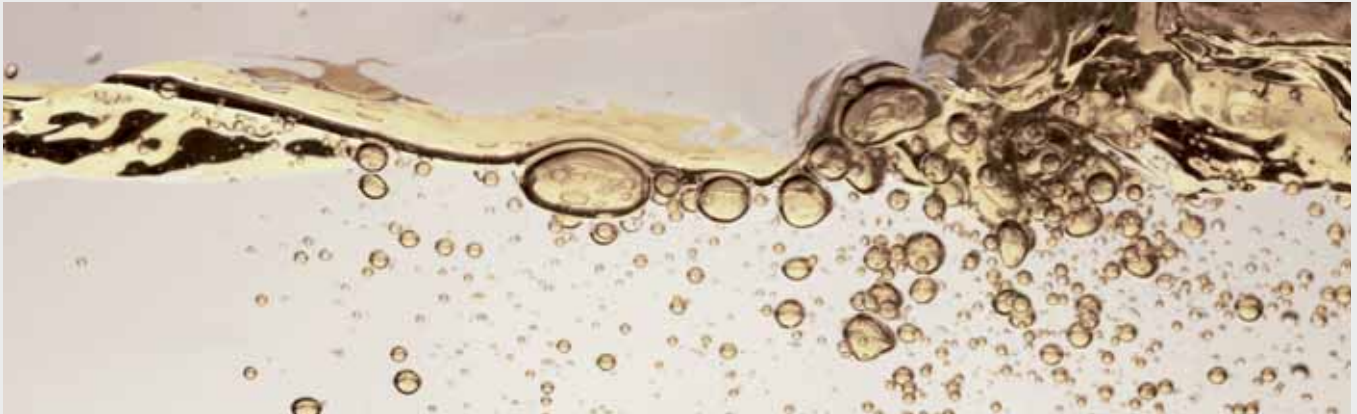


**Experience and competence
for your safety**



Oil heating is still an economical and environmentally friendly heating technology – it is good value and unmatched in terms of safety. The complete heating system also includes the economical, space-saving and unproblematic storage of the fuel.





A future with oil

Oil with a future

■ A constant in modernisation and new buildings

Is oil heating an outdated system? Quite the contrary. The new condensing heating systems in combination with solar reduce oil consumption by up to 40% (according to IWO).

The advantages to you at a glance

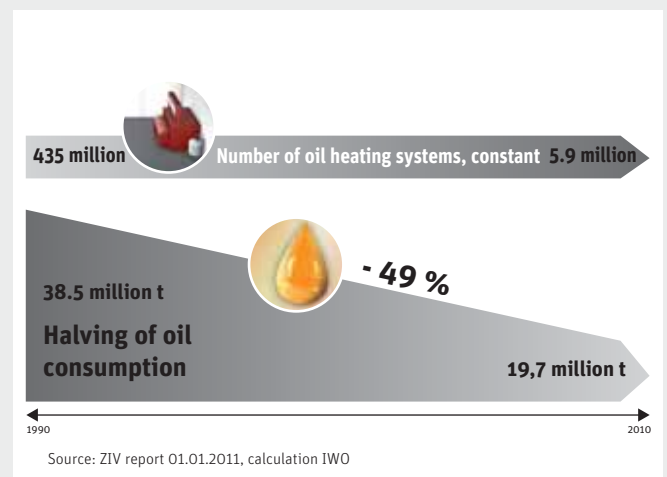
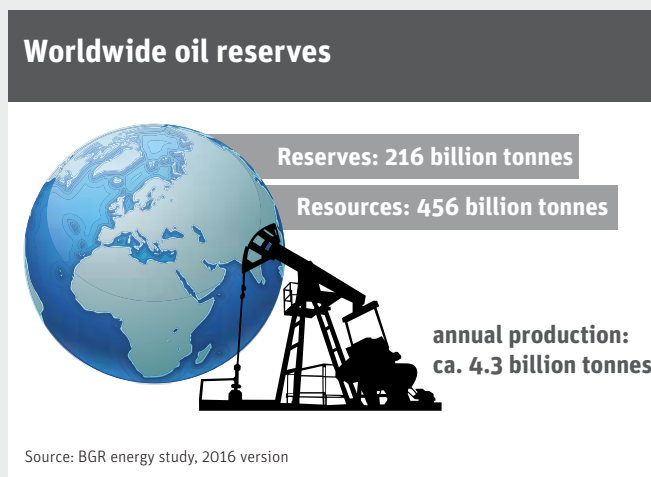
- > very efficient
- > low consumption (ideal partner for renewable energies)
- > conserves resources
- > good for your purse
- > lower emissions = climate protection

■ Oil will last for at least the next 100 years

The oil and the oil tank

- > heat store (long-term energy store)
- > liquid fuels have good storage characteristics
- > no subscription fee as for grid-based energy sources
- > almost 100% energy utilisation

Oil tank (Roth) + buffer storage tank (Roth) + condensing boiler + solar (Roth) = optimal heating system



Development – Manufacture – System

all from one source



■ The Roth philosophy for heating oil storage prevails: Long-term safety is the priority!

In 1971, Roth invented the double-walled plastic tank with a steel outer casing. Since that time, the Roth steel/PE tank has proved itself 100,000 times over. Derived from the so-called "domestic tank", two-walled solutions in steel/plastic and plastic/plastic design for oil central heating have now established themselves on the market.

Single-walled plastic tanks, which require secondary protection to be created on site, are increasingly being phased out. As European market leader, Roth offers a range of heating oil tanks for all practical applications.

Modernisation of heating system + building heat insulation – save up to 70% of energy costs

- > independent
- > sustainable
- > efficient

A proven heating system based upon new technology to supply tomorrow's heating needs

Combination with solar – oil is the ideal partner

- > economical
- > flexible
- > conserves resources
- > complete hot water supply in summer
- > covers up to 60% of the annual hot water demand
- > switch off boiler in summer

Roth heating oil tanks

Quality proven over decades



■ Roth heating oil tanks – unbeatable quality products

- › They are made of long-lasting high-quality polyethylene (PE-HD) which has proved its worth over decades of use. In the case of the DWT, they also have an integral collecting trough made of sheet steel that is fully galvanised inside and out with a high-quality polymer seal.
- › They guarantee protection against diffusion: DWT plus 3: emissions-free metal encapsulation – guarantees complete protection against diffusion. Plastic tanks (single- or double-walled): CoEx-PA-Blend® procedure* manufactured according to the state of the art by material upgrading.
- › The opaque metal encapsulation in the DWT guarantees better stability for the storage of heating oil with biogenic components.
- › Easy-to-install accessories save time during installation.

- › Thanks to the special construction and compact design according to the latest safety standards, all Roth heating oil tanks have optimal sturdiness and inherent stability even without straps.
- › Special production techniques with precision control of the wall thickness, inspection of the construction type and authorisation by independent institutions together with TÜV-monitored production and perfect quality control ensure a constant and top level of product quality and thus maximum operational safety.
- › The Roth range of heating oil tanks with product-related size variants offers the right tank for every need. The range makes it possible to store up to 5000 litres of heating oil in areas that also house a heat source (fireplaces). Quantities of heating oil exceeding these amounts must be stored in special heating oil storage rooms.
- › With the Roth heating oil tanks, up to 10,000 litres of heating oil can be stored in block configurations (latest version of the National Technical Approval (Allgemeine bauaufsichtliche Zulassung, AbZ), and the current TRWS 791-1 regulation).

■ Guarantee

- › All Roth heating oil tanks are issued with the comprehensive "system guarantee" for storage tanks including coverage for consequential damage.
- › Roth heating oil tanks – a safe solution for all situations: in detached houses or multiple dwelling units, in apartment blocks or business premises, in new buildings, extensions or renovations.

*TÜV-tested diffusion protection

Roth DWT plus 3 makes room for innovation

simple, clean and space saving!



Your benefits

State-of-the-art tank assembly with Roth DWT plus 3 and Roth KWT:
All steps in a single process!



> no bricking



> no oil-proof coating



> no separate room

Roth DWT plus 3 and Roth KWT for the storage of up to 5000 litres may be installed in the boiler room.



