20 1999/2019

ROTOTEC

WATER DIVISION

ROTOTEC

2021
GENERAL
CATALOGUE

en

ROTOTEC

2021
WATER
DIVISION
CATALOGUE

COMPANY


SAVING
THE
FUTURE


SYSTEM GROUP
STEPS
towards
the future.
www.tubi.net
SAVING
THE
FUTURE
riciclo

ROTOTEC THE COMPANY

Rototec S.p.A. is a dynamic company in continuous expansion present throughout Italy and abroad. The company was founded in 2000 as part of the System Group, a leader in the production of complete pipeline systems (pipes, fittings, specials,…).

It was soon specializing in the production of corrugated and smooth tanks in linear polyethylene manufactured using rotational moulding technology. Over the years, Rototec S.p.A. has always felt the need to distinguish itself on the Italian and international markets, investing its resources in research and in updating its own production to meet European standards, in order to provide its customers with increasingly high performance and reliable treatment systems that will contribute even more to the defence of our land. Increasing awareness of aspects regarding environmental protection and regulatory updates have become two of Rototec's strategic aims, which are pursued using real time communication channels (Facebook, LinkedIn, web site, newsletters, apps, etc...) and more traditional channels such as organisation of training meetings, seminars and study days with the co-operation of local Authorities, Universities and professional Bodies and Organisations.


SIMPLE
as a touch

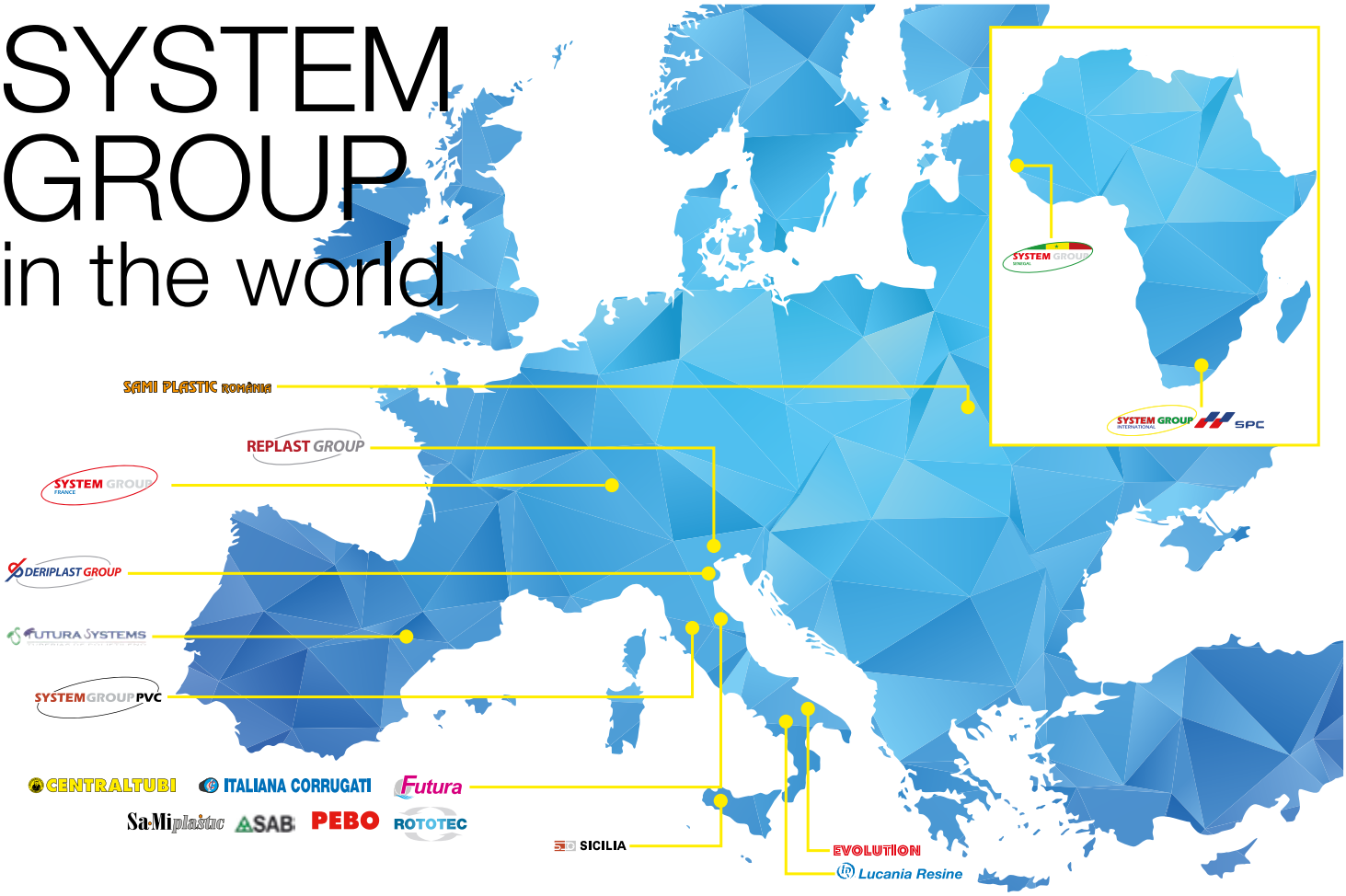

ROTOTEC


SAVE
WATER
the world
is in your hands.

ROTOTEC SERVICES

- Organisation of training meetings, technical seminars and in-house training
- A large network of agents and retailers throughout Italy and abroad
- Design work during the plant sizing phase
- Digital support during design work using tools such as:
  . plant configuration software
  . bim libraries
  . website updated in real time
- Prompt delivery
- On-site technical support
- After-sales service

