



Kraupp
TANKSYSTEM
GMBH

MINOTAUR® Petrol Station Systems

for the Fuel Supply of Trucks, Motor Vehicles,
Construction Machinery, Mining Machines,
Diesel Locomotives, Boats and Yachts



with Diesel, Biodiesel, Petrol, Kerosene, Ethanol and Plant Oil



Krampitz Tanksystem GmbH

About Us



Krampitz Tanksystem GmbH is a highly specialised manufacturer of storage and transport tanks made of steel. Our tanks are mainly used for the storage of fuels and lubricants.



20 years of experience in tank production, e.g. for extreme usage, ensure a high level of quality, safety and design of our products. 15,000 manufactured systems demonstrate the confidence of many customers all over the world.



Our products are manufactured with millimetre precision meeting the regular requirements of both plant and mechanical engineering. Our CNC supported production guarantees a consistently high quality. Extensive quality tests are conducted throughout the entire production process.



Together with our CAD design engineers, we develop our standard tanks as well as your custom product, fast and professionally.

Our comprehensive list of technical approvals for our tanks, containers and equipment ensure that our products are always state-of-the-art in technology.

Krampitz Tanksystem GmbH

About Us



Our tanks, containers and systems are in use on all continents; thus we are aware of the climatic particularities in the various regions of the world as well as of the mechanical stress in certain parts of Africa, Asia and Latin America.



Our military versions for petrol stations and transport tanks have been deployed worldwide for 10 years and enjoy the highest reputation among our customers as well as inspection and approval organisations.



Even after 15 years of constant use, our heavy mining containers are considered „unbreakable“.



Our patented cubic design is our special trademark. It ensures optimum use of space, cost-effective transports and the best-possible integration into existing systems and infrastructures.

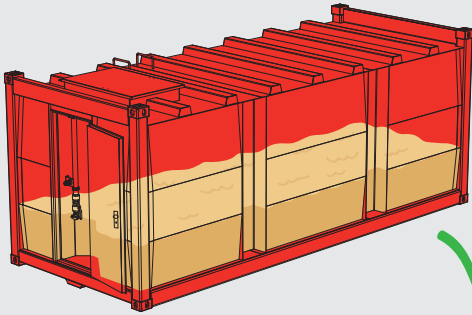


Our tanks and containers are designed for a long life. Therefore, the structure and design of our products are characterised by numerous constructional details in order to prevent damages due to corrosion and excessive wear.

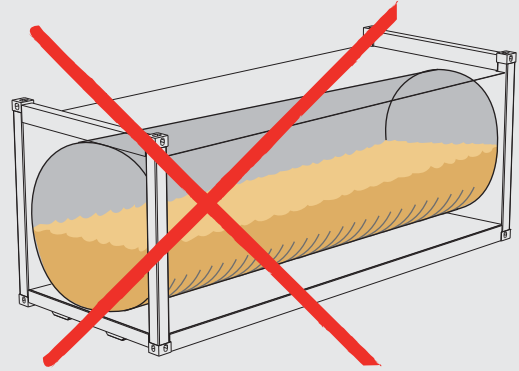


MINOTAUR® Petrol Station Systems Characteristics

Design Concept - Space-Optimised - Transport-Optimised. Optimum Space/Capacity Ratio Due to Cubic Design

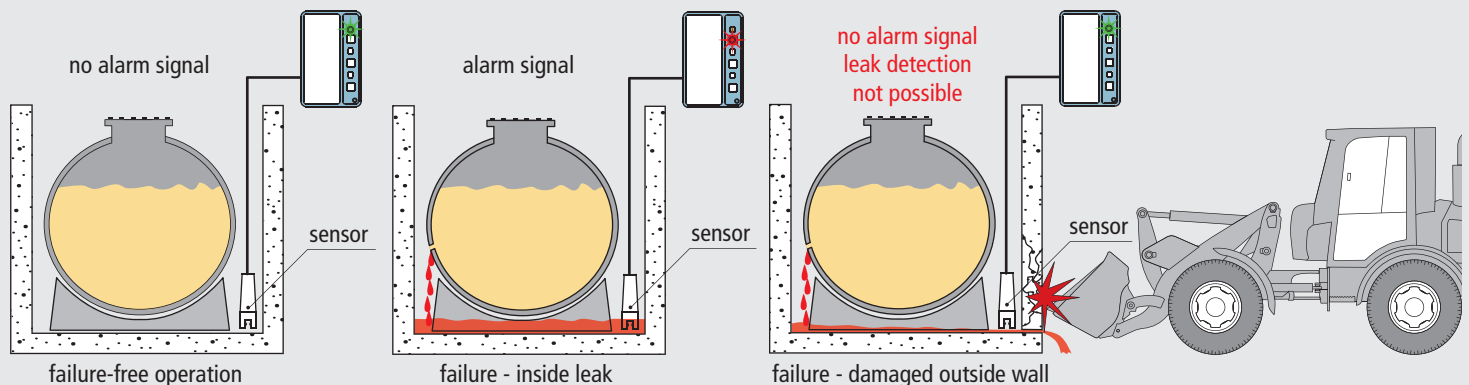


MINOTAUR® storage tank containers are volume-optimised, highly safe, double-wall systems. The container is a cubic tank with equipment niches for filling pump, power generator, filter systems and electric control. The result is a durable, functional and highly modern system component.



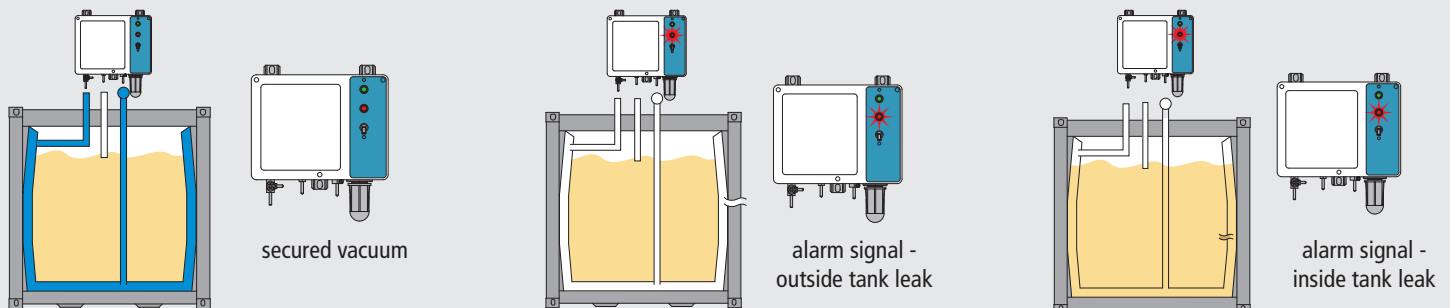
Common storage tank containers are made of regular freight containers. Much effort is put into installing a round tank with the required equipment in these containers. This design wastes very much volume and is instable.

Safety concept for single-wall tanks in freight containers, prevention of fuel loss through leak monitoring, electronic sensor in leak control room (collecting pan), **not intrinsically safe**



Safety-related equipment for the remote detection of leaking liquids. Provides safety in the event of tank leaks but no permanent monitoring of the leak tightness of the collecting pan. The problem: If the collecting pan corrodes and begins to leak after a couple of years or is damaged from the outside, this wouldn't be detected. If the inside tank then begins to leak, the liquid can escape and cause damage to the environment.

Safety concept for double-wall tanks, prevention of fuel loss through vacuum leak monitoring - vacuum leak indicator, electronic, type LAZ-04/1, the alarm is visible and audible (with potential-free alarm contact), **intrinsically safe leak monitoring system**



Equipment for double-wall tanks required by the Water Law with existing stationary 230 V and 50 Hz power supply. The leak indicator creates a permanent negative pressure in the control room of the tank and triggers an alarm if the negative pressure drops. The alarm is visible and audible and provided through a potential-free contact. Used for non flammable liquids at temperatures of -5°C to +50°C.

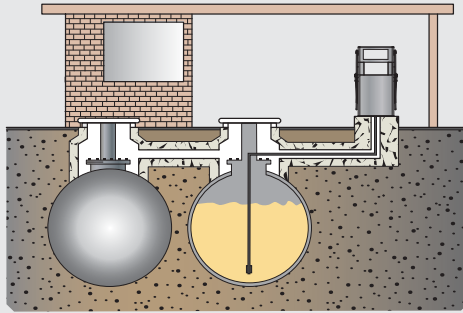


MINOTAUR® Petrol Station Systems

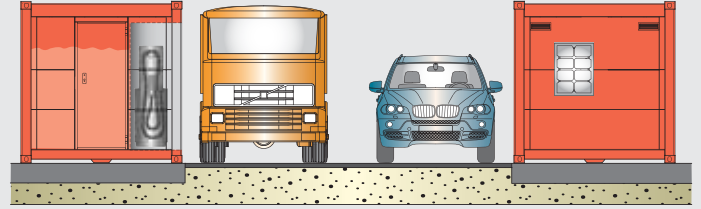
Comparison of a traditional petrol station system with the modern MINOTAUR® - petrol station systems

5

Traditional Petrol Station System



Modern Petrol Station System



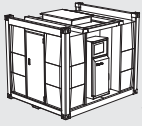
To Be Compared	Traditional Petrol Station Design		Modern Container Petrol Station System	
Erection of a new petrol station, required construction work on-site	<ul style="list-style-type: none"> - high civil engineering costs for the round tank burial - the lowering of the ground water table may be necessary - extremely high expenses in the event of a rocky ground - structural engineering costs for erection of buildings - additional costs relating to building foundations - carriageway slab - separator of light liquids - underground installation of suction and return pipes for fuels from the tank to the filling pump 	<ul style="list-style-type: none"> ⊖ ⊖ ⊖ ⊖ ⊖ ⊕ ⊕ ⊖ 	<ul style="list-style-type: none"> - simple 20 cm concrete slab on a gravel bed for the installation of the containers - liquid-tight carriageway slab - separator of light liquids - connection to the wastewater system or construction of a settling pond for collecting the rain water - power supply connection (not applicable for stand-alone systems) - telephone cable (not applicable if GSM connection is available) 	<ul style="list-style-type: none"> ⊕ ⊕ ⊕ ⊕ ⊕ ⊕
Erection time	<ul style="list-style-type: none"> - much time required for the installation of the entire station on-site - 3 months for a large petrol station - many fitters from various fields 	⊖	<ul style="list-style-type: none"> - construction time for foundation plate and carriageway including separator of light liquids 1 week and 3 fitters - installation of the petrol station 1 day and 2 fitters 	⊕
Quality	<ul style="list-style-type: none"> - good construction site quality of the system built on-site with common, small flaws 	⊕	<ul style="list-style-type: none"> - highest quality owing to entire production at the manufacturer's site including extensive quality assurance activities throughout the production process 	⊕
Transportation	<ul style="list-style-type: none"> - numerous rounds of transport for bringing the construction materials to the construction site 	⊖	<ul style="list-style-type: none"> - compact ISO container dimensions allowing for easy transportation and few rounds of transport 	⊕
Petrol station expansion	high amount of required construction work: <ul style="list-style-type: none"> - civil engineering costs - underground pipe laying - additional filling pump island - additional carriageway slab 		<ul style="list-style-type: none"> - simple off-loading of an additional container - additional carriageway slab 	
Erection time	min. 1 month	⊖	max. 1 week	⊕
General repair and overhaul	shutdown of the respective area, if not of the entire petrol station, for at least one month		replacement of the defective tank container with a new or reconditioned container, repair work performed at the production site, down time of the petrol station max. 1 day	
Down time	1 month	⊖	1 day	⊕
Adjusting the petrol station to changed fuel consumption	in the event of a reduced fuel consumption <ul style="list-style-type: none"> - no measure possible, a high fuel volume in the tank results in an increased number of microbiological processes in the event of an increased fuel consumption - expansion of the petrol station, see item „petrol station expansion“ - high effort 	⊖	<ul style="list-style-type: none"> - simple replacement of the big tank containers with small tank containers, e.g. 20 ft - simple replacement of the small tank container, e.g. 20 ft, with a bigger tank container, e.g. 40 ft, or installation of an additional storage tank behind the petrol station container 	⊕
Removal of the petrol station	<ul style="list-style-type: none"> - high effort in terms of required machinery for the demolition of the entire station and high costs - complete scrapping of the system, except for the filling pumps 	⊖	<ul style="list-style-type: none"> - simple loading of the tank container - reselling of the container or use at another location after general overhaul - demolition and recycling of the concrete slab, green spaces 	⊕
Removal time	1 week		1 day	
Costs	<ul style="list-style-type: none"> - high demolition costs for the scrapping of the tanks 	⊖	<ul style="list-style-type: none"> - low demolition costs - reselling of the container or use at other locations 	⊕

Rating: ⊖ bad ⊕ good ⊕ common standard

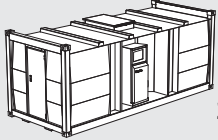


MINOTAUR® Petrol Station Systems Features

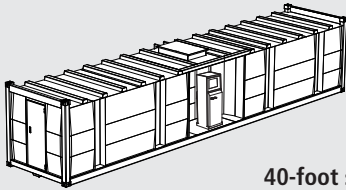
1. Manufactured Sizes



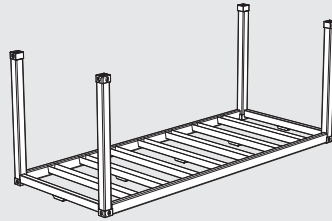
10-foot system



20-foot system

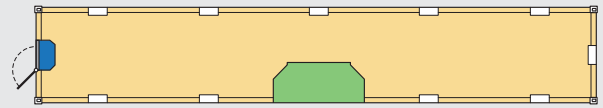


40-foot system

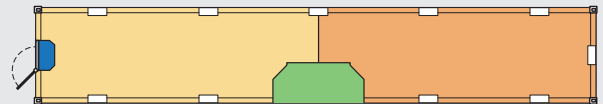


transport frame (ISO frame)
certified by Germanischer Lloyd

One-Chamber and Two-Chamber Systems



one-chamber tank



two-chamber tank

3. Sun Roof and Hood



The sun roof protects the tank from exposure to direct sunlight and from heating-up.



The hood is mounted on the tank roof. A large manhole DN 600, fuel dip stick, over-fill protection and filling pump suction pipe are installed here.



5. Ex Package

Safety-related, required equipment when using flammable liquids, such as petrol, within hazardous areas.

a. lightning protection system



lightning protection system for the tank consisting of:
- 2 lightning rods, respectively mounted on the front walls
- connection cable for lightning conductor

Detonation arresters are used for all pipelines which are open when the system is in operation, such as during the filling, ventilation, discharge and return processes.

b. detonation arresters



2. Dispenser Niche with Filling Pump



High-quality one-medium filling pump with lighting at night. Non-skid bottom coating in the niche.



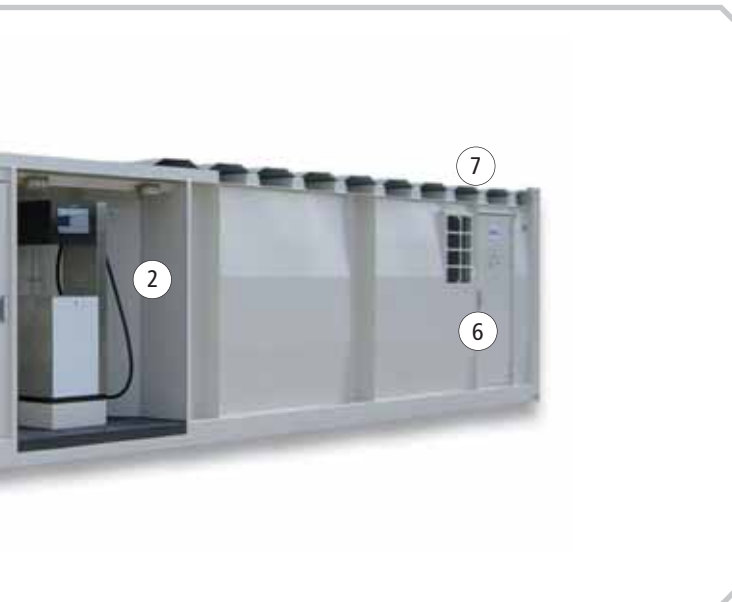
High-quality two-medium filling pump. Tank vehicle connection pipe DN50 including safety fittings (for tank vehicles with an on-board pump system).



ZVA fuel nozzles are standard equipment of our systems.

niche equipment:

- filling system for tank vehicles DN50 with tank vehicle coupling VK 50, non-return valve and ball valve
- limiting-level transmitter (plug) with technical approval
- pipe connection with filling pump
- filling pump platform and non-skid coating of niche bottom
- niche lighting
- emergency stop switch and switch for the niche lighting
- fire extinguisher
- filling pump



4. Filling Niche - Fuel Filling



Filling system including transfer pump integrated into niche. Standard delivery volume of 600 litres/min. (for tank vehicles without on-board pump system).

