

EQUIPMENT for loading and unloading transport vehicles

TECHNICAL DESCRIPTION



Since 2014, ErichHahn has been designing and supplying equipment for the production, storage, and transportation of viscous and solidifying fluids. Our cumulative knowledge and experience allow us to be a provider of advanced industrial solutions on both regional and global levels. For a wide range of industries, we offer equipment for pumping and distributing viscous liquids, for loading and unloading vehicles, storage and heating tanks, bitumen modification plants, oxidation plants, mobile terminals, as well as full-scale terminal facilities and systems engineered to meet individual customer requirements.



ErichHahn equipment for loading and unloading transport vehicles is designed for safe and efficient handling of viscous and solidifying petroleum products. The solutions provide automation of technological operations, process parameter control, and reliable integration into the enterprise infrastructure. Modular design, heating systems, and modern control tools help increase productivity, reduce operational risks, and ensure stable performance under various operating conditions.

ErichHahn's mission is to apply our technology and engineering expertise to improve our customers' production processes.

We strive to be a driving force behind our customers' process improvements, business development and production culture, following the principles of innovation, customer focus, reliability, safety and competence.

Automatic Railcar Unloader ErichHahn ARU-1



Automatic Track Unloader ATU-6



TECHNICAL DESCRIPTION

ErichHahn ARU-1

Automatic Railcar Unloader

Purpose and Configuration of the Unit

The ErichHahn ARU-1 automatic railway tank car unloading unit is intended for accelerated automated heating and drainage of viscous and solidifying petroleum products from railway tank cars at railway loading racks. The unit may be equipped with a bottom drainage device with a hydraulic monitor (ARU-1H). All electrical equipment, instrumentation, and automation components may be installed in an explosion-proof design. The explosion protection marking shall be not lower than 2 Ex d IIB T4 (ARU-1HEX).

Specifications

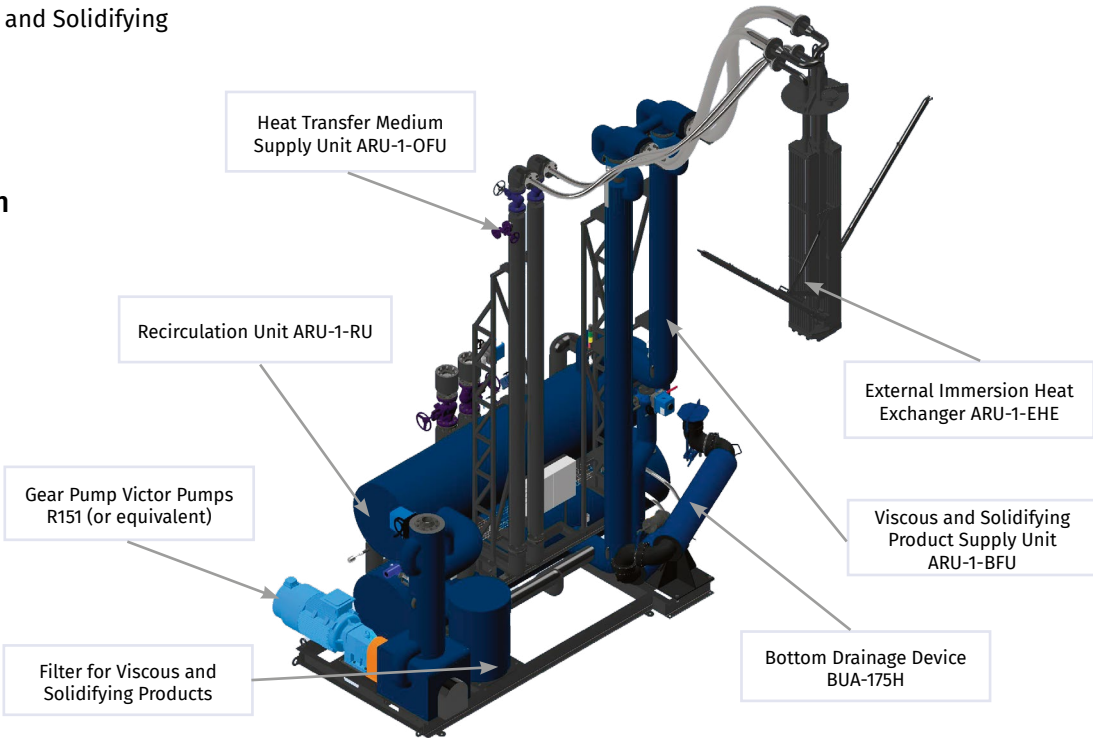
- Unloading time from railway tank cars: 2-18 hours
- Operating pressure: 0.6 MPa
- Heat duty: 350 kW
- Heat transfer medium: Thermal oil
- Service life, not less than, 10 years