SYSTEM GROUP
in the world



ROTOTEC & SYSTEMGROUP

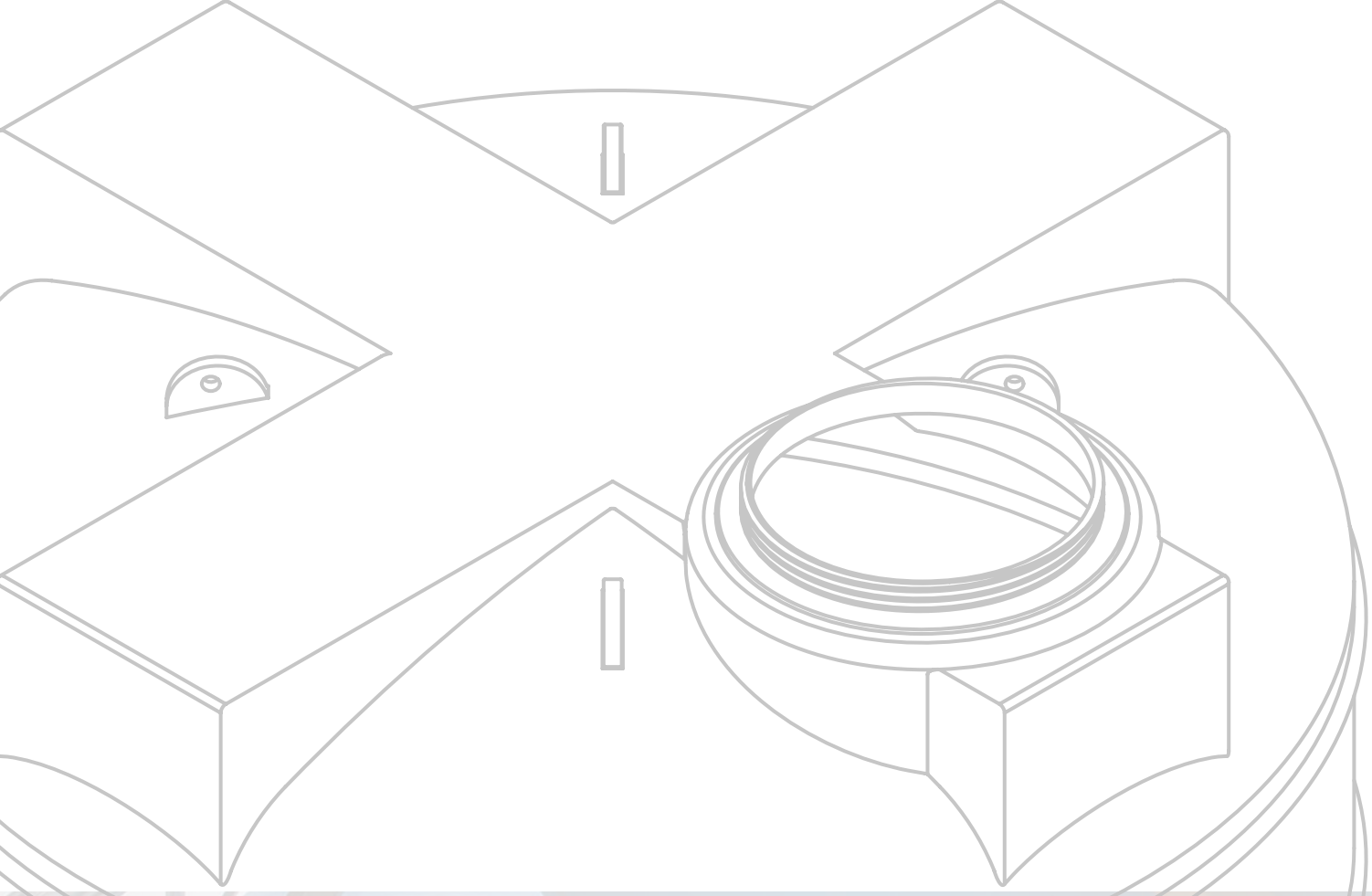
System Group was created in a small town inland of Pesaro (Lunano) as a result of an idea by entrepreneur Alvaro Boscarini who, in 1979, had founded Centraltubi for the production of polyethylene pipes. The group was formed at the start of the 1990's when **Centraltubi** was joined by **Futura**, a company operating in the pipe fittings, accessories and specials market. These were to be the first steps on the road to success which, in the following years, saw the birth of five other important businesses: **Sa.Mi Plastic** (smooth polyethylene pipes and multilayer pipes for water, heating and sanitary systems), **Pebo** (production of plastic materials), **Italiana Corrugati** (corrugated polyethylene pipes), **Rototec** (rotational moulding of tanks) and **Mecsystem** (engineering).

In response to the ever increasing demand, **System Group** then expanded its sales network to other European countries, with the construction of new production facilities in Spain (**Futura Systems**), in France (**System Group France**) and in Romania (**Sa. Mi Plastic Romania**). The group further reinforced its position in the production of special fittings thanks to the acquisition and expansion of a company already operating in the sector, Sab located in Sirolo (AN), which subsequently moved to Sant'Angelo in Vado.

Finally, the acquisition of **Lucania Resine**, a company with 20 years experience in the field of piping, allowed the group to obtain a strategic position that would enable it to logistically enter the market in Southern Italy.

The last few years have seen a continuation of the constant and concentrated efforts of the System Group to reach its objectives of an increased and more consistent cover of the Italian and foreign markets, satisfying the demands by broadening its range of products and entering new market sectors (**Deriplast, Replast, System Group PVC, System Group Sicilia**).

WATER DIVISION



EXTERNAL TANKS

VERTICAL

Type
Above ground tank

Applications
Storing foodstuffs - Water, oil, wine

Volumes
From 50 to 10000 litres

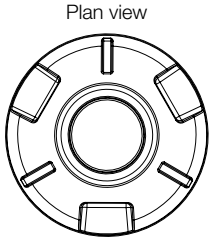
Installation
Simply placed directly on a flat supporting surface

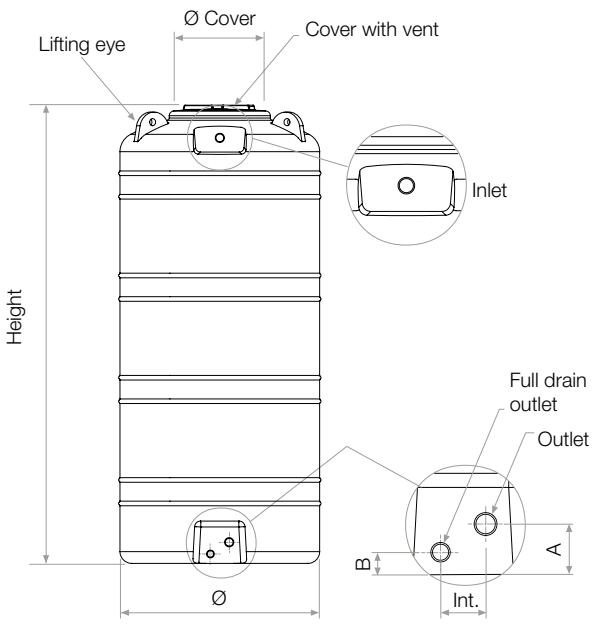
Available colours:

standard	on request
blue	grey
	green
	terracotta

Item	Capacity l	Ø cm	Height cm	Ø cover cm	Cover	Inlet	Outlet	Full drain outlet	Lifting eye	Threaded insert dimensions cm		
										A	B	Int.
V50	50	43	43	30	CS300	N.P.	N.P.	¾"	-	4,5	-	-
V150	150	60	70	21	CS200	¾"	N.P.	¾"	-	4	-	-
V300	300	63	110	21	CS200	¾"	N.P.	¾"	-	4	-	-
V500	500	68	152	30	CS300	¾"	1"	¾"	-	9	4	6
V1000	1000	85	193	30	CS300	¾"	1"	¾"	3	9	4	8
V2000	2000	115	210	40	CS400	1"	1"	¾"	3	10	5	9
V3000	3000	135	230	40	CS400	1"	1"	¾"	3	11	6	10
V5000	5050	180	223	40	CS400	1"	1"½	1"	3	11	6	10
V10000	10000	246	270	63	TAP800	N.P.	N.P.	N.P.	4	-	-	-

N.P. Not present.





THREADED INSERTS IN GALVANISED BRASS
(on request)

See table at pag. 28

PANETTONE

Type
Above ground tank

Applications
Storing foodstuffs - Water, oil, wine

Volumes
From 500 to 14300 litres

Installation
Simply placed directly on a flat supporting surface

Available colours:

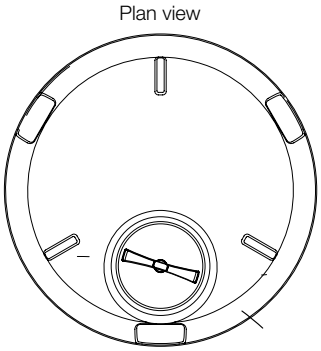
standard	on request
blue	grey
	green
	terracotta