6. Office Room for Operating Personnel



office room equipment:

- interior zinc cladding 1.5 mm, insulation 40 mm
- access door (F30) 750x1,875 mm
- window 800x600 mm (fixed glazing)
- electric terminal and distributor box for control and fuses
- lighting with lamp and switch
- ventilation with fan and switch
- power sockets 230V/50Hz
- cable feed through on the bottom for the power supply cable

7. Aggregate Niche Integrated into the Long Rear Wall



- diesel generator approx. 5 kW, 400V AC, soundproof
- air conditioning (external unit)



MINOTAUR® Petrol Station Systems

Variant Overview - Schematic Layout

8

	10-foot Series	20-foot Series	40-foot Series
I. petrol station system with filling pump integrated into the long wall one-chamber tank/two-chamber tank			
II. petrol station system with filling pump integrated into the front wall one-chamber tank/two-chamber tank			
III. petrol station system with hose reel and long fuel delivery hose set one-chamber tank/two-chamber tank			
IV. petrol station system with filling pump integrated into the long wall and power generator one-chamber tank/two-chamber tank			
V. petrol station systems with filling pump and power generator integrated into the front wall one-chamber tank/two-chamber tank			
VI. petrol station system with office room and power generator one-chamber tank/two-chamber tank			
VII. storage tank system - extension modules one-chamber tank/two-chamber tank			

Legend:

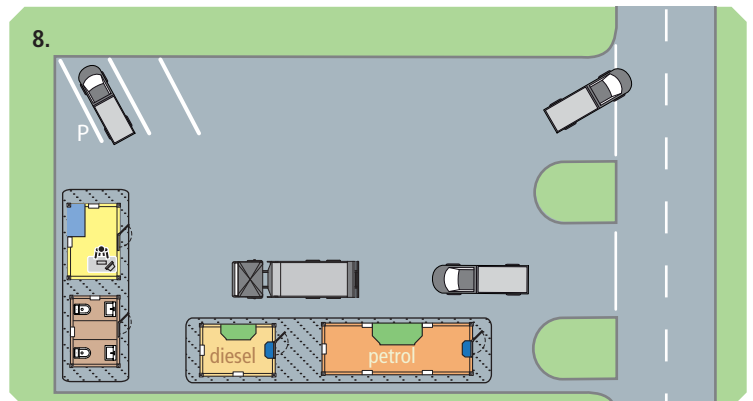
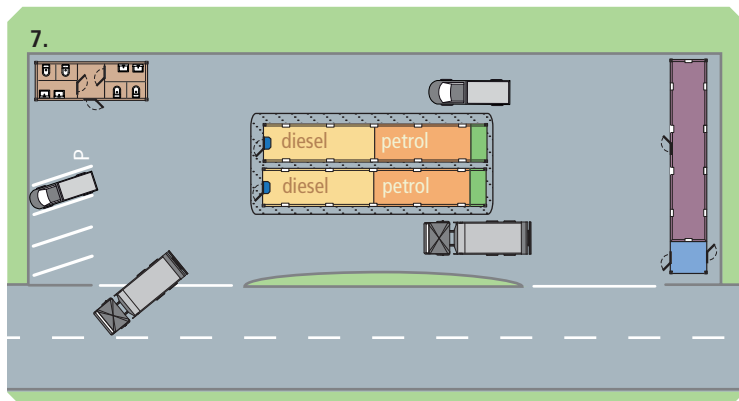
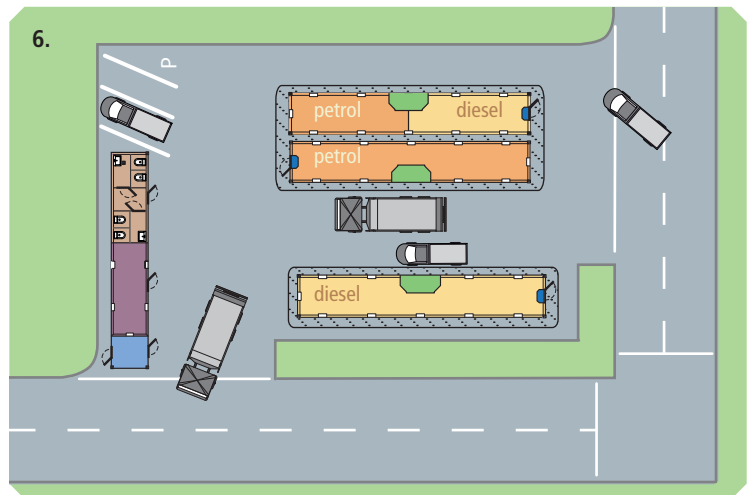
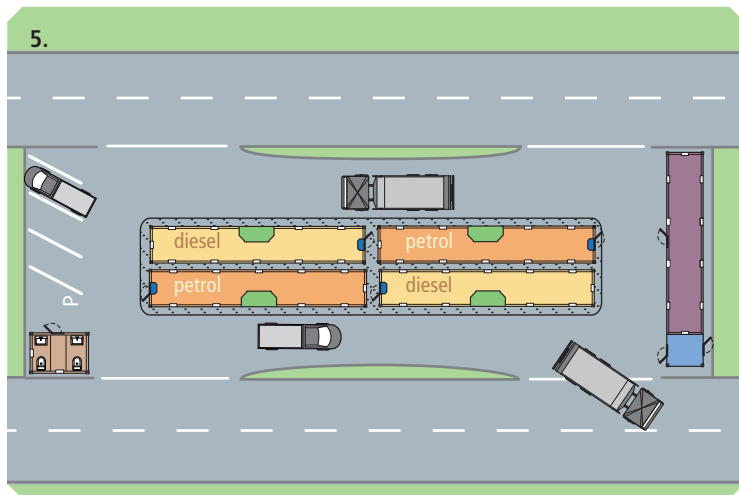
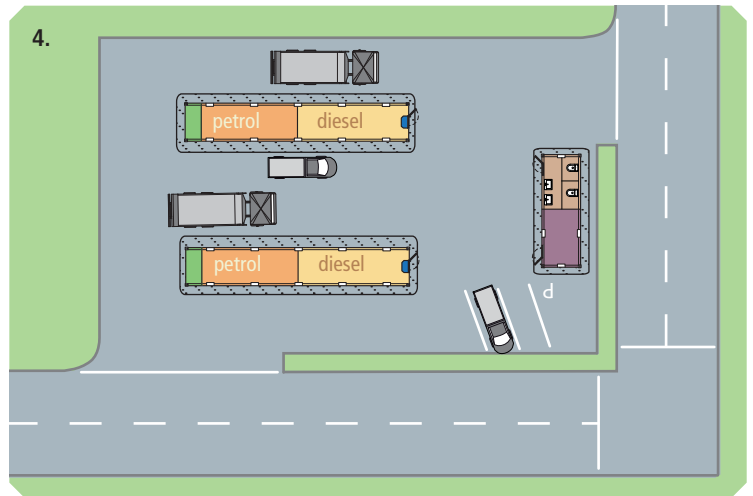
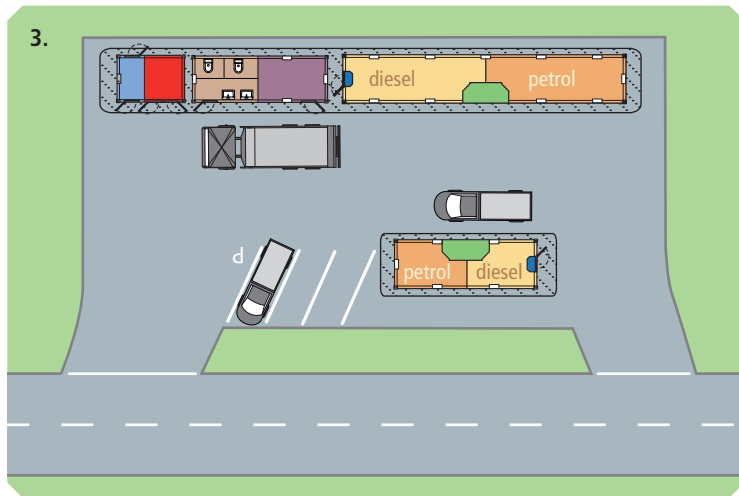
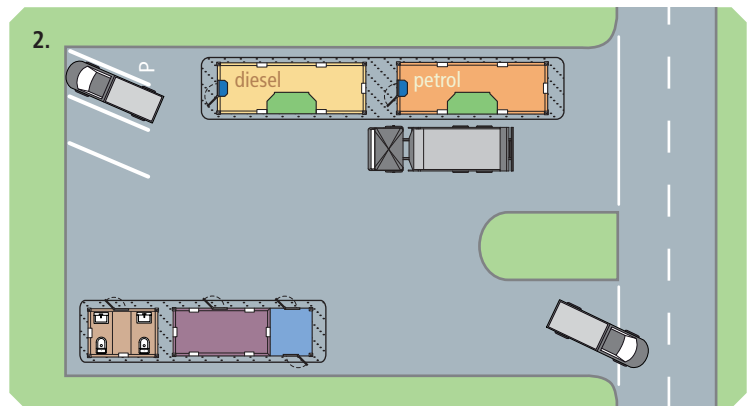
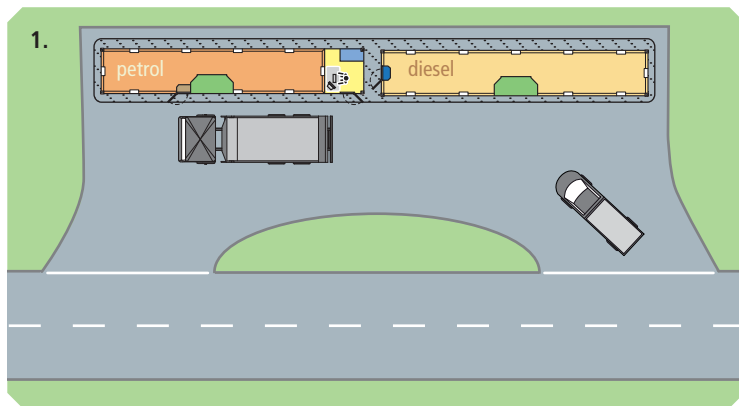
diesel chamber	office room	dispenser niche	filling niche
petrol chamber	aggregate niche	electronics niche	



MINOTAUR® Petrol Station Systems

Arrangement and Planning Samples (Please note: Krampitz is also a supplier of shop, toilet and power generator units. Please contact us!)

9

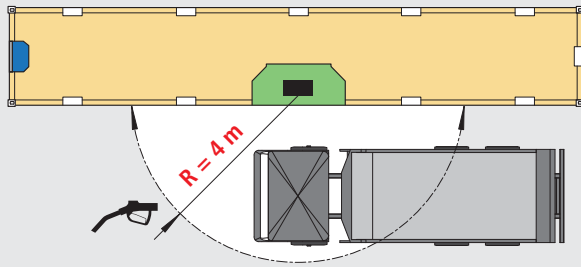




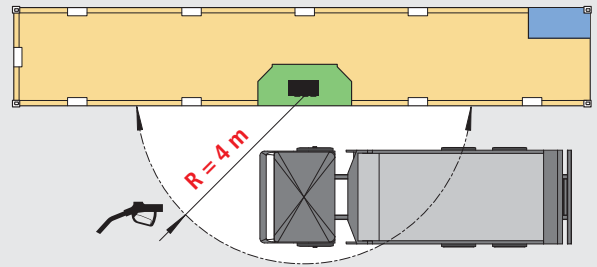
MINOTAUR® Petrol Station Systems

Functional Equipment According to Petrol Station Type and Field of Application

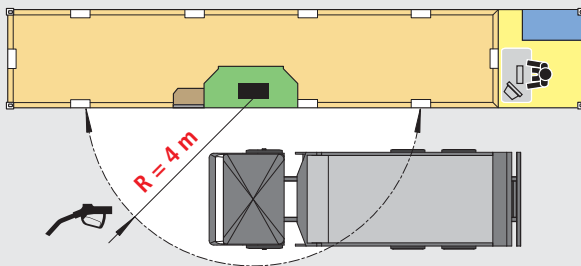
a. road petrol station with filling pump integrated into the long wall



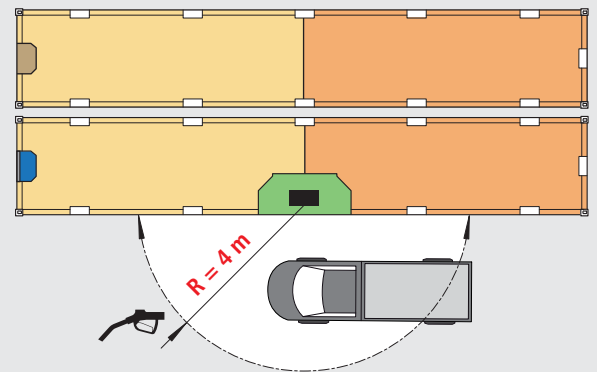
b. road petrol station with power generator



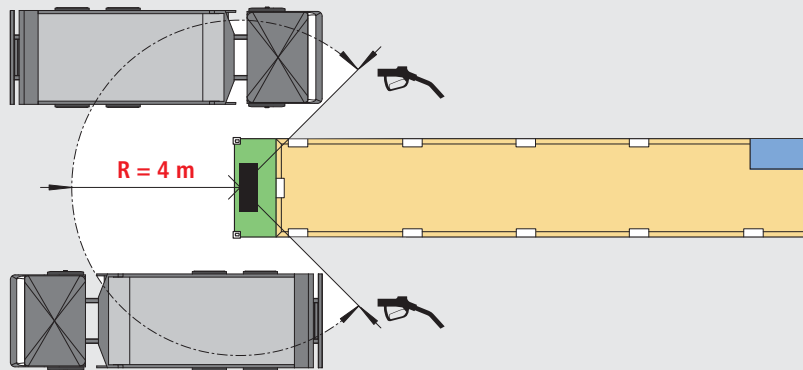
c. road petrol station with integrated office room and power generator



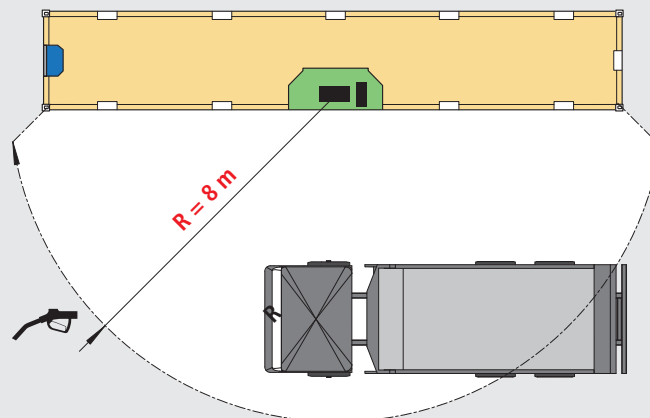
d. road storage tank system - extension modules with road petrol station including filling pump integrated into the long wall



e. road petrol station with filling pump integrated into the front wall and power generator



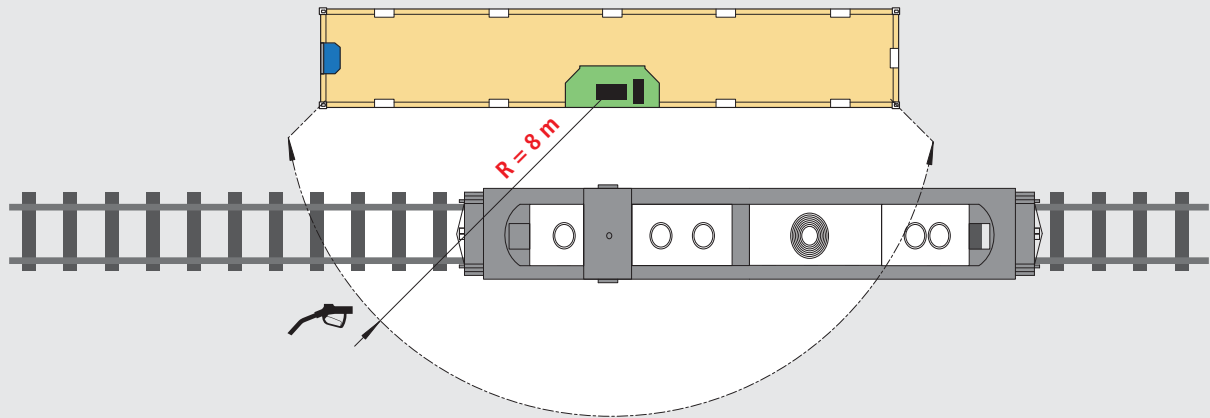
f. petrol station system for mining machines and construction vehicles



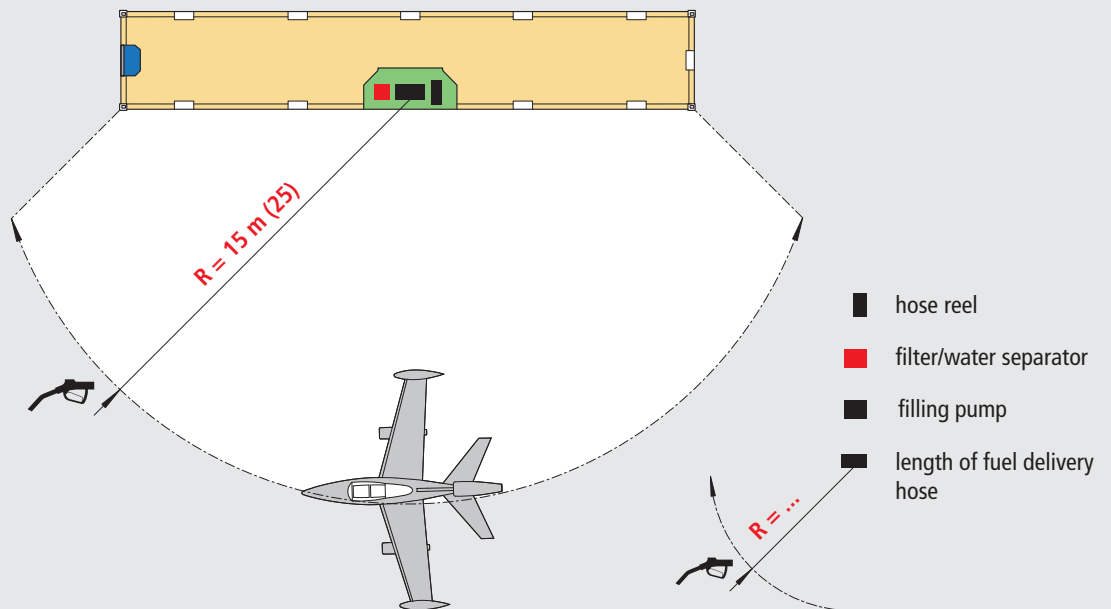
MINOTAUR® Petrol Station Systems

Functional Equipment According to Petrol Station Type and Field of Application

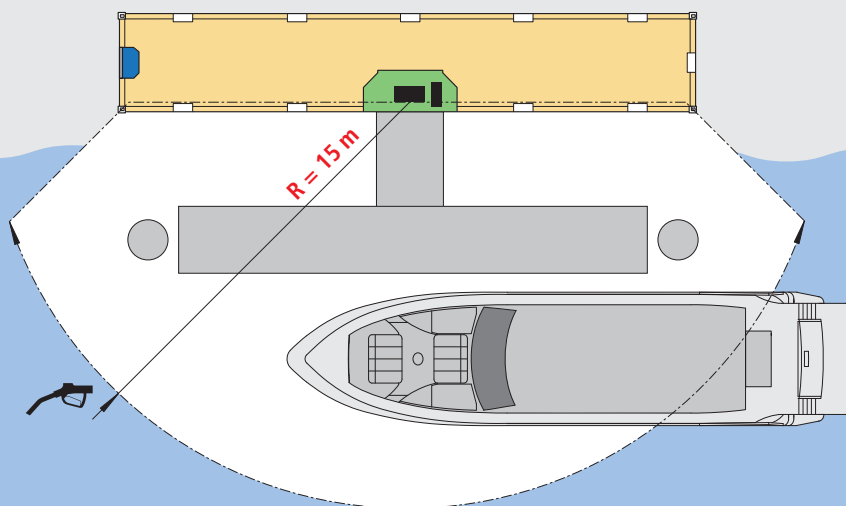
g. petrol station system **for rail vehicles**



h. petrol station system **for small aircraft and helicopters**



i. petrol station system **for boats and yachts**





MINOTAUR® Petrol Station Systems - Erection

Easy Assembly of our Petrol Station Containers

A Picture Series from Projects in Germany



Monday 5:00 pm loading at Krampitz



night transport to construction site



Tuesday 7:30 am:
off-loading of the first petrol station container



Tuesday 7:30 am:
positioning of the first petrol station container on the foundation



