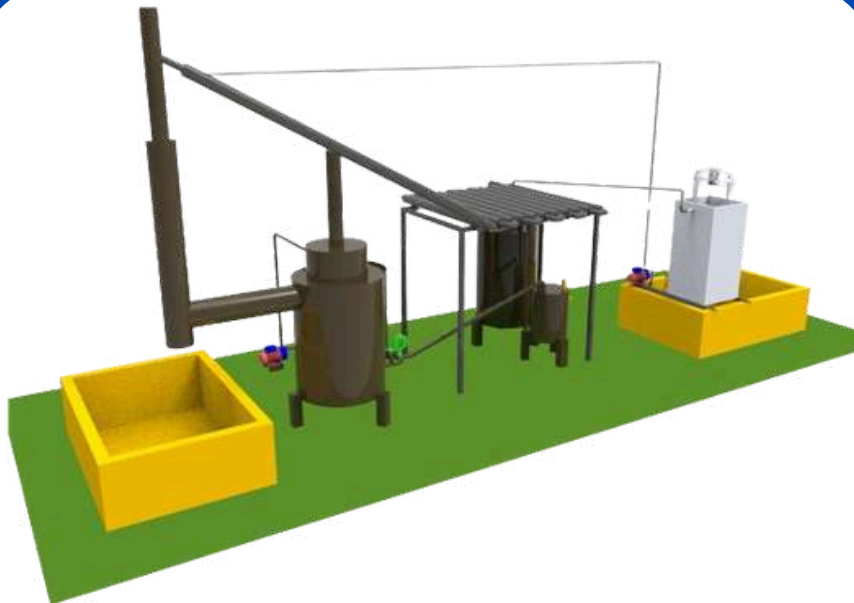




ENERSOL BIOPOWER PVT. LTD.

TRANSFORM YOUR ENERGY,
TRANSFORM YOUR WORLD...



USED OIL DISTILLATION MACHINE

www.enersolbiopower.com

TURNING WASTE INTO WATTS
FROM FIELD TO FUEL



ABOUT US

Having completed more than ten years of experience, we have established a stellar reputation. Our wide range of products, which includes biomass gasifiers, biogas plants, biogas generator sets, and smokeless biomass stoves for homes and businesses, demonstrates our commitment to quality and innovation. Additionally, we provide specialist equipment including mawa/khoya producing machines, used oil distillation units, biomass torrefaction plants, and machines for making biomass briquettes and pellets.

Enersol Biopower Pvt. Ltd. is more than simply a business; it's a tale of creativity, commitment, and change-making. We have been working to transform the energy landscape since our founding in 2013 under the leadership of Mr. Rai Singh Dahiya, a visionary who never let his lack of formal education hold him back.

At Enersol Biopower, we're not just in the business of selling products; we're in the business of making a difference. Join us as we continue to innovate, inspire, and pave the way towards a brighter, cleaner future for all.

Our dedication to our clients, however, is what really makes us stand out. We are committed to going above and beyond to make sure they are satisfied—not just after the sale, but for the duration of our goods' life. Because of our commitment, we have gained the respect of esteemed clientele such National Institute of Technology (NIT), Indian Institute of Technology (IIT), TATA Power, NTPC, BITS-Pilani & United Nations Development Programmer (UNDP).



+91 9414535665



**JOURNEY FROM A
VILLAGE
TO
PRESIDENT
HOUSE**



Hails from Thalarka
Village in Hanumangarh,
Rajasthan



Learned alphabets
on sand dunes in the farm



Assisted father
In the farm



Acquired science
knowledge by listening to
BBC Radio



Enersol
Biopower
envisions a
future where
clean and
sustainable
energy solutions
empower
communities
worldwide,
driving positive
environmental
impact and
socio-economic
growth."



OUR VISION & MISSION



The mission of
Enersol
Biopower is to
lead the way in
providing
innovative
biomass-to-
energy
solutions,
promoting
environmental
stewardship,
and fostering
socio-economic
development for
generations to
come.

CORE-VALUES



T Team Work	E Environment	C Customer Satisfaction
H Honesty & Integrity	N Nature Love	I Innovation
Q Quality	U Unique Work Culture	E Excellence

WHAT IS USED ENGINE OIL?



