

AKFEN MUHENDISLIK

HIGH - TECH OIL REFINERY

**MOBILE CRUDE OIL REFINERY
USER MANUAL CATALOGUE**

İkitelli Org.San.Bölg. Giyim Sanatkarları Sit. 4B Blok 4 Kat No 409 Başakşehir İstanbul Turkey

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LOGIN

First of all, thank you for trusting and choosing Akfen engineering.

Akfen Engineering mobile refinery You can find installation, commissioning, use and maintenance information. Please read the information in this booklet carefully and use it according to these instructions in order to use the mobile refinery efficiently, economically, easily and with a long service life.

You can ask again for unclear issues regarding commissioning, operation and maintenance, and request the related documents. Our technical service and expert engineer staff will answer your questions and provide you with the necessary information.

MANUFACTURER INFORMATION

Akfen Makina Endüstri Mühendislik Ticaret Limited Şirketi

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E-mail: akfenmuhendislik@gmail.com – Info@akfenmuhendislik.com

GENERAL WARNINGS

- Please examine this booklet carefully. The information given here covers the topics required for the user and the user in the installation, use and maintenance of the device.
- Use and maintenance of Akfen mobile refinery should be done in accordance with the principles in this booklet. Otherwise, the conditions of the responsibility practitioner.
- Devices can only be used for their intended purpose. Non-intended use can be dangerous.
- It is the responsibility of the user to intervene the device other than Akfen engineering authorized services.

REFINERY MAINTENANCE AND REPAIR

- It should be checked frequently whether the fittings on the refinery installation are intact.
- The refinery opens the drain valve once in two uses and cleanses the deposits that have accumulated at the base It must be provided.
- The refinery should be maintenance once a year.
- It is checked for leakage from the device or connections.
- Safety valve is checked.
- It is checked whether the device temperature indicator is working or not, if it does not work it will be replaced.

Akfen services are authorized for maintenance and repairs. The seller company is not responsible for the transactions of unauthorized persons. Original spare parts should be used for maintenance and repairs

MATTERS TO BE CONSIDERED DURING TRANSPORTATION**1. Placing the refinery on the vehicle**

- Loading should be done by crane while the refinery is placed on the vehicle
- The covers of the vehicle's casing, where the refinery will be loaded, must be removed in advance.
- During transportation of the refinery by crane, the transportation ring on the refinery should be used.
- Pass the hook on the end of the boom of the crane through the refinery carrying ring.
- Avoid sudden movements that may cause refinery shaking.
- Rafinery raise it 30–40 cm above the vehicle's body level after it is brought near the
- vehicle and properly lower it onto the vehicle's chassis

2. Refinery Transport on Vehicle

- When the refinery is transported by the vehicle, it should be firmly attached to the
- vehicle, and anti-slip supports should be placed around it.
- The refinery should not be transported along with the items to be broken, crushed and live assets.
- After placing the refinery in the vehicle, it should be covered with tarpaulin.
- The driver of the vehicle should avoid sudden movements that would create any danger.

3. Lowering the refinery to the area of work

- While the refinery is lowered, the crane should be used again, and the points specified in Article 1 should be taken into consideration.

WARRANTY AND SERVICE

- Akfen Refinery is guaranteed for 1 (one) year from the date of sale, provided that the rules, warnings and the relevant standard in force in the installation, commissioning, use and maintenance manual are followed.
- In order for your warranty certificate to be valid, your Garanti Certificate must be completed by the Akfen engineering authorized service where you purchased the device and the Akfen engineering address İkitelli Org.San.Bölg. Giyim sanatkarlar Sit. 4B Kat 4 No 409 Başakşehir İstanbul Turkey should be sent to the production facilities located. Please follow the actions.
- MOBILE REFINERY WRONG INSTALLATION PROBLEMS THAT MAY INCLUDE MAINTENANCE OR USE ERRORS ARE NOT COVERED BY THE WARRANTY.
- Refinery has a service life of 10 (ten) years , Manufacturers and vendors undertake to provide service and spare parts within this period.

MOBILE REFINERY USAGE INTRUCTIONS

- The petroleum is sent to the reactor from the stock tanks with a pump, the amount of petroleum in the reactor will be monitoring by a level device. The product input valve is closed when it reaches the maximum fill level.
- For operating the reactor we put a burner under the vacuum and start the evaporation process of the petroleum elements, and we get the following output products:
 1. Waste water
 2. Nafta – Kerosene
 3. Diesel
 4. Base Oil
 5. Reziduum
 6. Gas
- The method that we use to heat the system is to apply heat by burner and it can be preferred in different ways. The zone where the burner is applies heat is heated to the furnace inside the reactor and we can use oil, sludge, diesel or gas for the burner fuel.
- The heat exchanger operates in three (3) stages; pipes inside the heat exchanger, the steam passes inside the pipes and the water passes permanently outside the pipe. Hot water is reused with continuous cooling
- We made the cooling tower in order to cool the hot water coming from the heat exchanger with the air force and sending it to the water bath.
- There are sections which are connected to the cooling pool such as the vacuum pump, the gas washing section, the reactor pitch discharge section, the heat exchanger...etc. These sections need continuous cold water for continuing the operation and they are met by the water pool.
- Dual control (Automatic & Manual) design make sure that all the statuts of this plant will be running properly including the temperatures, pressures, oil levels...etc
- When the reactor begins the operation between 0° to 70°; the first accumulated product are waste products