Equipment

- Recirculation Unit
- Heat Transfer Medium Supply Unit
- External Immersion Heat Exchanger
- Product Supply Unit
- Bottom Drainage Device
- Filter for Viscous and Solidifying Products
- Gear Pump

Why choose ErichHahn ARU

- The combined heating system significantly accelerates product heating
- Compact frame-mounted design, easy installation and operation without complex utility connections
- Possibility to unload viscous petroleum products without residue from railway tank cars not equipped with a steam jacket
- Automation minimizes risks and ensures strict compliance with safety standards
- No start-up tank is required to begin operation of the equipment
- The equipment also allows product unloading through the top filling hatch in case of a faulty tank car valve



Unit Specification

Main Technical Characteristics ErichHahn ARU-1

Operating medium	Viscous and solidifying petroleum product
Climatic conditions	Temperate climate
Ambient temperature, °C	-25 to +40
Product operating temperature range, °C	Fuel oil: 40–110 ¹⁾ Bitumen: 100–160
Operating pressure, MPa	0.6
Heat duty, kW	350
Heating and unloading time of viscous (dark) and solidifying petroleum products from railway tank cars at ambient temperature:	
+ 25 °C	2-6 hours
– 25 °C	6-18 hours
Motor–Gear Unit	
Motor power, kW	30
Frequency, Hz	50
Supply voltage, V	380
Protection rating	IP54
Coupling	Flexible jaw-type coupling
Pump	
Type	Internal gear
Nominal inlet diameter, DN, mm	150
Nominal capacity, m³/h	90
Safety valve	Provided
Bottom Drainage Device	
Nominal diameter of articulated pipes, DN, mm	175
Filter	
Filter element mesh size, mm	8
Thermal Oil Heating System	
Heat transfer medium	Thermal oil
Maximum oil temperature at 0.6 MPa, °C	200
Automation system	Provided
Overall Dimensions	
Length L, mm	4510
Width W, mm	3070
Height H, mm	5700
Unit mass, not more than, kg	7900
Service life, not less than, years	10
Country of manufacture	Turkey

Note:
1. The operating temperature is determined by the flash point of the viscous solidifying product.

Note: *Specifications are subject to change without notice.

TECHNICAL DESCRIPTION

ErichHahn ATU

Automatic Track Unloader

Purpose and Composition of the Unit

Automatic Truck Unloading Unit ATU is designed for the simultaneous unloading of viscous petroleum products from road tank trucks and for supplying the product either to the end consumer or to a storage facility. ATU units may be equipped with 2, 3, 4, or 6 unloading bays, depending on the required throughput and the specific operational tasks. Each bay is fitted with all necessary tools and devices to ensure efficient operation, including specialized software for data processing and process control.

Specifications

- Number of stations: 2-6 pcs
- Unit capacity: 110-360 m³/hour
- Rated voltage: 380 V
- Heat carrier: Thermal oil
- Service life: 20 years