Used oil is exactly what its name implies: any petroleum based or synthetic oil that has been used. Oil keeps our cars, lawnmowers, & many other machines running smoothly. However, during normal use, impurities such as dirt, metal scrapings, water, or chemicals, can get mixed in with the oil, so that in time, the oil is no longer performs well. Eventually, this oil must be replaced with virgin oil or re-refined oil to do the job correctly.



PRODUCTS USED AS USED OIL

Some examples of types of products that, after use, can be labeled as used oil are as:

- Hydraulic oil
- Transmission oil
- Brake fluids
- Motor oils
- Crankcase oils
- Gear oils
- Synthetic oils
- Engine lubricate oil
- Grades 1, 2, 3, & 4 fuel oil



WHY USED OIL TO DIESEL FUEL?

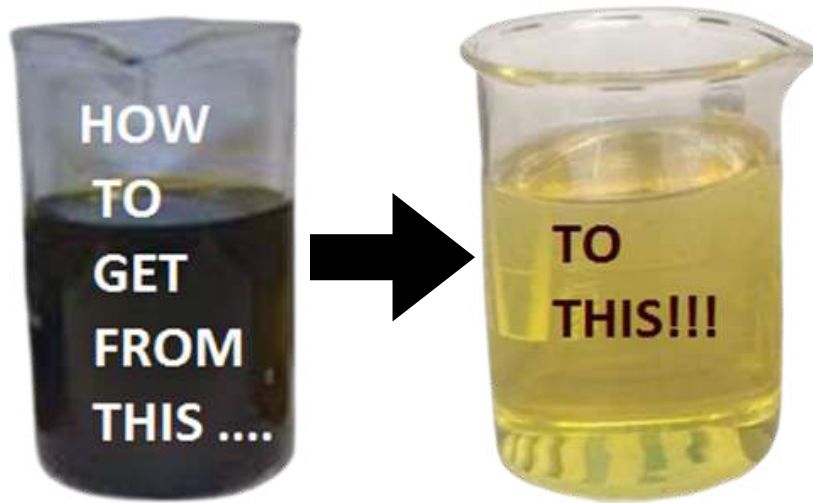
Waste engine oil is a high pollutant material that requires responsible management. Following are some of the reasons why should we recycle the used oil;

- Waste engine oil can cause damage to the environment when dumped into the ground & into the water streams including sewers. This may result in groundwater & soil contamination.
- It's slow to degrade.
- It sticks to everything from beach sand to bird feathers.
- Fossil fuel supply is limited; therefore, we must recycle the used oil to reuse.
- Motor oil does not wear out- it just gets dirty – so recycling it saves a valuable resources.
- Less energy is required to produce a gallon



HOW TO GET DIESEL FROM USED OIL

There are several machines that have been created to get the diesel from used oil. The process to re-refine used motor oil is easier than refining crude oil.



In recent years, recycling of the used motor oil & utilizing of the products as fuels have become important topics for researchers. Most of the used motor oils are generally obtained from petroleum resources. The recycling of used oil becomes necessity as it not only causes environmental hazards due to their metal content & other contaminates but also can be turned into valuable fuel products.

ESB-R USED OIL DISTILLATION MACHINE

Although, many used oil recycling machines are available in the market. We have designed a very compact and easy to use machine for used oil distillation. Our machine is particularly suitable to regenerate used internal- combustion motor oil including diesel engine oil, gasoline engine oil & used hydraulic oil, other used machinery's lubrication oil.

It is able to effectively remove water, gas & other impurities in the used oil.

Specially, it can restore the color of used oil & remove the scent rapidly.



ESB-R USED OIL DISTILLATION MACHINE

PROCESS

- ★ Pump the used motor oil into reactor by oil pump.
- ★ Use wood chips for heating the reactor.
- ★ After heating some time, the liquid oil will become oil gas, oil gas will be liquefied by the cooling pipe & condensers then will go into oil tank. Here, we get mixed oil or you can also call it fuel oil.
- ★ Some gases like methane, Ethane, Propane, Butane & Hydrogen cannot be liquefied under normal pressure & normal temperature. These gases will be recycled to fire furnace heating the reactor.



