

STORAGE TANKS

for viscous and
solidifying fluids

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. We deliver pumping equipment to the suppliers of bitumen for road construction, including terminals for storage and transportation of viscous and solidifying fluids, mobile and stationary modular plants, and units designed in accordance with individual customer requirements.



ErichHahn storage tanks are integrated solutions designed for the storage, heating, and process conditioning of viscous and solidifying petroleum products. The equipment ensures product receipt, metering, and safe storage while preserving its physico-chemical properties. Integrated heating, mixing, and monitoring systems guarantee reliable and efficient operation at industrial facilities.

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.

Mobile heating tanks ErichHahn MT



Heating tanks ErichHahn HT



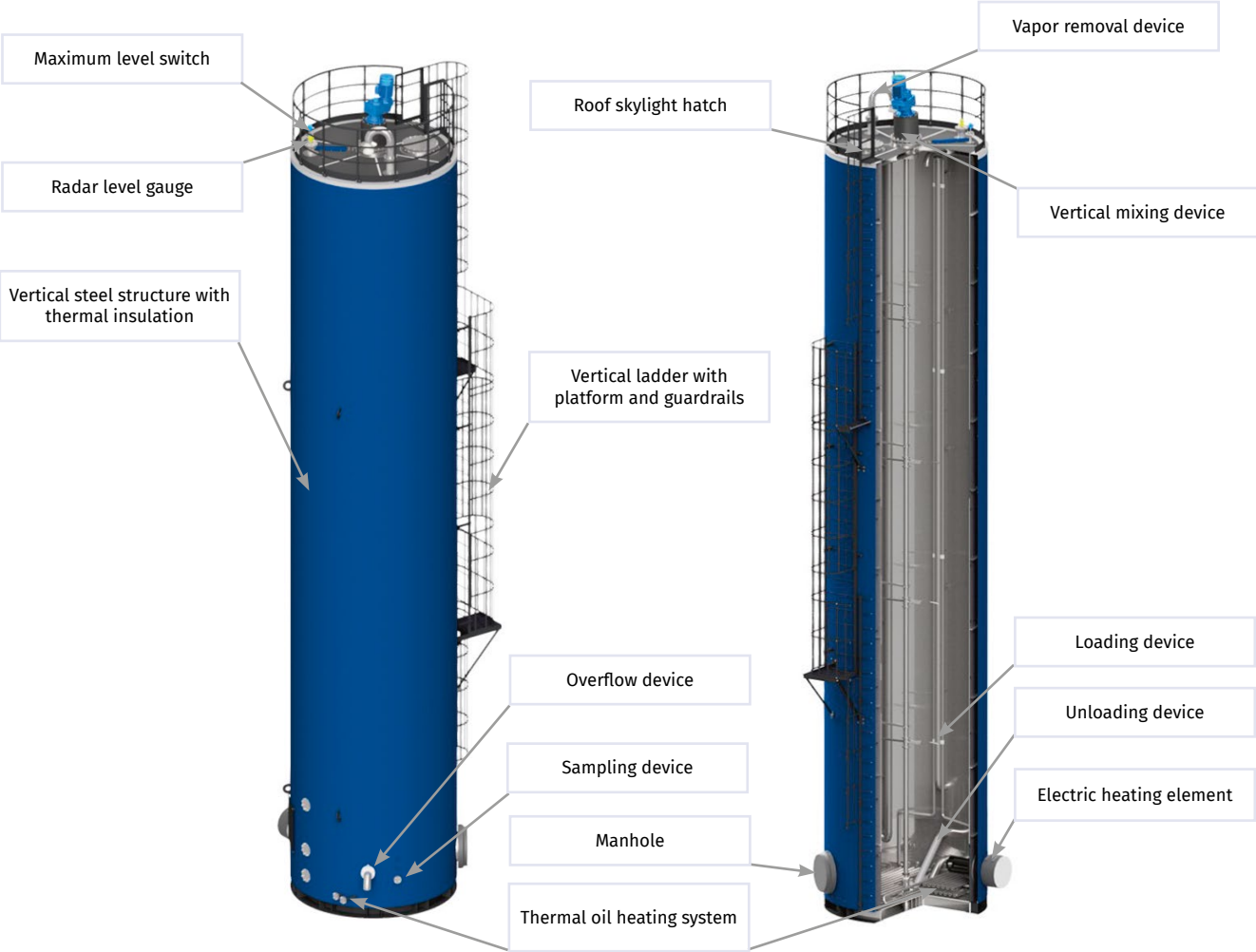
Mobile Tanks ErichHahn MT

ErichHahn MT mobile tanks are designed for intensive heating and storage of viscous and solidifying petroleum products while preserving their physicochemical properties, with capacities ranging from 30 to 100 m³. The tanks can also be used as process vessels in oil, gas, chemical, food, and other industrial facilities.

All electrical equipment, instrumentation, and automation systems may be implemented in explosion-proof design. The explosion protection marking shall be not lower than 2 Ex d IIB T4 (MT-30EX, MT-50EX, MT-100EX).

Why choose ErichHahn MT?

- The complete set of a tanks meets the requirements of asphalt plants and polymer-bitumen binder production facilities
 - Easy operation and minimal maintenance of the tank
 - Combined tank heating system based on thermal oil and heating elements
- The tank is supplied with a control cabinet
 - High mobility, easy road transportation
 - Scalable architecture allows you to build a tank farm depending on the needs of an enterprise



Main Technical Characteristics

Model	MT-30		MT-50	MT-100