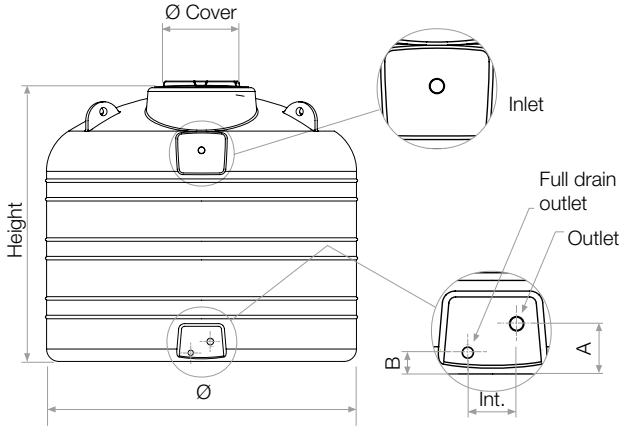
Item	Capacity l	Ø cm	Height cm	Ø cover cm	Cover	Inlet	Outlet	Full drain outlet	Lifting eye	Threaded insert dimensions cm		
										A	B	Int.
P500	538	100	80	21	CS200	¾	¾	N.P.	-	5	-	-
P1000	1040	120	105	30	CS300	1”	1”	¾	3	9	5	11
P2000	2075	150	133	40	CS400	1”	1”	¾	3	9	5	11
P3000	3105	183	135	40	CS400	1”	1”	¾	3	10	6	12
P5000	4905	225	135	40	CS400	1”	1"½	1”	3	10	6	12
P7500	7800	225	210	40	CS400	1”	1"½	1”	3	10	6	12
P11000	11150	246	278	63	TAP800	N.P.	N.P.	N.P.	3	-	-	-
P15000	14300	246	355	63	TAP800	N.P.	N.P.	N.P.	3	-	-	-

N.P. Not present.

THREADED INSERTS IN GALVANISED BRASS
(on request)

See table at pag. 28





CISTERNA

Type
Above ground tank

Applications
Storing foodstuffs - Water, oil, wine

Volumes
From 300 to 5000 litres

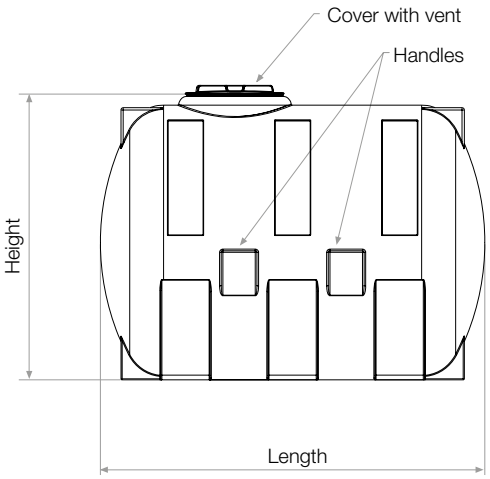
Installation
Simply placed directly on a flat supporting surface

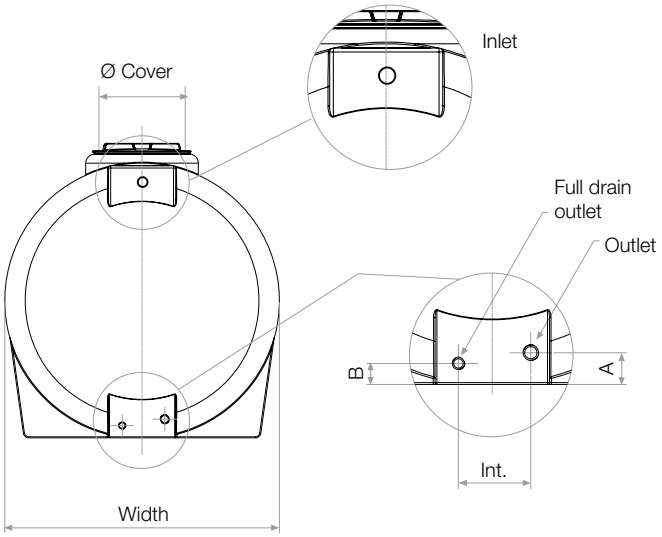
Available colours:

standard	on request
blue	grey
	green
	terracotta

Item	Capacity l	Length cm	Width cm	Height cm	Ø cover cm	Cover	Inlet	Outlet	Full drain outlet	Lifting eye	Threaded insert dimensions cm		
											A	B	Int.
C300	300	113	63	66	21	CS 200	¾"	1"	¾"	-	5	4,2	8
C500	565	120	80	83	21	CS 200	¾"	N.P.	¾"	-	-	4	-
C1000	1020	155	97	104	30	CS 300	1"	1"	¾"	-	7,8	4	11
C1500	1665	170	115	122	40	CS 400	1"	1"	¾"	2	7	4	11
C2000	2200	190	125	132	40	CS 400	1"	1"	¾"	2	7	4	12
C3000	3260	210	145	152	40	CS 400	1"	1"	¾"	2	7	4	12
C5000	5000	220	173	192	63	TAP 800	N.P.	N.P.	N.P.	2	-	-	-

N.P. Not present.





THREADED INSERTS IN GALVANISED BRASS
(on request)

See table at pag. 28

JOLLY

Type
Above ground tank

Applications
Storing foodstuffs - Water, oil, wine

Volumes
From 1000 to 2000 litres

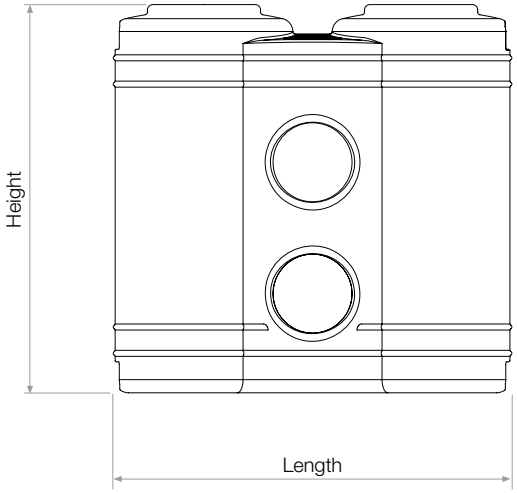
Installation
Easy to position and move, designed for narrow passages, cellars, basements, placed directly on a flat supporting surface

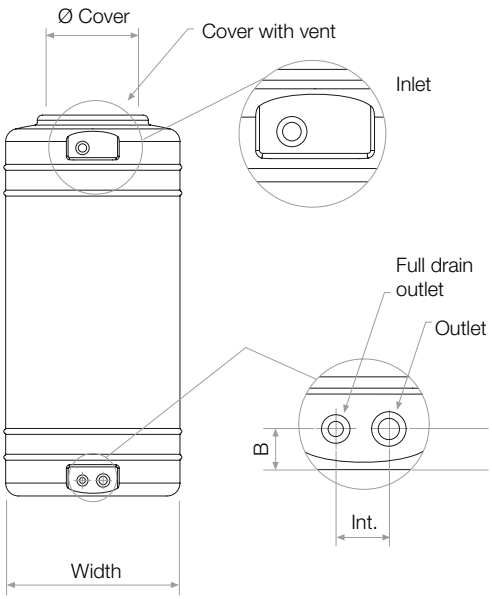
Available colours:

standard
- blue

on request
- grey
- green
- terracotta

Item	Capacity l	Length cm	Width cm	Height cm	Ø cover cm	Cover	Inlet	Outlet	Full drain outlet	Lifting eye	Threaded insert dimensions cm		
											A	B	Int.
J1000	1000	150	68	145	30	CS 300	1”	1”	¾”	-	6	6	8
J2000	2000	233	68	190	30	CS 300	1”	1”	¾”	-	6	6	8





THREADED INSERTS IN GALVANISED BRASS
(on request)

