



DesFuel Deepwell Pump (RSL)

The world's first marine fuel pump
purpose-built for alternative fuel flexibility

New Green Solutions

DESMI
Make life flow

The industry is ready for alternative fuels – are you?

Marine businesses operate in an unpredictable environment. Faced with tightening emissions regulations, fluctuating fuel prices, and uncertainty around which technologies will take hold, shipowners and operators need greater confidence in their investment decisions.

Alternative fuels are one of the best ways to minimize a vessel's environmental footprint and ensure long-term compliance. However, adoption has been limited by legacy fuel pump technologies unable to handle their extreme characteristics and accommodate different fuel types without the need for pump modifications.

Introducing The world's first marine fuel pump purpose-built for fuel flexibility

The new DesFuel Deepwell Pump from DESMI changes the game.

As the world's first marine fuel pump designed from the ground up for alternative fuel flexibility, it is the perfect solution for Fuel Gas System Suppliers, shipowners, and shipyards looking for proven performance, low maintenance requirements, flexibility, timely delivery, and global support.

The DesFuel Deepwell Pump, fully compliant with IGF and IGC codes, is optimized for today's market needs, having been inspired developed directly from DESMI's DesCargo gas pump, which has been proven across the global marine industry for performance and reliability since 1996.



DESMI has chosen to develop a deepwell pump, while some suppliers offer cryogenic submerged pumps for LNG. Want to learn more about the differences, benefits, and applications of the two pump types? Scan the QR code or visit our website.



Built for what's next

Why the DesFuel Pump Sets a New Standard

Designed from day one for alternative fuel flexibility, the DesFuel Deepwell Pump meets the marine industry's toughest demands – with no need for modifications across LNG, ammonia, methanol, LPG, and more. Its deepwell design simplifies maintenance, cuts downtime, and eliminates the need for gas-freeing. With air-cooled motors and oil-lubricated main bearing, there's no need for filters – minimizing clogging, costs, and complexity.

Optimized for low NPSHr and variable loads, it ensures reliable operation even at low tank levels. Available in multiple sizes, DesFuel is the smart, future-proof choice for modern marine fuel systems.



Junction box
Safe, easy cabling.



Static seal
Enabling easy access to main bearing.
Low activating pressure – no need for pressure booster



Deck operated footvalve closing mechanism
Safe, remote control to close valve at pump bottom.
Simple mechanical structure.



EX motor
Bearing temperature sensors included.
Suitable for TCS or open-deck installation.



Leakage-free magnetic coupling
Completely sealed system.
Ensures safe handling of hazardous and environmentally sensitive fuels.
Designed for demanding conditions.
Handles high torques caused by heavy liquids, elevated supply pressures, and increased flow rates.



Dual preloaded thrust bearings
Oil lubrication for long bearing lifetime.
Easy service – 5 years / 25,000 hours.
Sensors for temperature and level monitoring.
Optional EX-rated heater to prevent gas condensation.