Climatic conditions	Moderate climate			
Ambient temperature, °C	-25 to +40			
Operating medium	Viscous and solidifying petroleum product			
Maximum operating medium temperature, °C	180			
Net volume, m³	30	50	100	
Internal diameter, mm	2150	2150	3200	
Height, mm	8940	13700	16100	
Weight, kg	7000	8500	13000	
Tank loading device	Top			
Tank unloading device	Bottom			
Overflow device	Provided			
Mixing device	Optional			
Device type	Vertical			
Quantity, pcs	1			
Drive power, kW	11			
Shaft rotation speed, rpm	40			
Rated voltage, V	380			
Steel structure parameters				
Steel grade	S235JR			
Number of shell courses	6	9	11	
Thickness of courses 1-2, mm	5*	8*	8*	
Thickness of courses 3-4, mm	5*	6*	6*	
Thickness of courses 5-11, mm	5*	5*	5*	
Roof plate thickness, mm	5			
Bottom thickness, mm	10			
Thermal insulation				
Wall insulation thickness, mm	150	150	150	
Roof insulation thickness, mm	200	200	200	
Cladding material	Steel sheet with polymer coating			
Thermal Oil Heating System				
Main heating	Provided			
Oil heating coil	Provided			
Number of coils, pcs	1			
Heat transfer medium	Thermal oil			
Nominal diameter of oil pipelines, mm	50			
Maximum oil temperature at 0.6 MPa, °C	200			
Additional heating	Optional			
Heating elements	Provided			
Type of heating elements	Tubular electric heaters (TEH)			
Rated voltage, V	220/380			
Rated power, kW	20.7			
Number of tubes in heater, pcs	9			
Tube length, mm	1000			
Heater weight, kg	22.7			
Instrumentation and Automation				
Radar level gauge	Provided (optional)			
Maximum level switch	Provided			
Sampler	Provided			
Temperature transmitter (for viscous product)	Provided			
Electrically actuated valve, DN, mm	100 (optional)	100 (optional)	150 (optional)	
Bimetal thermometer	Provided			
Vent nozzle	Provided			
Control station	Provided			
Country of manufacture	Turkey			

*The thickness of the tank shell courses is determined by calculation based on a combination of factors: strength and stability conditions, corrosion allowance, external loads, and climatic conditions.