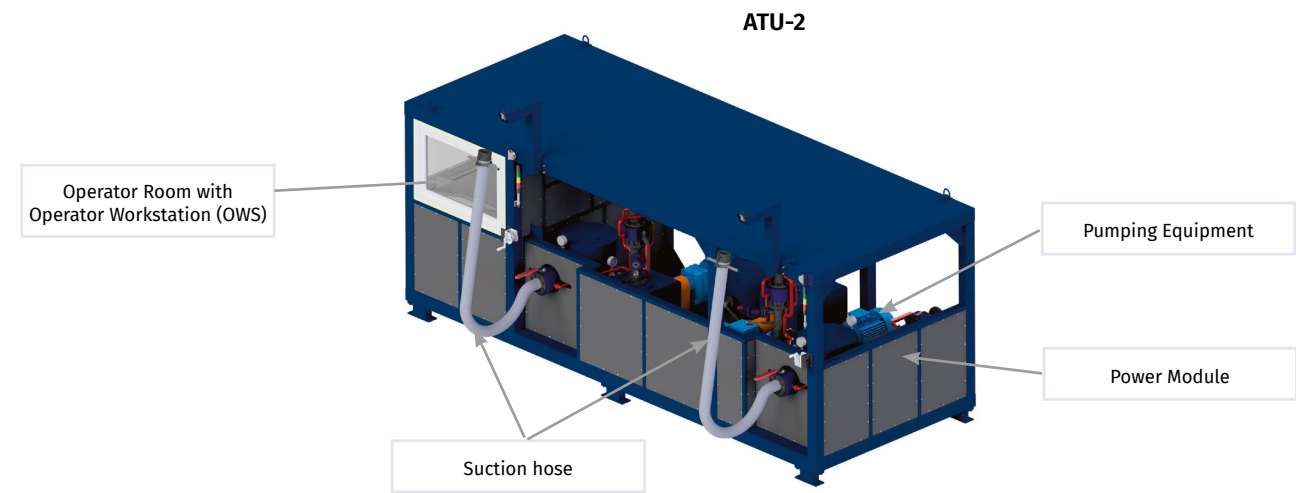
Equipment

- Pumping equipment
- Heating system pipelines
- Shut-off and control valves
- Automatic fire alarm system
- Operator room with operator workstation
- Control station
- Receiving hoses
- Video surveillance system (optional)

Why choose ErichHahn ATU

- Modular design simplifies scaling and adaptation to production requirements;
- Simultaneous unloading of multiple road tankers increases terminal productivity;
- Process automation reduces the risk of errors and improves operational safety;
- Integration with ERP and SCADA simplifies control of logistics processes;
- Product filtration extends the service life of pumping and pipeline equipment;
- Quick-release couplings reduce connection time and minimize leaks.

Unit Specification



Main Technical Characteristics ErichHah ATU

Model	ATU-2	ATU-3	ATU-4	ATU-6
Working medium	Viscous and solidifying petroleum product			
Heat carrier	Thermal oil			
Climatic conditions	Temperate climate			
Ambient temperature, °C	from -25 to +40			
Unit capacity, m³/hour	110	220	220	360
Number of intake hoses, pcs	2	3	4	6
Connection device diameter DN, mm	100			
Type of connection device	CAMLOCK quick coupling			
Number of pumping units, pcs	2	4*	4	3**
Maximum operating product temperature, °C	180			
Operating outlet pressure, MPa	0.6			
Installed electrical power, kW	40	78	78	95
Rated voltage, V	380			
Frequency, Hz	50			
Pump				
Type	Gear-type			
Single station flow rate, m³/h	55			120
Operating pressure, MPa	0.6			
Motor-reducer power, kW	18.5			30
Safety valve	Provided			
Protection rating, min.	IP 54			
Filter	Mesh-type			
Filtration fineness, mm	8			
Overall dimensions (LxWxH), m	5.8x3.3x3	8.5x3.3x3	11x3.5x3	17.3x3.5x3.3
Weight, max, kg	5800	9000	10000	11500
Service life, years	20			
Country of origin	Turkey			

*Three pumps are intended for receiving product into the storage facility, while two pumps are used for transferring product from the storage facility to two truck-loading bays or directly from a tank truck to another tank truck, bypassing the storage facility.
**Each pump is capable of receiving product from two tank trucks simultaneously.
Note: *Specifications are subject to change without notice.

TECHNICAL DESCRIPTION

ErichHahn ATLU-2

Automatic Track Loader/Unloader

Purpose and Composition of the Unit

Automatic Truck Loading/Unloading Station ErichHahn ATLU-2 (hereinafter ATLU-2) is designed for simultaneous loading and unloading of viscous and solidifying petroleum products. The ErichHahn ATLU-2 provides a capacity of up to 2,000 tons per day (80 tanker trucks). The ATLU-2EX automatic road tanker loading/unloading station is manufactured in an explosion-proof Ex design. It is intended for use in environments where there is a risk of an explosive atmosphere.