See table at pag. 28

VALIGIA

Type
Above ground tank

Applications
Storing foodstuffs - Water, oil, wine

Volumes
From 500 to 1000 litres

Installation
Simply placed directly on a flat supporting surface

Available colours:

standard	on request
blue	grey
	green
	terracotta

Item	Capacity l	Length cm	Width cm	Height cm	Ø cover cm	Cover	Inlet	Outlet	Full drain outlet	Lifting eye	Threaded insert dimensions cm		
											A	B	Int.
RV500	500	99	65	105	21	CS 200	N.P.	1”	¾”	-	6,6	4,6	10
RV1000	1000	139	80	115	21	CS 300	N.P.	1”	¾”	-	6,8	4,8	10,5

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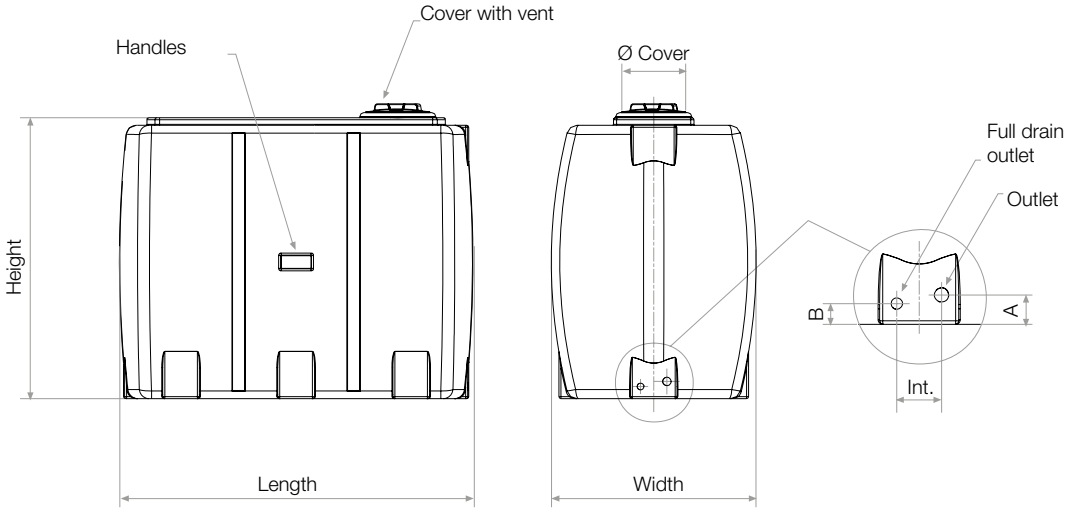


THREADED INSERTS IN GALVANISED BRASS
(on request)

See table at pag. 28

BOX

Type
Above ground tank

Applications
Storing foodstuffs - Water, oil, wine

Volumes
From 300 to 500 litres

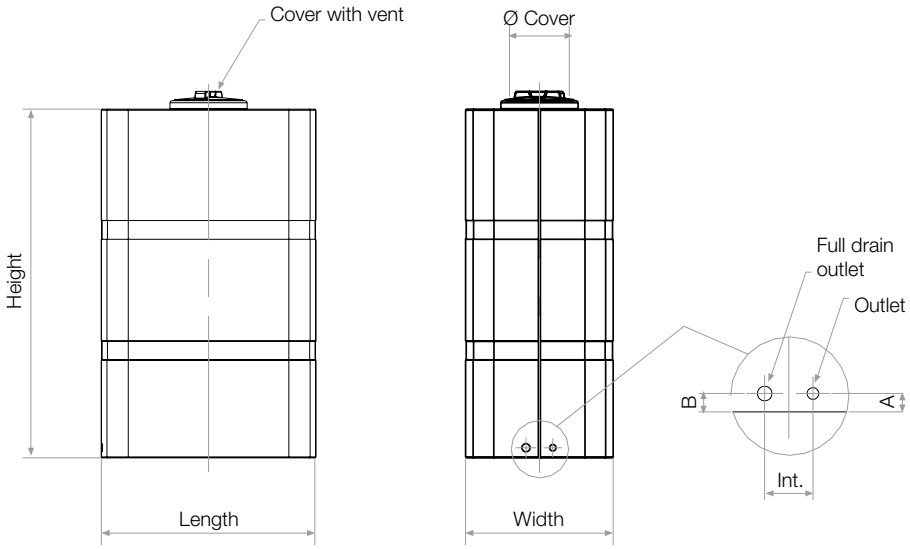
Installation
Simply placed directly on a flat supporting surface

Available colours:

standard	on request
blue	grey
	green
	terracotta

Item	Capacity l	Length cm	Width cm	Height cm	Ø cover cm	Cover	Inlet	Outlet	Full drain outlet	Lifting eye	Threaded insert dimensions cm		
											A	B	Int.
B300	290	80	55	80	21	CS 200	N.P.	1”	¾”	-	3,8	3,8	10
B500	500	80	55	130	21	CS 200	N.P.	1”	¾”	-	3,8	3,8	10

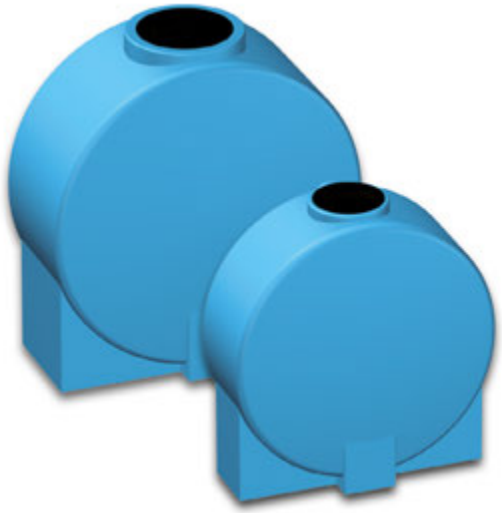
N.P. Not present.



THREADED INSERTS IN GALVANISED BRASS
(on request)

See table at pag. 28

SNELLO



Type
Above ground tank

Applications
Storing foodstuffs - Water, oil, wine

Volumes
From 300 to 800 litres

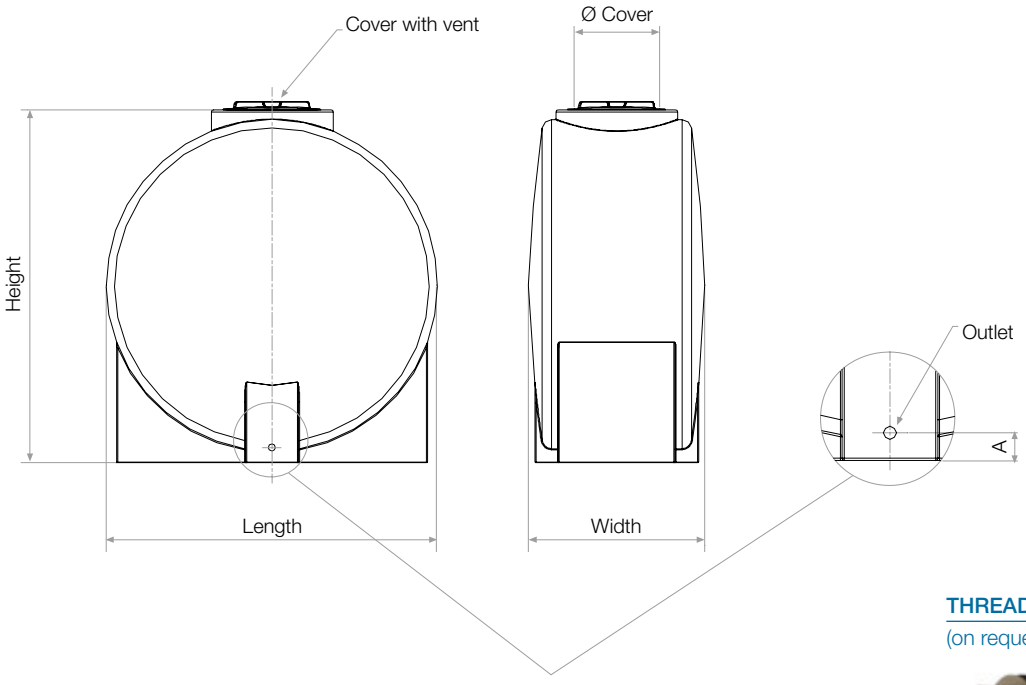
Installation
Simply placed directly on a flat supporting surface. Ideal for small spaces

Available colours:

standard	on request
blue	grey
	green
	terracotta

Item	Capacity l	Length cm	Width cm	Height cm	Ø cover cm	Cover	Inlet	Outlet	Full drain outlet	Lifting eye	Threaded insert dimensions cm		
											A	B	Int.
S300	300	98	46	105	21	CS 200	N.P.	¾"	N.P.	-	3,8	-	-
S800	750	122	67	130	30	CS 300	N.P.	1"	N.P.	-	5,6	-	-

N.P. Not present.