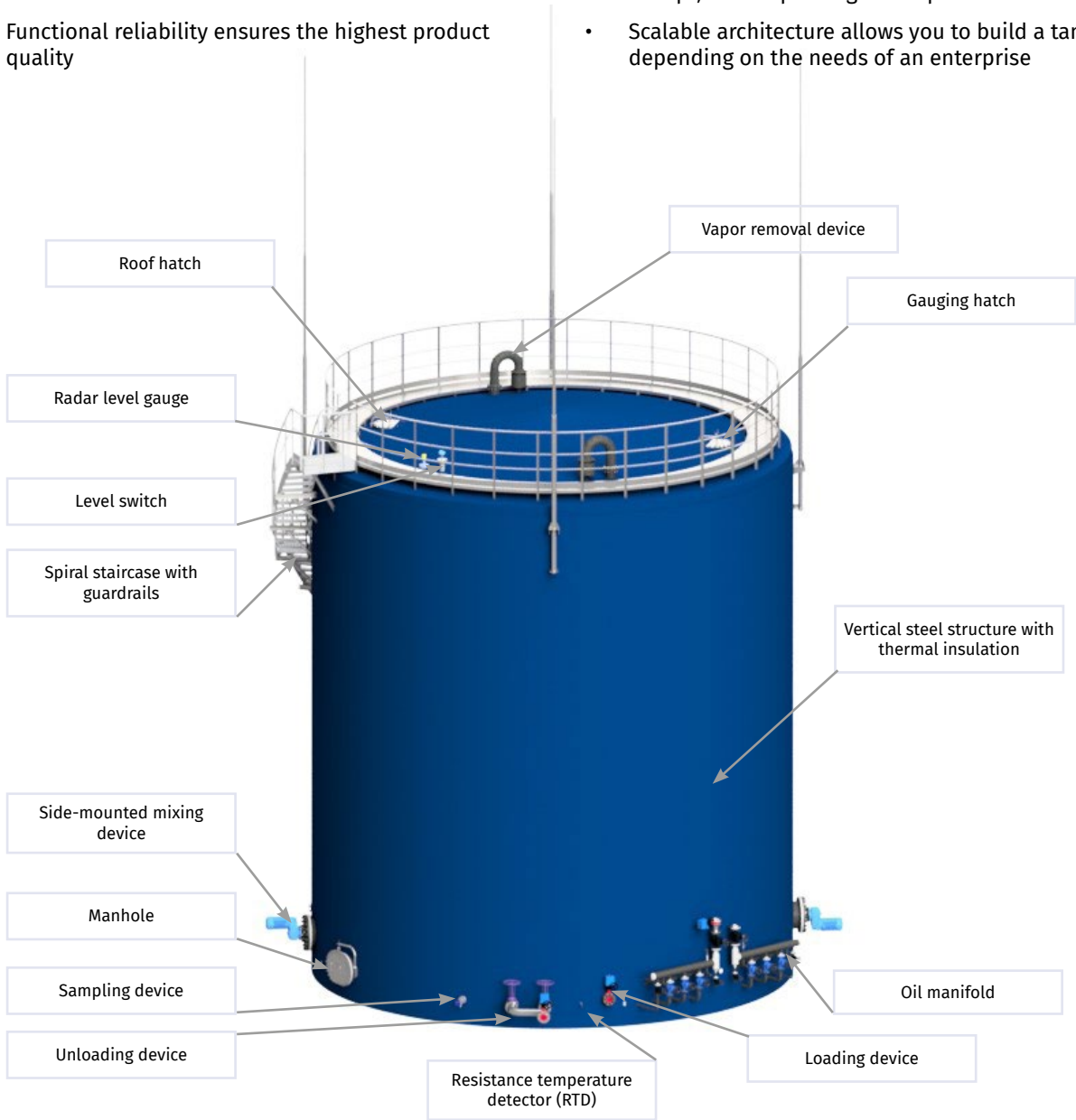
Intensive heating tanks ErichHahn HT

ErichHahn HT intensive heating tanks are above-ground vertical cylindrical steel tanks with a capacity ranging from 400 to 950 m³. The tanks are equipped with all necessary process piping, including product loading and unloading devices, as well as means for level control and temperature measurement. They are intended for receipt, accounting, short-term and long-term storage of viscous and solidifying products

while preserving their physicochemical properties, and for delivery to consumers. The tanks may also be used as process vessels at oil, gas, chemical, food, and other industrial plants. The tanks are equipped with a monitoring system that enables real-time tracking of the temperature and level of stored petroleum products and prevention of potential leaks or emergency situations.