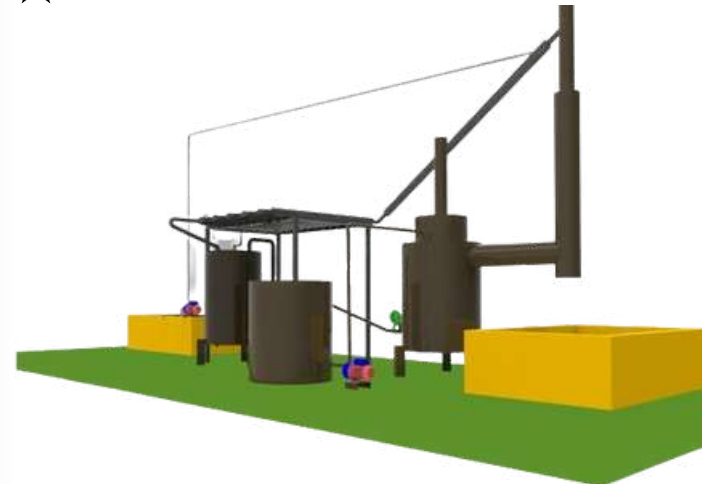
USED OIL



DIESEL

MACHINE PARTS

- ★ Reactor
- ★ Condenser
- ★ Bubbler
- ★ Diesel tank
- ★ Temperature indicators
- ★ Safety Valve
- ★ Water pump
- ★ Oil pump
- ★ Diesel pump
- ★ Diesel filtration system
- ★ Water chiller
- ★ Draft fan & water scrubber exhaust



TECHNICAL SPECIFICATION

200LTR ESB-R OIL DISTILLATION MACHINE

SR. NO.	CONTENT	DESCRIPTION
1.	Model name	ESB-RDM200
2.	Input	200ltr used oil
3.	Output	170 - 180 ltr. Refined Diesel (85-90%)
4.	Raw material	Used engine oil or Used motor oil
5.	Structure form	Vertical (Easy cleaning & maintenance)
6.	Batch time	7-8 hrs.
7.	Operating pressure	Constant pressure ATM
8.	Heating material	Wood, charcoal, fuel gas, fuel oil
9.	Wood required per batch	80-100kg Approx.
10.	Reactor material	Stainless Steel 316 (SS316)
11.	Reactor thickness	5mm
12.	Mode of cooling	Recycled water cooling with chiller
13.	Exhaust scrubbing	Water scrubber with water cooling system
14.	Power required	3HP
15.	Water tank capacity	3000ltr. minimum

500LTR ESB-R OIL DISTILLATION MACHINE

SR. NO.	CONTENT	DESCRIPTION
1.	Model name	ESB-RDM500
2.	Input	500ltr used oil
3.	Output	425 - 450 ltr. Refined Diesel (85-90%)
4.	Raw material	Used engine oil or Used motor oil
5.	Structure form	Vertical (Easy cleaning & maintenance)
6.	Batch time	8-9 hrs.
7.	Operating pressure	Constant pressure ATM
8.	Heating material	Wood, charcoal, fuel gas, fuel oil
9.	Wood required per batch	200kg Approx.
10.	Reactor material	Stainless Steel 316 (SS316)
11.	Reactor thickness	6mm
12.	Mode of cooling	Recycled water cooling with chiller
13.	Exhaust scrubbing	Water scrubber with water cooling system
14.	Power required	5HP
15.	Water tank capacity	5000ltr. minimum

ORIGINAL DIESEL VS. ESB-R RECYCLED OIL

SR. NO.	PROPERTIES	ORIGINAL DIESEL	ESB-R RECYCLED OIL
1.	Density (Kg/ M ³) at 35°C	826	830
2.	Kinetic viscosity (CST) at 40°C	2.214	2.344
3.	Flash point (°C)	54	65
4.	Fire point (°C)	59	69
5.	Carbon residue	0.002	0.002
6.	Higher calorific value (Kj/kg)	44854	45230
7.	Pour point (°C)	-6	-8