THREADED INSERTS IN GALVANISED BRASS
(on request)

See table at pag. 28

SOTTOTETTO

Type
Above ground tank

Applications
Storing foodstuffs - Water, oil, wine

Volumes
300 litres

Installation
Ideal for rooms with reduced headroom. Simply placed directly on a flat supporting surface

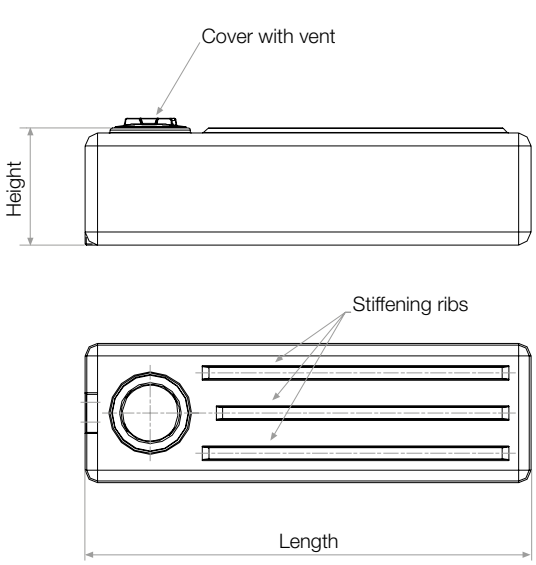
Available colours:

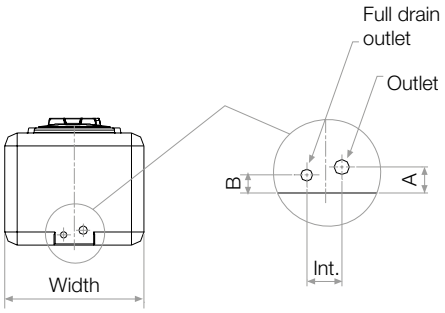
standard
- blue

on request
- grey
- green
- terracotta

Item	Capacity l	Length cm	Width cm	Height cm	Ø cover cm	Cover	Inlet	Outlet	Full drain outlet	Lifting eye	Threaded insert dimensions cm		
											A	B	Int.
ST300	300	160	50	42	21	CS 200	N.P.	1”	¾”	-	5,2	3,6	7

N.P. Not present.

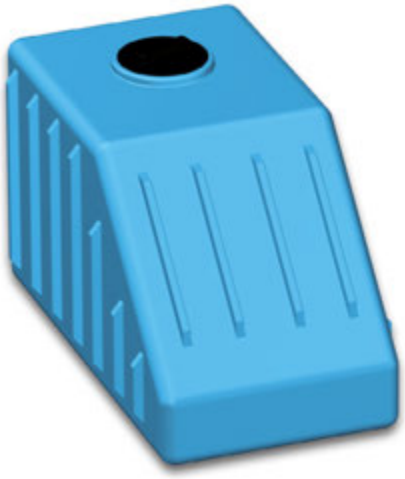




THREADED INSERTS IN GALVANISED BRASS
(on request)

See table at pag. 28

SOTTOSCALA



Type
Above ground tank

Applications
Storing foodstuffs - Water, oil, wine

Volumes
500 litres

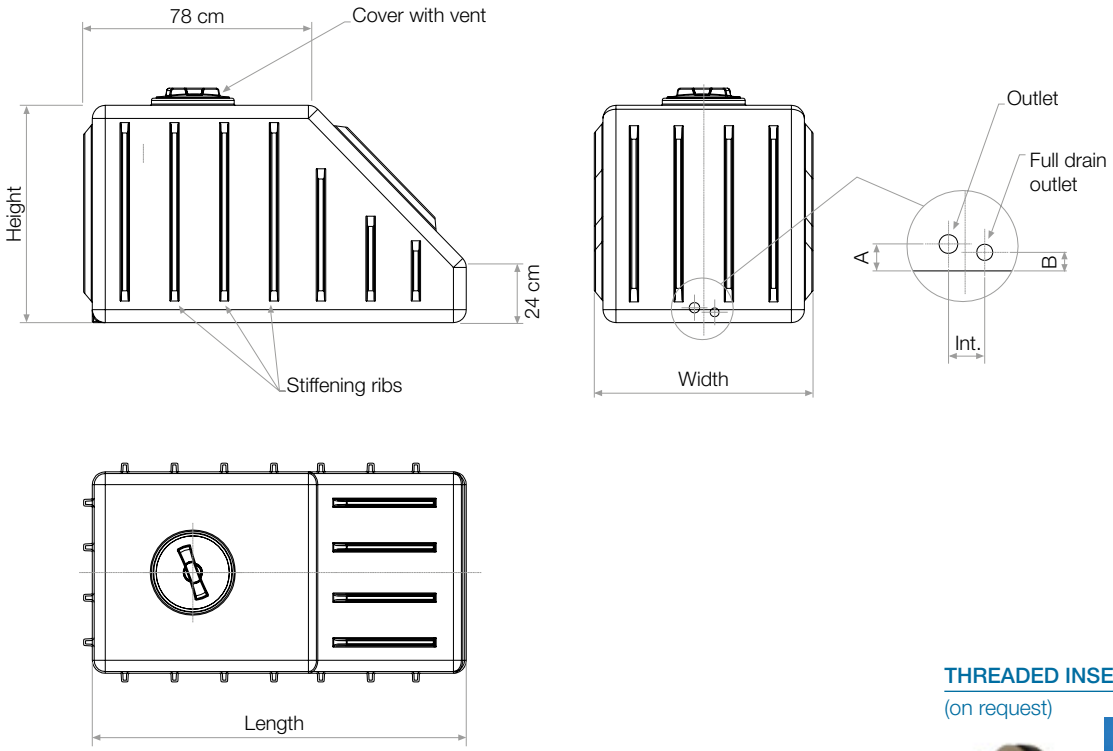
Installation
Simply placed directly on a flat supporting surface

Available colours:

standard	on request
blue	grey
	green
	terracotta

Item	Capacity l	Length cm	Width cm	Height cm	Ø cover cm	Cover	Inlet	Outlet	Full drain outlet	Lifting eye	Threaded insert dimensions cm		
											A	B	Int.
SS500	500	133	76	80	21	CS 200	N.P.	1”	¾”	-	5,2	3,6	7

N.P. Not present.



