



GFOP

FUEL OIL PREPARATION SYSTEM PREPARING FUEL SAVING & LOW EMISSION HEAVY FUEL OIL ON-LINE

FEATURES

- MINIMIZING PRE-HEATING TEMPERATURE
- LOWERING FUEL OIL VISCOSITY (EASY PUMPING)
- WATER ADDING UP TO 30%
- FUEL SAVING UP TO 20%
- ELIMINATING EMISSION OF CO, CO₂, SO_x, and NO_x
- ON-LINE PREPARATION
- MECHANICAL LIFESPAN OF THE COMBUSTION SYSTEM EXTENDED



PROBLEM OF USING HEAVY FUEL OIL

Due to relative low cost and high caloric value, heavy fuel oil has become one of the most welcome fuels nowadays. Viscosity and high colloidal Asphaltene content, however, the heavy fuel oil should be heated up before use, and due to a long-time heating taken place, short-carbon-chain and natural-condensate-resistant-substance will suspend to the upper level, and Asphaltene is caramelized and liable to form oil sludge, and adhered to the wall of the pipeline, or sagged to the bottom of the tank, this cause serious problem to heavy fuel oil storage and transportation.

THE EXISTING SOLUTIONS

Homogenization

* It could prevent pipe & nozzle from blocking, but incapable of increasing combustion efficiency

Dosing additive

* It could help but the problem is cost & peripheries required

Use emulsified fuel oil

1. It helps, but are liable to a incomplete emulsified for a long-time storage
2. Water remaining in the fuel will break out from emulsion when heated.



TOTAL SOLUTION – **GFOP**

GFOP is a total solution for providing fuel saving and low emission heavy fuel on-line.

Equipped with 2 core homogenization processors, GFOP automatically prepare required emulsified additive with water and emulsified additive from the 1st processor on-line, afterwards, the 2nd stage of processor will activate and will start preparing fuel saving and low emission fuel oil for application. And major improvements of GFOP on contrast to the conventional way are as follows:

1. With GFOP, the user can prepare energy saving & low emission heavy fuel oil on-line, no extra mass storage tank is required
2. With 2-stage homogenization processes, no emulsion-breaking will be occurred
3. With certain percentage of water remaining in emulsion, it could lower viscosity of fuel oil, meaning that pre-heating temperature could be lowered, and power consumption for pumping could be eliminated, and blocking of fuel pipeline or injecting nozzle will not be occurred.
4. With additive FDA-200, lost of calorific value could be down to the range of tolerance
5. Combustion efficiency of boiler is increased, meaning fuel saving is achievable
6. Environmental friendly – low emission is capable, especially for reduction of CO, CO₂, SO_x, and NO_x
7. No high temperature pre-heating is required anymore, meaning sagged and separation of colloidal Asphaltene from fuel could be prevented, and no sludge build-up at the bottom and pipeline will be occurred.

PREPARING FUEL SAVING & LOW EMISSION HEAVY FUEL OIL ON-LINE



TANK CLEANING COST ELIMINATED

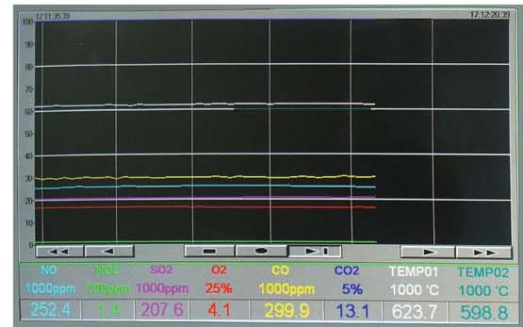
Owing to keeping high temperature pre-heating is no longer required, sludge build-up at the bottom of the tank and pipeline could be eliminated, and tank cleaning and maintenance cost could be eliminated

FURNACE OPERATION COST MINIMIZED

Because pre-heating temperature to the fuel could be minimized, heating power consumption could be reduced, it refers that operation cost of furnace/burner could be reduced

MECHANICAL LIFESPAN OF THE BURNER EXTENDED

Due to oil droplet is extremely small, and blockage of the pipe line and the nozzle ejector could be prevented, it refers to that mechanical lifespan of the burner or the combustion engine could be extended.



CORROSIVE OF THE SYSTEM COULD BE MINIMIZED

Usually, remaining of the water in heavy fuel oil will be approx 0.5 ~2%, and it will cause rust problem to the fuel combustion system including pipe line and combustion chamber. But now, with GFOP process, fuel with the water remaining is totally homogenized, and water then would be wrapped within the oil molecular, this will facilitate lowering corrosive problem to the whole system.

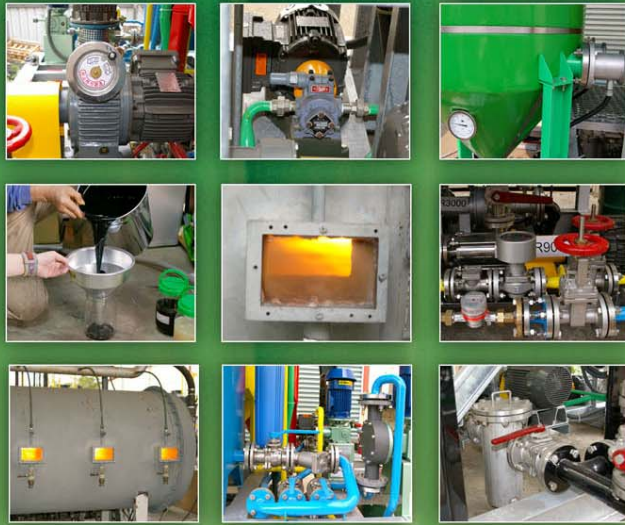
SYSTEM OPTIMUM IS ACHIVABLE

GFOP is very friendly equipment to the users. With 3 different selectable access is equipped, the user could choose different fuels on line by changing the path to prepare different type of fuel on-line, such as energy saving and low emission green fuel, or emulsified heavy oil with water but without additive prepared, or just using fuel oil without any additive.



REVENUE OF INVESTMENT

Revenue expectation usually should be depending on quantity of energy saving and low emission fuel oil is used, nevertheless, revenue usually could be made within 1 (one) year.



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