Tuesday 8:00 am to 11:00 am:
final assembly of the container petrol station



Tuesday 11:30 am:
filling of the container petrol station

Two-Container System 40 FT

1x Diesel, 46,000 Litres Volume, 1x Biodiesel, 46,000 Litres Volume



Tuesday 7:00 am:
the petrol station foundation



Tuesday 7:10 am:
arrival of the erection crane and trucks



Tuesday 7:35 am:
fitting of the first petrol station container



Tuesday 7:50 am:
off-loading of the second petrol station container



Tuesday 12:00 am:
the container petrol station is ready to use



Tuesday 12:30 am:
the first vehicle is refuelled

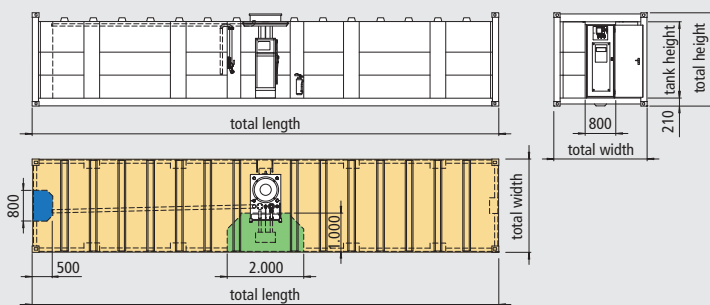


MINOTAUR® Petrol Station Systems - Variants

I. Petrol Station System with Filling Pump Integrated into the Long Wall



**1 One-Chamber System
for: Diesel or Petrol**



KCD-ISO-TS-xx (10, 20 or 40) container petrol station, type MINOTAUR® double-walled - one-chamber tank, basic equipment: (diesel)

- 1.0 supporting structure consisting of a stable container frame
- 2.0 tank body - double-walled, made of steel S 235 JR
- 3.0 ladder
- 4.0 self-supporting and single-wall tank roof
- 4.1 hood mounted on the tank roof
- 5.0 functional niche in the front wall - electronics niche with system control. The petrol station container requires a stationary power supply connection for operation (self-supply).
- 6.0 functional niche in the long wall - filling pump niche with filling system (without transfer pump) for the refuelling from road tank vehicles

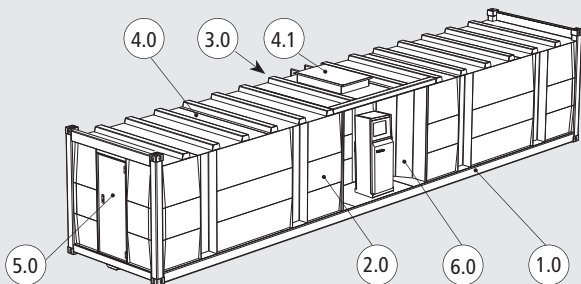
optional equipment: for petrol

EX PACKAGE - ATEX equipment

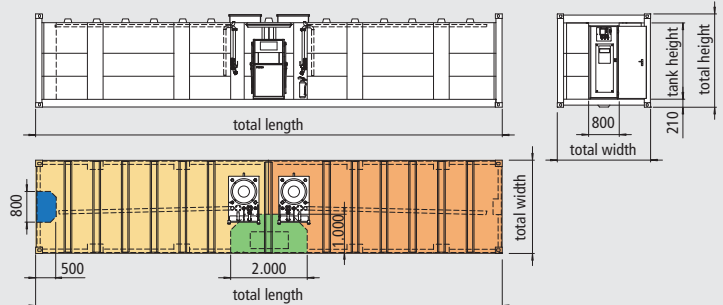
LIGHTNING PROTECTION - lightning protection system with lightning rods and earthing cable

optional equipment:

- filling pump - one fluid and one nozzle, industry model, diesel - 40/80 litres/min. switchable, petrol - 40 litres/min.
- filling pump - one fluid and one nozzle, retail model, diesel - 40/80 litres/min. switchable, petrol - 40 litres/min.



**2 Two-Chamber System
for: Diesel and Petrol**



KCD-ISO-TS-xx (20 or 40) container petrol station, type MINOTAUR® double-walled - two-chamber tank

positions 1.0 to 6.0 like one-chamber tank, basic equipment: (diesel)

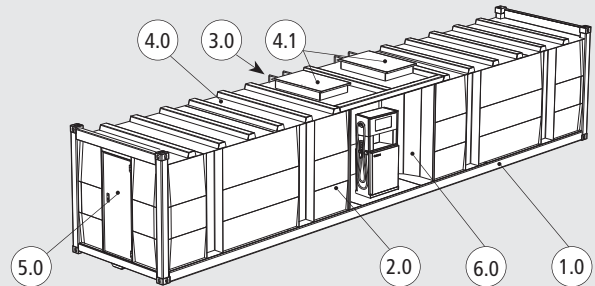
equipment: petrol chamber

EX PACKAGE - ATEX equipment

LIGHTNING PROTECTION - lightning protection system with lightning rods and earthing cable

optional equipment:

- filling pump - two fluids, each fluid - 1 nozzle, industry model diesel - 40/80 litres/min. switchable, petrol 40 litres/min.
- filling pump - two fluids, each fluid - 1 nozzle, retail model diesel - 40/80 litres/min. switchable, petrol 40 litres/min.



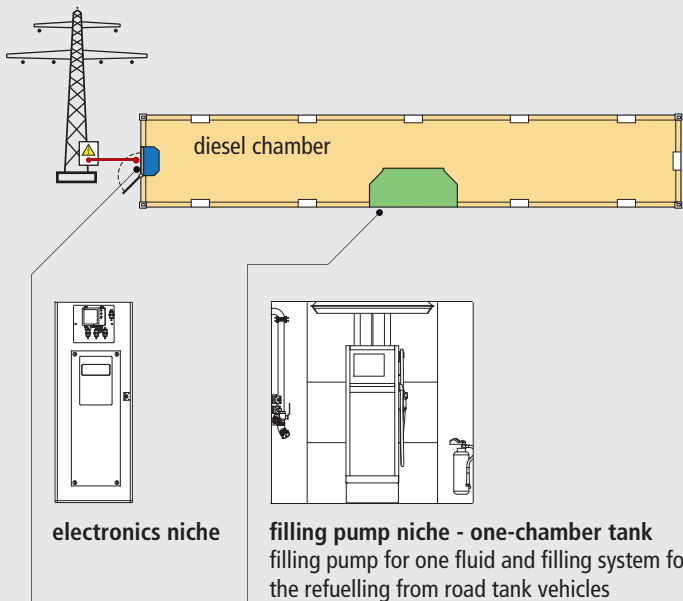
Please note: Must only be transported when empty!
Technical details are subject to change!

tank type	one-chamber tank		two-chamber tank		one-chamber and two-chamber tank dimensions				
	volume 100%	volume 95%	volume 100%	volume 95%	total length	total width	total height	tank height	weight (empty)
item no.	litres	litres	litres	litres	mm	mm	mm	mm	kg (approx.)
KCD-ISO-TS-10	8.500	8.000	-	-	2.991	2.438	2.438	2.000	3.400
KCD-ISO-TS-20	22.000	21.000	2 x 11.000	2 x 10.500	6.058	2.438	2.438	2.000	5.800
KCD-ISO-TS-HC-20	26.000	25.000	2 x 13.000	2 x 12.500	6.058	2.438	2.896	2.500	6.400
KCD-ISO-TS-40	49.000	47.000	2 x 24.500	2 x 23.500	12.192	2.438	2.438	2.000	9.800
KCD-ISO-TS-HC-40	59.000	56.500	2 x 29.500	2 x 28.250	12.192	2.438	2.896	2.500	12.000

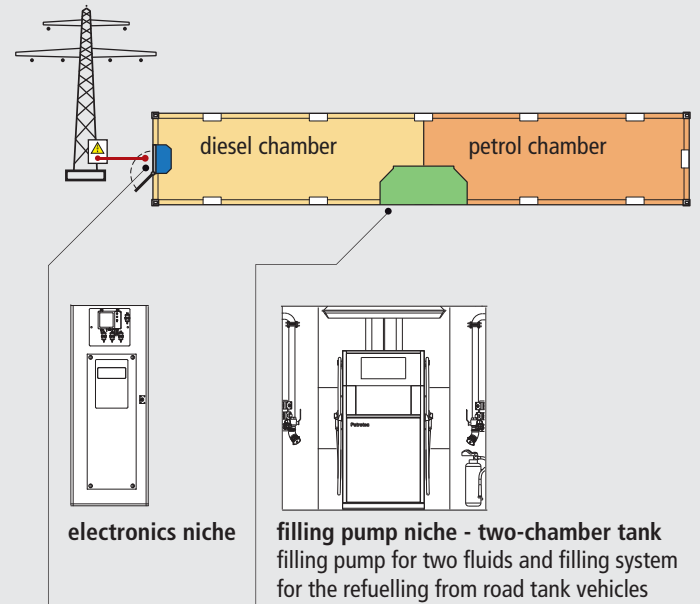
MINOTAUR® Petrol Station Systems - Variants

I. Petrol Station System with Filling Pump Integrated into the Long Wall

Schematic Layout - One-Chamber Tank



Schematic Layout - Two-Chamber Tank



40-foot petrol station container
with integrated niches for electronics and filling pump



electronics niche with leak indicator and system control



filling pump niche - one-chamber tank,
filling pump, filling system, fire extinguisher, niche lighting and emergency stop switch



filling system - one-chamber tank: filling connection integrated into filling pump niche



filling pump niche - two-chamber tank: filling pump, filling system, fire extinguisher, lighting and emergency stop switch



filling system - two-chamber tank: filling connection integrated into filling pump niche

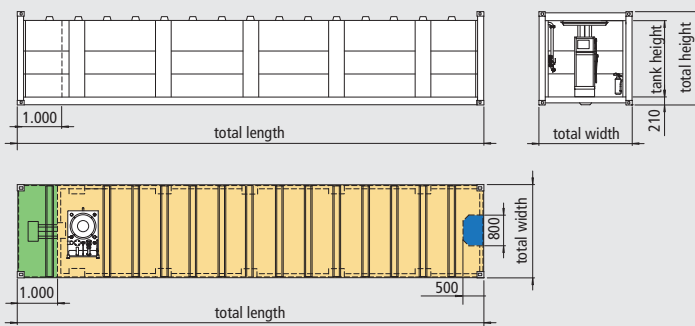


MINOTAUR® Petrol Station Systems - Variants

II. Petrol Station System with Filling Pump Integrated into the Front Wall



**1 One-Chamber System
for: Diesel or Petrol**



KCD-ISO-TS-xx (20 or 40) container petrol station, type MINOTAUR® double-walled - one-chamber tank, basic equipment: (diesel)

- 1.0 supporting structure consisting of a stable container frame
- 2.0 tank body - double-walled, made of steel S 235 JR
- 3.0 ladder
- 4.0 self-supporting and single-wall tank roof
- 4.1 hood mounted on the tank roof
- 5.0 functional niche in the front wall - filling pump niche with filling system (without transfer pump) for the refuelling from road tank vehicles and electronics niche with system control. The petrol station container requires a stationary power supply connection for operation (self-supply).
- 6.0 functional niche in the front wall - electronics niche with system control. The petrol station container requires a stationary power supply connection for operation (self-supply).

optional equipment: for petrol

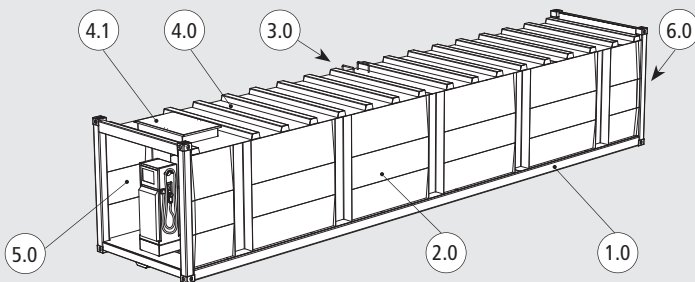
EX PACKAGE - ATEX equipment

LIGHTNING PROTECTION - lightning protection system with lightning rods and earthing cable

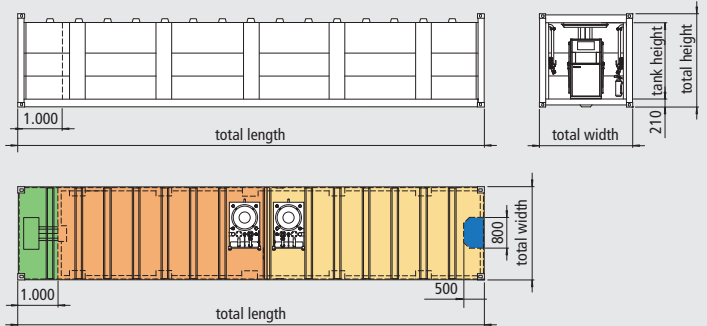
optional equipment:

filling pump - one fluid and one nozzle, industry model, diesel - 40/80 litres/min. switchable, petrol - 40 litres/min.

filling pump - one fluid and one nozzle, retail model, diesel - 40/80 litres/min. switchable, petrol - 40 litres/min.



**2 Two-Chamber System
for: Diesel and Petrol**



KCD-ISO-TS-xx (20 or 40) container petrol station, type MINOTAUR® double-walled - two-chamber tank

positions 1.0 to 6.0 like one-chamber tank, basic equipment: (diesel)

equipment: petrol chamber

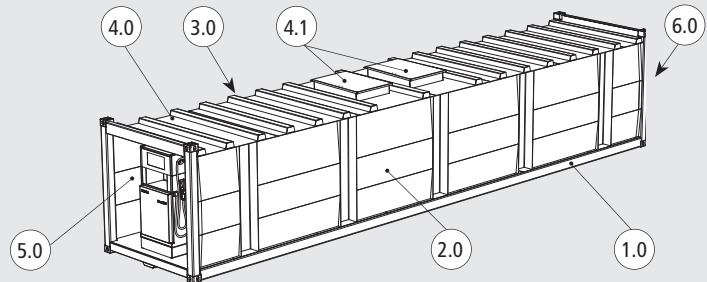
EX PACKAGE - ATEX equipment with detonation arresters, safety stickers, entilation 2 m above tank roof, explosion-protected electronics, limiting-level transmitter for area 0

LIGHTNING PROTECTION - lightning protection system with lightning rods and earthing cable

(optional) equipment:

filling pump - two fluids, each fluid - 1 nozzle, industry model diesel - 40/80 litres/min. switchable, petrol 40 litres/min.

filling pump - two fluids, each fluid - 1 nozzle, retail model diesel - 40/80 litres/min. switchable, petrol 40 litres/min.