THREADED INSERTS IN GALVANISED BRASS
(on request)

See table at pag. 28

CUBO

Type
Above ground tank

Applications
Storing foodstuffs - Water, oil, wine

Volumes
From 300 to 500 litres

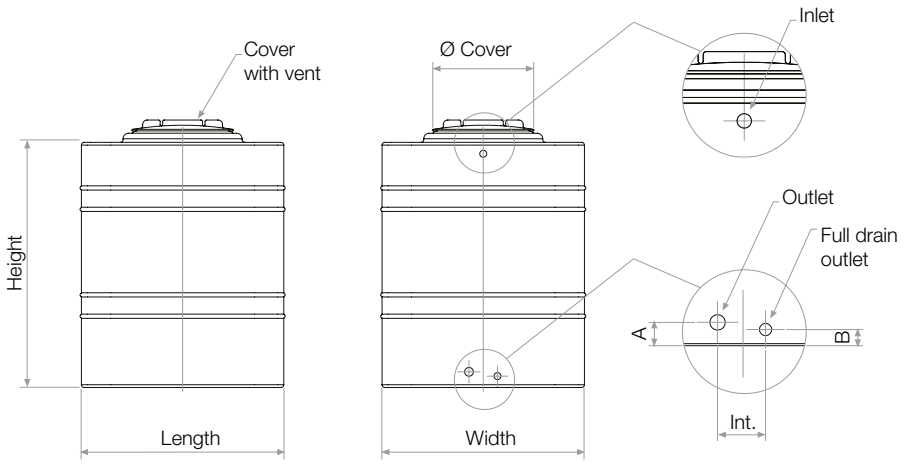
Installation
Simply placed directly on a flat supporting surface

Available colours:

standard
- blue

on request
- grey
- green
- terracotta

Item	Capacity l	Length cm	Width cm	Height cm	Ø cover cm	Cover	Inlet	Outlet	Full drain outlet	Lifting eye	Threaded insert dimensions cm		
											A	B	Int.
Q200	220	71	71	51	30	CS 300	¾"	1"	¾"	-	4,6	3,2	10,6
QS300	300	76	76	68	30	CS 300	¾"	1"	¾"	-	5	3,5	10
Q400	400	71	71	88	30	CS 300	¾"	1"	¾"	-	6	4	10
QS500	500	76	76	98	30	CS 300	¾"	1"	¾"	-	5	3,5	10



THREADED INSERTS IN GALVANISED BRASS
(on request)

See table at pag. 28

KITANK

Type
Above ground tank

Supply
Supplied in 2 parts (base and cover) + cap with vent

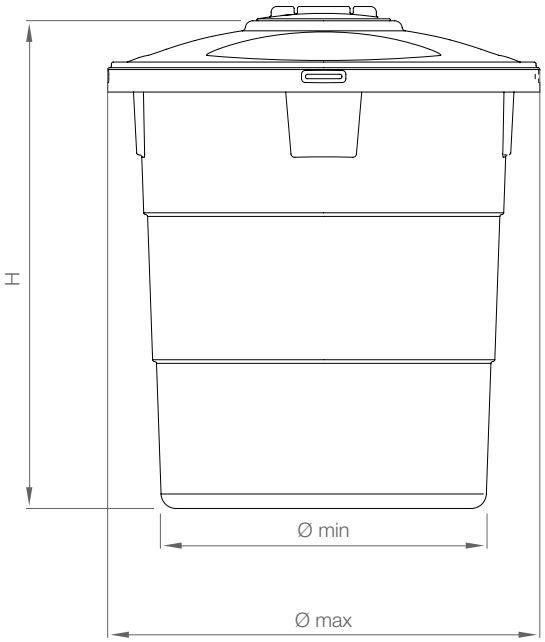
Volumes
From 800 to 1300 litres

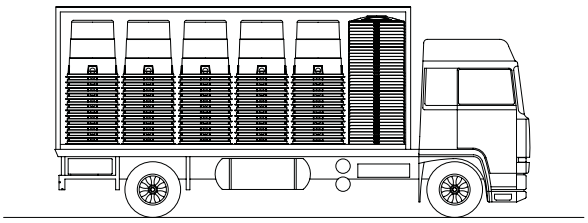
Installation
Simply placed directly on a flat supporting surface

Available colours:

standard	on request
blue	grey
	green
	terracotta

Articolo	Useful volume l	Ø min cm	Ø max cm	H cm	Ø cover cm	Cover
VA1000	800	86	115	135	30	CS300
VA1500	1300	100	130	150	30	CS300

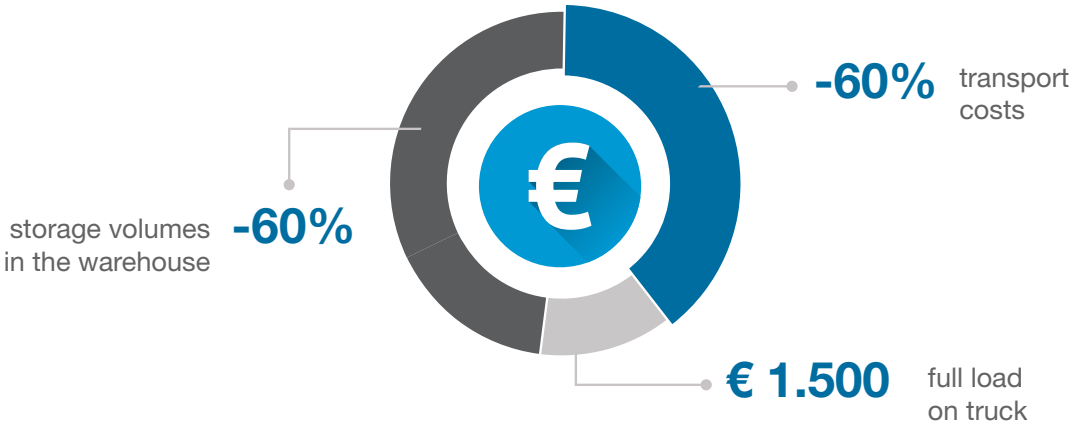




Example of transport for stackable tanks Rototec

OPTIMISATION OF WORKING VOLUMES DURING STORAGE AND TRANSPORT

how much
can I save?



TECHNICAL CHARACTERISTICS

The new range of Rototec "**KITank**" tanks has been designed to reduce to a minimum the working volume during storage and transport. Thanks to the fact that the tanks can be dismantled and stacked it is possible to store and transport a large number of tanks in a very small space, thus reducing the working volume and above all the cost of transport.

The versatility of these tanks means they can be used to create drinking water or rainwater storage tanks, as well as for a wide range of domestic waste water treatment systems for small residential units: Grease separators, Septic tanks, Imhoff tanks and anaerobic trickling filters.

THREADED INSERTS IN GALVANISED BRASS

(on request)

Function

To provide a metal threaded female connection to replace the classic threaded unions co-moulded in the above-ground tanks.

Material

M-F threaded reducer fitting in galvanised brass, ideal for contact with potable water, with EPDM washer.

Application

The fitting is screwed into the threaded hole co-moulded in the tank, then tightened so that the washer forms a seal between the wall of the tank and the shoulder of the fitting itself. To tighten the fitting, use a spanner or, even better, a socket wrench.

Guarantee

The fitting is in fact a reducer, therefore the metal thread is always ¼" smaller than the original co-moulded thread.

