DEEPWELL CARGO PUMPS FOR GAS CARRIERS

Wärtsilä is the undisputed leader in gas carrier pump technology. Our deepwell cargo pumps can handle all cargoes including LPG, LNG, ammonia, ethane and ethylene. 90% of the world’s LPG fleet depends on Wärtsilä Svanehøj deepwell cargo pump technology. With such a depth of experience across vessel and cargo types, we are the natural choice for high quality, safe and reliable systems with strong environmental performance that offer excellent lifetime value and complete peace of mind.

When absolute confidence in offloading safety and efficiency are critical, Wärtsilä Svanehøj is the natural choice among gas carriers worldwide for deepwell and cargo booster pumps. Our dedicated project teams deliver solutions for vessels from the smallest fully pressurized push barges and dedicated CO₂ carriers to the largest fully refrigerated VLGCs, FLNG’s and FRSU’s.

Our pumps handle all types of cargo at all temperatures and specific gravities without any component changes, offering potentially huge cost savings.

Our range spans:
• Fully pressurised tankers, cargo at ambient temperature, tank pressure up to 18 bar.
• Fully refrigerated atmospheric tankers, cargo cooled to saturation temperature (typically -48°C - 88°C).
• Semi-refrigerated tankers, cargo liquefied by cooling/pressure process down to -104°C.
• We lead in long-shafted pumps for LNG at -163°C.
DEEPWELL CARGO PUMPS

- Wärtsilä Svanehøj deepwell cargo pumps are used for offloading liquid gas on gas carriers and barges up to 100,000 m³.
- On-deck electric motors.
- Each pump optimised to the duty point by trimmed impellers or variable speed drives.
- All stainless steel components in gas tank.
- Our flexible pump solutions are designed to handle various cargo types with a wide span in temperature and specific gravity. There is no need for time consuming adaptions of the pump or replacement of seals and bearings, which is sometimes the case for other pump types.
- Maintenance and repair of bearings and shaft seals even with cargo in the tank.
- 4,000+ pumps installed on more than 1,000 ships — lifetime-of-the-ship reliability.

![Diagram of pump capacity range]

Please note that the above curves are valid for any gas type, but the pumps have a maximum design pressure of 18 Barg.

AN UNRIVALLED MIX OF ADVANTAGES

**PROVEN RELIABILITY**
Our pump technology that has been in service for over 40 years.

**STATE-OF-THE-ART SEALING SYSTEM**
Works on cargo tank pressure; no nitrogen/compressed air connections.

**HIGH LEVELS OF SAFETY**
Double mechanical seals mounted back-to-back in oil bath prevents leaks in the unlikely event of seal failure.

**WIDE RANGE**
One of the widest ranges of references for all vessel applications.

**CONFIDENCE**
A large part of the world’s fleet equipped with Wärtsilä pump systems.

**HIGH QUALITY**
Systems designed around individual customer needs, rigorously tested and engineered to the highest standards.

**LIFECYCLE SUPPORT**
World leading technical support; spares and available throughout the lifetime of the vessel.

**ON-TIME DELIVERY**
Highest standards of on-time delivery consistency.
 Typical Applications: The NMB series of pumps acts as boosters, to increase discharging pressure when offloading lighter cargoes, i.e. low specific gravity cargoes.

• Capacities up to 1,200m$^3$/h at up to 180 mlc - the ideal choice for liquid gas where a booster is required.

• Designed for liquid gas installed on fully and semi pressurised as well as fully and semi refrigerated carriers.

• Fully stainless steel pump mounted on a skid with electrical motor.

• Flexible spacer coupling and monitored pressurised shaft seal arrangement.

• Booster pumps are also available in an inline vertical version, NIPB.
EXPERIENCE AND RECENT SUCCESSES

84,000 m³ LPG CARRIER (VLGC)
Fully Refrigerated
Design temperature: -52°C
Tank type: prismatic, type ‘A’ tank
Cargo: LPG
Scope of supply: 8 x Wärtsilä Svanehøj deepwell cargo pumps of 600 m³/h @ 120 mLC, 2 x Wärtsilä Svanehøj booster pumps of 600 m³/h @ 115 mLC.

7,500 m³ LNG/MULTI GAS CARRIER
Semi Refrigerated
Design temperature: -163°C
Tank type: cylindrical, type ‘C’ tank
Cargo: LNG/LEG/LPG NH/VCM
Scope of supply: 2 x Wärtsilä Svanehøj deepwell cargo pumps of 450 m³/h @ 210 mLC, 1 x Wärtsilä Svanehøj booster pump 450 m³/h @ 120 mLC.

35,000 m³ LPG MEDIUM GAS CARRIERS
Fully Refrigerated
Design temperature: -104°C
Tank type: cylindrical bi-lobe, type ‘C’ tank
Cargo: LPG/LEG/NH/VCM
Scope of supply: 6 x Wärtsilä Svanehøj deepwell cargo pumps of 550 m³/h @ 120 mLC, 2 x Wärtsilä Svanehøj booster pumps 550 m³/h @ 120 mLC.

AT YOUR SERVICE

We know that in order to maintain optimized efficiency and pump performance, our proximity and responsiveness are essential elements in your pump solution. That is why we deliver after sales support through our network of service centres in over 70 countries worldwide. Our global network of sales and service centres ensures that we can provide first class technical spares and service support to our customers wherever they may be located.

Furthermore, a Wärtsilä solution equals service and support throughout the lifecycle of your installations and is not only confined to yearly inspections and performance tests. Service and support may also include basic support, installation and commissioning, performance optimization, upgrades and conversions, as well as service projects and agreements. Also, our spare part packages can include start up, two year spare parts, and capital spare parts.

EXPERT ADVICE IS PRICELESS

At Wärtsilä Svanehøj you will be working with first-class designers of deepwell cargo pumps. We have the expertise, know-how, and experience within the industry and are not at least a production facility which is 100% dedicated to deepwell pumps.

We offer expert advice on your next deepwell cargo pump investment and will make sure that you end up with the most advantageous layout for your operations. Our many years of experience and numerous renowned references are your guarantee that we deliver our promises on deepwell cargo pumps.