Specifications

- Number of stations: 2-6 pcs
- Unit capacity: 110-360 m³/hour
- Rated voltage: 380 V
- Heat carrier: Thermal oil
- Service life: at least 10 years

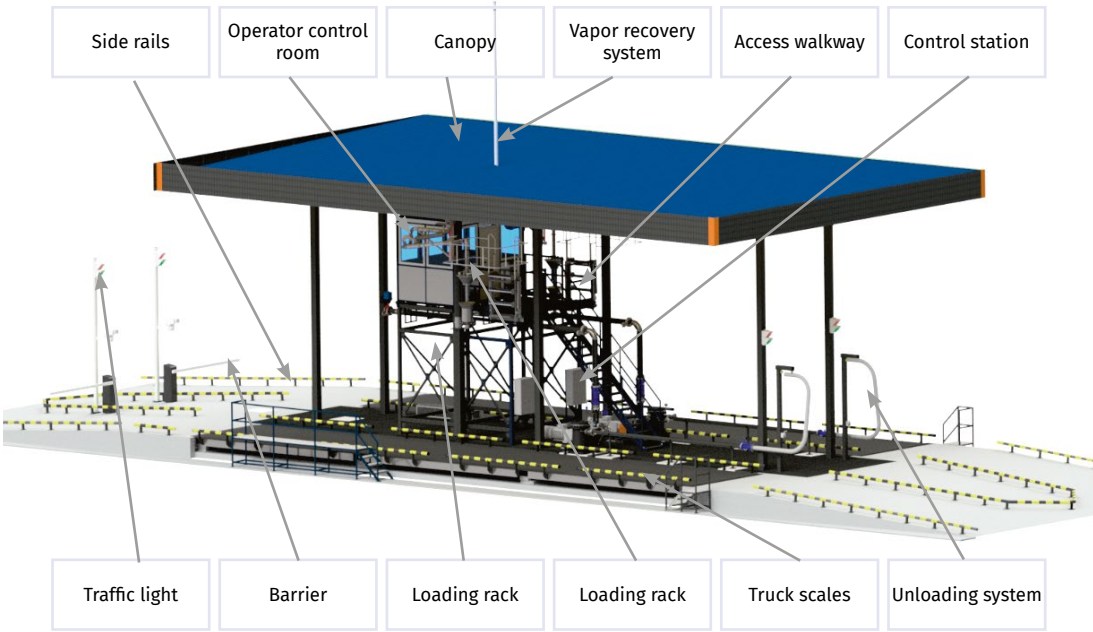
Equipment

- Loading system
- Unloading system
- Truck scales
- Access walkway
- Operator control room
- Canopy
- Traffic light
- Barrier

Why choose ErichHahn ATLU

- Each of the two bays is equipped with separate road tanker loading/unloading systems;
- Equipped with modern pumps and automated mechanisms, which significantly reduce operation time and ensure safety;
- Fitted with a high-level sensor to prevent spills and leaks, in line with modern environmental standards;
- Supports integration with existing ERP systems, enabling efficient tracking and management of logistics processes;
- The built-in automated process control system records loading/unloading process data and archives operational data.

Unit Specification



Main technical characteristics ATLU-2

Working medium	Viscous and solidifying petroleum product
Climatic conditions	Temperate climate
Ambient temperature, °C	-40 to +40
Maximum operating product temperature, °C	200
Operating pressure, MPa	0.6
Vapor removal system	Provided
Canopy	Provided (cladding material: profiled sheet) *
Truck scales	Provided **
Load capacity, t	60
Length, m	18
Motor-gear unit	
Motor power, kW	18,5
Output speed, rpm	402
Power supply frequency, Hz	50
Supply voltage, V	380
Motor-gear unit protection class	IP55
Coupling	Elastic jaw coupling with spider
Pump	
Nominal diameter of the filter inlet nozzle, DN, mm	100
Nominal capacity, m³/h	55
Safety valve	Provided
Filter	
Mesh size of the filter element, mm	8
Thermal oil heating system	
Heat transfer medium	Thermal oil
Nominal diameter of oil pipelines, DN, mm	40
Maximum oil temperature at pressure 6 kgf/cm², °C	200
Access bridge	Provided
Barrier gate	Provided
Automation system	Provided
Overall dimensions	
Length, L, mm	39000
Width, W, mm	12400
Height, H, mm	8500
Unit weight, not more than, kg	22000
Service life, not less than, years	10
Country of manufacture	Turkey

* The cladding is installed on site.
** Truck scales are not included in the scope of supply and shall be purchased separately by the Customer with approval of the use of the secondary instrument of the weighing system.
Note: *Specifications are subject to change without notice.

TECHNICAL DESCRIPTION

ErichHahn MTL

Mobile Truck Loading

Purpose and Configuration of the Unit

The **ErichHahn MTL Mobile Truck Loading Unit** is designed for the safe top closed loading of viscous and solidifying petroleum products into road tankers. The model range of mobile loading units, depending on the number of loading stations, includes MTL-1 and MTL-2. The MTL-2 unit, equipped with two top closed loading arms and two access platforms, allows loading operations to be carried out on two road tankers simultaneously. The MTL-EX mobile truck loading unit is manufactured in an explosion-proof Ex design. It is intended for operation in environments where there is a risk of explosive atmospheres. Additionally, the unit can be equipped with a truck unloading system (MTLU-2).