■ Room for more

The compact tank system from Roth gives you space for something new.

With low oil consumption thanks to efficient calorific value technology, the systems are economical and have small dimensions. Systems with a capacity of up to 5000 litres can be installed in a boiler room. This makes additional space for storage, hobbies and comfort.



Roth DWT plus 3

... with attractive combined protection

"Full speed ahead!" is Roth's battle cry as it meets the future fully equipped to deal with the needs of alternative fuels.



Roth DWT plus 3 1500 l, 1000 l and 750 l

■ Attractive combined protection with full galvanisation and high-quality polymer sealing

Dirty surfaces not only give an unattractive impression, they can sometimes even adversely affect operation. Combined protection consisting of durable full galvanisation and a high-quality polymer coating seals the premium Roth DWT plus 3 tank in order to prevent dirt and fingerprints from sticking (anti-fingerprint effect).

Even if the original Roth DWT plus 3 gains points first and foremost due to its unparalleled plus 3 quality features for the highest levels of safety and living quality, design is becoming an ever more important sales criterion due to the increasing use of basement rooms for other purposes. The new polymer sealing gives the original Roth DWT plus 3 a modern metallic design. It fits in well with modern boilers and is an attractive eye-catcher in any installation situation.

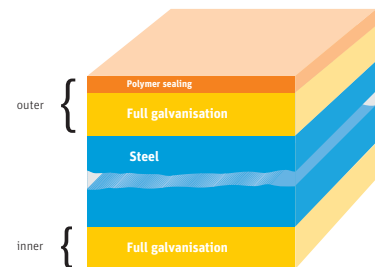
■ Roth DWT plus 3 is ready for the future

Roth makes high demands of itself in terms of the future use of renewable raw materials for heating purposes. Biogenic liquids are a natural product and have a significantly lower storage stability compared to mineral heating oil. They can be affected in particular by light, temperature and air exchange. The opaque and diffusion-proof outer shells of the Roth DWT plus 3 make it particularly well suited for the storage of heating oil with biogenic components.

For this application, Roth offers the Füllstar® plastic filling system, which has proven its worth many times over. Even in its standard design (from 2012), it can be used for:

- > heating oil according to DIN SPEC 51603-6 EL A Bio 5 – Bio 15 with a maximum biogenic component of 15.9% in single tanks and tank systems
- > FAME according to DIN EN 14214 in single tanks

■ Premium tank Roth DWT plus 3 with surface sealing for greater safety and durably attractive appearance:



Roth DWT plus 3

Metal/plastic – the proven composite solution



Roth anchoring system

■ The plus 3 double-walled tank for maximum safety and quality of living

The DWT plus 3 is tightly sealed using Roth's steel meltpress process. A leak probe enables the tank interspace to be monitored for safety. Being completely contained within leak-monitored metal, the DWT plus 3 truly is double-walled all around. The PE inner tank and the steel outer tank, which is tightly sealed all around, are tightly and firmly joined in the vicinity of the tank connection. TÜV has certified the quality of the DWT plus 3, which is based on the steel meltpress process. The unique quality features of the DWT plus 3 offer maximum safety and enhance the home environment:

➤ Fire-proof

Successful 90-minute fire test at the Institute for Material Testing (Materialprüfanstalt, MPA), Dortmund thanks to steel encapsulation. The Roth DWT plus 3 thus offers 3 times as much safety time as tanks made purely of plastic.

➤ Opacity and diffusion resistance

Thanks to its material properties, only steel permits absolute opacity and diffusion resistance and is therefore particularly suitable for the storage of both standard heating oils and heating oils with biogenic components.

➤ Flood-protected

The solid steel construction of the Roth DWT plus 3 with its robust steel outer tank, tightly sealed all round, also guarantees that it can be used safely in areas where there is a danger of flooding.

Roth rounds off the plus 3 quality features with a 15-year product guarantee* made possible by many years of experience with this tank type.

■ Flood protection

In conjunction with the Roth anchoring system, the Roth DWT plus 3 is securely anchored to the floor against buoyancy by means of 4 clamping bands.

The anchoring system is simple to retrofit to existing DWT plus 3 tank systems (Allgemeine bauaufsichtliche Zulassung, National Technical Approval Z-40.21-364).

This means the DWT plus 3 provides an economical solution for use in areas subject to flooding as no additional constructive reinforcements of the tanks are required. The accessory is designed for tanks with 750 l and 1000 l rated contents in row configurations with up to a maximum of 5 tanks as well as for simple angle configuration installations with up to 7 tanks.



*see guarantee conditions

Roth DWT plus 3 750 l

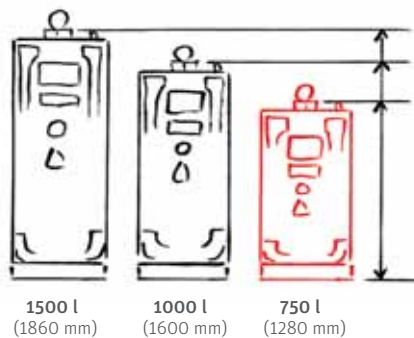
our renovation specialist

For renovation decisions, 80 per cent of the height of the cellar is the determining factor. With the new DWT plus 3 750 l, it is no longer an issue.



■ DWT plus 3 750 l – minimal height, maximum benefits

Roth is now offering the extremely low-rise DWT plus 3 750 l. It is perfect for renovation projects involving basements with low ceilings. Compared to the rest of the "family", it reduces the tank height by around a quarter. With its slimline design, the DWT plus 3 fits through narrow doorways and into small rooms with ease. Thanks to its dimensions, the new DWT plus 3 750 l is especially suitable for renovation projects.



DWT plus 3 – an ideal tank for both renovation and new-build projects

- > Its narrow design and low height – along with the separately supplied base frame – permit optimal integration.
- > The need for bricking is dispensed with thanks to its double-walled design (space saving).
- > The modern metallic look means that the original Roth DWT plus 3 really catches the eye. It makes your storage room attractive for other uses.

Roth DWT plus 3

All-round safety



■ **DWT plus 3 – the quality tank with quality transport protection**

- > **Styrofoam cover**
perfect protection of the leak probe and level gauge
- > **Pallet with all-round impact protection**
optimum safety during delivery
- > **Film hood**
ideal protection of the top area from dirt and moisture



Roth DWT plus 3

at a glance



1

Füllstar® system

> The few parts are installed without tools apart from the installer's own hands.



2

Fire safety

> Fire safety according to the 90-minute standard fire test at the MPA, Dortmund. 3 times the safety time of the standard fire test.



3

Diffusion protection

> Permanent odour absorption by metal encapsulation that is tightly sealed all round. Thanks to its material properties, steel permits absolute diffusion protection.



4

Suitability of "Bio" heating oil

> Particularly suitable for the storage of standard heating oils and heating oils with biogenic components.



5

Corrosion protection

> Beading protects the material and the steel meltpress procedure and full galvanisation with high-quality polymer sealing guarantee optimal corrosion protection that has proven itself over decades of practical use.



6

Easy handling

> Can easily be carried and fitted by 2 people. Installation is made easier by handles on the back, and by the separately supplied base frame.



Roth KWT

the quality tank in standard design



Roth KWT: 750 I-C, 1000 I-R, 1000 I-C, 1500 I-R



Roth KWT: Row configuration 3 × 1000 I-C

■ Roth KWT

The double-walled Roth KWT is made entirely of plastic, with a polyethylene inner tank and a polyethylene tray.

The edge of the shell connects directly to the tank on the inside to form a single functional tank unit.

The compact design gives the Roth KWT extremely high strength without straps or beads. Smooth walls with a band-shaped bulge in the top part give it an unmistakably modern design.

The diffusion layer is achieved by material upgrading for all single- and double-walled polyethylene tanks. Polyamide blend is deposited using the TÜV-tested Roth "CoEx-PA-Blend"[®] procedure, similar to the Selar procedure. It reflects the state of the art.

The Roth KWT has passed the 30-minute standard fire test at the MPA, Dortmund. Roth offers a 15-year product system guarantee for the quality tank. *

Moreover, the Roth KWT is permitted for installation in compliance with the National Technical Approval (Allgemeine bauaufsichtliche Zulassung) AbZ (Z-40.21-319) in earthquake zones 0-3 in accordance with DIN 4149.



