



## Tongrui NRY Waste Oil Recycling machine



### Application

Tongrui NRY Waste Oil Recycling machine is particularly suitable to regenerate used internal-combustion engine oil including diesel engine oil, gasoline engine oil and used hydraulic oil, other used machinery lubrication oil. NRY series are able to effectively remove colloid, oxid, acid, pitch, particles, impurities, water, gas in the used oil. Specially, NRY can restore the color of used oil and remove the scent rapidly.



### Edges of NRY

- ◆ Two main filtering systems in the NRY which can ensure the NRY works continuously by batch.

- ◆ Environmentally friendly, no acid used during operation.
- ◆ The filters in filtering systems are made of stainless steel. It can extend lifetime of filtering systems. Traditional filter is made of fabric or paper which need to be replaced frequently. So using stainless steel filter can largely decrease operation cost for customers.
- ◆ Exhaust gas removing systems can remove exhaust gas quickly and efficiently and make operation more environmentally friendly.
- ◆ Heat preservation material which can keep heating high efficient. Reducing operation cost.
- ◆ Design according to different customers needs including Turnkey Project.
- ◆ Purify blended oils.
- ◆ Low maintenance and replacement expenses.
- ◆ Low operation cost.
- ◆ High regeneration rate.
- ◆ Automatic reverse-washing system will extend the lifetime of filters and improve the performance of the filters.
- ◆ High performance security system including pressure protection device and automatic temperature controller makes purifier operate safely.
- ◆ Small size, light weight, low noise.

## Questions & Answers

### ◆ How NRY can run continuously?

NRY regenerate waste oil by batch. Tongrui design two main filtering systems in the NRY which can ensure that NRY work continuously by turns.

### ◆ Can NRY regenerate mixed oils?

Yes, NRY can regenerate mixed oil including diesel engine oil, gasoline engine oil, hydraulic oil, gear oil and other industrial lubrication oil.

### ◆ What residues or by-products NRY produce after regeneration?

For standard NRY series, there are some residues or by-products. There is graphite exist in residues. The graphite is a very valuable substance, customer can extract graphite from residues by themselves. For advanced NRY series, there are little residues or by-products coming into being during production.(Advanced NRY series has device which can dispose residues or by-products.)

### ◆ How to dispose residues and by-products?

For Standard NRY series, customer can burn them or bury them. Additionally, customer can sell it to other factories as fuel.

### ◆ Is every times treated oils performances the same?

It depends on waste oil. If each batch of waste oils performance is the same, the treated oils performance is the same.



◆ **What is regeneration rate?**

It depends on compositions of waste oil which you want to treat. If there is lots of water, impurities or other matters in waste oil, the regeneration rate is low.

◆ **What is treated oil?**

The treated oil is base engine oil, the grade of treated oil is a bit lower than virgin oils.

◆ **What are treated oils applications?**

The treated oil can be used as machinery lubrication oil, diesel engine oil or other lubrication oil. Customers can add additives to treated oil according to definite applications before reuse. Treated oil can also be used as fuel.

◆ **What are differences between virgin oil and treat oil?**

If the waste oils properties (before me) are high, the treated oils properties are also high. Generally, the regeneration process doesn't affect main performances of oil. Some indexes are lower than new oils, some indexes are the same as new ones.(Please refer to test report)

◆ **Are there any chemical materials needed during processing?**

Yes, there are some chemical materials needed in the process (please contact our sales, they will provide you detailed information.)

◆ **How long is lifetime of NRY plant?**

The lifetime can last several years under proper operation.

◆ **How about the maintenance of NRY?**

The maintance is very simple. Replace lubrication oil for vacuum pump every year. Check the filters, valves, gaskets periodically.

◆ **Does NRY needs professional engineers to operate?**

The operation of NRY is very simple. Generally, two or three workers can operate it after two days' training.

◆ **Dose NRY needs auxiliary equipments?**

No, our machinery is auto-matic, include the reactors, filters and the smelling machinery (used for clean the air of the oil).

◆ **How to install NRY?**

Customer can install NRY according to operation manual. For NRY product line, We will

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send engineers to customers work site to supervise installation. We also provide turnkey project for customers. We will establish a workshop for customers including auxiliary facilities.