Why choose ErichHahn HT?

- Easy operation and minimal maintenance of the tank
 - Functional reliability ensures the highest product quality
- High level of automation and safety in the storage, receipt, and dispensing of the product
 - Scalable architecture allows you to build a tank farm depending on the needs of an enterprise



Main Technical Characteristics

Model	HT-400	HT-700	HT-950
Climatic conditions	Moderate climate		
Ambient temperature, °C	-25 to +40		
Operating medium	Viscous and solidifying petroleum products		
Maximum operating medium temperature, °C	160		
Nominal volume, m³	400	700	950
Internal diameter, mm	8500*	10430*	10430*
Height, mm	9000*	9000*	12000*
Weight, kg	20000	27530	31830
Ladder with guardrails	Multi-flight circular		
Inspection hatches	Provided		
Vapor removal device	Provided		
Emergency overflow	Provided		
Steel Structure Parameters			
Steel grade	S235JR		
Number of shell courses	6	6	8
Shell thickness, mm	7*- 6*	8*- 6*	10*- 7*
Roof plate thickness, mm	4	4	4
Bottom thickness, mm	6	6	6
Shell construction	Rolled		
Bottom construction	Rolled		
Roof construction	Framed conical		
Thermal Insulation			
Wall insulation thickness, mm	200		
Roof insulation thickness, mm	200		
Cladding material	Galvanized steel sheet		
Loading Device			
Type	Top		
Electrically actuated shut-off valve	Provided		
Connection flange, DN, mm	150		
Unloading Device			
Type	Bottom		
Electrically actuated shut-off valve	Provided		
Connection flange, DN, mm	150		
Mixing Device			
Type	Side-mounted		
Quantity, pcs	2		
Drive power, kW	15		
Shaft rotation speed, rpm	350		
Thermal Oil Heating System			
Number of oil heating coil sections	4	6	6
Power of one coil, kW	150-170		
Heat transfer medium	Thermal oil		
Maximum oil temperature at 0.6 MPa, °C	200		
Oil Manifold			
Pressure sensor	Provided		
Temperature sensor	Provided		
Electrically actuated shut-off valve	Provided		
Connection flange, DN, mm	100		
Instrumentation and Automation			
Radar level gauge	Provided		
Maximum level switch	Provided		
Sampler	Provided		
Temperature transmitter	Provided		
Electrically actuated shut-off valve, DN, mm	Provided		
Bimetal thermometer	Provided		
Control station	Provided		
Country of manufacture	Turkey		

*The thickness of the tank shell courses is determined by calculation based on a combination of factors: strength and stability conditions, corrosion allowance, external loads, and climatic conditions.