Roth non-slip mat: Safety during earthquakes



Edge of the tray connects directly to the tank

*see guarantee conditions

Roth KWT 1000 I-R

the renovation tank amongst the double-walled plastic tanks

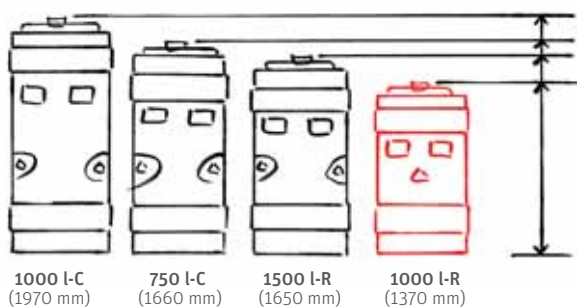
Low height, enormous advantage!
Space-saving heating oil storage
with Roth



■ Roth KWT 1000 I-R

It's narrow, it's light, it has a low height.
The new KWT 1000 I-R perfectly fulfils the
conditions for renovation in basements
with low ceiling heights and where space
is tight.

All KWTs are licensed for the storage of
heating oil EL A Bio 5 to 15. These biogenic
mixtures can be stored in the Roth KWTs in
row and block configuration.



KWT 1000 I-R – an ideal tank for renovation and new buildings

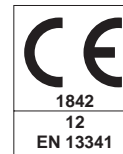
- > Easy handling thanks to low, narrow design.
- > Thanks to the double-walled design, there is no need for bricking and oil-proof coating.

Roth heating oil tanks

General overview



Roth DWT plus 3 (double-walled tank)						
	Length *	Width *	Height *	Weight M0	Weight M1	Storage permit (AbZ)
750 l	1100 (1145) mm	700 (740) mm	1 280 (1460) mm	65 kg	82 kg	Z-40.21-161
1000 l	1100 (1145) mm	700 (740) mm	1 600 (1780) mm	79 kg	97 kg	Z-40.21-161
1500 l	1630 (1680) mm	760 (800) mm	1 860 (2030) mm	133 kg	160 kg	Z-40.21-283



* Height on base frame to top of screw connection. Dimensions in brackets include packaging.
For installation in the room in which it is to be positioned deduct 90 mm for the separate base frame. Add 210 mm for the lines, safety valve and LVE. See page 22 for detailed dimensions and installation variants.

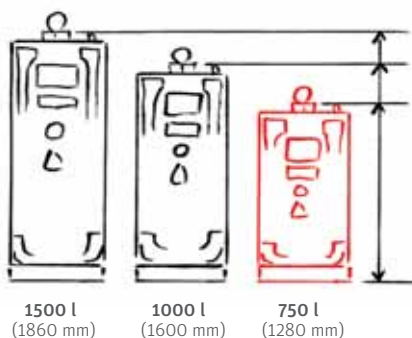
Weight M0 = without packaging, without base frame
Weight M1 = complete with packaging and base frame

■ Stored liquids for Roth heating oil tanks

- > heating oil EL according to DIN 51603-1
- > diesel fuel in accordance with DIN EN 590
- > heating oil EL A (BIO) Bio 5 – Bio 15 in accordance with DIN SPEC 51603-6

■ Approved for individual tanks

- > lubricating oils, hydraulic oils, heat transfer oils Q, alloyed or unalloyed with flash point over 55 °C,
- > biodiesel (FAME) in accordance with DIN EN 14214
- > lubricating oils, hydraulic oils, heat transfer oils Q, used oils, flash point over 55 °C; origin and flash point must be verifiable by the operator*
- > vegetable oils such as cottonseed, olive, rapeseed, castor or wheat germ oil in any concentration, that are not used as a foodstuff or for the manufacture of foods



* If these substances are stored in a DWT plus 3 the leak probe fitted as standard (visual display) should be replaced by another suitable sensor. Where water legislation (water hazard class 3) dictates, it should be replaced by an optical and acoustic leakage warning device. An optical and acoustic leakage warning device can also be necessary for the other substances if the tank is installed in protected areas.

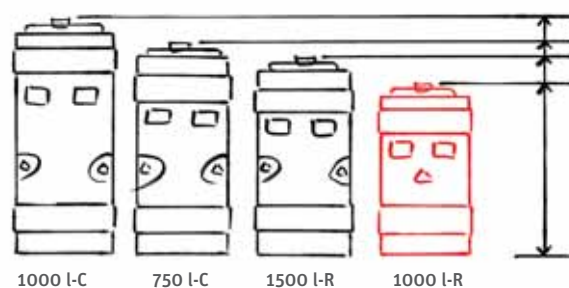


Roth KWT (plastic tray tank)					
	Length	Width	Height *	Weight	Storage permit (AbZ)
750 l - C	770 mm	760 mm	1660 mm	47 kg	Z-40.21-319
1000 l - C	820 mm	820 mm	1970 mm	54 kg	Z-40.21-319
1500 l-R	1660 mm	760 mm	1650 mm	88 kg	Z-40.21-319
1000 l-R	1430 mm	745 mm	1370 mm	58 kg	Z-40.21-319

*Height to top edge of connections
 Add 210 mm for the lines, safety valve and LVE.
 See page 24 for detailed dimensions and installation variants.

■ **The following are also approved for the Roth KWT**

- > ethylene glycol (CH₂OH) as radiator anti-freeze
- > photochemicals, commercially available in usage concentration (new and used) with a density of max. 1.15 g/cm³ (maximum fill level 80%)
- > ammonia water (solution) NH₄OH, up to saturated solution
- > pure urea solution 32.5% as NO_x reducing agent (AdBlue) with a density of max. 1.15 g/cm³ maximum fill level 80%)
- > in earthquake zones 0-3 in accordance with DIN 4149 with the use of a flexible filling connection and non-slip mat with a coefficient of friction greater than 0.35



Roth FüllFlex

Filling hose DN 50 with LORO-X connection

Flexible and safe –
The ideal alternative
to a Z-bend

NEW

■ Roth FüllFlex – Flexible filling hose

With general construction approval, the Roth FüllFlex filling hose may be used as a filling element for fuel oil consumer systems. At its length of 680 mm, it is ideal for compensating for the height differences that arise when the heating oil tanks is being filled.

In accordance with the technical regulations for oil installations (TRÖI), the filling line of the heating oil tank system to be carried out on site must be implemented with a horizontal Z-bend (relief curve). The Roth FüllFlex filling hose ensures quick and easy implementation and saves the time-consuming installation of a Z-bend.

General construction
approval Z-40.7-533



At a glance

- > suitable for all Roth heating oil tanks
- > suitable for connecting to the Füllstar® filling system with the LORO-X (DN 50) filling connection
- > safely compensates for settling behaviour that may occur
- > fast installation that saves time and money
- > is required for earthquake-proof installation for Roth KWT double-walled plastic tanks
- > total length: 680 mm
- > maximum bending radius 200 mm
- > maximum operating pressure 10 bar

Roth Füllstar®

securely fitted in the blink of an eye



- **Füllstar® – one system for row, block and angle installation**
- **Roth DWT plus 3 750/1000/1500 l**
- **Roth KWT 750/1000 l-C**
- **Roth KWT 1000/1500 l-R**

Even in times of technical progress there are times when it is worth using our hands. Hands are a reliable tool that you can depend upon. We have developed a filling system for our Roth heating oil tank based upon this tool: the Roth Füllstar®. (Allgemeine bauaufsichtliche Zulassung, National Technical Approval – Z-40.7-487) The few parts are installed without tools apart from the installer's own hands. The Füllstar® pipe can be fitted together quickly and securely tightened using the union nut with the seal and clamping ring

that are prefitted in the factory. The high-quality plastic material (PE-HD) guarantees reliable long-term safety. Precise injection nozzles ensure that the tank is filled evenly.

The Roth Füllstar® significantly reduces the already-short installation times for the Roth heating oil tank.

The standard accessories have already been approved for heating oil with biogenic components <= 15.9% (heating oil EL A Bio 5 to Bio 15 in accordance with DIN SPEC 51603-6). High-quality materials guarantee reliability and long service life in combination with the most common biogenic fuels of the future.