◆ **What space does NRY need?**

Its up to the machinery model and dimension, our engineer will design it for customers as needed.

◆ **How long is the delivery time?**

For standard NRY models, it needs 25 days production period in our factory.  
For special order, we need 3 days to design, and then manufacturing it.

◆ **What kinds of engine oil NRY can not regenerate?**

Generally, NRY can regenerate most engine oils, and the color will reach No.2. But for some very high grade gasoline engine oil, NRY can remove colloid, oxid, acid, pitch, particles, impurities, water, gas. But the color of treated oil is No.3 after treatment. Customers should mix it with used diesel engine oil or used hydraulic oil before treatment in order to get good treatment oils color.

◆ **What kind of heating system is installed in NRY?**

There are two heating devices in our machinery, one is used electricity oil heater, and another is the boiler (steam water), our standard device is electricity oil heater, so if you want to use boiler (steam water), you can buy and install boiler by yourselves, or order it from us.

◆ **What reasons influence treatment capacity?**

There are several reasons such as environment temperatures, efficiency of operator, water, Impurities in used oil, properties of used oil and so on.

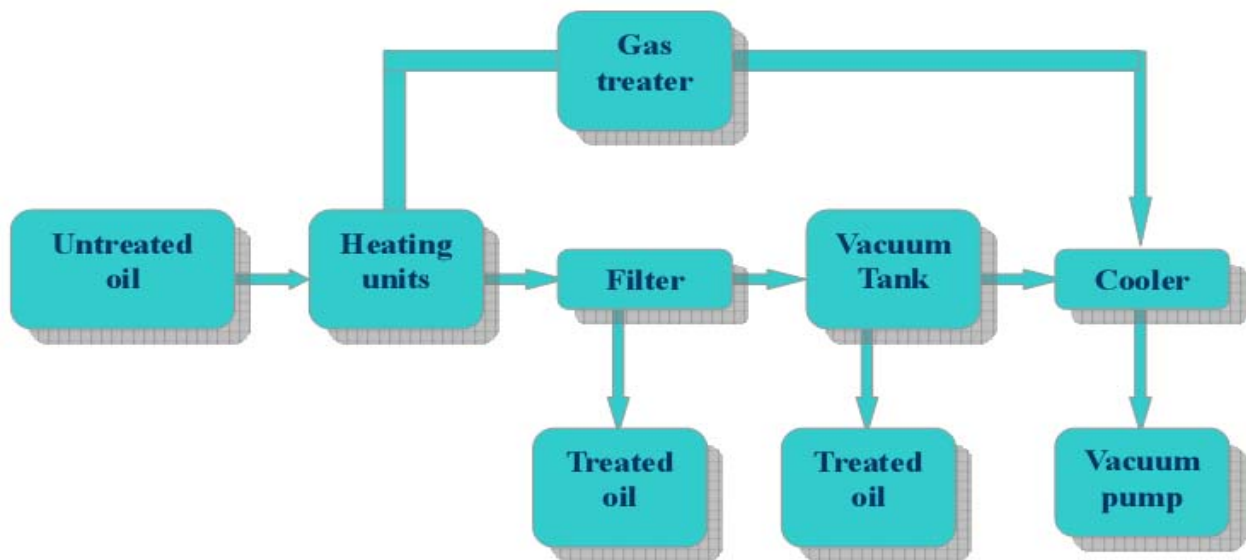
◆ **How long is warranty period?**

Tongrui warrants the plant supplied under this specification against defects in material and workmanship under normal use service for a period of sixteen (16) months from date of shipment or twelve (12) months after the start up of the system.

Tongrui obligation under this warranty is limited to repairing or furnishing without charge F.O.B point of manufacture, a similar part to replace any part, which was proven to be defective within warranty period. Tongrui shall not in any event be held responsible for any indirect or consequential damages. The performance guarantee will be within limitations as detailed in duty & performance paragraph of this specification.