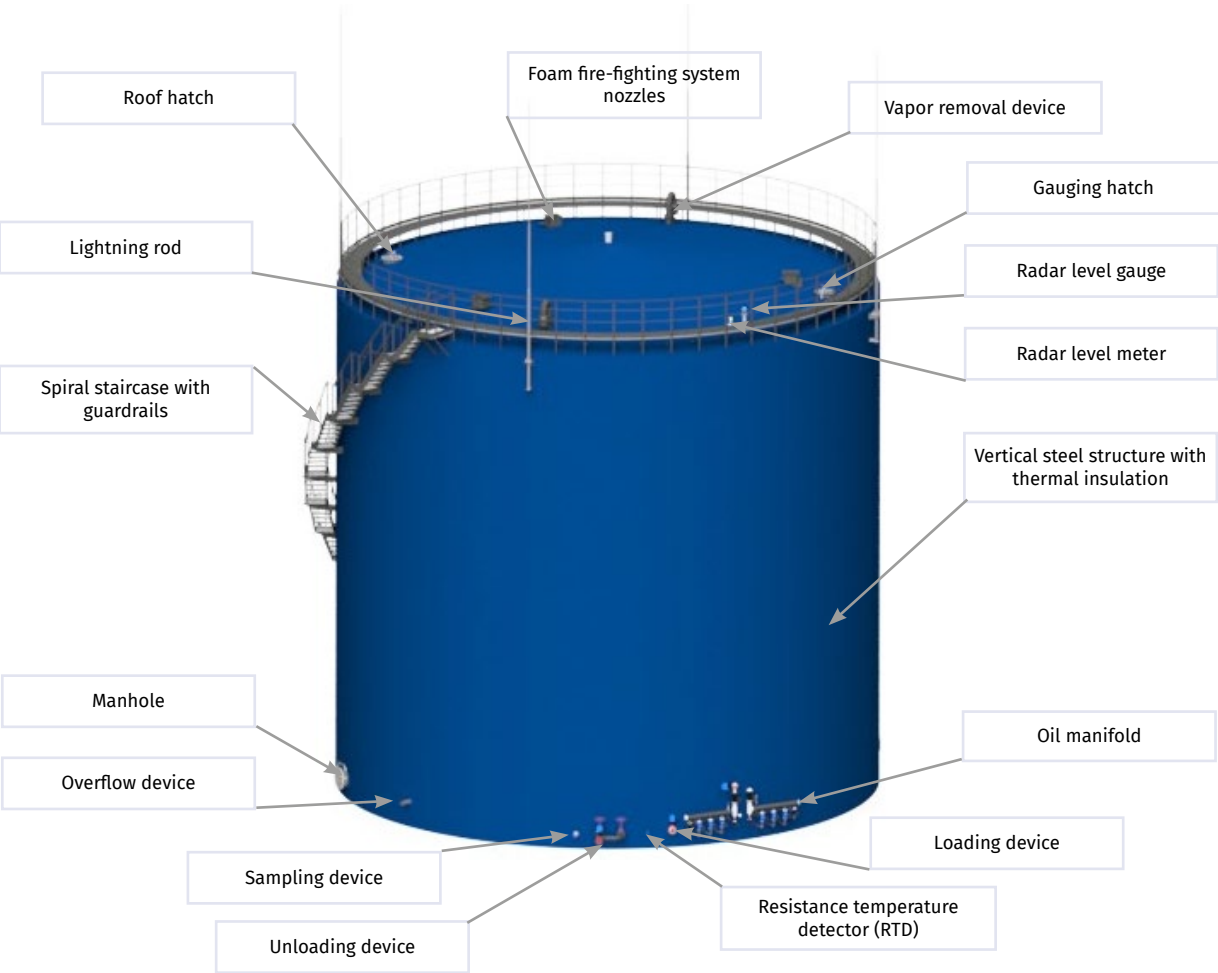
Long-term storage tanks ErichHahn ST

ErichHahn ST long-term storage tanks are above-ground vertical cylindrical steel tanks with a capacity ranging from 4,900 to 10,000 m³. The tanks are equipped with all necessary process piping, including product loading and unloading devices, as well as means for level control and temperature measurement. They are intended for receipt, accounting, and long-term storage of viscous and solidifying products while preserving their physicochemical

properties. The tanks may also be used as process vessels at oil, gas, chemical, food, and other industrial plants. The tanks are equipped with a monitoring system that enables real-time tracking of the temperature and level of stored petroleum products and prevention of potential leaks or emergency situations. All equipment is certified and complies with environmental safety requirements.

Why choose ErichHahn ST?

