

# HCS FUEL FILTRATION UNIT TEST RESULTS



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## HCS International

The leading provider of cost-effective oil and fuel cleaning solutions in Asia, the Middle East and Africa.



# FUEL UNIT TEST RESULTS

This document presents the results of testing performed on a HCS Fuel Filtration Unit onboard an offshore construction support vessel. It aims to show the amount of savings on fuel consumption of one generator along with the reduction of its various toxic gas emissions.

The test was conducted on a Volvo Penta D16 generator at 15% load with and without the HCS Fuel Filtration Unit installed. The test ran for sixty (60) minutes and was repeated five (5) times for each configuration (with and without the Fuel Filtration Unit). The exhaust gas emissions were measured using the Kane Auto 5-4 gas analyser.

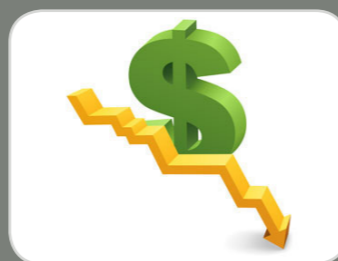
The subject vessel is owned by our client, a service provider to the offshore oil and gas industry operating in the UAE and Middle East.



**Reduce Fuel Consumption by 9%\***



**Reduce Exhaust Gas Emission**



**Spend less on Fuel**

## a. With HCS Fuel Filtration Unit

Test No.	Ave. Load on Generator	Duration of Test (minutes)	Ave. Consumption per Hour	HC (ppm)	CO (%)	CO <sub>2</sub> (%)	NO (%)	O <sub>2</sub> (%)
1	92	60	16.10	0	0.02	3.10	117.00	20.79
2	93	60	16.20	1	0.02	2.80	89.00	19.92
3	91	60	16.00	0	0.03	3.30	93.00	20.47
4	93	60	16.30	1	0.03	3.40	104.00	19.62
5	92	60	16.20	1	0.03	3.20	111.00	18.21
<b>Average</b>	92.2	60	16.20	1	0.03	3.16	102.80	19.80

## b. Without HCS Fuel Filtration Unit

Test No.	Ave. Load on Generator	Duration of Test (minutes)	Ave. Consumption per Hour	HC (ppm)	CO (%)	CO <sub>2</sub> (%)	NO (%)	O <sub>2</sub> (%)
1	91	60	17.70	13	0.07	10.60	754.00	22.34
2	92	60	17.50	12	0.07	10.60	724.00	21.45
3	92	60	18.10	15	0.09	10.80	913.00	23.15
4	90	60	17.80	13	0.08	10.70	902.00	22.97
5	92	60	17.40	11	0.08	10.80	891.00	22.66
<b>Average</b>	91.4	60	17.70	13	0.08	10.70	836.80	22.51

## + Summary of HCS Fuel Filtration Unit Test

	Fuel Consumption	HC (ppm)	CO (%)	CO <sub>2</sub> (%)	NO (%)	O <sub>2</sub> (%)
<b>Without HCS Fuel Unit</b>	17.70	13	0.08	10.70	836.80	22.51
<b>With HCS Fuel Unit</b>	16.20	1	0.03	3.16	102.80	19.80
<b>Difference</b>	1.54	12	0.05	7.54	734.00	2.71
<b>Savings in Percentage*</b>	<b>8.70%</b>	<b>95%</b>	<b>66.67%</b>	<b>70.47%</b>	<b>87.72%</b>	<b>12.05%</b>

\*These results are from the generator having only 15% load during testing. It is to be expected that savings in percentage would result to even much higher numbers when the generator is efficiently loaded at 70%.

Abbreviations:

HC = Hydrocarbon

NO = Nitrogen Oxide

CO<sub>2</sub> = Carbon Dioxide

CO = Carbon Monoxide

O<sub>2</sub> = Oxygen

# Savings with HCS Fuel Filtration Unit

The test results shows that with HCS Fuel Filtration Unit, the fuel consumption of the generator is lesser and is reduced by 9%. Because of this, it is now possible to spend less on fuel!

Furthermore, the gas emissions are also reduced significantly with the hydrocarbon emissions being 95% less and the carbon dioxide being 70% less than the generator running without the HCS Fuel Filtration Unit.



The HCS Fuel Filtration Unit bring significant financial savings and huge positive impact towards the environment - truly an efficient, cost-effective and green solution!

## Be a more **sustainable** and **profitable** business now with HCS International!



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