

1. Transfluid's HM module series was developed as a standardized solution

2. Hybrid units have seen successful installation onboard various vessels

3. Veolia has waxed lyrical about the benefits of the Transfluid technology



Hybrid solutions

A hybrid unit has enabled one company to achieve huge cost savings, thanks to a reduction in the fuel consumption and operating hours of the diesel engine

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Transfluid's hybrid system has been successfully installed on a fleet of work boats responsible for the collection and removal of floating and semi-submerged solid waste and oily waste from sea water. Work boats used for port and coastal waste management services have reaped the benefits provided by the system. Navigation with zero emissions while cleaning in port and coastal areas or near beaches offers a truly ecologically sustainable service; meanwhile transfers are possible in diesel mode, enabling the batteries to be charged at the same time.

French company Veolia decided to make its boats ecologically sustainable by retrofitting them with a Transfluid hybrid system. Conso Moteur installed the system, working in close collaboration with Transfluid.

The boats were fitted with a Nanni Diesel 4.380 TDI engine with a power output of 129kW (175hp) at 3,600rpm, coupled with a Transfluid HM560-12 hybrid transmission with 12kW power at 3,000rpm and connected via a cardan shaft to the Castoldijet hydrojet. Power is provided on board by LiFePo4 technology batteries with 96V DC voltage and 100Ah capacity.

A storage capacity of 9.6kWh allows for navigation at approximately 4kn for over three hours in electric mode. In addition,

the batteries can be recharged using the hybrid system in diesel mode. Booster mode, on the other hand, combines the power of the diesel engine with that of the electric motor, thereby increasing the acceleration.

Further benefits

In addition to sailing in total silence when in electric mode, the hybrid system enables dual propulsion (diesel and electrical), which is useful in case one of the two propulsion systems fails.

The savings achievable with the hybrid system come from a reduction in fuel consumption, and also in a reduction in the operating hours of the diesel engine, lower maintenance costs (fewer hours in operation means lower service demands) and an increase in the lifetime of the diesel engine (fewer hours in operation lead to longer life).

Furthermore, when using regeneration mode, the efficiency of the diesel engine increases as the load grows, enabling the engine to work with a lower specific consumption. Standardization of the hybrid system interface enables the shipyard to select, without constraints, the most suitable diesel engine.

Incorporating learnings from working with different types of propulsion systems

(conventional propeller, hydrojet and stern-drive) enables Transfluid's hybrid system to be applied universally.

The range of propulsion systems offered by Transfluid can be divided into two groups: hybrid propulsion systems suitable for diesel engines from 50hp to 1,650hp, with electrical power from 10hp to 200hp, suitable for any transmission; and electric propulsion systems with power from 3hp to 100hp, suitable for sail drive, stern drive, conventional propeller and pod. +

