## System economy heavy fuel oil (TRGA).

**Shortly** - we are able to improve burning heavy fuel oils of all types and heating oils in industrial boilers and furnaces of any design. If boiler burning **5 tons** of fuel oil per hour - the direct economic benefit of our equipment no less than 1000.00 tons HFO per year.

**1.** Our equipment is really the best and unique (it is not a marketing phrase) . Certificates EU, Ukraine, Russia, IACS. 150 completed projects in Ukraine, Russia, Belarus, Kazakhstan, Syria, Croatia, Serbia, Jamaica, Guinea since 2007. There are customers who bought 3 or more pieces of equipment after the first operation. Feedback (after 2-3 years after installation), hundreds of photos, 80 films, articles in specialized journals, such a number of proven results - no one else has.

	The list of effects. (The importance of the effect or its economic benefit, you can evaluate yourself. In your local area prices)	effect borders	effect importance or its economic benefit
1.	Eliminating smoke from chimney.	95-100%	
2.	Reducing emissions CO (30-50%), NOx, (5-20%), SO2 (02-10%), $C_{20}H_{12}$ .	5-40%	
3.	<b>Complete removal of condensate water</b> which accumulates in the tanks by a safe burning in the boiler. Absence of expenses for its transport/disposal.	100%	
4.	<b>Complete removal of the collecting liquid sludge</b> and heavy oil deposits in the lower horizons of fuel storage tanks by a safe burning in the boiler. Absence of expenses for its transport and disposal.	100%	
5.	Reducing the amount of unburned fuel residues on heat exchangers inside the boiler. Lower stop cost, boiler cleaning, transportation and disposal of dredged sludge.	25-50%	
6.	<b>Reducing the rate of corrosion</b> of heat exchangers, fuel and chimney pipes and tanks.	not yet rated.	
7.	Possibility of long boiler working, at maximum load, without smoke.	-	
8.	<b>Possibility of burning, low-quality or cheaper HFO</b> or flooded HFO (flooding up to 7%) without loss of the boiler efficiency.	-	
9.	<b>The possibility of safe fire disposal of watering liquid sludge</b> , flooding up to 10-15% (long-term) and 20-25% (short-term).	-	
10.	Reduced fuel rate per ton of steam or water.	2.4-4.1%	
11.	Increasing the interval between cleaning the boiler injectors.	2-5 times	
12.	<b>Reduction of abrasive wear</b> to the injectors and the working elements of pressure pumps.	not less than 2 times	

13.	<b>Reducing the viscosity</b> of heavy fuel without the use of additives. The ability to reduce heating fuel by 10-15 C. Degrees.	up to 10-17%	
14.	<b>Reducing the amount of solids</b> in the fuel and <b>solids size.</b>	10-30% 100-500%	
15.	<b>Increasing the fuel calorific</b> value and burning speed, without the use of additives.	1-2%	
16.	<b>Reducing the temperature of fuel solidification</b> without the use of additives	up to 2-5 C.	
17.	<b>Visual effects</b> - improvement of the torch, increase transparency, reduce the length of the removal of visible unburned particles, eliminating the flame pulsations. Increasing the temperature in the furnace.	-	
18.	<b>Ability to reduce the flow cross section</b> of the nozzles without any loss of the boiler efficiency.	<b>up to</b> 10-25%,	

## 2. Other visual effects

- Comparative burning heavy fuel.

- A condition the heat exchangers inside the boiler, with the use of our systems and without. Description of <u>industrial test</u> (boiler that burns 10 tons of fuel oil per hour.

The result is savings of 4.1% fuel oil or, in the prices of those years, \$864 000,00 per year.

**3.** <u>Typical offer for boilers</u>. (main effects photos)

4. The algorithm of work with clients.

**5.** How much does it cost? Hard to say without inspection, filling and analysis of the questionnaire. Rough calculation algorithm - the estimated cost of the project is

 $C1 = (V1*CT*0.03) / 2, \text{ where } (V1) + \text{ the amount of HFO burnt in one year,} \\ (CT) + \text{ price of a ton of HFO.}$ 

Almost always, the whole project pays for itself in 6 months. C2 - the final cost of the project, it is determined after completing your questionnaire, analyzes one, the answers of additional questions and inspection if necessary. Usually C2 <C1.

**6.** We install our equipment for industrial boilers and furnaces - boilers, power plants, cement factories, sugar mills, oil refineries, oil depots and oil terminals, metallurgical, dairy or other enterprises, shortly on any design of oil fired boiler, which burns more than 1 ton per hour. Including for the disposal of waste ports and oil terminals.

**7.** Project implementation period - 1.5-3 months. Guarantee 1-2 years, depending on the type of object. Average term of work 3-4 years. Max. period of work on some of our objects is 7 years.

**8**. **Press about us.** Articles in Russian professional journals. <u>2015</u>, <u>2016</u>. In <u>factory newspapers</u>. <u>Diplomas, certificates and reliability</u>. <u>Other documents</u>.

9. General presentation - this is for professionals - simply send it to them.

## Our equipment is really the best and unique (it is not a marketing phrase).



Black oil / heat heat exchanger - before and after





https://youtu.be/YeeNJXADRPc



https://youtu.be/fX8yzKrNdGY