, Rail and Road liquid transfer systems. We are a family business from the Netherlands, which is reflected in our values. Reliability and transparency are key for us and we work passionately in a long-term partnership with our customers.

The Dutch no-nonsense culture fits us well. We work hard to get the best results for our clients. Our products are engineered to last. We build low maintenance loading arms with an active lifespan of up to 30 years, which makes our clients investment worthwhile.

KANON operates on a worldwide basis via a well-trained network of carefully selected agents and associate companies, fully able to promote all aspects of the KANON product range. KANON has supplied equipment directly to customers in all areas of the processing industry including chemical, petrochemical, storage terminals, pharmaceutical, healthcare and more.

### Van Wijk - Werkendam

Officially founded in 1959 Van Wijk B.V. is a no-nonsense mechanical engineering company specialized in customization for the maritime industry. Van Wijk is a leading producer and ship repair company for inland vessels and a renowned partner in Western-Europe. In addition to repairs, Van Wijk supplies large ship parts for inland shipping. The products designed, produced, placed and repaired at Van Wijk include: bow thrusters, hydraulic car and bunker cranes, hydraulic installations, winches, spud poles, wheel houses and wheelhouse lifts. We also deliver ship parts to maritime companies for sea vessels or offshore industry.

We have a spacious production facility, own ground and a large quay in the maritime hotspot Werkendam. Innovation and technical solutions for our happy and loyal customers let us grow and we have long standing relationships with our clients, personnel and suppliers. Keywords for Van Wijk are service, innovation and quality.



### PARTNER WITH US FOR YOUR LNG BUNKERING SOLUTION!

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