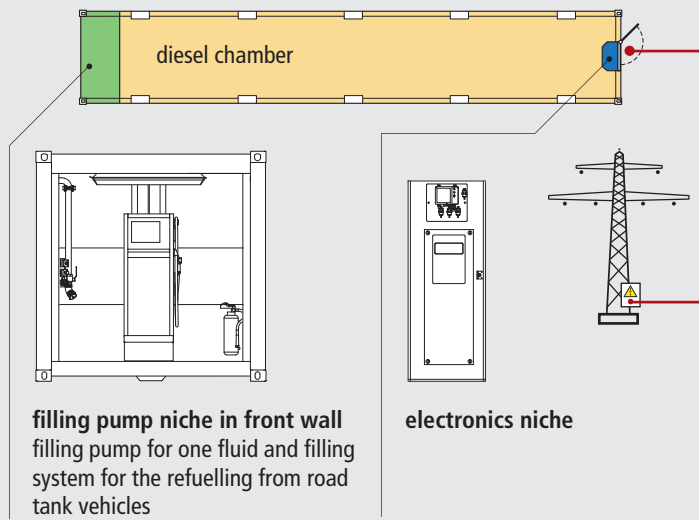
Please note: Must only be transported when empty!
Technical details are subject to change!

tank type	one-chamber tank		two-chamber tank		one-chamber and two-chamber tank dimensions				
	volume 100%	volume 95%	volume 100%	volume 95%	total length	total width	total height	tank height	weight (empty)
item no.	litres	litres	litres	litres	mm	mm	mm	mm	kg (approx.)
KCD-ISO-TS-20	21.000	20.000	2 x 10.500	2 x 10.000	6.058	2.438	2.438	2.000	5.800
KCD-ISO-TS-HC-20	25.000	24.500	2 x 12.500	2 x 12.250	6.058	2.438	2.896	2.500	6.400
KCD-ISO-TS-40	48.000	46.500	2 x 24.000	2 x 23.250	12.192	2.438	2.438	2.000	9.800
KCD-ISO-TS-HC-40	58.000	55.000	2 x 29.000	2 x 27.500	12.192	2.438	2.896	2.500	12.000

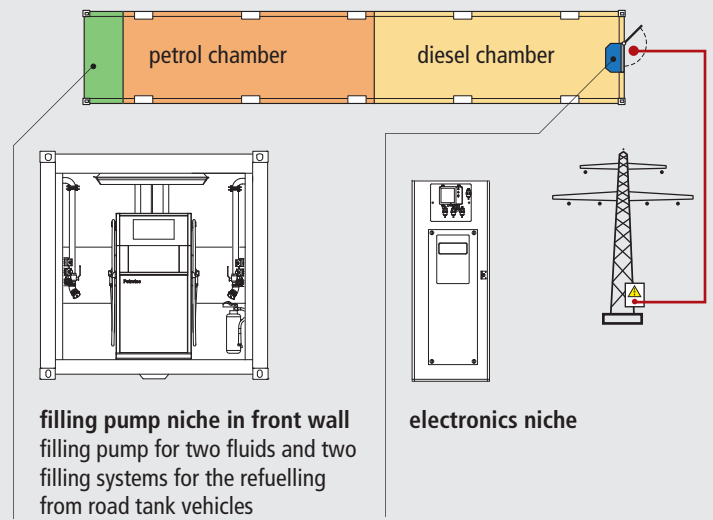
MINOTAUR® Petrol Station Systems - Variants

II. Petrol Station System with Filling Pump Integrated into the Front Wall

Schematic Layout - One-Chamber Tank



Schematic Layout - Two-Chamber Tank



40-foot petrol station container
with filling pump niche integrated into front wall



filling pump niche - one-chamber tank
filling pump, filling system, fire extinguisher, niche lighting and emergency stop switch



filling pump niche - one-chamber tank
niche lighting switch and emergency stop switch



filling system - one-chamber tank
filling connection integrated into filling pump niche



tank roof - hood
manhole, connection interfaces, vent connection, mechanical level indicator, suction pipe, limiting-level transmitter and cable duct leading to the functional niche in the front wall

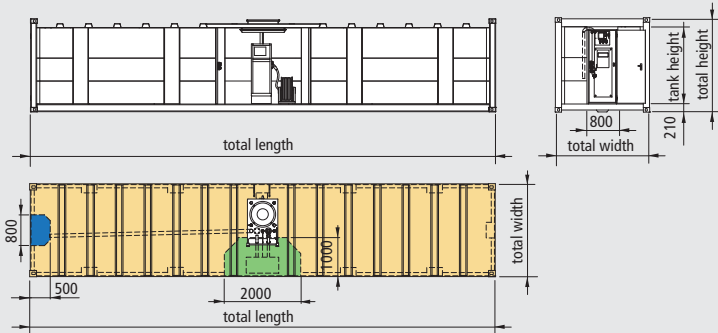


MINOTAUR® Petrol Station Systems - Variants

III. Petrol Station System with Hose Reel and Long Fuel Delivery Hose Set



1 One-Chamber System
for: Diesel or Petrol



KCD-ISO-TS-xx (10, 20 or 40) container petrol station, type MINOTAUR® double-walled - one-chamber tank, basic equipment: (diesel)

- 1.0 supporting structure consisting of a stable container frame
- 2.0 tank body - double-walled, made of steel S 235 JR
- 3.0 ladder
- 4.0 self-supporting and single-wall tank roof
- 4.1 hood mounted on the tank roof
- 5.0 functional niche in the front wall - electronics niche with system control and filling system (without transfer pump) for the refuelling from road tank vehicles. The petrol station container requires a stationary power supply connection for operation (self-supply).
- 6.0 functional niche in the long wall - filling pump niche
SLT-15 - 15-metre fuel hose with nozzle on spring-driven hose reel

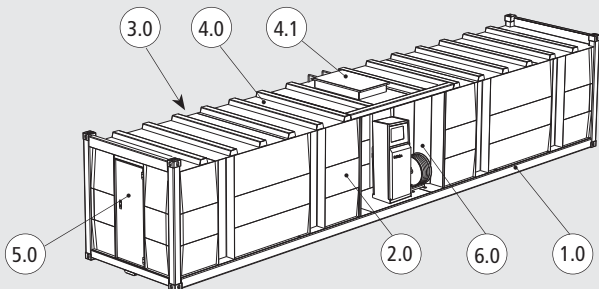
optional equipment: for petrol

EX PACKAGE - ATEX equipment

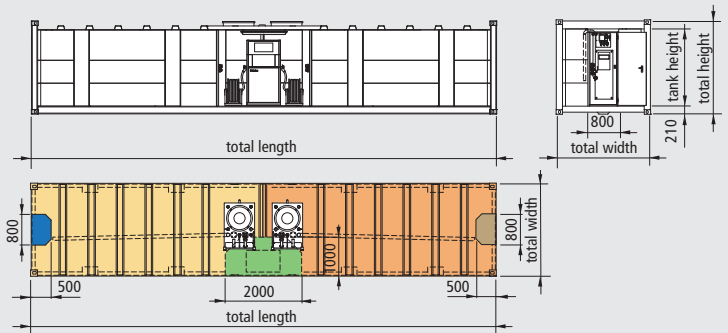
LIGHTNING PROTECTION - lightning protection system with lightning rods and earthing cable

optional equipment:

- filling pump - one fluid and one nozzle, industry model, diesel - 40/80 litres/min. switchable, petrol - 40 litres/min.
- filling pump - one fluid and one nozzle, retail model, diesel - 40/80 litres/min. switchable, petrol - 40 litres/min.



2 Two-Chamber System
for: Diesel and Petrol



KCD-ISO-TS-xx (20 or 40) container petrol station, type MINOTAUR® double-walled - two-chamber tank

- positions 1.0 to 5.0 like one-chamber tank, basic equipment: (diesel)
- 6.0 functional niche in the back wall - filling niche with filling system for petrol (without transfer pump) for the refuelling from road tank vehicles
- 7.0 functional niche in the long wall - filling pump niche

equipment: petrol chamber

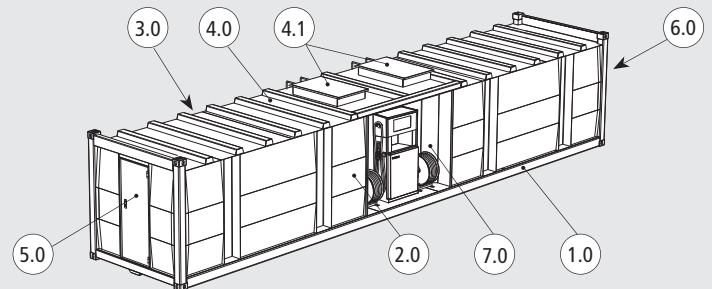
EX PACKAGE - ATEX equipment

LIGHTNING PROTECTION - lightning protection system with lightning rods and earthing cable

SLT-15 - 15-metre fuel hose with nozzle on spring-driven hose reel

optional equipment:

- filling pump - two fluids, each fluid - 1 nozzle, industry model diesel - 40/80 litres/min. switchable, petrol 40 litres/min.
- filling pump - two fluids, each fluid - 1 nozzle, retail model diesel - 40/80 litres/min. switchable, petrol 40 litres/min.



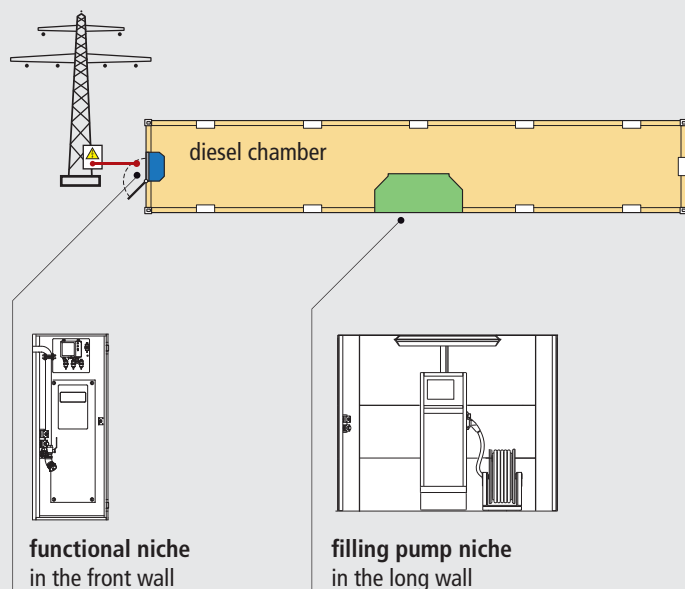
Please note: Must only be transported when empty!
Technical details are subject to change!

tank type	one-chamber tank		two-chamber tank		one-chamber and two-chamber tank dimensions				
	volume 100%	volume 95%	volume 100%	volume 95%	total length	total width	total height	tank height	weight (empty)
item no.	litres	litres	litres	litres	mm	mm	mm	mm	kg (approx.)
KCD-ISO-TS-10	8.500	8.000	-	-	2.991	2.438	2.438	2.000	3.400
KCD-ISO-TS-20	22.000	21.000	2 x 10.600	2 x 10.100	6.058	2.438	2.438	2.000	5.800
KCD-ISO-TS-HC-20	26.000	25.000	2 x 12.600	2 x 12.100	6.058	2.438	2.896	2.500	6.400
KCD-ISO-TS-40	49.000	47.000	2 x 24.100	2 x 23.100	12.192	2.438	2.438	2.000	9.800
KCD-ISO-TS-HC-40	59.000	56.500	2 x 29.100	2 x 27.850	12.192	2.438	2.896	2.500	12.000

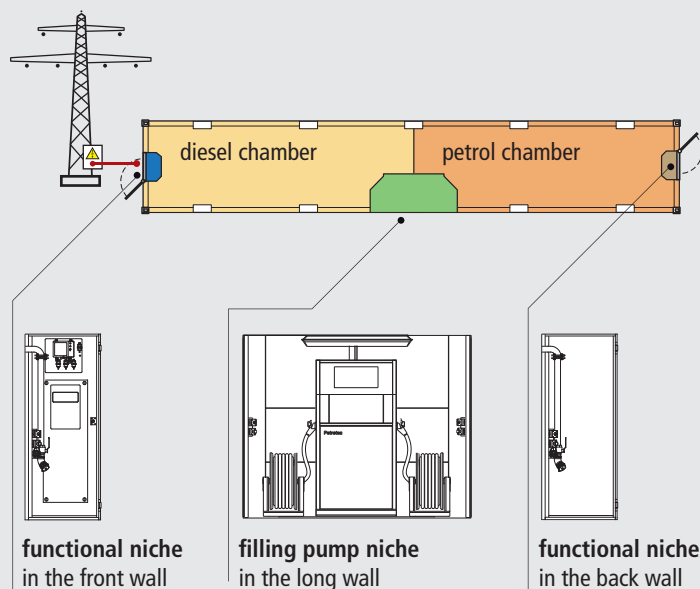
MINOTAUR® Petrol Station Systems - Variants

III. Petrol Station System with Hose Reel and Long Fuel Delivery Hose Set

Schematic Layout - One-Chamber Tank



Schematic Layout - Two-Chamber Tank



petrol station system for boats and yachts
two-chamber tank, diesel and petrol



functional niche in the front wall
vacuum leak alarm device with system control and filling system for diesel



filling pump niche in the long wall
filling pump for two fluids and two hose reels



tank roof - hood
manhole, connection interfaces, mechanical level indicator, suction pipe, limiting-level transmitter and cable duct leading to the functional niche in the front wall



CSC label and fastener
technical approval by Germanischer Lloyd
CSC label - international approval for transport by ship, rail and road

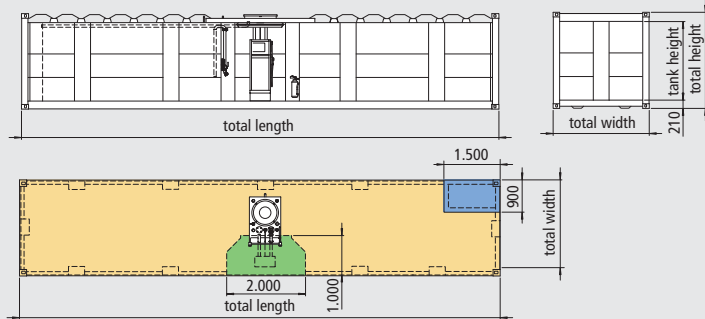


MINOTAUR® Petrol Station Systems - Variants

IV. Petrol Station System with Filling Pump Integrated into the Long Wall and Power Generator



**1 One-Chamber System
for: Diesel or Petrol**



KCD-ISO-TS-xx (10, 20 or 40) container petrol station, type MINOTAUR® double-walled - one-chamber tank, basic equipment: (diesel)

- 1.0 supporting structure consisting of a stable container frame
 - 2.0 tank body - double-walled, made of steel S 235 JR
 - 3.0 ladder
 - 4.0 self-supporting and single-wall tank roof
 - 4.1 hood mounted on the tank roof
 - 5.0 functional niche in the long wall - filling pump niche with filling system (without transfer pump) for the refuelling from road tank vehicles
 - 6.0 aggregate niche - access via long rear wall, with system control
- power supply of petrol station containers is possible through:
- a.) connection with the national grid
 - b.) diesel generator for stand-alone operation (isolated operation)

equipment:

GEN-SET - aggregate niche incl. diesel generator; **SDxx** (20 or 40) - sun roof

031-GL - technical approval by Germanischer Lloyd with CSC label and fastening

optional equipment: for petrol

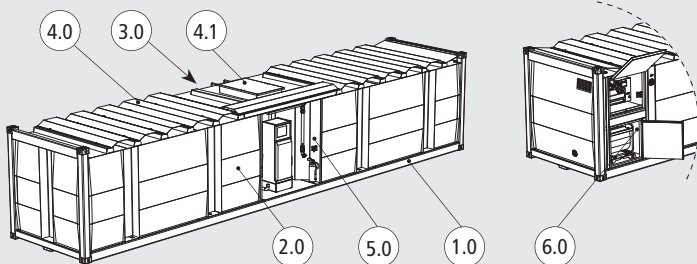
EX PACKAGE - ATEX equipment

LIGHTNING PROTECTION - lightning protection system with lightning rods and earthing cable

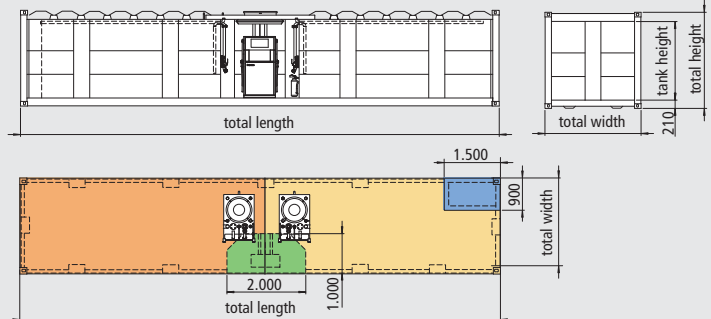
optional equipment:

filling pump - one fluid and one nozzle, industry model,
diesel - 40/80 litres/min. switchable, petrol - 40 litres/min.

filling pump - one fluid and one nozzle, retail model,
diesel - 40/80 litres/min. switchable, petrol - 40 litres/min.



**2 Two-Chamber System
for: Diesel and Petrol**



KCD-ISO-TS-xx (20 or 40) container petrol station, type MINOTAUR® double-walled - two-chamber tank

positions 1.0 to 6.0 like one-chamber tank, basic equipment: (diesel)

equipment:

GEN-SET - aggregate niche incl. diesel generator

SDxx (20 or 40) - sun roof - as an additional roof cover to protect the roof from direct sunlight

031-GL - technical approval by Germanischer Lloyd with CSC label and fastening

equipment: petrol chamber

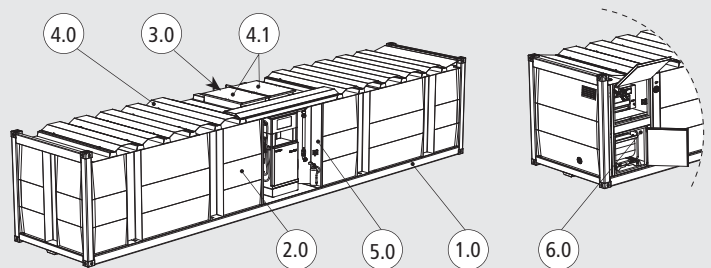
EX PACKAGE - ATEX equipment

LIGHTNING PROTECTION - lightning protection system with lightning rods and earthing cable

optional equipment:

filling pump - two fluids, each fluid - 1 nozzle, industry model
diesel - 40/80 litres/min. switchable, petrol 40 litres/min.

filling pump - two fluids, each fluid - 1 nozzle, retail model
diesel - 40/80 litres/min. switchable, petrol 40 litres/min.