The Roth Füllstar® filling system is supplied with the non-communicative single-line system and the F-Stop LVE-LS overfill safety system as standard for the tank types DWT and KWT!

NEW

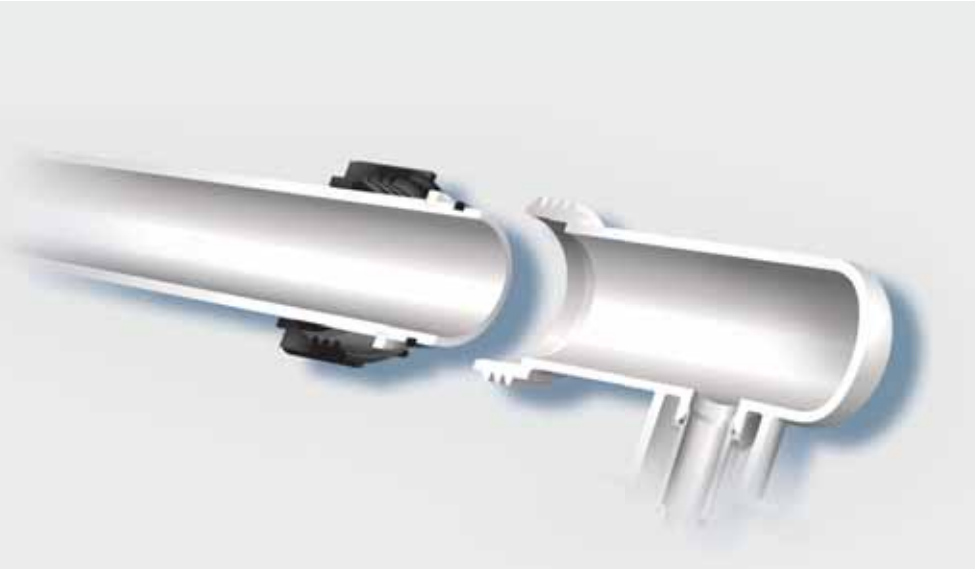
Roth overfill protection system, type F-Stop LVE-LS, guarantees maximum safety against overfilling as a standard integrated system.



The design of the suction hose with spacer spider deserves particular mention. This guarantees that any sediment that has collected on the floor of older tank systems is not sucked up and therefore does not cause faults in the heating system (e.g. premature filter blockages).

Roth Füllstar®

flexibly systematic



Advantages at a glance

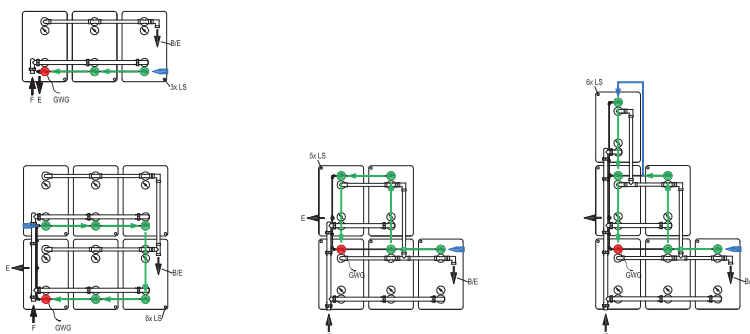
- > flexible use
- > easy and safe installation
- > appropriate height adjustment

■ Roth overfill safety system, TYPE F-Stop LVE-LS, for maximum safety against overfilling, for tank systems of up to 11 tanks*

With the standard integrated F-Stop overfill safety system LVE-LS from Roth, in addition to the limit value encoder in the LVE in the 1st tank, a tank system level limiter (level sensor) LVE is also fitted in the following tanks. The LVE and level sensors are electrically connected in the form of a safety chain. This system fulfils the highest safety standards and provides effective protection against overfilling when refilling heating oil storage installations.

The "basic kit" is included in each basic unit (GS or G) and it serves as the connection with the limit value encoder of the first tank. For each further/following tank in a tank system, an "extension kit" is required, which is included in the extension row (RS or R) or the extension block (BS or B). The basic kit and the extension kits are connected by a bus cable. A terminal plug, which is supplied with the basic kit, connects the safety chain to the extension kit of the last tank in a tank system.

■ Installation examples for F-Stop LVE-LS



- **Basic kit**
(connection unit I)
- **Extension kit**
(connection unit II)
with bus cable and level sensor
- ▶ **Terminal plug**
- ← **Extension cable (2.60 m)**
for angle configuration



- 1 Basic kit
- 2 Limit value encoder (LVE) in 1st tank
- 3 Bus cable from extension kit
- 4 Extension kit with level sensor (LS)
- 5 Terminal plug from basic kit

■ Basic kit with termination plug



■ Extension kit with bus cable and level sensor (LS)



■ Advantages of the system

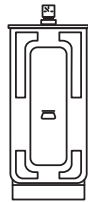
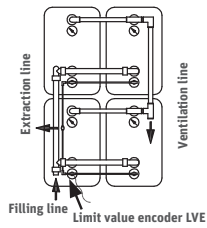
- > Flexible use for tank systems of up to 11 tanks in row, block and angle configuration (1 × LVE, 10 × LS).
- > The system works without an additional power source and is compatible with the electricity interface of the LVE tanker control.
- > Easy and safe installation thanks to the bus system.
- > Sensors can be fitted into and removed from the tank panel of the extraction fitting from above without removing the extraction system.
- > As for the LVE, the height adjustment of the LS is suitable for every tank design.
- > Fault display red on each extension unit, making quick and simple fault-finding possible.
- > The system is compatible with the extraction system for Roth tanks of types DWT and KWT.
- > Tank systems with Füllstar from year of manufacture 1998 can be retro-fitted (older tanks upon request).

* The Roth F-Stop LVE-LS overfill and safety system meets the safety requirements defined in the currently valid National Technical Approval (Allgemeine bauaufsichtliche Zulassung) for tanks and also already meet the anticipated future intensification of installation requirements in terms of technical regulations and water legislation.

Roth DWT plus 3

Row and block configuration with Roth Füllstar® 12 and 6 mm nozzle

■ Roth DWT plus 3
750, 1000 l,
1500 l (versions 11-15)



Füllstar® quick filling system 12 mm nozzle



Caution!
The wall and ceiling distances stated in the tables and drawings are minimum distances! If necessary, greater distances may be required for maintenance, monitoring/testing of the safety equipment (mechanical or electrical leak detection systems, limit value encoders and level limiters/sensors), as well as for correct pipeline assembly!

- S Note control and accessibility of the sensors. Maximum distance from passage 1.25 m
- D 50 Ceiling-top of tank distance ≥ 50 cm
- 40 cm-wide passage (distance from wall), for access
- Required (40 cm-wide) connection passage if the opposite passage cannot be reached otherwise

Config. no.	Nominal capacity in l			Block dimensions Length x width in mm		minimum room dimensions Length x width in mm		Accessories	
	750 l	1000 l	1500 l	750/1000 l	1500 l	750/1000 l	1500 l	Füllstar®	
								6 mm nozzle*	12 mm nozzle**
Configurations/quick filling system with Füllstar®-12 mm nozzle									
11	750	1000	1500	1100 x 700	1630 x 760	1550 x 800 (1200 - 1150)	2080 x 860 (1730 - 1210)		1GS
12	1500	2000	3000	1100 x 1480	1630 x 1540	1550 x 1580	2080 x 1640		1GS, 1RS
13	2250	3000	4500	1100 x 2260	1630 x 2320	1550 x 2360	2080 x 2420		1GS, 2RS
14	3000	4000	6000	1100 x 3040	1630 x 3100	1550 x 3140	2080 x 3200		1GS, 3RS
15	3750	5000	7500	1100 x 3820	1630 x 3880	1550 x 3920	2080 x 3980		1GS, 4RS
21	1500	2000		2250 x 700		2350 x 1150			1GS, 1BS
22	3000	4000		2250 x 1480		2350 x 1930			1GS, 1BS, 2RS
22a	3000	4000		2250 x 1480		2700 x 1580			1GS, 1BS, 2RS
31	2250	3000		3400 x 700		3500 x 1150			1GS, 2BS
41	3000	4000		4450 x 700		4650 x 1150			1GS, 3BS
51	3750	5000		5700 x 700		5800 x 1150			1GS, 4BS
Configurations/filling system with Füllstar®-6 mm nozzle									
23	4500	6000		2250 x 2260		2700 x 2360		1G, 4R, 1B	
24	6000	8000		2250 x 3040		2700 x 3140		1G, 6R, 1B	
25	7500	10000		2250 x 3820		2700 x 3920		1G, 8R, 1B	
32	4500	6000		3400 x 1480		3500 x 1930		1G, 3R, 2B	
33	6750	9000		3400 x 2260		4200 x 2710		1G, 6R, 2B	
33a	6750	9000		3400 x 2260		3850 x 3060		1G, 6R, 2B	
42	6000	8000		4550 x 1480		4650 x 1930		1G, 4R, 3B	
52	7500	10000		5700 x 1480		5800 x 1930		1G, 5R, 4B	