Item	F1 Inches	F2 Inches	Size of socket wrench for the installation mm
7ROR7550	3/4	1/2	26
7ROR1075	1"	3/4	36
7ROR1512	1" 1/2	1" 1/4	50

Item	Tank inlet Ø	Tank outlet Ø	Tank drain Ø	Insert Code number
V50	/	/	1/2"	N°1 ROR7550
V150	1/2"	/	1/2"	N°2 ROR7550
V300	1/2"	/	1/2"	N°2 ROR7550
V500	1/2"	3/4"	1/2"	N°2 ROR7550 + N°1 ROR1075
V1000	1/2"	3/4"	1/2"	N°2 ROR7550 + N°1 ROR1075
V2000	3/4"	3/4"	1/2"	N°1 ROR7550 + N°2 ROR1075
V3000	3/4"	3/4"	1/2"	N°1 ROR7550 + N°2 ROR1075
V5000	3/4"	1"1/4	3/4"	N°2 ROR1075 + N°1 ROR1512
V10000	/	/	/	/
P500	1/2"	1/2"	/	N°2 ROR7550
P1000	3/4"	3/4"	1/2"	N°1 ROR7550 + N°2 ROR1075
P2000	3/4"	3/4"	1/2"	N°1 ROR7550 + N°2 ROR1075
P3000	3/4"	3/4"	1/2"	N°1 ROR7550 + N°2 ROR1075
P5000	3/4"	1"1/4	3/4"	N°2 ROR1075 + N°1 ROR1512
P7500	3/4"	1"1/4	3/4"	N°2 ROR1075 + N°1 ROR1512
P11000	/	/	/	/
P15000	/	/	/	/
C300	3/4"	/	1/2"	N°1 ROR1075 + N°1 ROR7550
C500	1/2"	/	1/2"	N°2 ROR7550
C1000	3/4"	3/4"	1/2"	N°1 ROR7550 + N°2 ROR1075
C1500	3/4"	3/4"	1/2"	N°1 ROR7550 + N°2 ROR1075
C2000	3/4"	3/4"	1/2"	N°1 ROR7550 + N°2 ROR1075
C3000	3/4"	3/4"	1/2"	N°1 ROR7550 + N°2 ROR1075
C5000	/	/	/	/
J1000	3/4"	3/4"	1/2"	N°1 ROR7550 + N°2 ROR1075
J2000	3/4"	3/4"	1/2"	N°1 ROR7550 + N°2 ROR1075
RV500	/	3/4"	1/2"	N°1 ROR7550 + N°1 ROR1075
RV1000	/	3/4"	1/2"	N°1 ROR7550 + N°1 ROR1075
B300	/	3/4"	1/2"	N°1 ROR7550 + N°1 ROR1075
B500	/	3/4"	1/2"	N°1 ROR7550 + N°1 ROR1075
Q300	1/2"	3/4"	1/2"	N°2 ROR7550 + N°1 ROR1075
Q500	1/2"	3/4"	1/2"	N°1 ROR7550 + N°1 ROR1075
QS300	1/2"	3/4"	1/2"	N°1 ROR7550 + N°1 ROR1075
QS500	1/2"	3/4"	1/2"	N°1 ROR7550 + N°1 ROR1075
S300	/	1/2"	/	N°1 ROR7550
S800	/	1"	/	N°1 ROR1075
ST300	/	3/4"	1/2"	N°1 ROR7550 + N°1 ROR1075
ST500	/	3/4"	1/2"	N°1 ROR7550 + N°1 ROR1075

Installation example

TECHNICAL SECTION – EXTERNAL TANKS

TECHNICAL CHARACTERISTICS

Thanks to rotational moulding technology and the chemical-physical–mechanical characteristics of linear polyethylene (LLDPE), the above ground tanks possess the ideal characteristics for the problem-free storage of large volumes of liquids. Polyethylene, in fact, is totally **non-toxic** and does not foster the growth of algae in the fluids contained in the tanks, thus making the tanks ideal for storing potable water and other foodstuffs. Furthermore, linear polyethylene also supports sudden changes in temperature (from -20 to + 80 °C) and is **inert** in the presence of chemical and physical atmospheric agents. For these reasons, there are no material oxidation or corrosion problems that would prejudice the mechanical characteristics and impermeability of the tanks. These characteristics are also guaranteed by the fact that rotational moulding allows **one-piece tanks** to be produced, i.e. free of welds that could weaken parts of the tanks subjected to internal stresses. Furthermore, while possessing the same characteristics as other materials (cement, fibreglass, metal), tanks in polyethylene are much **lighter**, and as such transport, installation and maintenance are extremely simple and economic. Finally, polyethylene tanks **can be bored** when the need arises, for example when connecting tanks together, installing inlet/outlet pipes, overflows, etc. ROTOTEC supplies a wide range of tank models for outdoor use of capacities ranging from 50 to 14300 litres. The various forms of the tanks are designed to create storage facilities even in locations where installation space is restricted (e.g. cellars, attics, stairwells…). Thanks to the **flanged joints or brass/plastic pipe unions** mounted on the appropriate flat areas, the various tanks can be connected together to obtain larger storage volumes. Each tank is equipped with a threaded or hinged **inspection cover**, and many models are fitted with **discharge and full drain outlet holes**. The standard colour of outdoor tanks is blue. Other colours are also available on request, such as Green, Black, Terracotta and Grey. Finally, on request, above ground tanks can also be equipped with the appropriate **pumps** for delivering the stored water at the flow rates, pressures and heads needed for the various applications.

APPLICATIONS

The characteristics previously mentioned render the outdoor tanks ideal for:

- **Storing potable water or other liquids** in areas either outside or inside residential properties;
- **Creating large volumes of stored water** for fire-fighting, washing or irrigation plants;
- **Creating lift stations** for pumping water to higher levels;
- **Collecting and storing rainwater** for re-use in irrigation or washing

WARNINGS

In order to ensure that the characteristics of the tanks remain unaltered over time, that the stored substances do not deteriorate and that the ROTOTEC guarantee remains valid (25 years against full-depth corrosion) the following instructions must be carefully followed:

- **The above ground tanks must not, under any circumstances, be installed underground**;
- **Prior to installation, carefully check the integrity of the tanks** and the tightness of the gaskets;
- Do not install the tanks near to sources of heat;
- **The tanks must be positioned on a flat, stable** surface;
- When installing the tanks, to prevent the formation of algae, make sure that no light can filter in;
- Use flexible hoses when connecting to the water system in order to prevent stresses during tank filling and emptying;
- Do not leave the tank without its cover for any length of time;
- In the case of rainwater storage, it is advisable to install a filter chamber upstream of the tank to prevent a build-up of grit, silt, leaves, etc. inside the tank;
- **For storing fluids not expressly indicated in this catalogue (page 262), contact the technical office**;
- Place the tanks in easily reachable locations and avoid constructing parts in brickwork that could interfere with replacement or maintenance operations;
- When installing a pump, internally or externally, fit a suitable sized vent on the tank to prevent the formation of a vacuum when the pump is running.

USE AND MAINTENANCE

- When carrying out maintenance operations and cleaning of the tank and any components installed inside it, always comply with the requirements indicated in the safety regulations about temporary or mobile work sites;
- keep the area around the tank **free** from any material that might obstruct or impede the maintenance work;
- always work in pairs when carrying out tank inspection and cleaning operations, and wear suitable safety equipment;
- check the tank **every 6 months**. If any sediment is found on the floor, extract it and clean the tank carefully using a normal domestic detergent. If any foreign bodies are found, disinfect the tank thoroughly;
- check that any PVC inlet, outlet, overflow pipes or brass or plastic filling, drainage, full drain connectors are not blocked by large solids that prevent the passage of the fluid in the tank. If any sediment is found, it must be removed;
- check **every 6 months** to ensure that pipes, connectors and gaskets are sealed;
- periodically check that the vent serving the pump and installed on the tank is free. If it is blocked it must be cleaned.