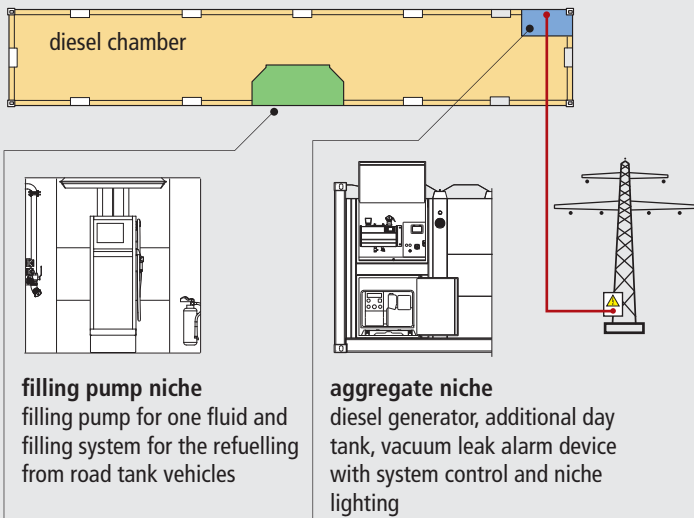
Please note: Must only be transported when empty!
Technical details are subject to change!

tank type	one-chamber tank		two-chamber tank		one-chamber and two-chamber tank dimensions				
	volume 100%	volume 95%	volume 100%	volume 95%	total length	total width	total height	tank height	weight (empty)
item no.	litres	litres	litres	litres	mm	mm	mm	mm	kg (approx.)
KCD-ISO-TS-10	6.000	5.400	-	-	2.991	2.438	2.438	2.000	3.400
KCD-ISO-TS-20	19.200	18.000	2 x 11.000	2 x 10.500	6.058	2.438	2.438	2.000	5.800
KCD-ISO-TS-HC-20	23.000	21.600	2 x 13.000	2 x 12.500	6.058	2.438	2.896	2.500	6.400
KCD-ISO-TS-40	47.500	45.000	2 x 24.500	2 x 23.500	12.192	2.438	2.438	2.000	9.800
KCD-ISO-TS-HC-40	55.000	52.600	2 x 29.500	2 x 28.250	12.192	2.438	2.896	2.500	12.000

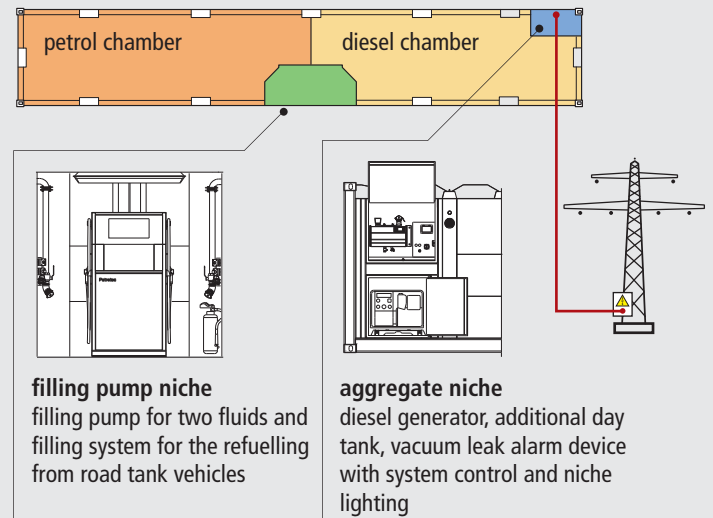
MINOTAUR® Petrol Station Systems - Variants

IV. Petrol Station System with Filling Pump Integrated into the Long Wall and Power Generator

Schematic Layout - One-Chamber Tank



Schematic Layout - Two-Chamber Tank



40-foot petrol station container - two-chamber tank
with integrated filling pump niche, aggregate niche, lightning protection, ventilation 2 m above tank roof (petrol chamber) and sun roof



40-foot petrol station container - two-chamber tank
aggregate niche



filling pump niche - two-chamber tank
twin pump, 2 filling systems, fire extinguisher, niche lighting



filling system
filling pipe with tank vehicle connection, niche lighting switch, emergency stop switch and limiting-level transmitter (plug)



aggregate niche
diesel generator, additional day tank, vacuum leak alarm device with system control and niche lighting

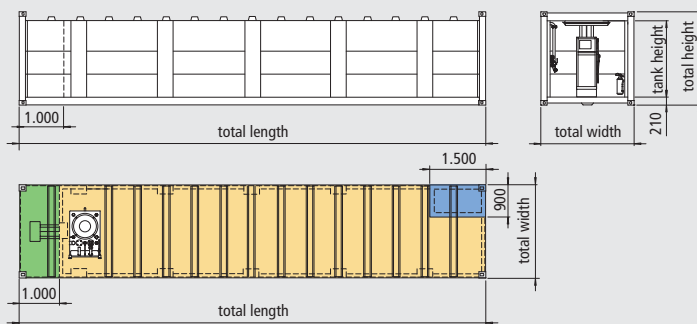


MINOTAUR® Petrol Station Systems - Variants

V. Petrol Station with Filling Pump Integrated into the Front Wall and Power Generator



**1 One-Chamber System
for: Diesel or Petrol**



KCD-ISO-TS-xx (20 or 40) container petrol station, type MINOTAUR® double-walled - one-chamber tank, basic equipment: (diesel)

- 1.0 supporting structure consisting of a stable container frame
- 2.0 tank body - double-walled, made of steel S 235 JR
- 3.0 ladder
- 4.0 self-supporting and single-wall tank roof
- 4.1 hood mounted on the tank roof
- 5.0 functional niche in the front wall - filling pump niche with filling system (without transfer pump) for the refuelling from road tank vehicles and electronics niche with system control
- 6.0 aggregate niche - access via long rear wall
power supply of petrol station containers is possible through:
 - a.) connection with the national grid
 - b.) diesel generator for stand-alone operation (isolated operation)

equipment:

GEN-SET - aggregate niche incl. diesel generator

optional equipment: for petrol

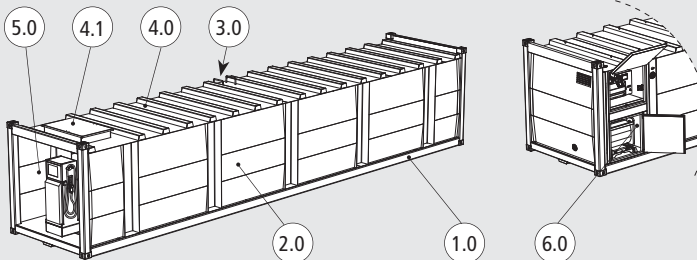
EX PACKAGE - ATEX equipment

LIGHTNING PROTECTION - lightning protection system with lightning rods and earthing cable

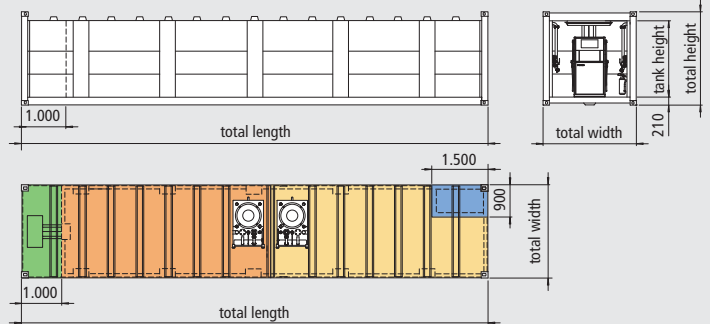
optional equipment:

filling pump - one fluid and one nozzle, industry model,
diesel - 40/80 litres/min. switchable, petrol - 40 litres/min.

filling pump - one fluid and one nozzle, retail model,
diesel - 40/80 litres/min. switchable, petrol - 40 litres/min.



**2 Two-Chamber System
for: Diesel and Petrol**



KCD-ISO-TS-xx (20 or 40) container petrol station, type MINOTAUR® double-walled - two-chamber tank

positions 1.0 to 6.0 like one-chamber tank, basic equipment: (diesel)

equipment:

GEN-SET - aggregate niche incl. diesel generator

equipment: petrol chamber

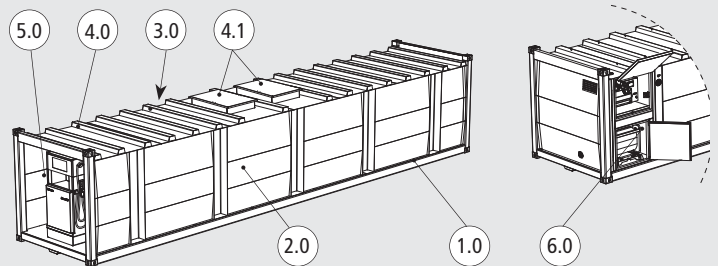
EX PACKAGE - ATEX equipment

LIGHTNING PROTECTION - lightning protection system with lightning rods and earthing cable

optional equipment:

filling pump - two fluids, each fluid - 1 nozzle, industry model
diesel - 40/80 litres/min. switchable, petrol 40 litres/min.

filling pump - two fluids, each fluid - 1 nozzle, retail model
diesel - 40/80 litres/min. switchable, petrol 40 litres/min.



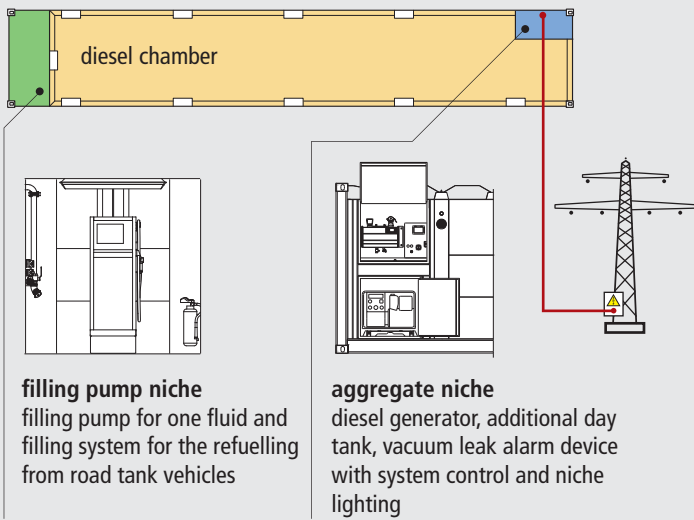
Please note: Must only be transported when empty!
Technical details are subject to change!

tank type	one-chamber tank		two-chamber tank		one-chamber and two-chamber tank dimensions				
	volume 100%	volume 95%	volume 100%	volume 95%	total length	total width	total height	tank height	weight (empty)
item no.	litres	litres	litres	litres	mm	mm	mm	mm	kg (approx.)
KCD-ISO-TS-20	16.500	15.300	2 x 8.000	2 x 7.500	6.058	2.438	2.438	2.000	5.800
KCD-ISO-TS-HC-20	19.600	18.200	2 x 9.800	2 x 9.000	6.058	2.438	2.896	2.500	6.400
KCD-ISO-TS-40	44.800	42.200	2 x 22.400	2 x 21.000	12.192	2.438	2.438	2.000	9.800
KCD-ISO-TS-HC-40	51.600	49.200	2 x 25.600	2 x 24.500	12.192	2.438	2.896	2.500	12.000

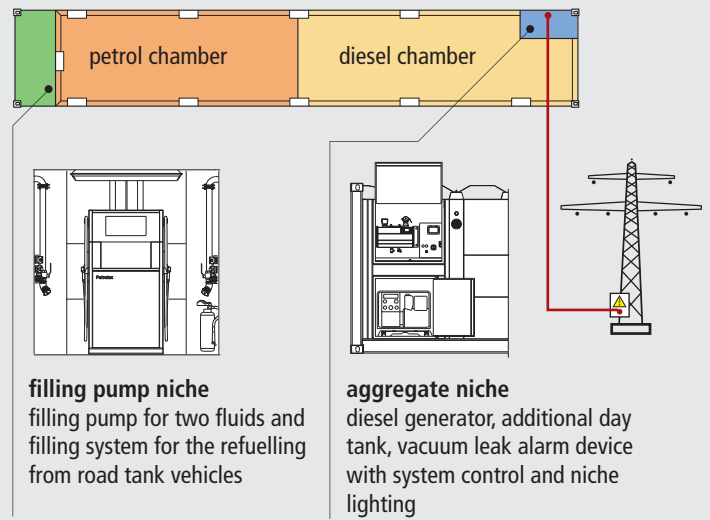
MINOTAUR® Petrol Station Systems - Variants

V. Petrol Station with Filling Pump Integrated into the Front Wall and Power Generator

Schematic Layout - One-Chamber Tank



Schematic Layout - Two-Chamber Tank



40-foot petrol station container - one-chamber tank with filling pump niche integrated into front wall



aggregate niche
fire wall cover closed



aggregate niche
fire wall cover open



aggregate niche
additional 50-litre day tank for automatic refuelling and system control



aggregate niche
diesel generator, 5 kVA, for power self-supply

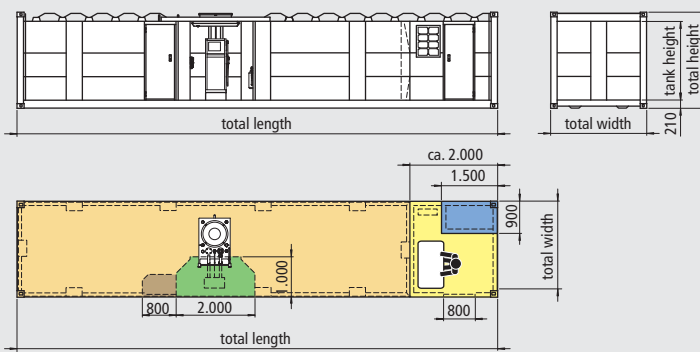


MINOTAUR® Petrol Station Systems - Variants

VI. Petrol Station System with Office Room and Power Generator



1 One-Chamber System
for: Diesel or Petrol



KCD-ISO-TS-xx (20 or 40) container petrol station, type MINOTAUR®
double-walled - one-chamber tank, basic equipment: (diesel)

1.0 supporting structure consisting of a stable container frame

2.0 tank body - double-walled, made of steel S 235 JR

3.0 ladder

4.0 self-supporting and single-wall tank roof

4.1 hood mounted on the tank roof

5.0 functional niche in the long wall - filling pump niche

equipment:

6.0 **OFFICE** - office room for operating personnel with system control
power supply of petrol station containers is possible through:

a.) connection with the national grid

b.) diesel generator for stand-alone operation (isolated operation)

7.0 **GEN-SET** - aggregate niche - incl. diesel generator approx. 5 kVA, sound insulation with air duct, air conditioning (external unit)

8.0 **TRANSFER** - filling system with transfer pump integrated into separate niche, fluid diesel

9.0 **SDxx** (20 or 40) - sun roof: protects the tank from exposure to direct sunlight and from heating-up

031-GL - technical approval by Germanischer Lloyd with CSC label

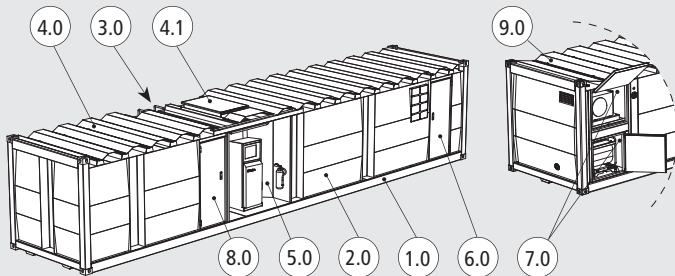
optional equipment: for petrol: EX PACKAGE - ATEX equipment

LIGHTNING PROTECTION - lightning protection system with lightning rods and earthing cable

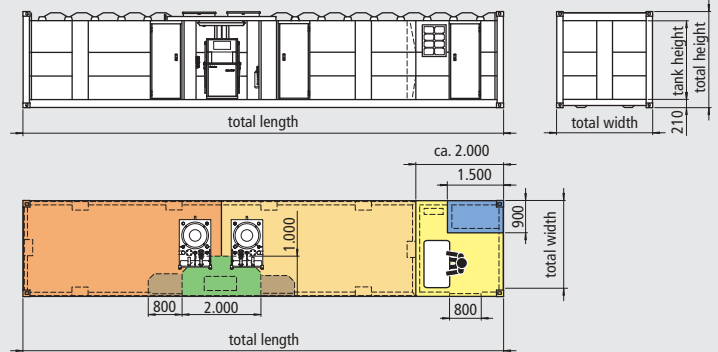
optional equipment:

filling pump - one fluid and one nozzle, industry model,
diesel - 40/80 litres/min. switchable, petrol - 40 litres/min.

filling pump - one fluid and one nozzle, retail model,
diesel - 40/80 litres/min. switchable, petrol - 40 litres/min.



2 Two-Chamber System
for: Diesel and Petrol



KCD-ISO-TS-xx (20 or 40) container petrol station, type MINOTAUR®
double-walled - two-chamber tank

positions 1.0 to 9.0 and equipment for diesel like one-chamber tank,
basic equipment: (diesel)

equipment: petrol chamber

EX PACKAGE - ATEX equipment

LIGHTNING PROTECTION - lightning protection system with lightning rods and earthing cable

10.0 **TRANSFER-EX** - filling system with transfer pump integrated into separate niche, fluid petrol

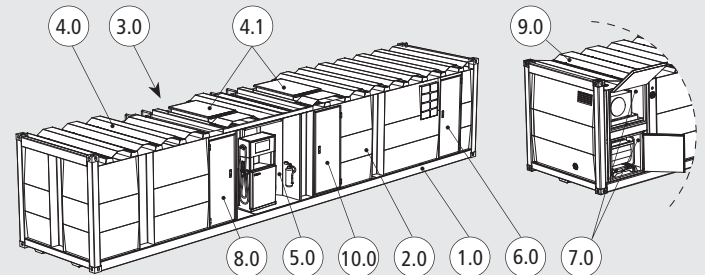
optional equipment:

filling pump - two fluids, each fluid - 1 nozzle, industry model

diesel - 40/80 litres/min. switchable, petrol 40 litres/min.

filling pump - two fluids, each fluid - 1 nozzle, retail model

diesel - 40/80 litres/min. switchable, petrol 40 litres/min.



