

ESS for ENGINE ROOM FANS

ESS (Energy Saving System) is one of the famous VFD system for Cooling Sea Water Pump, E/R Fan and Cargo Hold Fan to reduce the fuel consumption of Diesel Generator in Vessel.

Recently, Owner considers to install the Scrubber System or to use Low Sulfur fuel oil to meet the IMO regulations to SOx emissions. In this case, Our ESS Installation is one of the best method to reduce the operating costs.

Please refer to the below photo for E/R Fans ESS Operating Principle

There are three control factors such as the M/E Load, E/R Inside Temperature, D.P(Differential Pressure) between E/R Inside and Outside.

M/E Load

- Main Control Source
- Low Load, High Saving

E/R Inside Temperature

- Sub-Control Source
- Keep the 45°C

D.P Between E/R Inside and Outside

- Sub-Control Source
- Protect the Negative Pressure

We calculate the E/R Fans ESS saving from our reference data. We have the average 22°C S.W temp. and abt. 71% M/E Load during 1(one) year. from the 10,000TEU Container vessel during below sailing route.



Our Data Logging is below chart during 1(one) year.

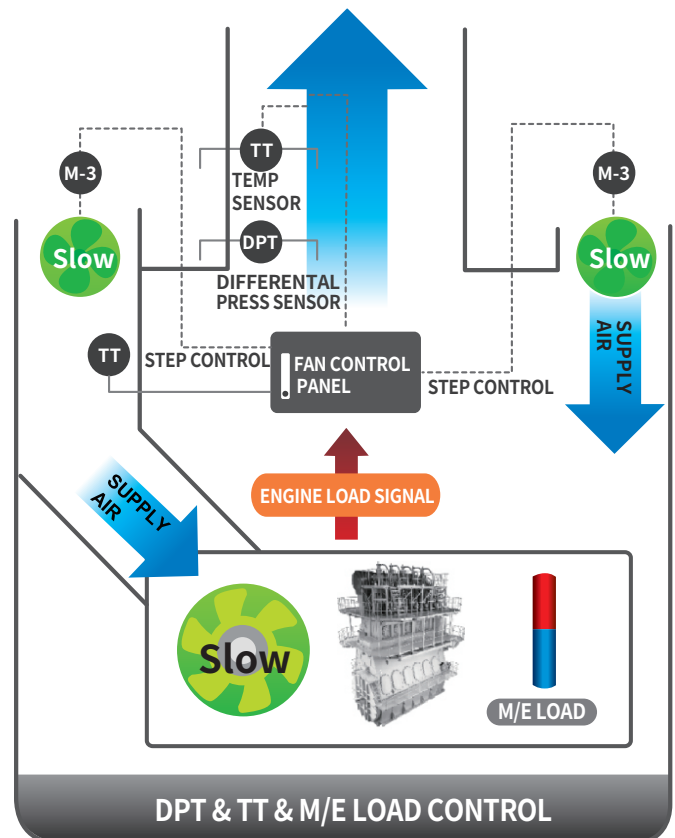
Description	Actual Value.	Remark.
S.W. Temp.	Avg. 22°C	
E/R Inside. Temp.	Avg. 36°C	
M/E Load	Avg. 71 %	
Differential Pressure	Avg. 20 pa	
Fan Running Hz	Avg. 46 Hz	Power Saving 53%

Based on above chart, We calculate the Payback as below.

Description	Original	ESS	Remark
Power Consumption	270 Kw	127 Kw	6 Fans running (each 45KW)
Total Power	2,365,200 Kw	1,112,520 Kw	
Fuel Using	430.4 Ton	202.5 Ton	D/G, SFOC =182 g/Kwh
Fuel Cost	\$ 172,160	\$ 81,000	MT=400 USD

In Conclude, If Vessel has the ESS as our reference, Operating Cost will be saved as **(US\$) 91,160 / year.**

DONGHWA E/R FAN CONTROL



We hope that you will not miss good opportunity with your wise choice. If you need more information or specific data for New E.S.S, Don't hesitate contact me anytime.

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