Specifications

- Number of posts: 1-2 pcs
- Rated voltage: 24 V
- Operating pressure: 0.6 MPa
- Heating type: electric
- Service life: no less than 10 years

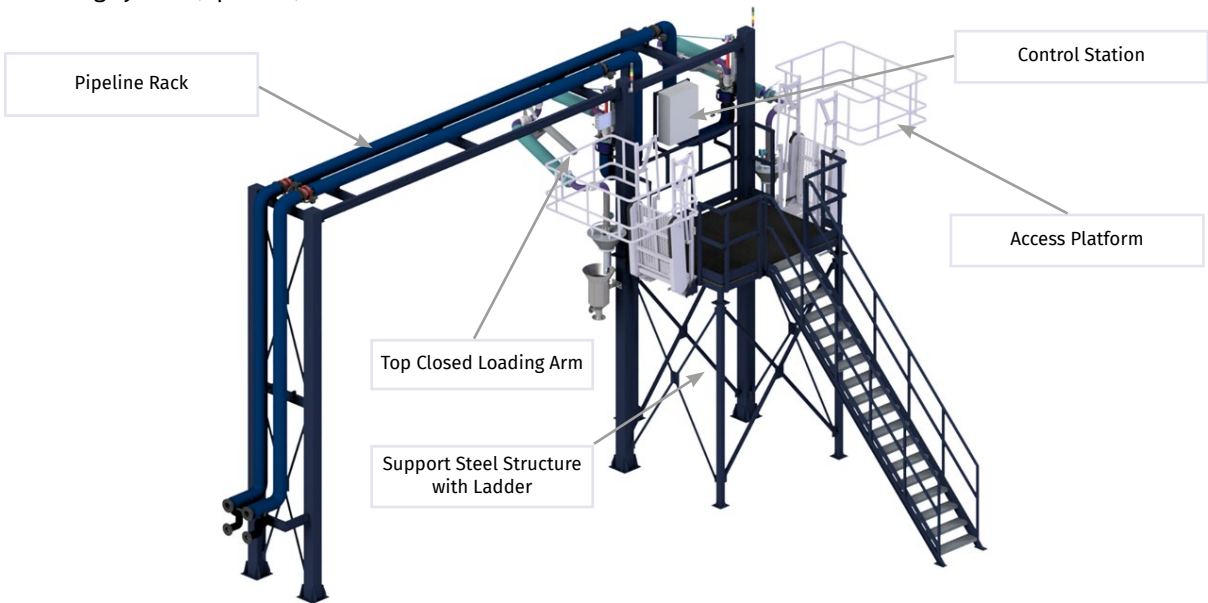
Equipment

- Pipeline Rack
- Control Station
- Top Closed Loading Arm
- Access Platform
- Support Steel Structure with Ladder
- Unloading system (optional)

Why choose ErichHahn MTL

- The unit is equipped with modern monitoring and control systems, allowing to promptly track the parameters of the loaded product;
- To increase operational safety, emergency stop systems are provided, as well as automatic warning systems for possible emergency situations;
- All equipment meets international standards, which guarantees reliability and durability in operation;
- MTL has a modular design, which allows to easily adapt the points to various types of vehicles and specific customer requirements.