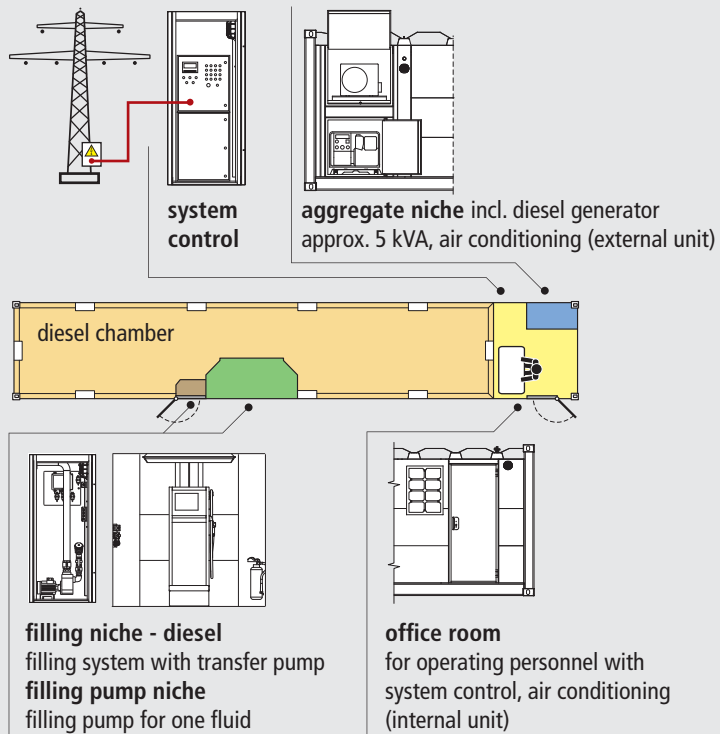
Please note: Must only be transported when empty!
Technical details are subject to change!

tank type	one-chamber tank		two-chamber tank		one-chamber and two-chamber tank dimensions				
	volume 100%	volume 95%	volume 100%	volume 95%	total length	total width	total height	tank height	weight (empty)
item no.	litres	litres	litres	litres	mm	mm	mm	mm	kg (approx.)
KCD-ISO-TS-20	11.800	10.000	2 x 5.900	2 x 5.900	6.058	2.438	2.438	2.000	6.200
KCD-ISO-TS-40	39.600	36.000	2 x 19.800	2 x 19.800	12.192	2.438	2.438	2.000	10.400

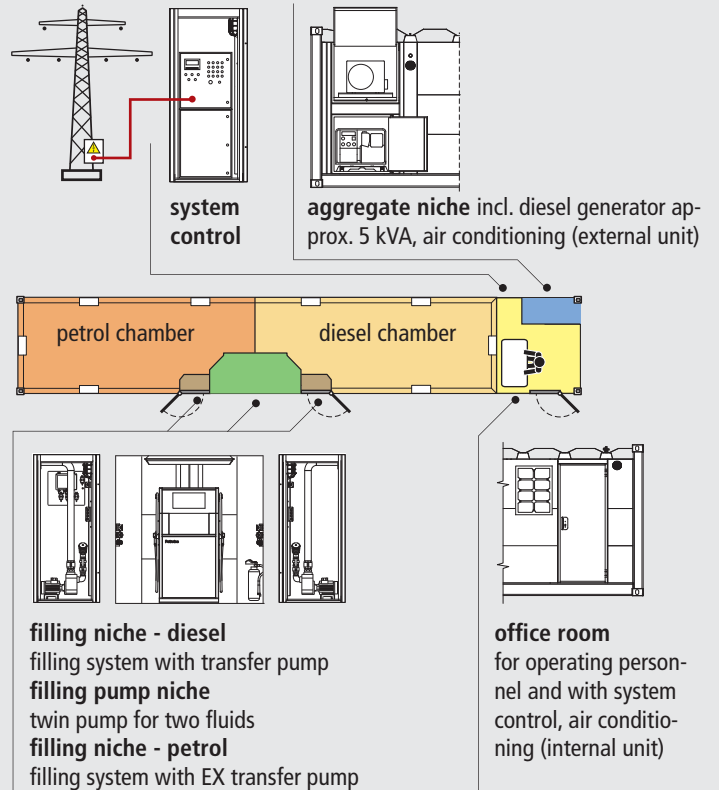
MINOTAUR® Petrol Station Systems - Variants

VI. Petrol Station System with Office Room and Power Generator

Schematic Layout - One-Chamber Tank



Schematic Layout - Two-Chamber Tank



40-foot petrol station container - one-chamber tank
with integrated filling pump niche, office room, aggregate niche and sun roof



aggregate niche: air conditioning, aggregate 5 kW, 400 V AC



filling pump niche
filling pump



filling system
filling system with transfer pump



office room
central control in office room



office room

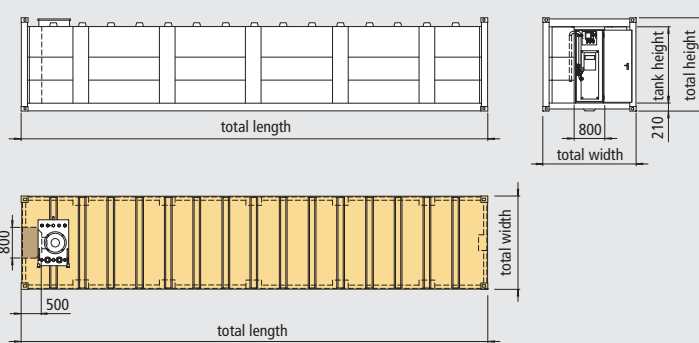


MINOTAUR® Petrol Station Systems - Variants

VII. Storage Tank System - Extension Modules

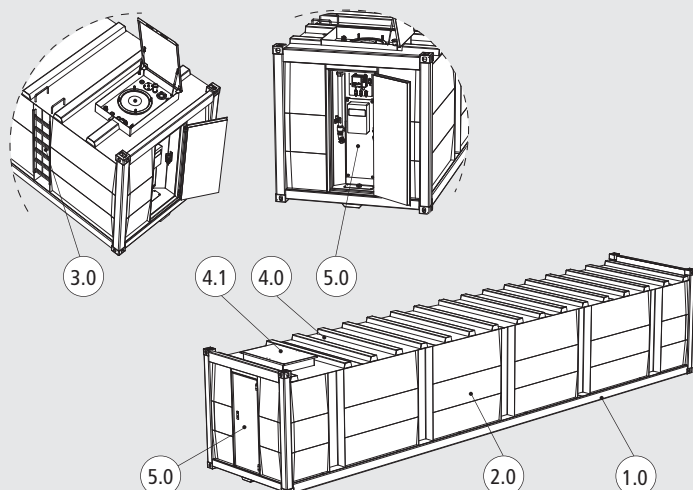


1 One-Chamber System
for: Diesel or Petrol

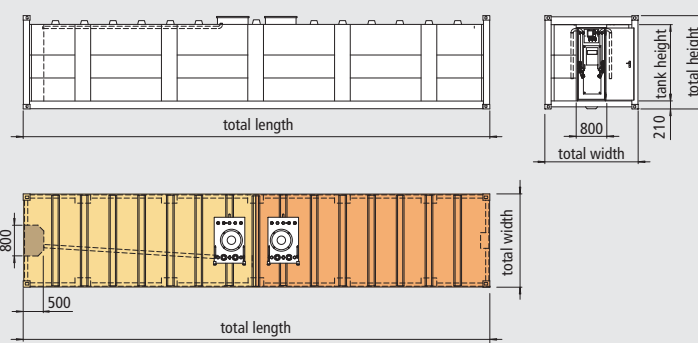


KCD-ISO-TS-xx (10, 20 or 40) container petrol station, type MINOTAUR®
double-walled - one-chamber tank, basic equipment: (diesel)

- 1.0 supporting structure consisting of a stable container frame incl. 8 pieces ISO corners and fully-welded, well-ventilated bottom structure
- 2.0 tank body - one-chamber tank, double-walled, made of steel S 235 JR
- 3.0 ladder
- 4.0 self-supporting and single-wall tank roof
- 4.1 hood mounted on the tank roof
- 5.0 functional niche in the front wall - with system control and filling system (without transfer pump) for the refuelling from road tank vehicles.
The petrol station container requires a stationary power supply connection for operation (self-supply).



2 Two-Chamber System
for: Diesel and Petrol



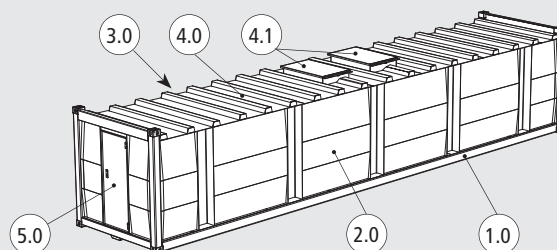
KCD-ISO-TS-xx (20 or 40) container petrol station, type MINOTAUR®
double-walled - two-chamber tank

positions 1.0 to 5.0 for diesel like one-chamber tank,
basic equipment: (diesel)

equipment: petrol chamber

EX PACKAGE - ATEX equipment

LIGHTNING PROTECTION - lightning protection system with lightning rods and earthing cable



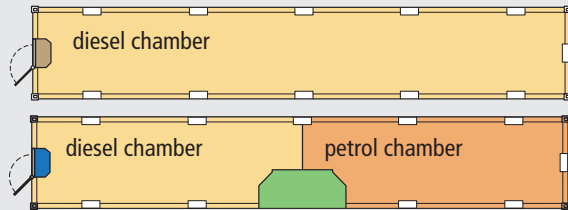
Please note: Must only be transported when empty!
Technical details are subject to change!

tank type	one-chamber tank		two-chamber tank		one-chamber and two-chamber tank dimensions				
	volume 100%	volume 95%	volume 100%	volume 95%	total length	total width	total height	tank height	weight (empty)
item no.	litres	litres	litres	litres	mm	mm	mm	mm	kg (approx.)
KCD-ISO-TS-10	11.500	11.000	-	-	2.991	2.438	2.438	2.000	3.200
KCD-ISO-TS-20	25.000	24.000	2 x 12.500	2 x 12.000	6.058	2.438	2.438	2.000	5.600
KCD-ISO-TS-HC-20	30.000	29.000	2 x 15.000	2 x 14.500	6.058	2.438	2.896	2.500	6.200
KCD-ISO-TS-40	52.500	50.000	2 x 26.250	2 x 25.000	12.192	2.438	2.438	2.000	9.400
KCD-ISO-TS-HC-40	63.500	60.000	2 x 31.750	2 x 30.000	12.192	2.438	2.896	2.500	11.600

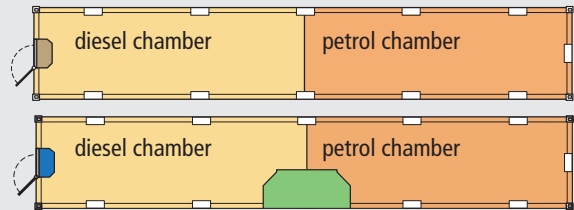
MINOTAUR® Petrol Station Systems - Variants

VII. Storage Tank System - Extension Modules

Schematic Layout - One-Chamber Tank



Schematic Layout - Two-Chamber Tank



petrol station system - 40-foot - storage tank container



filling niche



petrol station system - 20-foot - storage tank container



petrol station system - 20-foot - storage tank container



filling niche



petrol station system - 10-foot - storage tank container



petrol station system - 10-foot - storage tank container

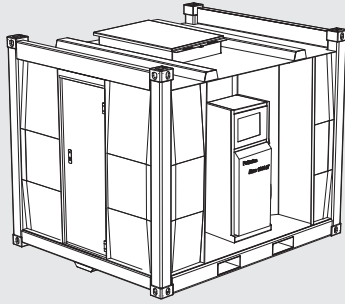


filling niche

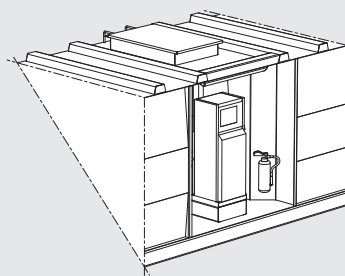


MINOTAUR® Petrol Station Systems - Equipment

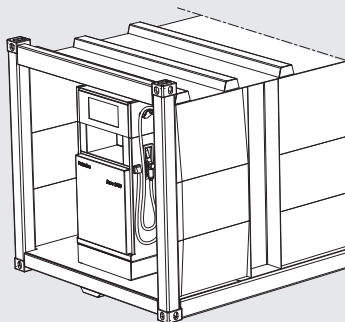
Filling Pump Niche



KCD-ISO-10
filling pump niche - in the long wall

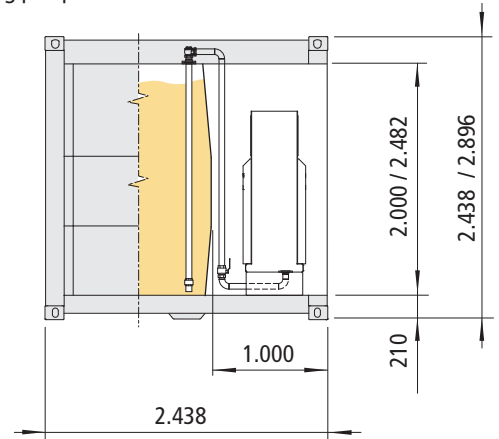
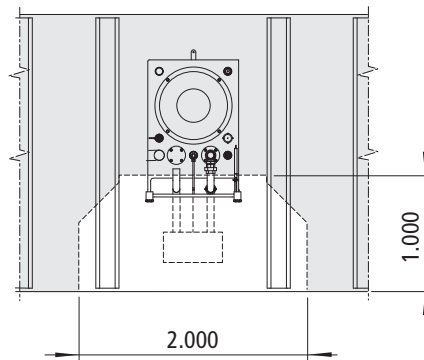
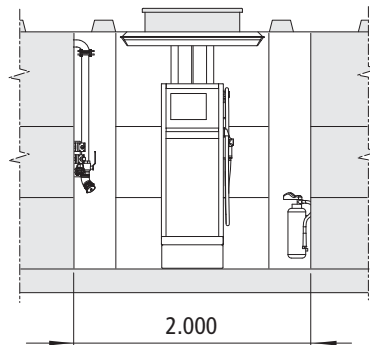


KCD-ISO-xx (10, 20 or 40)
filling pump niche - in the long wall



KCD-ISO-xx (20 or 40)
filling pump niche - in front wall

KCD-ISO-10/20/40 petrol station container with integrated functional niche in the long wall - filling pump niche



functional niche in the long wall - filling pump niche dimensions:

width: 2,000 mm
depth: 1,000 mm
height: 2,000 or 2,482 mm

functional niche in the long wall - filling pump niche consisting of:

- filling system (without transfer pump) for the refuelling from road tank vehicles
 - tank vehicle coupling VK 50, non-return valve and ball valve
- limiting-level transmitter (plug) with technical approval
- pipe connection with filling pump
 - feed pipe DN50 (2") with shut-off ball valve
 - return pipe
 - cable duct DN50 (2") to hood
- filling pump platform and non-skid coating on niche bottom
- niche lighting - lamp and switch
- emergency stop switch
- fire extinguisher

optional: filling pump - industry or retail model



filling pump niche
filling pump



filling pump niche with twin pump and filling
system without transfer pump

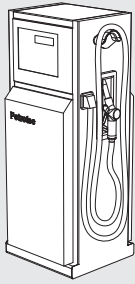


filling pump niche with twin pump and hose reel



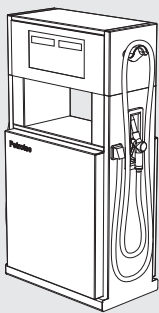
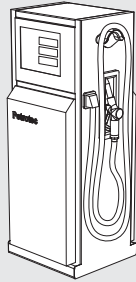
MINOTAUR® Petrol Station Systems - Equipment

Filling Pumps



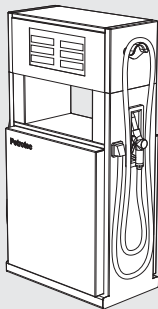
filling pump
industry model not
sold to third parties not
calibratable

filling pump
retail model sold to third
parties MID approved



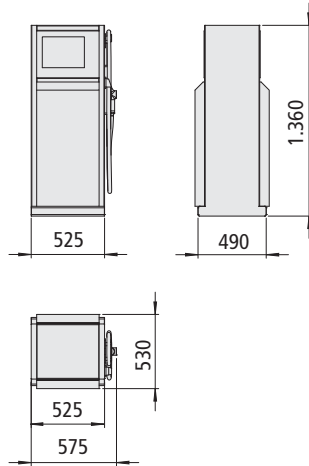
twin pump
industry model not
sold to third parties
not calibratable

twin pump
retail model sold
to third parties
MID approved



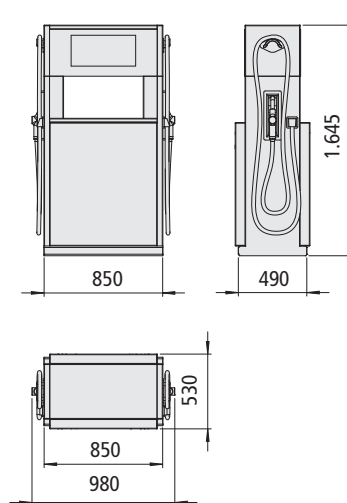
filling pump of type Petrotec

- 1x nozzle for one fluid
- volume preselection



twin pump of type Petrotec

- 2x nozzle (for two fluids
or two delivery options)
- volume preselection



The Petrotec filling pump fulfils current and future requirements regarding easy installation, easy operation and maintenance, ergonomic operation and operational reliability under normal and extreme climatic conditions. The filling pumps are designed for the delivery of the liquid fuels petrol, diesel, kerosene and biofuels.

calibration:

not calibratable - industry model, internal use, not sold to third parties,
(only volume display)

calibratable - retail system, sold to third parties, volume display, price
display, price/litre display (the filling pump is MID approved)

delivery volume:

diesel - nozzle for 40 litres/min. „turbo button“ to switch to 80 litres/min.
or nozzle for 130 litres/min.

petrol - nozzle for 40 litres/min.

temperature range: standard -20 to +50 °C, (for models designed for extreme
temperatures from -40 to +60 °C, please observe explosion protection)

power supply: 3 x 230/400 V AC, 50 Hz



filling pump
measuring instrument with integrated pulsator



filling pump
solenoid valve



filling pump: 4-metre fuel delivery hose
with ZVA fuel nozzle



MINOTAUR® Petrol Station Systems - Equipment

Filling Niche- Filling System without Transfer Pump

a.) **filling system without transfer pump** for the refuelling from road tank vehicles, integrated into the functional niche in the front wall - electronics niche