- Easy operation and minimal maintenance of the tank
 - Functional reliability ensures the highest product quality
 - High level of automation and safety in the storage, receipt, and dispensing of the product
- Scalable architecture allows you to build a tank farm depending on the needs of an enterprise
 - Tanks are manufactured as per standard design or based on custom requirements



Main Technical Characteristics

Model	ST-4900-15	ST-4900-18	ST-9000-18	ST-10000-18
Climatic conditions	Moderate climate			
Ambient temperature, °C	-25 to +40			
Operating medium	Viscous and solidifying petroleum products			
Maximum operating medium temperature, °C	160			
Nominal volume, m³	4900	4900	9000	10000
Net volume, m³	4912	4848	8200	10000
Internal diameter, mm	21000	19000	26000	28500
Height, mm	15000	18000	18000	18000
Weight, kg	123000	124500	197950	230000
Ladder with guardrails	Multi-flight circular			
Inspection hatches	Provided			
Vapor removal device	Provided			
Emergency overflow	Provided			
Steel Structure Parameters				
Steel grade	S235JR			
Number of shell courses	10	12	12	12
Shell thickness, mm	12*- 6*			
Roof plate thickness, mm	4	4	4	4
Bottom thickness, mm	8	8	8	8
Shell construction	Rolled			
Bottom construction	Rolled			
Roof construction	Framed conical			
Thermal Insulation				
Wall insulation thickness, mm	200			
Roof insulation thickness, mm	200			
Cladding material	Galvanized steel sheet			
Loading Device				
Type	Top			
Electrically actuated shut-off valve	Provided			
Connection flange, DN, mm	150			
Unloading Device				
Type	Bottom			
Electrically actuated shut-off valve	Provided			
Connection flange, DN, mm	150			
Mixing Device				
Optional				
Thermal Oil Heating System				
Number of oil heating coil sections	12	12	16	16
Power of one coil, kW	150-170			
Heat transfer medium	Thermal oil			
Maximum oil temperature at 0.6 MPa, °C	200			
Oil Manifold				
Pressure sensor	Provided			
Temperature sensor	Provided			
Electrically actuated shut-off valve	Provided			
Connection flange, DN, mm	100			
Instrumentation and Automation				
Radar level gauge	Provided			
Maximum level switch	Provided			
Sampler	Provided			
Temperature transmitter	Provided			
Electrically actuated shut-off valve, DN, mm	Provided			
Bimetal thermometer	Provided			
Control station	Provided			
Country of manufacture	Turkey			

*The thickness of the tank shell courses is determined by calculation based on a combination of factors: strength and stability conditions, corrosion allowance, external loads, and climatic conditions.

Technical Description of the Main Equipment

Vertical steel structure

The vertical steel structure consists of the shell, roof, bottom, and lightning conductors. Tank fabrication and installation are carried out using both the rolled and the plate-by-plate assembly methods.

Thermal insulation

To reduce heat losses and maintain the required temperature regime, a thermal insulation layer is provided, covered with a protective galvanized steel cladding.

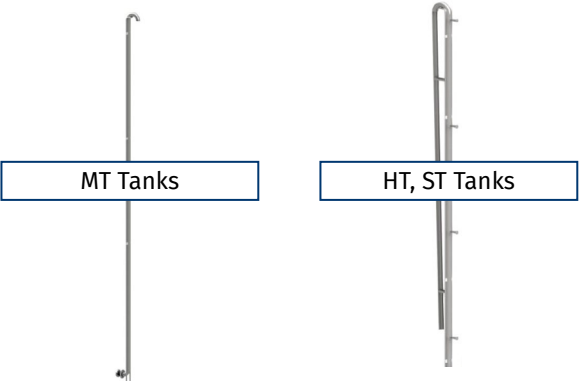
Loading device

The product loading device provides top loading of the product into the tank.

A chute prevents product splashing during loading, ensuring uniform filling and a cleaner and safer working environment.

Mounting supports are provided inside the tank to ensure reliable fixation.

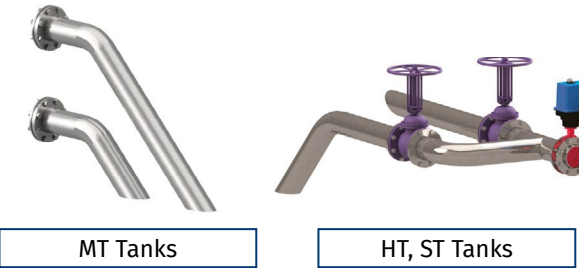
For flow regulation, an electrically actuated shut-off device is provided, which is remotely controlled by a signal from the control panel.