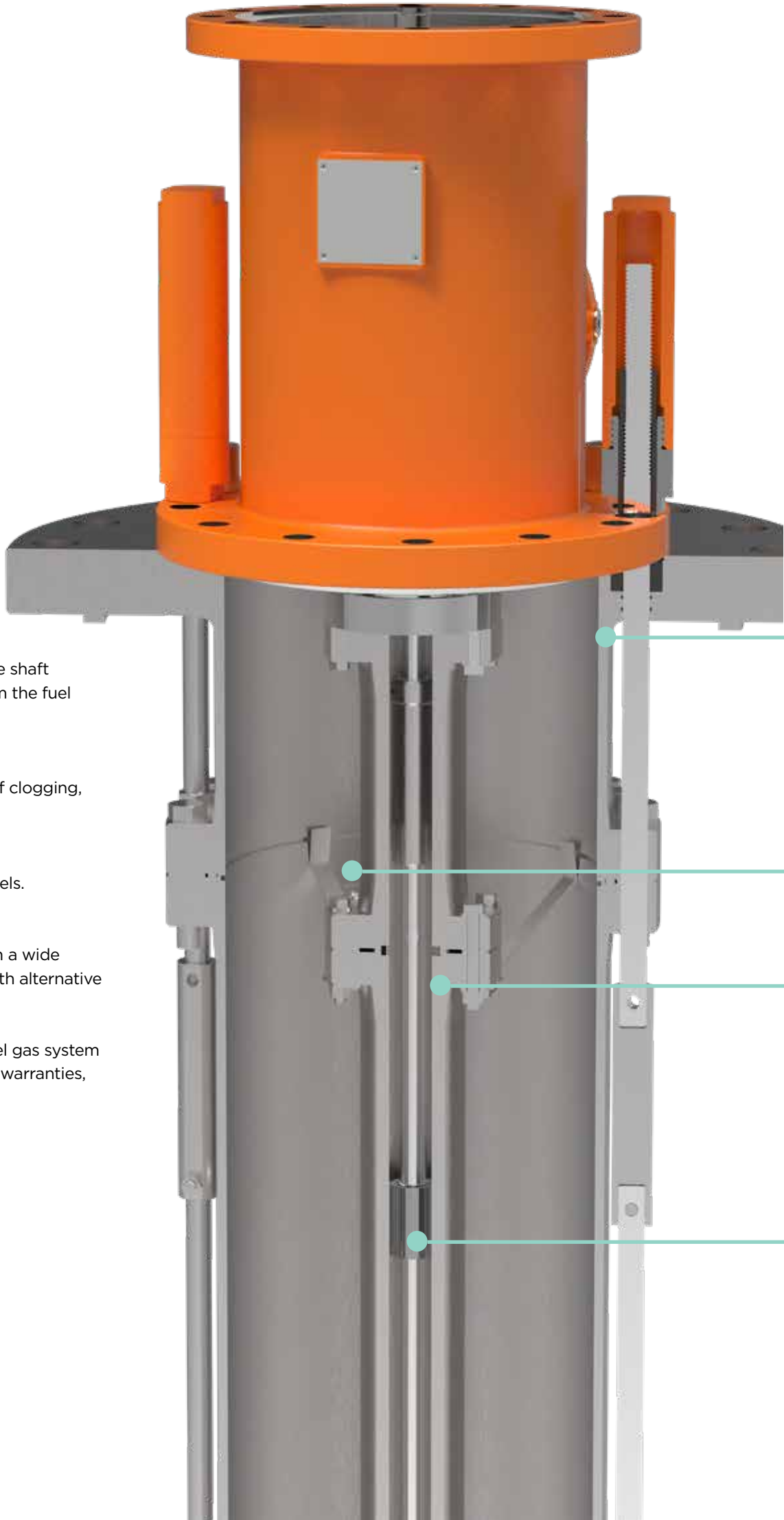
Pump	Capacity m³/hr	Max. Head per stage [m] [*]	Max. No. of stage	Max. tank pressure [bar] [*]	Max. Outlet pressure [bar] ^{**}	Max. Motor size [kW] ^{**}	Mag-drive Max. Torque [Nm]	Nominal speed [rpm] ^{***}
RSL20	0.5-6	20	9	20	40	9	60	3500
RSL25	1-13	58	9	20	55	19	150	3500
RSL32	2-24	58	9	20	55	57	280	3500
RSL40	5-45	58	9	20	55	100	280	3500
RSL50	7-80	58	9	20	55	124	280	3500

(^{*}) This represents the maximum performance of each impeller stage. The static pressure rating of the pump will be a different value.
(^{**}) Based on the maximum stages and a specific gravity (SG) of 800.
(^{***}) The actual maximum speed varies depending on several factors, including the maximum flow rate, maximum cargo density and viscosity, maximum intermediate shaft length, actual number of pump stages, and impeller diameters.