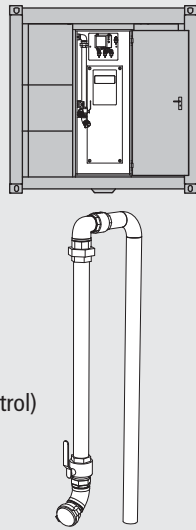
„standard“ filling system without transfer pump

for non flammable liquids (e.g. diesel), consisting of:

- tank vehicle coupling of type VK 50 with tank vehicle blind caps of type MB50
- filling pipe DN50 (2")
- non-return valve and ball valve
- limiting-level transmitter with technical approval - plug installed next to filling system and sensor integrated into hood of the petrol station container

optional: equipment for flammable liquids (e.g. petrol)

- flame arrester on filling pipe
- limiting-level transmitter with intrinsic safety approval

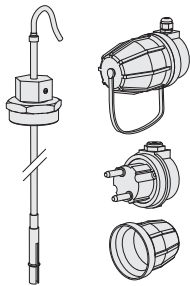
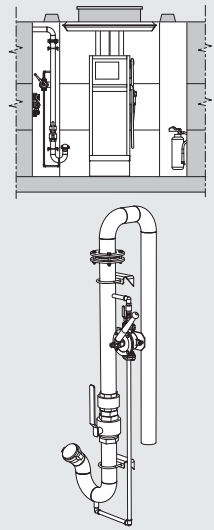


b.) **filling system without transfer pump** for the refuelling from road tank vehicles, integrated into the functional niche in the long wall - filling pump niche

filling system without transfer pump with residue draining of the hose

for non flammable liquids (e.g. plant oil), consisting of:

- tank vehicle coupling of type VK 50 with blind caps of type MB50
- filling pipe DN50 (2")
- non-return valve and ball valve
- hand pump for residue draining of the hose
- limiting-level transmitter with technical approval - plug installed next to filling system and sensor and integrated into hood of the petrol station container



Limiting-level Transmitter with Technical Approval

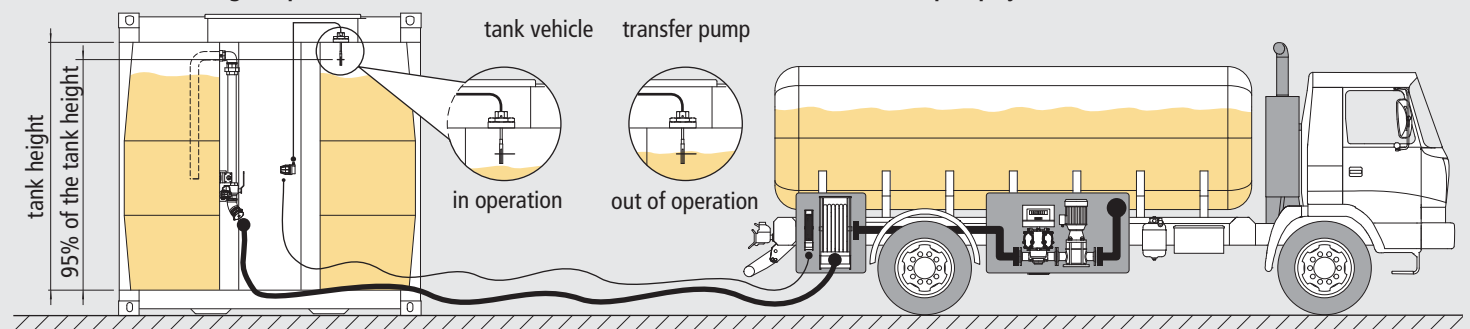
Petrol station containers which are refuelled from road tank vehicles must be equipped with a limiting-level transmitter which serves as an over-fill protection during refuelling from road tank vehicles.

Petrol station containers which are refuelled from road tank vehicles must be equipped with a limiting-level transmitter which serves as an over-fill protection during refuelling from road tank vehicles.

The permitted filling level of the container must not exceed 95 %.

When the PTC resistor becomes wet, its resistance changes immediately. This impulse is transmitted by a switching amplifier mounted on the tank vehicle which operates the control element (shut-off device) of the tank vehicle.

Illustration - Refuelling the petrol station container from a road tank vehicle with on-board pump system





MINOTAUR® Petrol Station Systems - Equipment

Filling Niche- Filling System with Transfer Pump

c.) **filling system with transfer pump** for the refuelling from a tank vehicle without on-board pump system, integrated into the functional niche in the long wall - filling niche

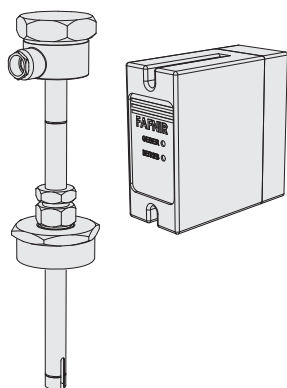
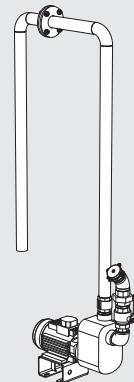
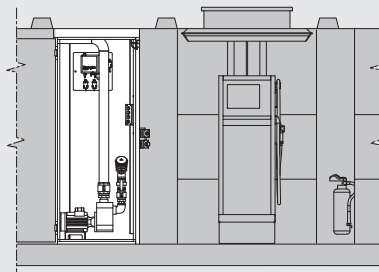
filling system with transfer pump for non flammable liquids (e.g. diesel) integrated into the functional niche in the long wall - filling niche incl. door

dimensions: width: 800 mm, depth: 500 mm, height: tank height, consisting of:

- tank vehicle coupling of type VK 50 with blind caps of type MB50
- transfer pump, delivery volume of approx. 600 litres/min.
- filling pipe DN50 (2")
- non-return valve and ball valve
- over-fill protection with technical approval - transducer integrated into system control and filling level indicator (sensor) integrated into the hood of the petrol station container
- pump switch function - pump start/stop, button - drain filling hose

optional: equipment for flammable liquids (e.g. petrol)

- flame arrester on filling pipe
- transfer pump - motor according to ATEX
- limiting-level transmitter with intrinsic safety approval



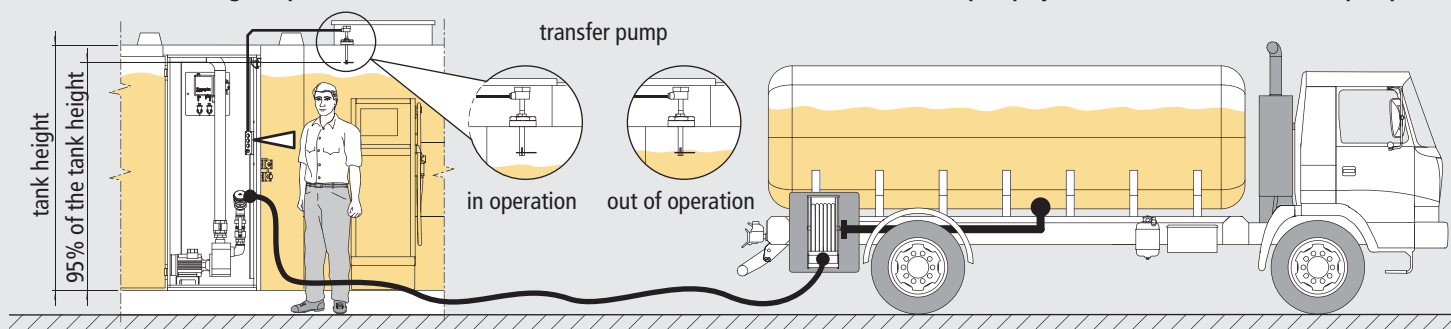
Over-Fill Protection with Technical Approval

Stationary, pressureless tanks for the storage of liquids hazardous to water must be equipped with an approved over-fill protection when being mechanically refuelled by pumps. The permitted filling level of the container must not exceed 95 %.

In a dry state, an encased PTC thermistor at the upper end of the filling level indicator is heated by the signal current of the transducer until the PTC resistance jumps up. When this upper end becomes wet, for example when the filling level is reached, and cools down, the resistance drops to its original value. The signal current is limited so that the PTC thermistor cannot be reheated in a wet state.

The transducer processes these changes in resistance of the PTC thermistor in relay circuits with binary signal output. The relay drops out when the upper end of the filling-level indicator has cooled down and also in the event of power failures or short-circuits and when the connection between filling level indicator and transducer is disrupted. A green light emitting diode indicates the electric availability of the transducer.

Illustration - Refuelling the petrol station container from a road tank vehicle without on-board pump system with container transfer pump



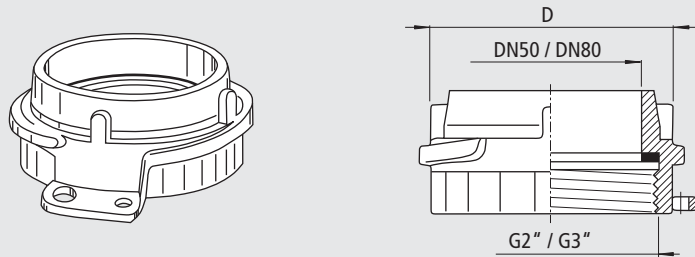


MINOTAUR® Petrol Station Systems - Equipment

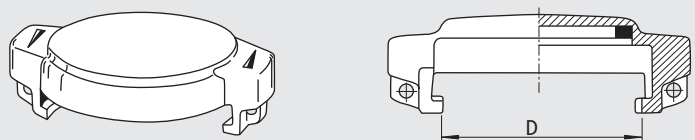
Tank Vehicle Coupling Variants

filling pipe couplings mounted on the tank, male connector

TW filling pipe coupling according to DIN EN 14420-6 (DIN 28 450)



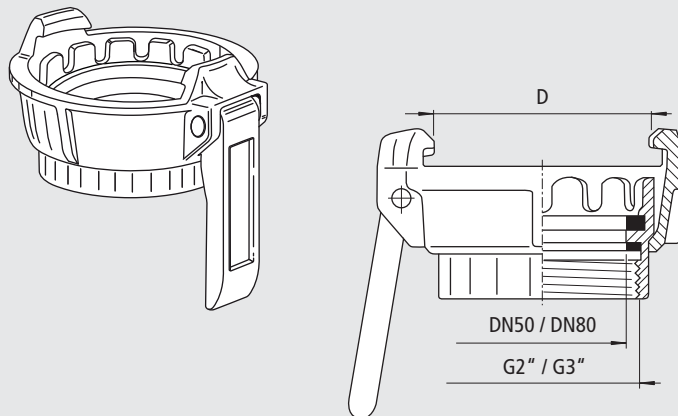
TW male couplings of type VK with inside pipe thread and thread seal (GD)



TW blind caps of type MB for VK male couplings with coupling seal (KD)

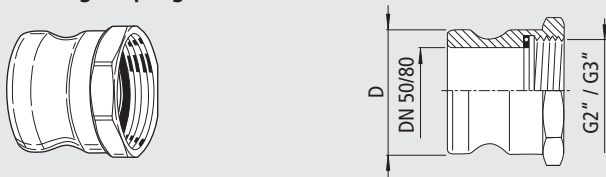
tank vehicle couplings mounted on the tank vehicle, female connector

tank vehicle coupling according to DIN EN 14420-6 (DIN 28 450)

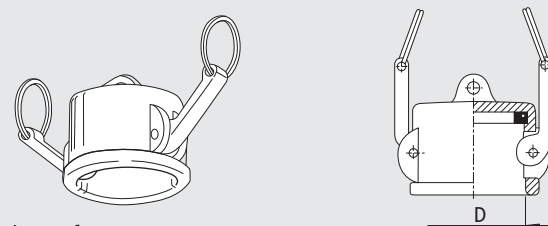


TW female couplings of type MK with inside pipe thread and thread seal (GD) and coupling seal (KD)

lever arm coupling according to DIN EN 14420-7 (DIN 2828) cam locking couplings

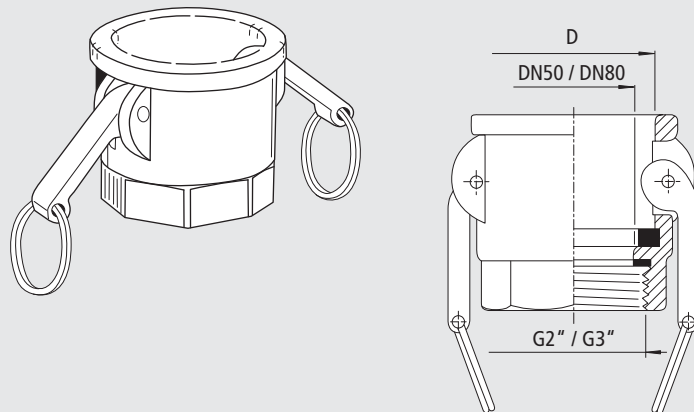


male coupling of type AVKI with inside pipe thread and thread seal (GD)



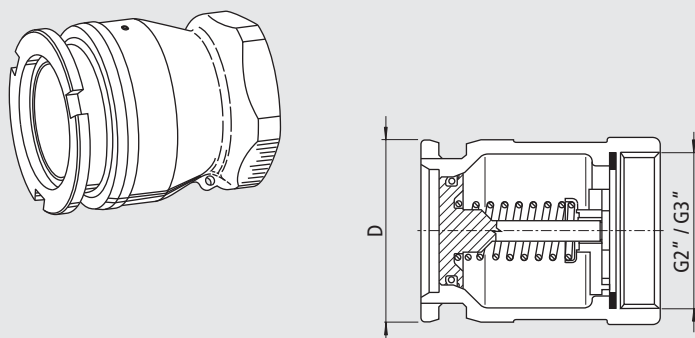
blind cap of type AMB for AVK male couplings, with coupling seal (KD)

lever arm coupling according to DIN EN 14420-7 (DIN 2828) cam locking couplings

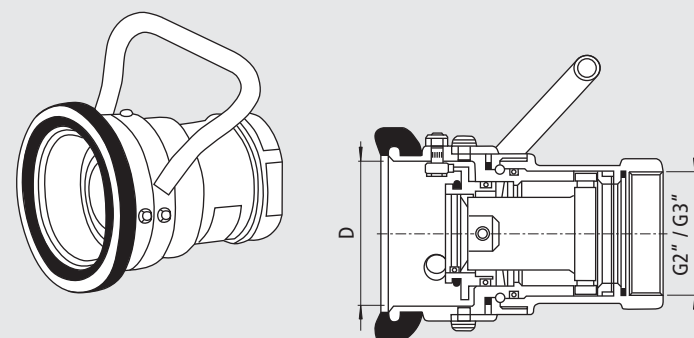


female couplings of type AMKI, with inside pipe thread and thread seal (GD), with coupling seal (KD)

DDC dry coupling male connector (stationary connector), according to NATO STANAG 3756, standard model with inside pipe thread, self-locking valve for liquids, compatible with dry couplings from MannTek, Emco, Avery Hardoll, Todo

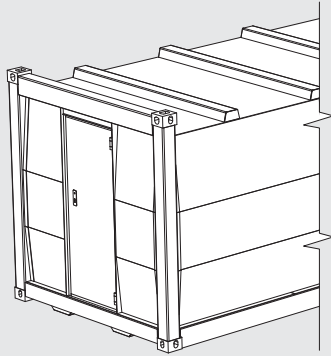


DDC dry coupling, female connector (part of the hose), according to NATO STANAG 3756 with integrated swivel joint, standard model with inside pipe thread, self-locking valve for liquids, compatible with dry couplings from MannTek, Emco, Avery Hardoll, Todo



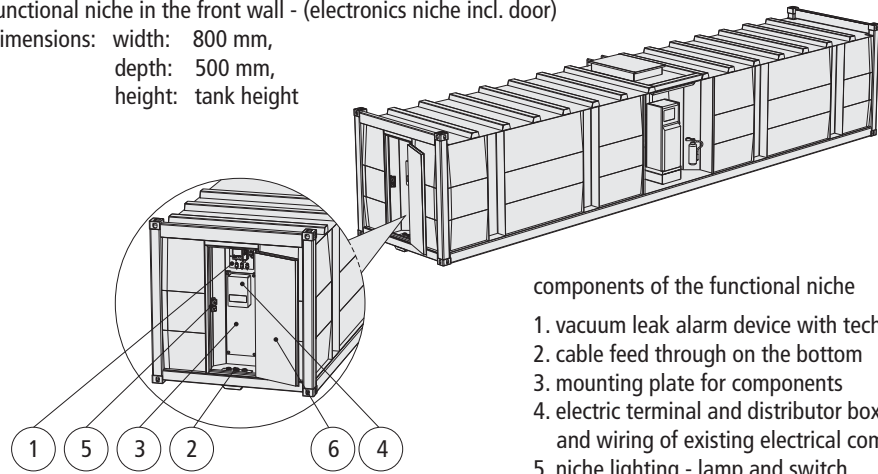


MINOTAUR® Petrol Station Systems - Equipment Electronics Niche



KCD-ISO-10/20/40
petrol station container

KCD-ISO-10/20/40 petrol station container with integrated functional niche in the front wall - (electronics niche incl. door)
dimensions: width: 800 mm,
depth: 500 mm,
height: tank height

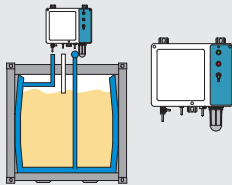


components of the functional niche

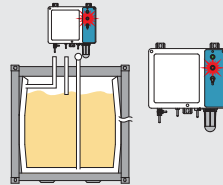
1. vacuum leak alarm device with technical approval
2. cable feed through on the bottom
3. mounting plate for components
4. electric terminal and distributor box (incl. control and wiring of existing electrical components)
5. niche lighting - lamp and switch
6. fire door (F30)

Safety concept - vacuum leak monitoring through AE-350 - leak indicator, electronic, type LAZ-04/1

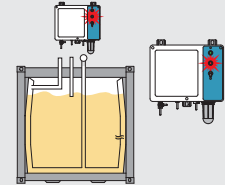
Equipment for double-wall tanks required by the Water Law with existing stationary 230 V and 50 Hz power supply. The leak indicator creates a permanent negative pressure in the control room of the tank and triggers an alarm if the negative pressure drops. The alarm is visible and audible and provided through a potential-free contact. Used for non flammable liquids at temperatures from -5°C to +50°C.