## Flow Chart of Machinery



## Technical Index

Item	Unit	Theory index	Treated oil index
flow viscosity	100℃ mm <sup>2</sup> /s	12.5-16.3	11.6
Flash point (open)	≥	220	232
Acid mgkoH/g	≤	2.0	0.04
Impurity %	≤	0.01	0.006
Water-solubility acid or alkali	/	/	no
viscosity index	≥	80	91
Pour point °C	≤	-10	-26
Sulfate ash	/	/	0.172

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## Technical Specification

Index name	Unit	NRV-S	NRV-M	NRV-I	NRV-II	NRV-III	NRV-IV	NRV-V	
Capacity	Kg/d	500	1000	2000	4000	8000	12000	15000	
Recovery rate	%	80~95(decided according to the oil difference)							
Temperature range	°C	140							
working pressure	Mpa	<=0.4~0.6							
Noise	dB(A)	<=65~80							
Electric power		380V/3 phases/50HZ(Can design according to user's demand)							
Heating power	KW	30	42	60	120	160	210	240	
Total power	KW	37.5	48	72	144	180	250	300	
Diameter of inlet & outlet	mm	DN20	DN25	DN25	DN25	DN32	DN32	DN40	
weight	KG	2500	4000	6000	11000	13000	15000	18000	
Dimension	L	m	2.2	5.0	6.0	6.8	8	16	20
	W	m	1.6	1.6	2.0	2.1	2.1	2.1	2.1
	H	m	2.4	2.4	2.6	2.3	2.3	2.4	2.5



## Main Certificates of Machinery

### ◆ Environment friendly



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◆ Conformity certificate of explosion-proof



# 防爆合格证

CONFORMITY CERTIFICATE OF EXPLOSION-PROOF

证 号  
Certificate No. CE072003

产品名称 Name of Product	通瑞滤油机
型号及规格 Type of Product	ZJA、ZJB、ZJB-T/ZJC、ZJD、ZJD-F、ZJL、NRY、YL系列
防爆标志 Marking	<b>Exia II CT6</b>
技术文件 Technical Documents	Q/GYGDY007-2006
图 号 Drawing No.	GDGW-51X 56X-ASM
备 注 Note (s)	

经对上述产品图样及技术文件的审查和样品的检验,其符合以下中国现行标准:  
By verifying the drawings and technical documents and checking samples, the product complies with the following standards currently valid in P.R.China:

GB3836.1-2000                      GB3836.4-2000

发 给:  
Issued to: 重庆通瑞过滤设备制造有限公司

本证失效日期:  
Date of Expire: 2012-6-1

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Date of Issue: 2007-6-2

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◆ ISO





◆ Technical Patent





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## Our products as follows :

### 1. Insulating oil purifier

- 1.1. Series ZJB: Tongrui vacuum insulation oil purifier
- 1.2. Series ZJB-A: Tongrui Vacuum insulation oil automation purifier
- 1.3. Series ZJB-R: Tongrui vacuum insulation oil regeneration purifier
- 1.4. Series ZJA: Tongrui Double-stage vacuum insulation oil purifier
- 1.5. Series ZJA-A: Tongrui double-stage vacuum insulation oil automation purifier
- 1.6. Series ZJA-R: Tongrui double-stage vacuum insulation oil regeneration purifier
- 1.7. Series ZJA-M: Tongrui Mobile Type Transformer Oil Purification Plant, Oil Recycling

### 2. Turbine oil purifier

- 2.1. Series ZJC: Tongrui vacuum turbine oil purifier
- 2.2. Series ZJC-R: Tongrui vacuum turbine oil regeneration purifier
- 2.3. Series ZJC-A: Tongrui vacuum turbine oil automation purifier

### 3. Lubricating oil purifier

- 3.1. Series ZJD: Tongrui vacuum lubricating oil purifier
- 3.2. Series ZJD-R: Tongrui vacuum lubricating oil regeneration purifier
- 3.3. Series ZJD-M: Tongrui vacuum lubrication oil automation purifier
- 3.4 Series ZJD-F: Tongrui Oil Purifier for Fuel oil, Light oil and Vegetable oil

### 4. Portable Mini Oil Purifier and Oiling Purifier

- 4.1 Series YL Tongrui Portable Mini Oil Purifier and Oiling Purifier
- 4.2 Series YL-V Tongrui Vegetable Oil Purifier

### 5. Engine oil purifier

- 5.1. Series NRC Tongrui engine oil purifier
- 5.2. Series NRF Tongrui engine oil recycling plant
- 5.3. Series NRY Tongrui engine oil recycling plant

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