Config.: Configuration variant

*** Füllstar®-6 mm nozzle**

(for multiple-row block and angle configuration, filling speed per tank 40 - 60 l/min):

G = Basic unit (for DWT 750/1000 l), including basic kit for F-Stop LVE-LS (Connection unit 1)

R = Extension row (DWT 750/1000 l - 780 mm), including extension kit for F-Stop LVE-LS (Connection unit 2)

B = Extension block (DWT 750/1000 l - 1150 mm), including extension kit for F-Stop LVE-LS (Connection unit 2)

**** Füllstar®-12 mm nozzle**

(Quick filling system, filling speed per tank 90 - 200 l/min):

- GS = Basic unit for special configurations (DWT 750/1000/1500 l), only for individual tank configuration

- RS = Extension row for quick filling system (DWT 750/1000/1500 l - 780 mm), including extension kit for F-Stop LVE-LS (Connection unit 2)

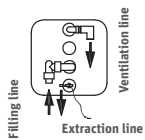
- BS = Extension block for quick filling system (DWT 750/1000 l - 1150 mm), including extension kit for F-Stop LVE-LS (Connection unit 2)

Subject to technical modifications.

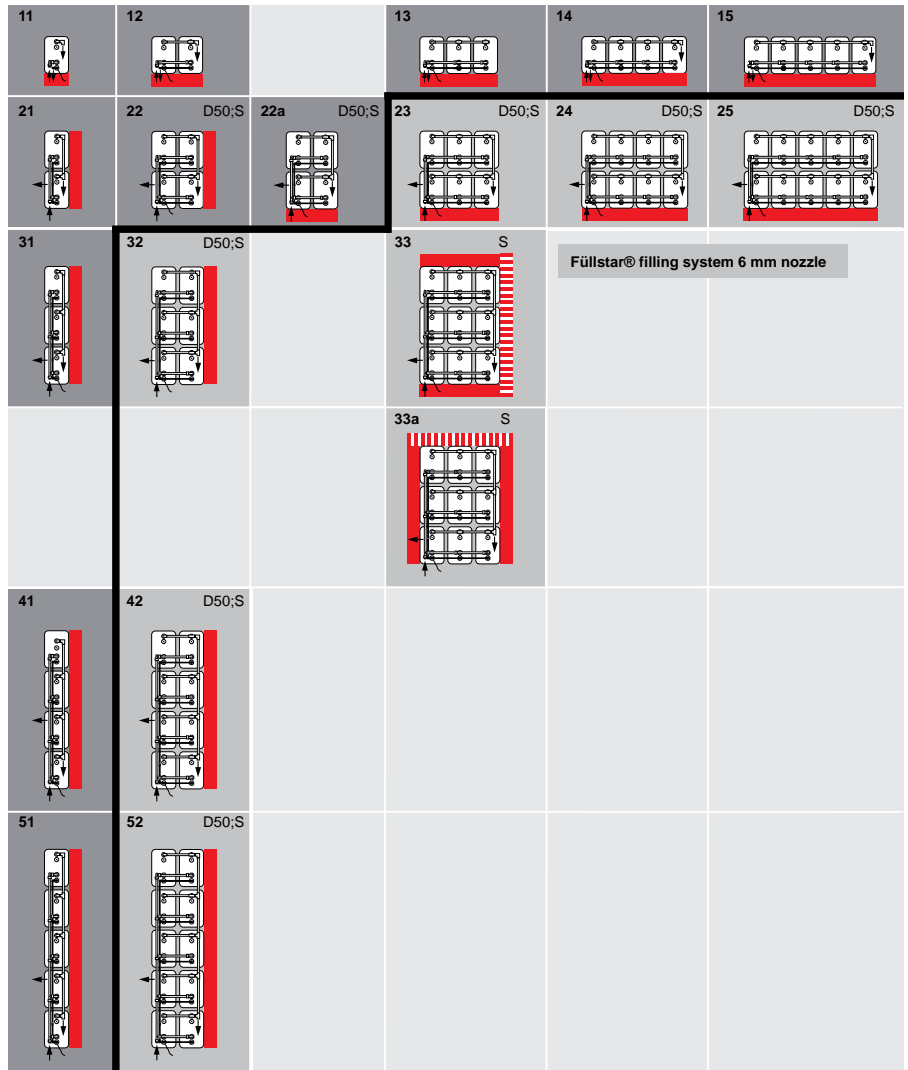
Roth KWT

Row and block configuration with Roth Füllstar® 12 and 6 mm nozzle

■ Roth KWT
750 I-C, 1000 I-C,
1000 I-R/1500 I-R (versions 11-15)



Füllstar® quick filling system 12 mm nozzle



Caution!

The wall and ceiling distances stated in the tables and drawings are minimum distances! If necessary, greater distances may be required for maintenance, monitoring/testing of the safety equipment (limit value encoders and level limiters/sensors), as well as for correct pipeline assembly!

- S Note control and accessibility of the sensors. Maximum distance from passage 1.25 m
- D 50 Ceiling-top of tank distance ≥ 50 cm
- 40 cm-wide passage (distance from wall), for access
- Required (40 cm-wide) connection passage if the opposite passage cannot be reached otherwise

Config. no.	Nominal capacity in l				Block dimensions Length x width in mm				minimum room dimensions Length x width in mm				Accessories	
	750 I-C	1000 I-C	1000 I-R	1500 I-R	750 I-C	1000 I-C	1000 I-R	1500 I-R	750 I-C	1000 I-C	1000 I-R	1500 I-R	Füllstar®	
													Nozzle 6 mm*	Nozzle 12 mm**
Configurations/quick filling system with Füllstar®-12 mm nozzle														
11	750	1000	1000	1500	770 x 760	820 x 820	1430 x 745	1660 x 760	1270 x 960 (970 x 1260)	1320 x 1020 (1020 x 1320)	1930 x 945 (1630 x 1245)	2160 x 960 (1830 x 1210)		1GS
12	1500	2000	2000	3000	(770 x 1600)	820 x 1740	1430 x 1585	1660 x 1600	1270 x 1800	1320 x 1940	1930 x 1785	2160 x 1800		1GS, 1RS
13	2250	3000	3000	4500	770 x 2440	820 x 2660	1430 x 2425	1660 x 2440	1270 x 2640	1320 x 2860	1930 x 2625	2160 x 2640		1GS, 2RS
14	3000	4000	4000	6000	770 x 3280	820 x 3580	1430 x 3265	1660 x 3280	1270 x 3480	1320 x 3780	1930 x 3465	2160 x 3480		1GS, 3RS
15	3750	5000	5000	7500	770 x 4120	820 x 4500	1430 x 4105	1660 x 4120	1270 x 4320	1320 x 4700	1930 x 4305	2160 x 4320		1GS, 4RS
21	1500	2000			1610 x 760	1740 x 820			1810 x 1260	1940 x 1320				1GS, 1BS
22	3000	4000			1610 x 1600	1740 x 1740			1810 x 2100	1940 x 2240				1GS, 1BS, 2RS
22a	3000	4000			1610 x 1600	1740 x 1740			2110 x 1800	2240 x 1940				1GS, 1BS, 2RS
31	2250	3000			2450 x 760	2660 x 820			2650 x 1260	2860 x 1320				1GS, 2BS
41	3000	4000			3290 x 760	3580 x 820			3490 x 1260	3780 x 1320				1GS, 3BS
51	3750	5000			4130 x 760	4500 x 820			4330 x 1260	4700 x 1320				1GS, 4BS
Configurations/filling system with Füllstar®-6 mm nozzle														
23	4500	6000			1610 x 2440	1740 x 2660			2110 x 2640	2240 x 2860				1G, 4R, 1B
24	6000	8000			1610 x 3280	1740 x 3580			2110 x 3480	2240 x 3780				1G, 6R, 1B
25	7500	10000			1610 x 4120	1740 x 4500			2110 x 4320	2240 x 4700				1G, 8R, 1B
32	4500	6000			2450 x 1600	2660 x 1740			2650 x 2100	2860 x 2240				1G, 3R, 2B
33	6750	9000			2450 x 2440	2660 x 2660			3250 x 2940	3460 x 3160				1G, 6R, 2B
33a	6750	9000			2450 x 2440	2660 x 2660			2950 x 3240	3160 x 3460				1G, 6R, 2B
42	6000	8000			3290 x 1600	3580 x 1740			3490 x 2100	3780 x 2240				1G, 4R, 3B
52	7500	10000			4130 x 1600	4500 x 1740			4330 x 2100	4700 x 2240				1G, 5R, 4B