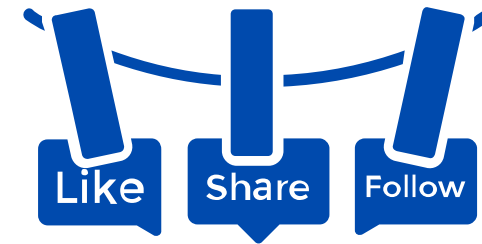


Original Diesel



Diesel from ESB-R Machine

YOUTUBE LINKS



- <https://www.youtube.com/@enersolbiopower-biomassgas3987>
- <https://www.youtube.com/watch?v=OD9ueNYjf1Q&t=23s>
- <https://www.youtube.com/watch?v=fjULT8k4Ayg&t=9s>
- https://www.youtube.com/watch?v=rtjSn_9P-Yc
- https://www.youtube.com/watch?v=ghm_odvyvzc
- <https://www.youtube.com/watch?v=g1iemqc0-80&t=15s>
- <https://www.youtube.com/watch?v=g6ya3XhDBCQ>

- <https://www.youtube.com/watch?v=FYPajsGRrrw>
- <https://www.youtube.com/watch?v=LKDlbvXdHyM&t=9s>
- https://www.youtube.com/watch?v=Rp17MmDRilQ_
- https://www.youtube.com/watch?v=GTmOj_JRLVw
- <https://www.youtube.com/watch?v=pcQN3qzNfh0>
- <https://www.youtube.com/watch?v=IAGaO9LRVOY>

OUR PRESTIGIOUS CLIENTS



OUR PRODUCT SOLD IN INDIA

- ✓ Jammu & Kashmir
- ✓ Himachal Pradesh
- ✓ Chandigarh
- ✓ Punjab
- ✓ Uttarakhand
- ✓ Haryana
- ✓ Delhi
- ✓ Rajasthan
- ✓ Uttar Pradesh
- ✓ Gujarat
- ✓ Madhya Pradesh
- ✓ Chhattisgarh
- ✓ Maharashtra
- ✓ Telangana
- ✓ Andhra Pradesh
- ✓ Pondicherry
- ✓ Tamil Nadu
- ✓ Kerala
- ✓ Jharkhand
- ✓ West Bengal
- ✓ Sikkim
- ✓ Meghalaya
- ✓ Assam
- ✓ Bihar
- ✓ Arunachal Pradesh
- ✓ Orissa
- ✓ Goa
- ✓ Karnataka





**Bio-Auto
Mawa-Machine**



**Domestic Biomass/
Wood Stove**



Biogas Genset

**OUR
PRODUCT
LIST**



**Biomass
Torrefaction Plant
(Charcoal Plant)**



**Commercial Wood
/Biomass Stove**



**Portable Biomass
Gasifier**

AWARDS & EXHIBITIONS



- Fifth National Grassroots Innovation Award, 2009.
- Innovation Scholars In-residence Program at President House.
- Indian Merchant Chamber (IMC) – Inclusive Innovation Award, 2012.
- Certificate of Appreciation As “Farmer Scientist” By Rajasthan University of Veterinary & Animal Sciences, Bikaner, Rajasthan.
- Certificate of “Farmer Scientist” By Pacific University, Udaipur, Rajasthan.
- Certificate from Department of Science & Technology at National Science Day, Jaipur, Rajasthan.
- Business Expo Kota 2023, Kota, Rajasthan.
- Exhibition of Innovations, President House, 2010
- Inauguration of ESB-R Biomass gasifier by former chief minister of Meghalaya, 2013
- Third international conference on creativity & innovations at grassroots at Indian institute of management (IIM), Ahmedabad, 2015
- India International Science Festival (IISF), New Delhi, 2016.
- India International Trade Fair (IITF), New Delhi, 2016.
- Mega Science & Technology and Industry Expo, New Delhi, 2017
- Bollywood movie Padman promotion, 2018.





<https://www.youtube.com/@enersolbiopower-biomassgas3987>



<https://www.indiamart.com/enersol-biopower-jaipur/profile.html>



<https://twitter.com/EnersolBiopower>



<https://www.linkedin.com/company/enersol-biopower-pvt-ltd>



<https://www.instagram.com/enersolbiopower/>



Enersol Biopower Pvt. Ltd.

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