Unloading device

The unloading device is intended for tank unloading and removal of bottom product residues. It consists of a piping system and shut-off valves.

Tank unloading is controlled by a motorized valve operated via remote signal input from the process control system (DCS) control panel. Manual shut-off valves are provided for manual operation.



Vertical mixing device

The vertical mixing device is used in MT tanks and intended for homogenization of viscous and solidifying petroleum products stored in tanks.

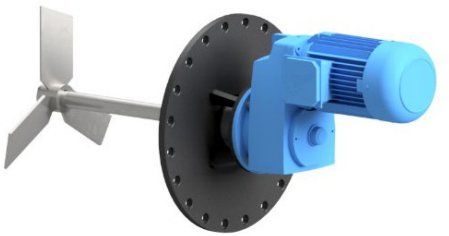
The device consists of a shaft with blades driven by a motor-gear unit. The mixing device is mounted on the tank roof at an angle of 90° to the horizontal. Shaft sealing is ensured by a mechanical seal.



Side-mounted mixing device

The side-mounted mixing device is used in HT, ST tanks and intended to ensure homogeneity of viscous and solidifying petroleum products, prevent sedimentation of solid particles and local overheating, and reduce heating time and energy consumption.

The device consists of a shaft with a three-blade impeller driven by a motor-gear unit. The mixing device is mounted on the side surface of the tank at an angle of 90° to the vertical. Shaft sealing is ensured by a mechanical seal.

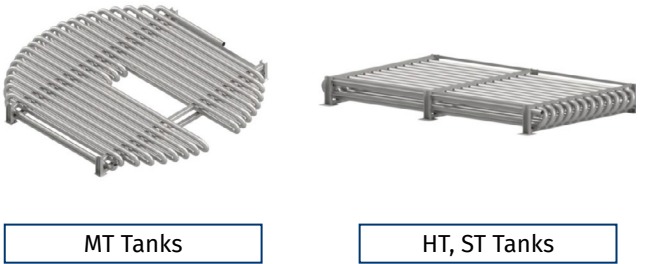


Thermal oil heating system

Heating of the product to the required temperature is carried out by sections of oil heating coils installed on the tank bottom.

Each coil section consists of a support frame and a tubular structure.

The number of coil sections depends on the tank diameter. The design of the oil heating coil sections allows easy cleaning and maintenance, contributing to extension of equipment service life and improvement of its efficiency.



Vapor removal device

The vapor removal device prevents the formation of excessive pressure or vacuum during tank loading and unloading, and also prevents accumulation of hydrocarbon vapor condensate on the tank surface and contributes to reduction of particle emissions into the atmosphere.



Overflow system

In the event of automation failure and upon reaching the maximum emergency level in the tank, the product overflows through a dedicated nozzle into an emergency tank.



Oil Manifold

The oil manifold is used as part of HT and ST tanks and is intended for uniform distribution of the heat transfer fluid into the heating coils. The design consists of two distribution combs for supply and return of the heat transfer fluid, support brackets for attachment to the reservoir, shut-off valves, temperature and pressure sensors.



Control station

The scope of supply of the tank includes a local control station. The station enables local or remote monitoring and control of instrumentation and automation systems through integration into the enterprise automated control system.

Process monitoring system

It consists of a radar level meter and a waveguide level switch mounted on nozzles in the tank roof.

The radar level meter provides continuous measurement of the main product parameters inside the tank within the monitoring system and enables generation of reports for commercial product accounting.

The level switch within the automated process control system (APCS) provides monitoring of the product filling level within specified limits, ensuring safe tank operation.



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
Energy	Heating. Circulation of heat transfer fluid	Pyrolysis fuel
		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
Pharmaceuticals	Manufacturing of products. Pumping and storage of raw materials	Aviation oil
		Fish oil
		Glycerin
		Plastisol
Food production	Manufacturing of products. Pumping and storage of raw materials	Carbolic acid
		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



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