Config.: Configuration variant

*** Füllstar®-6 mm nozzle**

(for multiple-row block and angle configuration, filling speed per tank 40 - 60 l/min):

G = Basic unit (for KWT 750/1000 I-C), including basic kit for F-Stop LVE-LS (Connection unit 1)

R = Extension row (KWT 750 I-C - 840 mm), including extension kit for F-Stop LVE-LS (Connection unit 2)

R = Extension row (KWT 1000 I-C - 920 mm), including extension kit for F-Stop LVE-LS (Connection unit 2)

B = Extension block (KWT 750 I-C - 840 mm), including extension kit for F-Stop LVE-LS (Connection unit 2)

B = Extension block (KWT 1000 I-C - 920 mm), including extension kit for F-Stop LVE-LS (Connection unit 2)

**** Füllstar®-12 mm nozzle**

(Quick filling system, filling speed per tank 90 - 200 l/min):

- GS = Basic unit for special configurations (KWT 750/1000 I-C and KWT 1000/1500 I-R)

- RS = Extension row for quick filling system (KWT 750 I-C and KWT 1000/1500 I-R 840 mm)

- RS = Extension row for quick filling system (KWT 1000 I-C - 920 mm)

- BS = Extension block for quick filling system (KWT 1000 I-C - 920 mm)

- BS = Extension block for quick filling system (KWT 750 I-C - 840 mm)

- KL = Extension cable for angle configuration

Subject to technical modifications.

Roth diesel filling station

on-site fuel storage



■ Directly on-site

Thanks to greater efficiency and increased time savings, more people are choosing to store diesel fuel on site in both industrial and residential environments. A Roth diesel filling station can be used to fill up fork lift trucks and agricultural machinery, for example, with fuel on site. The double-walled tanks, which comprise a PE inner tank and a galvanised steel outer tank, can be installed without additional collecting space.

The Roth double-walled tank has an integrated leak probe for monitoring the tank interspace, as well as a level gauge that shows the remaining tank capacity. When used in conjunction with Roth accessories, the tank conforms to all provisions made under building law and legislation for water conservation.

The customer is responsible for ensuring compliance with regulations governing soil conditions in the area in which fuel is dispensed and the impact protection of the tank. Effective roofing must be provided.

Please pay attention to wall clearances: at least 50 mm on three sides, at least 400 mm on one longitudinal side.

Note:

The specially designed 'filling kit for the DWT 1500 l diesel tank' is required for the filling procedure for the DWT plus 3 1500 l. Here, the tank is fitted with 3 connections for:

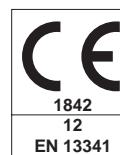
- > filling (LORO-X)
 - > the level gauge with limit value encoder
 - > the ventilation line connection
- A pump can be fitted to the remaining free connection (Connection IG 2" – see photo above).

Filling kit for the DWT 1500 l diesel tank



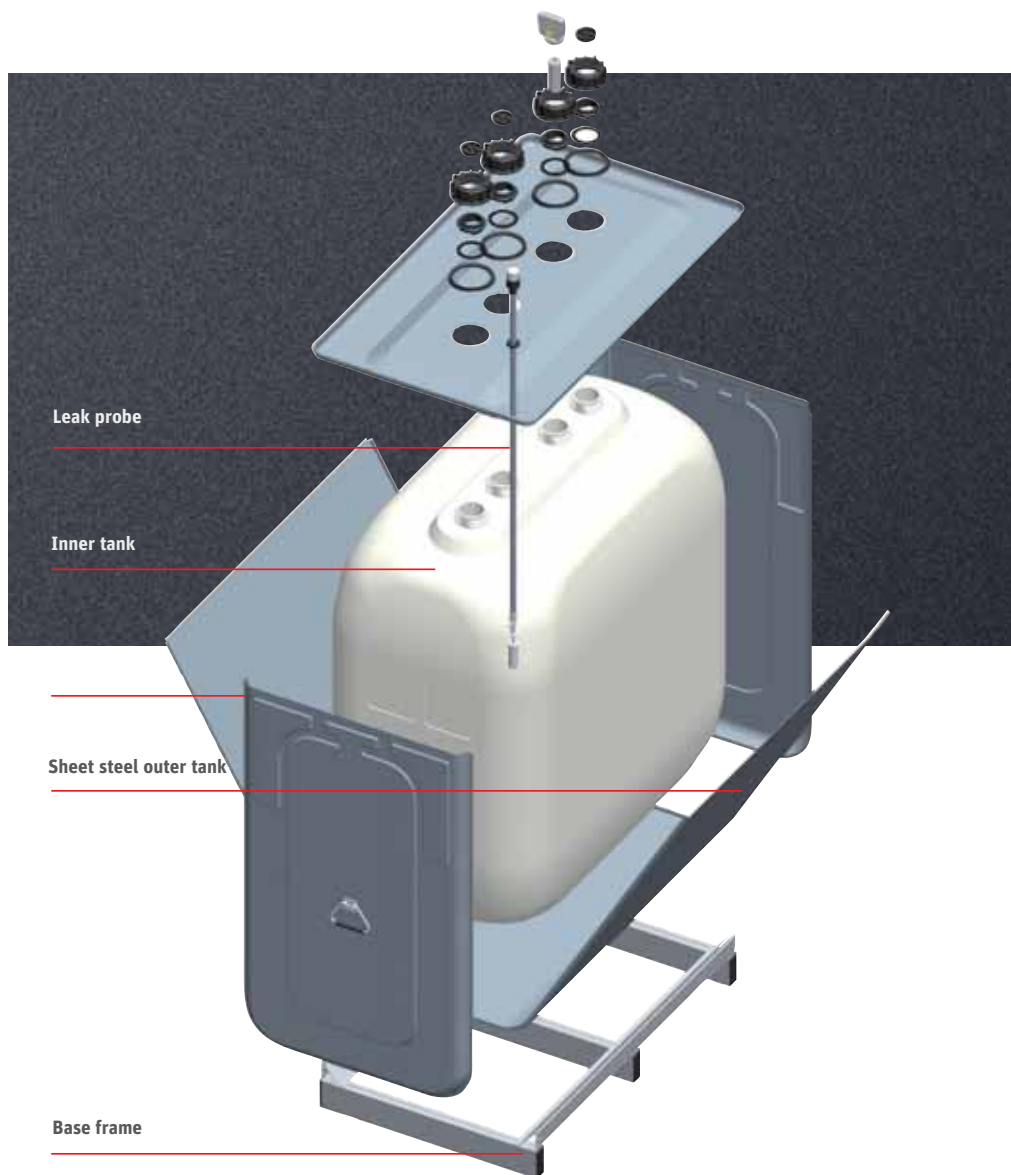
Roth DWT plus 3 1500 l						
	Length	Width	Height *	Weight M0	Weight M1	Storage permit (AbZ)
1500 litres	1630 (1680) mm	760 (800) mm	1860 (2030) mm	133 kg	160 kg	Z-40.21-283

* Height on base frame to top of screw connection. Dimensions in brackets include packaging.
 For installation in the room in which it is to be positioned deduct 90 mm for the separate base frame.
 Add 150 mm for the lines and LVE (installation height for the pump depends on the variant in question).
 Weight M0 = without packaging, without base frame
 Weight M1 = complete with packaging and base frame



Roth Unitech and Multitech storage and transport tanks

Expertise in container technology



■ Our experience for your safety

Unitech/Multitech tanks are the result of the latest design and production technology. The inner tank is made of tried-and-tested high molecular PE-HD, which is blow moulded without seams. The outer tank consists of steel plate galvanised on both sides. The patented beading protects the materials and joins the sheet steel outer tank to the PE-HD inner tank in a firm and permanent manner. The outer tank acts as a collecting tray with a 100% collection volume in relation to the inner tank.