Unit Specification



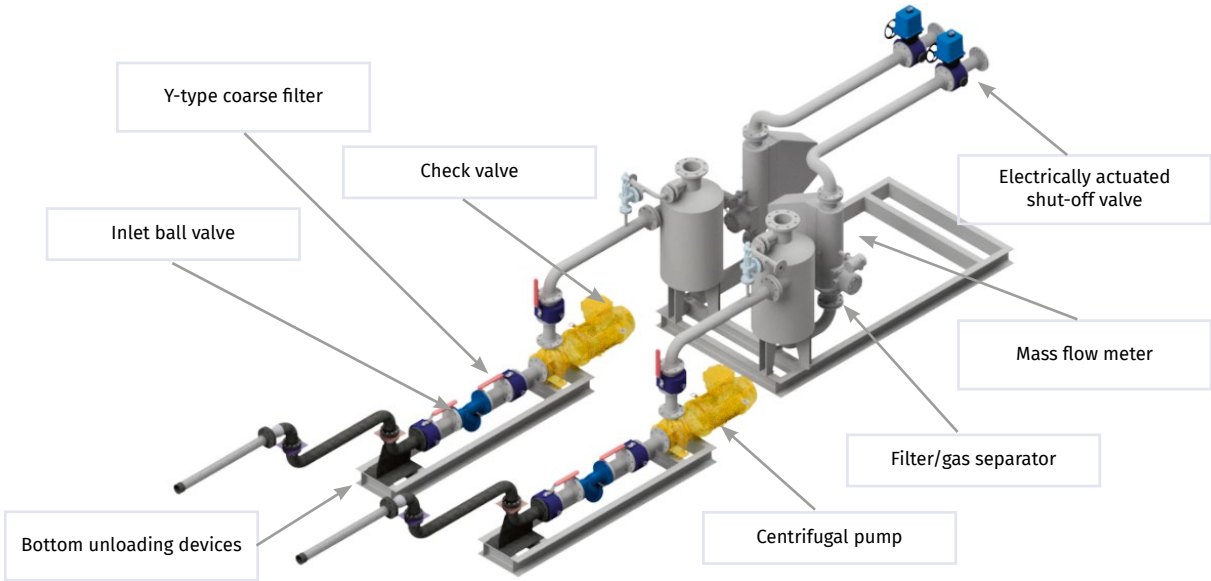
Main Technical Specifications

Model	MTL-1	MTL-2
Working medium	Viscous and solidifying petroleum product	
Climatic conditions	Temperate climate	
Total capacity, max., m³/h	140	280
Installation type	Outdoor, without canopy	
Ambient temperature, °C	from -25 to +40	
Operating product temperature, °C	From 110 to 180	
Number of loading stations	1	2
Number of access platforms	1	2
Loading hose		
Loading hose diameter, mm	100	
Vapor return hose diameter, mm	50	
Heating type	Electric	
Loading type	Closed	
Working range, mm	4000	
Overall dimensions		
Length L, mm	7200	7800
Width W, mm	3200	6200
Height H, mm	6100	6600
Weight, kg	1600	2700
Service life	10	
Country of manufacture	Turkey	

Note: *Specifications are subject to change without notice.

Product unloading system (optional)

Provides unloading of crude oil and petroleum products from road tankers and their transfer to the tank farm for storage.



Note: *More detailed information about equipment with the unloading system (MTLU-2) can be obtained from ErichHahn specialists.

Application of ErichHahn solutions

Industry	Process	Fluid
Oil refining	Pumping, storage and transportation of high-viscous fluids	Bitumen
		Vacuum distillate
		Tar
		Half-tar
Building and road construction	Production of construction materials, pumping, and storage of raw materials	Asphalt concrete and bitumen-mineral mixtures
		Silicate adhesive (liquid glass)
		Plastisol
		Liquid pitch
		Pyrolysis fuel
Energy	Heating. Circulation of heat transfer fluid	Thermal oil
Pulp and paper	Pumping and storage of raw materials	Starch glue
		Phenol-formaldehyde resin
		Sodium sulfide solution
Chemistry	Production of paints and varnishes, plastics, adhesives, synthetic dyes, synthetic rubber, detergents, and cosmetics. Pumping and storage	Phenol-formaldehyde resin
		Acrylic dispersion
		Furan acid
		PVA glue
		Sodium lauryl ether sulfate
		Paints and varnishes
		Polyol
		Silicone
		Soap stock
		Oleum
		Petrolatum
		Pyrolysis fuel
Petrochemicals	Manufacturing of products and raw materials. Pumping and storage	Thermal oil
		Oxyethylidene diphosphonic acid OEDPA
		Paraffin
		Dielectric oil
		Petroleum softener PN-6
		Cylinder oil 38
		Match wax
		Engine oil
		Aviation oil
Pharmaceuticals	Manufacturing of products. Pumping and storage of raw materials	Fish oil
		Glycerin
		Plastisol
		Carbolic acid
Food production	Manufacturing of products. Pumping and storage of raw materials	Furan acid
		Animal and vegetable fat
		Olive oil
		Coconut oil
		Fish oil
		Glycerin
		Hydro processed oil sludge
		Caramel
		Molasses
		Vegetable and fruit puree
		Suspensions and syrups of various viscosities
		Chocolate mass
		Syrup

Note: For information on each solution, please contact ErichHahn.

ErichHahn Project References



ErichHahn Project References



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