Game Changer

Significant benefits:
Over alternative solutions

-  Essential components are placed outside the fuel tank for easy access, improving reliability, reducing added heat, and making them easily accessible to help minimize maintenance costs.
-  Maintenance and repair without gas-freeing, as the pump and drive shaft assembly can be removed, repaired, and reinstalled separately from the fuel tank when caisson and foot valve used.
-  No need for fuel filters in tank, which eliminates the risk and cost of clogging, significantly improving uptime and efficiency.
-  Optimized for low NPSHr, improving usability at lower fuel tank levels.
-  Ready for your vessels, coming in five sizes to suit your vessel, with a wide operating window that minimizes boil-off gas and compatibility with alternative fuels without further modification.
-  Integrates with your process, with simple installation and broad fuel gas system compatibility, plus global support that includes all documentation, warranties, and aftersales service.



Pump size	Caisson assembly outer dimension (mm)	Caisson pipe dimension (mm)	Dome Flange (EN1092-1)	Foot valve max. Flow (m³/h)
RSL20	284	Ø219	DN300, PN25	10
RSL25-50	340	Ø273	DN350, PN25	80



Caisson pipe

With foot valve, enables full pump service without gas freeing the tank.



Supports between caisson and intermediate pipe

Increases structural strength and stability.



Intermediate pipe and shaft

Patented (patent pending) guide bearing support. Flexible pipe lengths (500–3,000 mm). Bearings not connected to pipe flanges – simplifies installation & service. Meets API 610 bearing spacing standard.



Guide bearings

Fuel lubricated. Long lifetime (>50,000 h).

Future-ready

One pump All fuels, Every Voyage

The DesFuel Deepwell Pump is optimized for low NPSHr and works reliably even when tank levels are low. Boil-off gas is minimized as lower minimum flows reduce needed recirculation. The pump adapts to changing engine loads and keeps efficiency high. Built strong, it is ready for the toughest marine challenges.



Guide rods for foot valve
Manual control rods.
Reliable deck-operated closing.



Pump cylinder
CFD-optimized design.
Configurable with 1-9 pump stages.
Efficient fuel handling and performance.



Foot valve
Patented design (patent pending).
Perforated plate strainer (3 mm) prevents large debris – no other filters required.
Two sets of piston-ring seals ensure tight closure and redundancy.
Vertical side valve design avoids issues with impurities.
Manual deck operation for easy service.
Allows pump removal without gas freeing the tank.



What makes the DesFuel – Deepwell Pump ideally suited for any alternative fuel in shipping – now and in future?

Scan the QR code or visit our website.

Aftermarket Support

Keep all systems running with DESMI global service

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Call the
DESMI Service
Hotline round
the clock at
+45 96 32 81 10



Together with Nordan Marine (a DESMI company) our tailor-made, global services are essential to secure the optimization and long-term performance of your fuel pumps.

We focus on ensuring uptime and availability, with the least hassle and in the shortest timeframe. No matter where you are located, we will always be ready at a moment's notice with the right expertise, spares, and know-how to keep your processes running.

Our service team can provide a long list of services on your ship while it is in port or dry dock, for example pre-dock inspection, commissioning, or service work on pumps, compressors, and safety valves. Our team is highly experienced, factory trained, and fully capable of meeting your demands.

We exist to keep your business flowing

DESMI works closely with vessel owners, operators, and shipyards to deliver critical flow processes for diverse marine applications. Our pumps and supporting systems for marine applications, including deepwell cargo pumps, are trusted worldwide for dependability and the lowest total cost of ownership.

At DESMI, our focus has never been on discovering what we can do – it's about pushing the boundaries of what we can do for you. Our class-leading equipment, solutions, and services are designed specifically for your applications and help you contribute to a digital infrastructure that is available 24/7 whilst ensuring optimal use of the available energy.

Founded in Denmark in 1834, we have provided the expertise, solutions, and aftermarket support our customers need for nearly two centuries. We help you reduce your climate impact and keep servers running whilst realising your ambitions for reliable performance, compliance, and growth.

Together, we can make a difference, whatever the future holds. Because we, like you, are here to **make life flow**. For more information, visit desmi.com.

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