A leak probe integrated as standard monitors the tank interspace. The use of high-quality materials and the leak-monitored metal encapsulation of the inner tank make this design extremely suitable as an individual tank for storing liquids hazardous to water in the household and commercial sector. Integrated handles allow the containers to be easily manipulated. The low centre of gravity provides a high degree of stability.

■ Safety is in the details

Roth Unitech

Storage tank for water-hazardous liquids



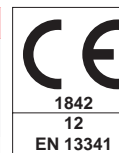
Roth Unitech 400, 750, 1000 and 1500 l

■ Roth Unitech (UT) storage tanks for fixed installations

Unitech tanks have general technical approval to be used as individual storage containers for water-hazardous liquids with a flash point >55 °C, for fixed installation in rooms of buildings without additional collecting space.

Type	Storage tank
Media	Lubricating oils, heat transfer oils, Mineral oils, hydraulic oils, vegetable oils, heating oil, diesel, photochemicals
Media density	maximum 1.2 kg/l
Approval	Storage permit
Installation type	Individual storage tank

Roth Unitech (storage tanks)							
	Length	Width	Height *	Weight M0	Weight M1	Number of tanks per 40-ft sea container	Storage permit (AbZ, National Technical Approval)
400 litres	740 (800) mm	700 (740) mm	1170 (1210) mm	46 kg	58 kg	46 ¹⁾ + 45 ²⁾	Z-40.21-362
**750 litres	980 (1020) mm	760 (800) mm	1420 (1600) mm	67 kg	81 kg	28 ¹⁾ + 14 ²⁾	Z-40.21-29
**1000 litres	1280 (1320) mm	760 (800) mm	1420 (1600) mm	82 kg	104 kg	22 ¹⁾ +8 ²⁾	Z-40.21-29
**1500 litres	1630 (1680) mm	760 (800) mm	1860 (2030) mm	133 kg	160 kg	14 ¹⁾	Z-40.21-283



* Height on base frame to top of screw connection. Dimensions in brackets include packaging.
For installation in the room in which it is to be positioned deduct 90 mm for the separate base frame.

Weight M0 = without packaging, without base frame

Weight M1 = complete with packaging and base frame

1) Upright on the lower level

2) Standing upright or horizontally stored on the lower level (additional cargo securing equipment and packaging aids are necessary; with high-density fibreboard between the levels as a weight balancing measure for the tanks stored on top)

** These tanks are also available in a special version with KVV certification for Switzerland.



■ **Safe storage of hazardous liquids
(without additional collecting space)**

Quality features of the Roth double walled design

- > thick plastic inner tank and surrounding thick metal outer tank (without openings in the liquid area)
- > the plastic tank made of high-quality, long-lasting polyethylene (PE-HD) is corrosion resistant and therefore ideal for storing many different types of liquids (see AbZ, National Technical Approval)
- > the metal sheath
 - protects the inner tank against external damage when in storage
 - is protected against corrosion by its inner and outer zinc coating and its additional surface sealing
 - is joined by means of a liquid-resistant beading that protects materials – unlike the case with welding, corrosion protection is not impaired by the joining process
 - is optimally protected against fire (certification via the 90-minute fire test at the Institute for Material Testing, Dortmund)
 - protects the stored medium against light and diffusion (safety for all stored media – including those with biogenic components)

Other quality features

- > the separately supplied base frame provides for secure footing and guarantees good ventilation of the metal outer tank
- > maximum width of 800 mm; can pass through normal-sized doors
- > leak probe installed as standard equipment
- > four tank connections with 2" internal thread adapter bushings
- > level gauge for mounting on a tank connection included as standard equipment

Roth Multitech

Storage and transport tanks for hazardous goods



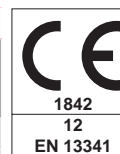
■ Roth Multitech storage and transport tanks Roth Multitech (MT) – Transport hazardous goods in safety

Multitech containers are approved for transporting hazardous goods of packaging group II or III.

They are suitable as bulk packaging for transporting hazardous goods (liquids) in accordance with the dangerous goods regulation on transport by road, rail and inland navigation (GGVSEB), and in accordance with the dangerous goods regulation on transport by sea (GGVSee). The fixed base frame allows fork lift trucks or pallet trucks to get underneath. The specially shaped base frame also provides all-round buffers and transport protection.

Type	Storage and transport tank
Media	for hazardous liquids of packaging groups II and III (e.g. oils: lubricating oils, various chemicals)
Media density	maximum 1.2 kg/l
Approval	Storage and transport approval
Installation type	Individual storage tank

Roth Multitech (storage and transport tanks)								
	Length	Width	Height *	Weight M0	Weight M1	Number of tanks per 40-ft sea container	Transport approval (ADR/RID) 	Storage permit (AbZ, National Technical Approval)
400 litres	740 mm	740 mm	1170 (1210) mm	63 kg	64 kg	48 ¹⁾ + 48 ²⁾	D/BAM 6403/31HA1	Z-40.21-362
750 litres	980 mm	800 mm	1470 (1520) mm	88 kg	89 kg	28 ¹⁾ + 14 ²⁾	D/BAM 11580/31HA1	Z-40.21-29
1000 litres	1280 mm	800 mm	1470 (1520) mm	107 kg	108 kg	23 ¹⁾ + 8 ²⁾	D/BAM 11581/31HA1	Z-40.21-29
1500 litres	1640 mm	800 mm	1910 (1950) mm	162 kg	163 kg	14 ¹⁾	D/BAM 6404/31HA1	Z-40.21-283



* Height on base frame to top of screw connection. Dimensions in brackets include packaging.

Weight M0 = without packaging

Weight M1 = complete with packaging

1) Upright on one level

2) Horizontal on the top on the first upright lower level (cargo securing equipment must be tested, additional packaging aids are necessary)



■ **Safe transport and storage of hazardous liquids of packaging group II or III, without additional collecting space**

The traditional one-walled IBC container has only one transport approval and is not approved for the storage of water-hazardous liquids.

Quality features of the Roth double walled design

- > thick plastic inner tank and surrounding thick metal outer tank (without openings in the liquid area)
- > the plastic tank made of high-quality, long-lasting polyethylene (PE-HD) is corrosion resistant and therefore ideal for storing many different types of liquids (see AbZ, National Technical Approval)
- > the metal sheath
 - protects the inner tank against stresses during transport and storage
 - is protected against corrosion by its inner and outer zinc coating and its additional surface sealing
 - is joined by means of a liquid-resistant beading that protects materials – unlike the case with welding, corrosion protection is not impaired by the joining process
 - is optimally protected against fire (certification via the 90-minute fire test at the Institute for Material Testing, Dortmund)
 - protects the stored medium against light and diffusion (safety for all stored media – including those with biogenic components)

Other quality features

- > The base frame, which can be moved with a forklift or hand-truck, is firmly connected to the tank. It also has all-round buffers, which guarantees easy handling.
- > maximum width of 800 mm; can pass through normal-sized doors
- > leak probe installed as standard equipment
- > four tank connections with 2" internal thread adapter bushings
- > level gauge for mounting on a tank connection included as standard equipment

Roth Unitech and Multitech storage and transport tanks

Safety you can depend on



■ Roth Unitech and Multitech tanks are used in many different ways

Strict safety

The totally corrosion-free inner tanks and the fully galvanised, corrosion-proof beaded outer tanks are tested for leaks.