secured vacuum



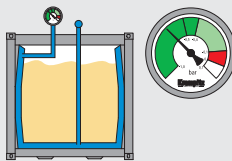
failure - outside tank leak



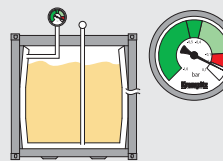
failure - inside tank leak

Safety concept - vacuum leak monitoring through AM-359 - vacuum leak indicator, static, type KÜR-5

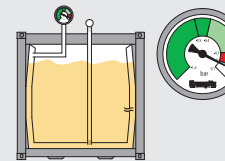
Equipment for double-wall tanks required by the Water Law without stationary power supply. The vacuum is created by an external pump in the leak control room and secured in a vacuum-proof manner. When the negative pressure drops, the pointer enters the red field, thus indicating the alarm. The leak indicator is intrinsically safe and doesn't have an ignition source. Used for flammable and non flammable liquids at temperatures from -20°C to +60°C.



secured vacuum



failure - outside tank leak



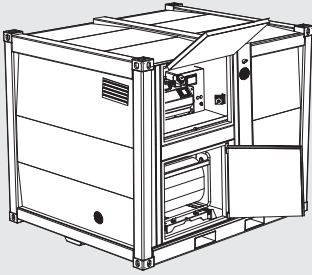
failure - inside tank leak



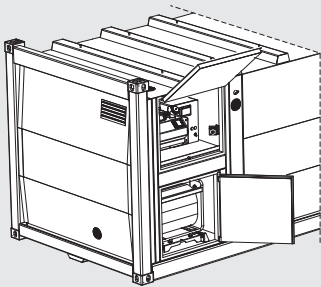


MINOTAUR® Petrol Station Systems - Equipment

Aggregate Niche with Diesel Generator



KCE-ISO-10 office container
with integrated aggregate niche

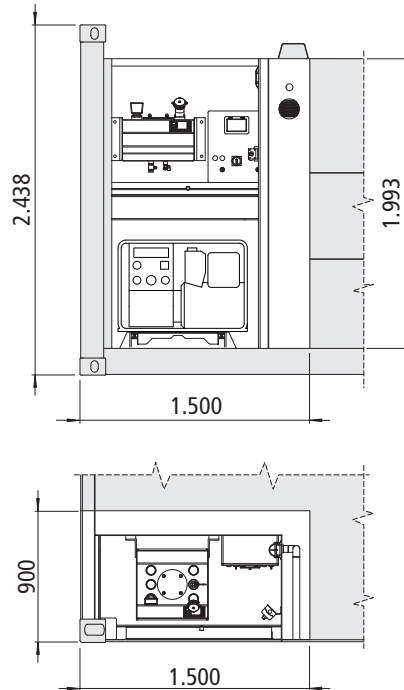


KCD-ISO-20/40 petrol station container
with integrated aggregate niche

KCD-ISO-10/20/40 petrol station container with integrated functional niche - aggregate niche

power supply of petrol station containers is possible through:

- connection with the national grid
- diesel generator for stand-alone operation (isolated operation)



consisting of:

- diesel generator for power self-supply
- continuous electrical power of approx. 5 kVA
- easy handling through pull-out platform
- refuelling through day tank of type TTE-50 (approx. 50 litres)
- installed on top
- sound insulation with air duct
- exhaust pipe with exhaust muffler
- system control and day tank
- vacuum leak alarm device with technical approval
- cable feed through on the bottom
- electric terminal and distributor box (incl. control and wiring of existing electrical components)
- niche lighting - lamp and switch
- door (F30)

day tank of type TTE-50 consisting of:

- pressure relief device
- vent connection with cap
- filler neck with a 45° angle and tank vehicle connection 2"x 2 1/2"
- static flow to diesel generator (flexible hose)
- mechanical level indicator
- residue draining 1/2" with boiler drain valve
- collecting pan integrated into aggregate niche

diesel generator - technical specifications - type DMG6500(E), continuous electrical power of

approx. 5 kVA, fluctuating at approx. 5 kVA

voltage - 1x socket 230V 50Hz, 1x socket 400V 50Hz

current - max. 45.8 A

speed - 3000 rpm

noise distance 7 m - 69-75 dB(A)

outside dimensions: length: 720 mm, width: 492 mm, height: 650 mm, net weight approx. 100 kg

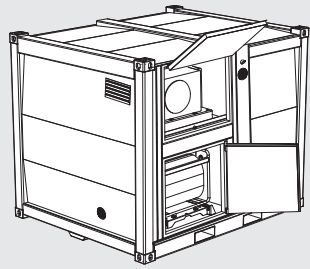
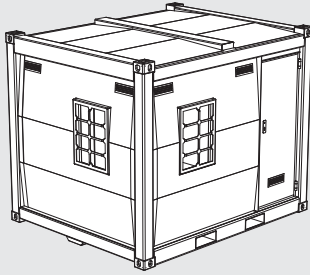
motor: single-cylinder diesel (air-cooled), electric starter, battery, oil deficiency alarm



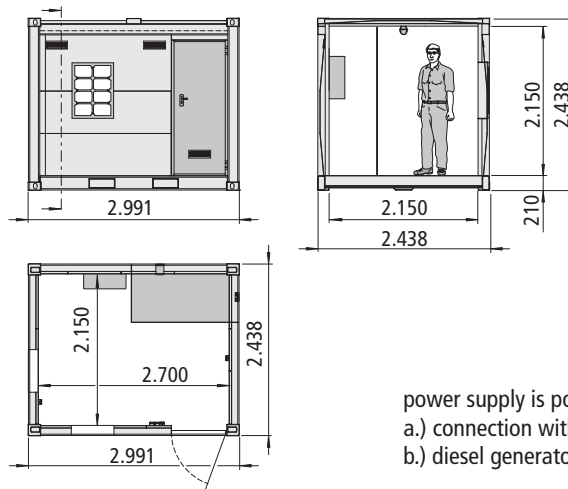


MINOTAUR® Petrol Station Systems - Equipment

Office Container with Aggregate Niche



KCE-ISO-10 office container with aggregate niche



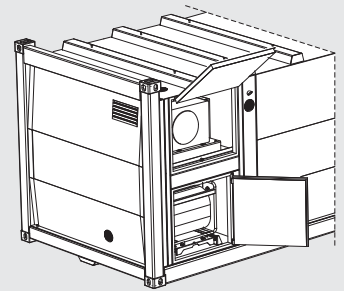
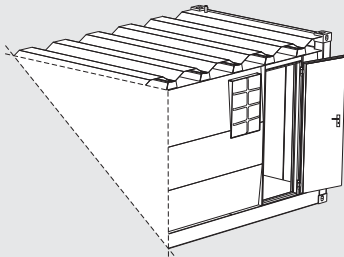
office container description:

- inside lined with 40-mm insulation
- interior zinc cladding, coated
- fire door (F30) 750x1,875 mm
- 2x window 800x600 mm (fixed glazing)
- electric terminal and distributor box (incl. control and wiring of existing electrical components)
- lighting - lamp and switch
- air conditioning
- usable floor area of approx. 5.8 m²

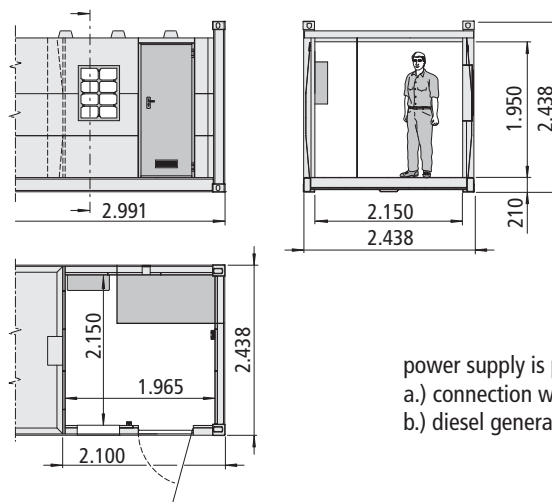
power supply is possible through:

- connection with the national grid through plug socket
- diesel generator for stand-alone operation (isolated operation)

KCE-ISO-10 office container



KCD-ISO-20/40 petrol station container with integrated office room and aggregate niche



office room description:

- like office container but only 1x window
- usable floor area of approx. 4.25 m²
- volume loss of approx. 10,000 litres

power supply is possible through:

- connection with the national grid through plug socket
- diesel generator for stand-alone operation (isolated operation)

KCD-ISO-20/40 petrol station container with integrated office room

air conditioning - type KF(R)-25GW/VW - technical specifications

voltage - 1-phase, 230V, 50 Hz

air flow rate (inside) - max. 435 m³/h

power input (cooling) - 900 W / current drain - 4.2 A

power input (heating) - 880 W / current drain - 4.1 A

noise level - inside 37 dB(A) / outside 50 dB(A)

dimensions: inside unit length: 677 mm, width: 188 mm, height: 250 mm, weight approx. 7 kg

external unit length: 650 mm, width: 250 mm, height: 506 mm, weight approx. 26 kg





MINOTAUR® Petrol Station Systems - Equipment

Safety Concept - Ex Package

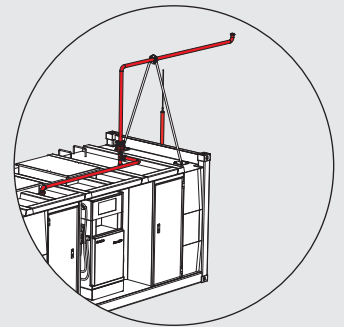
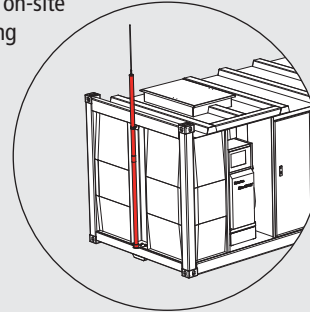
Ex package for the use of flammable liquids, such as petrol, kerosene, consisting of:

- detonation arresters in all ingoing and outgoing tank connections
- vacuum leak monitoring - vacuum leak indicator, type KÜR-5
- safety stickers
- ventilation 2 m above the tank roof
- electric components in compliance with ATEX directives
- potential-equalization cable (10-m drum) for refill
- lightning protection system

lightning protection system consisting of:

- lightning rods, respectively mounted on the front walls
- lightning conductor cable
- potential-equalization cable for tank earthing on earthing rod or ring earth electrode on-site
- cable drum for equipotential bonding with 10 m earthing cable and earthing clamp

ventilation 2 m above the tank roof



Safety-related, required equipment when using flammable liquids, such as petrol, within hazardous areas. Used in all pipelines which are open when the system is in operation, such as during the filling, ventilation, discharge and return processes. The size of the flame arrester depends on the volume flow rate of the pipes to be protected. The leak indicator of type KÜR-5 is intrinsically safe and doesn't have an ignition source; it is thus suitable for the use of flammable liquids.

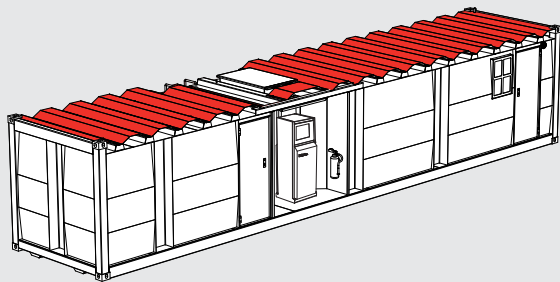




MINOTAUR® Petrol Station Systems - Equipment

Sun Roof, Shelter and Price Display

sun roof

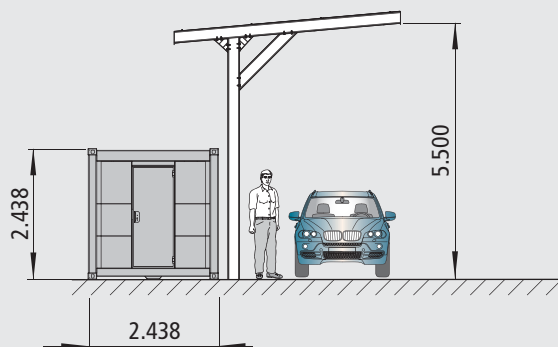
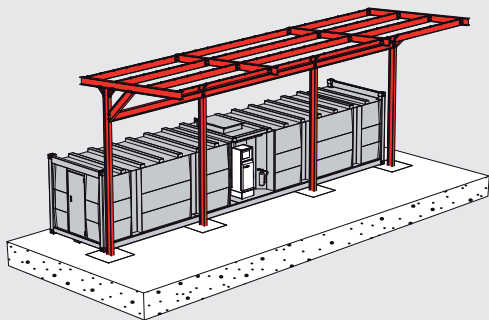


SD-20/40 shelter

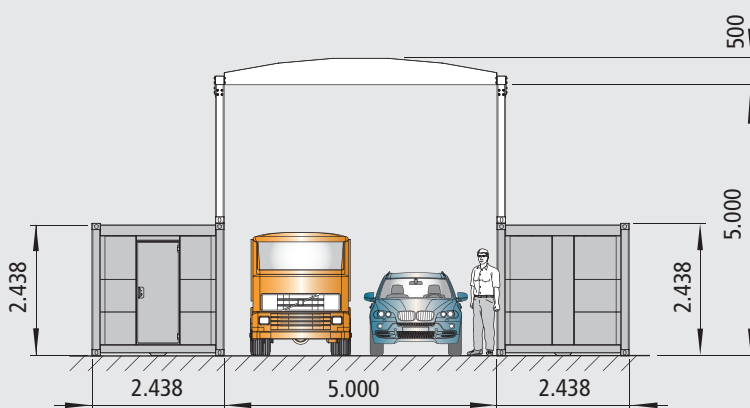
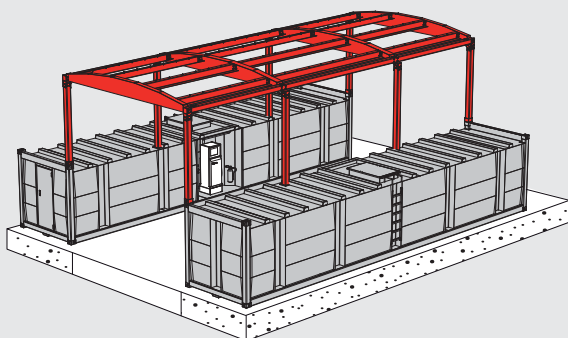
For MINOTAUR® petrol station containers. A metal structure as an additional roof cover to protect the tank from heating due to the exposure to direct sunlight.



shelter for single-lane fuelling area



shelter for two-lane fuelling area



mechanical price display

Mechanical price display which can be fastened to the roof of the petrol station. Function: each number is displayed using seven metal caps. The cap front is black, the cap back is white. A simple flip of the caps allows to display all numbers from 0 to 9.

length: 920 mm
width: 120 mm
height: 1120 mm
weight: 40 kg





MINOTAUR® Petrol Station Systems

Investment Benefits, Mobility Benefits

Minotaur Investment Benefits

1. Investing in a Minotaur® petrol station equals approx. 30 – 40 % of the expenses for a petrol station in traditional design.
2. Our systems ensure a fixed budget for your investment schedule because they are supplied at a fixed proposal price from our production facility.
3. Immediate amortisation of investment costs due to system setup and availability within one day.
4. Your investment is preserved. The tanks are placed above ground instead of under ground. Thus, they are movable and can be taken along and resold.
5. Our systems also allow for a lucrative investment at locations which are normally not suitable for a traditional petrol station due to a too low fuel consumption.
6. To maintain the value of our systems after many years of wearing use, they can be sent back to our production facility. There, they are completely overhauled with the latest available technology.



Mobility Benefits

1. Our modern, standardised systems allow for extremely short turn-around times from the planning process to implementation and for the erection of high numbers to build complete petrol station supply grids at short intervals.
2. The transport-optimised design of our systems ensures low transport and assembly costs. The international CSC transport approval is optional.
3. The fast setup of our systems prevents delays due to bad weather conditions which is often the case during the construction of traditional petrol stations.
4. Our systems allow for highly flexible reactions to changed market conditions. Minotaur® petrol stations can be erected, extended, reduced, relocated or closed at short notice.
5. With Minotaur® systems you can quickly and effectively implement completely new supply grids when new fuels become available.
6. During restoration works at a traditional petrol station, our systems allow you to keep your petrol station business at this location running.

MINOTAUR® Petrol Station Systems

Quality Benefits and References



The quality benefits of our Minotaur® systems

1. Our systems are manufactured by highly trained specialists.
2. Our systems comply with national and international regulations and approvals.
3. The production process is monitored by third-party organisations, such as TÜV or Germanischer Lloyd.
4. Every system undergoes extensive inspections during production, such as:
 - a) quality check of the welding seams
 - b) check of tank leak tightness
 - c) check of the leak monitoring room
 - d) check of the colour coating system
 - e) check of the hydraulic system
 - f) check of the electrical and generator system
 - g) check of the dispensing unit and the pumps
 - h) verification of the documentation
 - i) final inspection



You receive a perfect product which can be put into operation shortly after delivery to the target site.



Our customers are

1. fuel logistics companies - petroleum merchants and groups (Shell, Esso)
2. freight forwarding and other companies with in-house vehicle fleets, vehicle hire companies
3. mining companies
4. petroleum exploration companies
5. disaster control services
6. military services (German Armed Forces)
7. the police
8. large farming and agricultural companies
9. railway companies (German Federal Railway)
10. private and commercial airports (Bitburg)



To ensure our high quality standards, we collaborate with the inspection, monitoring and approval organisations below:



Our containers have ISO standard dimensions or also special dimensions, on request GL or TÜV approved, and are manufactured in heavy all-steel quality. All significant structural parts are designed and manufactured in compliance with DIBt approvals and tested statics. Our comprehensive equipment range provides for a wide choice of container variants. Excellent corrosion protection coatings ensure a long life.



storage tank containers



office container



transport platform



transport frame with tarpaulin housing



system containers for process engineering processes



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