- When reactor temperature is between 100° to 250° we produce Naptha , Kerosen we proceed to the separation process of sections in order to maintain the product quality.
- With our technique we can produce diesel oil between temperature 280° to 300°, then we move to the separation section to maintain the quality of the diesel.
- When reactor temperature is between 300° to 380° we produce Base oil and we proceed to the separation process of sections in order to maintain the product quality.
- The vacuum pump is the most important part of reducing the boiling temperature and discharging the gas into the reactor, the gas is stuck in a vacuum so that the gas cannot return to the reactor and this only works with output direction.
- In order to guarantee a complete safe operation, we equipped the second gas safety device with gas decompression valves at the level of product separation sections allowing an automatic discharge at 7 bars.
- We offer technical solutions and we wish to create a pollution minimized atmosphere by following our mission of protecting the nature; so that we clean the gas leaving the reactor by washing with water to prevent environmental odors, and then we move to the second stage which is sent the gas to the disposal department
- Once again we provide security by using the following safety system; where the washed gas is sent to the gas combustion base then burned and destroyed.

OTHER INFOTMATIONS

- Electricity : 380W 50HZ 3P. 1 hours 40KW (Generatör 40 kw)
- Working operator: 2- 3 operatör
- Water : Normal water
- Fuel : Gas , Diesel , Bitumen

CERTIFICATE

IQR CERTIFICATION

AKFEN MAKİNA ENDÜSTRİ MÜHENDİSLİK TİCARET LİMİTED ŞİRKETİ

İKİTELLİ ORGANİZE SANAYİ BÖLGESİ MAHALLESİ GİYİM SANATKÂRLARI SİTESİ
4B BLOK KAT:4 NO:409 BAŞAKŞEHİR / İSTANBUL / TÜRKİYE

*Has been assessed and found to Comply with the Requirements of:
Denetlenmiş ve aşağıdaki standardın gerekliliklerine uygunluğu görülmüştür:*

ISO 9001:2015

*The Quality Management System is applicable to:
Kalite Yönetim Sistemi:*

CHEMISTRY, PETROLEUM, BIODIESEL, MINERAL OIL, RECYCLING, FOOD,
SETUP OF OIL PLANTS AND METAL EQUIPMENTS FOR THESE FACILITIES,
PARTS PRODUCTION, PLANT ASSEMBLY, PLANT IMPLEMENTATION,
IMPORTATION AND EXPORTATION

KİMYA, PETROL, BİYODİZEL, MADENİ YAĞ, GERİ DÖNÜŞÜM, GIDA, YAĞ
TESİSLERİNİN KURULUMU VE BU TESİSLER İÇİN METAL EKİPMAN, PARÇA
ÜRETİMİ, TESİSİN MONTAJI, DEVREYE ALINMASI, İTHALATI VE İHRACATI

Certificate Number: QMS-09843
Belge Numarası: QMS-09843

Initial Certification Date: 20.04.2020
İlk Belgelendirme Tarihi: 20.04.2020

Certification Period: 3 Years
Belgelendirme Periyodu: 3 Yıl

Certificate Validity Date: 19.04.2021
Belge Geçerlilik Tarihi: 19.04.2021



ACCREDITED
Management Systems
Certification Body
MSCB-135



gms

IQR ULUSLARARASI BELGELENDİRME HİZMETLERİ LTD. ŞTİ.

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CERTIFICATE

IQR CERTIFICATION

**AKFEN MAKİNA ENDÜSTRİ
MÜHENDİSLİK TİCARET
LİMİTED ŞİRKETİ**

İKİTELLİ ORGANİZE SANAYİ BÖLGESİ MAHALLESİ GİYİM SANATKÂRLARI SİTESİ
4B BLOK KAT:4 NO:409 BAŞAKŞEHİR / İSTANBUL / TÜRKİYE

*Has been assessed and found to Comply with the Requirements of:
Denetlenmiş ve aşağıdaki standardın gerekliliklerine uygunluğu görülmüştür:*

ISO 14001:2015

*The Environmental Management System is applicable to
Çevre Yönetim Sistemi:*

CHEMISTRY, PETROLEUM, BIODIESEL, MINERAL OIL, RECYCLING, FOOD,
SETUP OF OIL PLANTS AND METAL EQUIPMENTS FOR THESE FACILITIES,
PARTS PRODUCTION, PLANT ASSEMBLY, PLANT IMPLEMENTATION,
IMPORTATION AND EXPORTATION

KİMYA, PETROL, BİYODİZEL, MADENİ YAĞ, GERİ DÖNÜŞÜM, GIDA, YAĞ
TESİSLERİNİN KURULUMU VE BU TESİSLER İÇİN METAL EKİPMAN, PARÇA
ÜRETİMİ, TESİSİN MONTAJI, DEVREYE ALINMASI, İTHALATI VE İHRACATI

Certificate Number: EMS-09886
Belge Numarası: EMS-09886

Initial Certification Date: 25.04.2020
İlk Belgelendirme Tarihi: 25.04.2020

Certification Period: 3 Years
Belgelendirme Periyodu: 3 Yıl

Certificate Validity Date: 24.04.2021
Belge Geçerlilik Tarihi: 24.04.2021



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Management Systems
Certification Body
MSCB-135



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