Optimal dimensions

- > the compact dimensions of the Unitech/Multitech containers in the 400 l, 750 l and 1000 l sizes mean that no additional stepladder is necessary when using them
- > maximum storage volume with the smallest space required

Storage media

- > EL heating oil in accordance with DIN 51603
- > diesel fuel in accordance with DIN EN 590
- > FAME in accordance with DIN EN 14214
- > heating oil in accordance with DIN SPEC 51603-6 EL A Bio
- > lubricating oils, hydraulic oils, heat transfer oils Q, alloyed or unalloyed with flash point over 55 °C*
- > lubricating oils, hydraulic oils, heat transfer oils Q, used oils, flash point over 55 °C (origin and flash point must be verifiable by the operator)*/**

- > vegetable oils such as cottonseed, olive, rapeseed, castor or wheat germ oil in any concentration

Perfect quality

Constant material and production checks and TÜV-monitored, ISO-accredited production ensure consistently high quality. Years of maintenance-free operation, safeguarded by our long-term guarantee of 5 years.

Installation

The Unitech/Multitech containers are officially approved for installation without any additional collecting tray or collecting space. Installing Unitech/Multitech containers as storage tanks is only permitted as an individual tank in rooms of buildings. (Distance to wall at least 50 mm on three sides, at least 400 mm on a long side.) Up to a filling volume of 1000 l, it is permitted to fill tanks using a self-locking nozzle with unrestricted flow, at a flow rate of max. 200 l/minute.

Scope of delivery

- > optical leak probe and level indicator fitted as standard
- > base frame fitted as standard for fixed installation ensures adequate ventilation under the tank



* In the event of the storage of these substances in a Unitech or Multitech tank, the leak probe fitted should be replaced by an optical and acoustic leakage warning device – if necessary and in accordance with water legislation (water hazard class 3).

** Photochemicals with a density of up to 1.15 g/cm³, by request.



Accessories for Unitech/Multitech tanks

- > hand pump 0.06 l/stroke
- > optical and acoustic leak warning device – sensor probe must be ordered separately (e.g. for liquids of water hazard class III, such as waste oil; prescribed in some German federal states)
- > extraction and ventilation kit for individual tank
- > accessories, gland locking nuts with gaskets and ventilation with foam filter
- > W40 electric pump with siphon protection, suction hose nozzle (automatic nozzle optional)
- > filler bowl for MT/UT 750/1000 l

Connection equipment

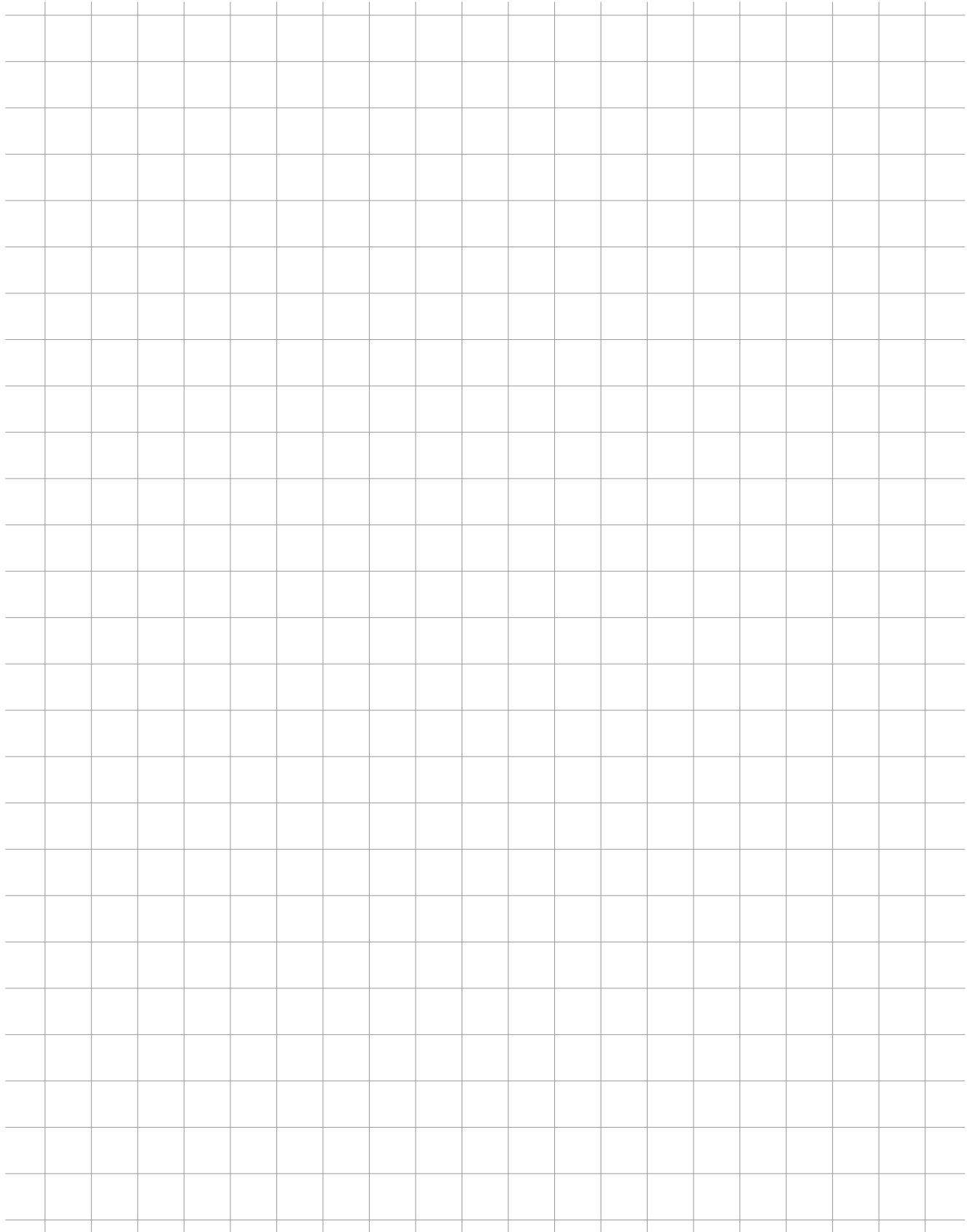
- > extraction spout with 2" internal thread for electric or pneumatic drum or piston pump as well as fastening for pump holder
- > filling spout with 2" internal thread
- > spout to attach the level indicator
- > extra spout – e.g. for installing a ventilation device

Roth Unitech and Multitech tanks at a glance

- > Roth Unitech tanks for the **safe storage** of water-hazardous liquids
- > Roth Multitech containers for the **safe storage and transport** of hazardous goods of packaging group II or III
- > for installation without collecting tray
- > inner tank made of tried-and-tested high-molecular PE-HD
- > outer tank made of steel plate galvanised on both sides
- > permanent and patented beading on the steel outer tank
- > including leak probe, level indicator and base frame
- > integrated handles make transport easier
- > TÜV-monitored and ISO-accredited production
- > 5-year long-term guarantee



Notes



Our strengths

Your benefits

Innovation

- > Early identification of market requirements
- > In-house materials research and development
- > In-house engineering
- > The company is certified in accordance with ISO 9001

Services

- > Extensive field network of qualified sales professionals
- > Hotline and project planning service
- > Factory training courses, planning and product seminars
- > Fast availability of all Roth brand product ranges throughout Europe
- > Comprehensive guarantee and extended liability agreements

Products

- > Complete range of easy-to-install product systems
- > Manufacturing expertise for the complete product range within the Roth Industries group of companies



Roth



Roth energy and sanitary systems

Generation

- > Solar energy systems
- > Heat pump systems

Storage

- Storage systems for
- > Drinking and heating water
 - > Combustibles and biofuels
 - > Rainwater and waste water

Use

- > Radiant heating and cooling systems
- > Pipe installation systems
- > Shower systems

Roth

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