UNDERGROUND TANKS

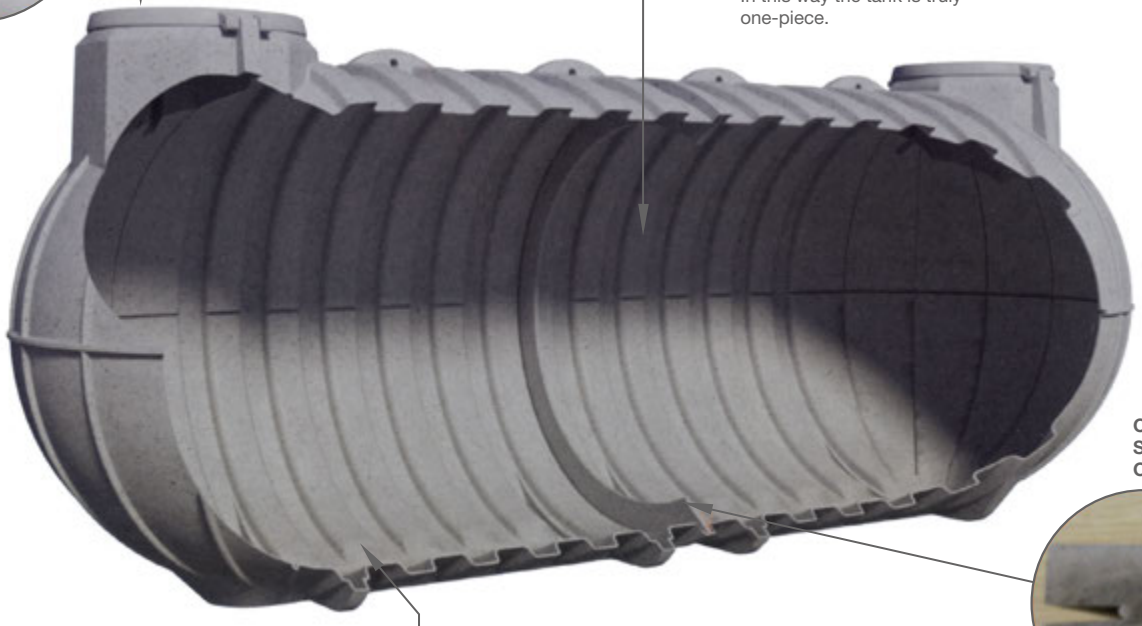
INFINITANK, MINITANK AND NANOTANK

Rototec's Infinitank, Minitank and Nanotank underground tanks are modular units in which a number of one-piece, linear polyethylene (LLDPE) modules, manufactured using a rotomoulding process, are connected to each other to give large storage volumes.
Thanks to the special pieces available (curve and Tee) the Infinitank model can be used to create tanks of various shapes, allowing the best possible use of available space.
The various modules making up a tank are connected by means of a double system of bolting and electro-welding. Two modules are joined and fixed together by means of steel bolts, guaranteeing mechanical stability for the tank.
Water tightness, on the other hand, is guaranteed by a special polyethylene electro-welding procedure.
Polyethylene, in fact, is a totally non-toxic material and does not foster the growth of algae in the fluids contained in the tanks, thus making the tanks ideal for storing potable water and other foodstuffs. Furthermore, linear polyethylene also supports sudden changes in temperature (from -20 to + 80 °C) and is inert in the presence of chemical substances in the soil. For these reasons, there are no material oxidation or corrosion problems that would prejudice the mechanical characteristics and impermeability of the tanks. Furthermore, while possessing the same characteristics as other materials (cement, fibreglass, metal), tanks in polyethylene are much lighter, and as such transport, installation and maintenance are extremely simple and economic. Finally, polyethylene tanks can be bored when the need arises, for example when connecting tanks together, installing inlet/outlet pipes, overflows, etc.

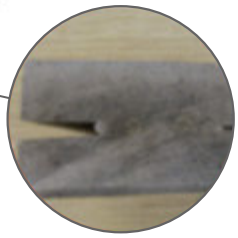
NB: Rototec modular tanks must always be installed underground.

Reduced number of inspection covers and chambers
Thanks to the fact that there are no walls separating the various modules, the number of inspection covers on each tank can be reduced, thus simplifying installation operations and reducing costs.

Completely open wall
There are no dividing walls between the various modules.
In this way the tank is truly one-piece.



CROSS-SECTION OF WELDING



Walkway
On the base of all the tanks is a surface to facilitate walking and cleaning operations, as well as positioning of accessories such as pumps, pipes, etc.

Polyethylene electro-welding
The various tank elements are joined by means of a polyethylene electro-welding process. In this way the fluid in the tank never comes into contact with materials such as metal screws and flanges, rubber gaskets, etc., which might contaminate the fluid in the tank and also deteriorate over time.

INFINITANK / BASIC MODULES

HEAD

Item	Capacity l	Width m	Length m	Height m
TS 5500	5500	2,1	2,2	2,2
TS 7500	7875	2,1	2,8	2,2

CENTRAL

Item	Capacity l	Width m	Length m	Height m
CN 7000	7350	2,1	2,2	2,2

CURVE

Item	Capacity l	Width m	Length m	Height m
CR 7000	7350	2,1	2,4	2,2

TEE

Item	Capacity l	Width m	Length m	Height m
TE 8500	8925	2,1	2,3	2,4

MINITANK / BASIC MODULES

HEAD

Item	Capacity l	Width m	Length m	Height m
CTS3000	3005	1,55	1,93	1,71

CENTRAL

Item	Capacity l	Width m	Length m	Height m
CCN3000	3010	1,55	1,66	1,71

NANOTANK / BASIC MODULES

HEAD

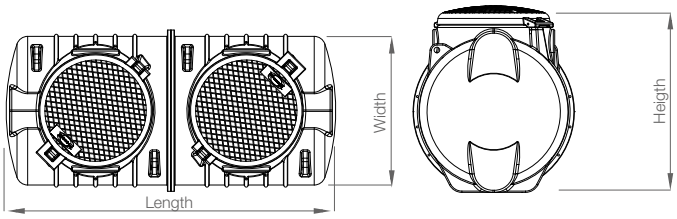
Item	Capacity l	Width m	Length m	Height m
CTS1000	1050	1,15	1,17	1,32

CENTRAL

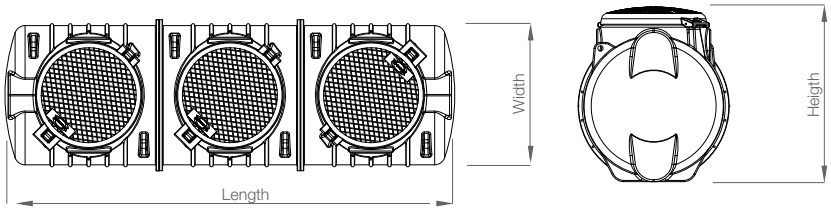
Item	Capacity l	Width m	Length m	Height m
CCN1000	1050	1,15	1,07	1,32

NANOTANK / NT

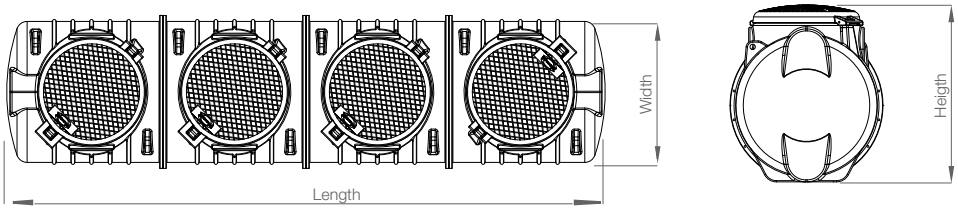
Item	Useful volume l	Length m	Width m	Height m	Basic modules		N° Standard inspection covers	N° Optional inspection covers	Extensions
					CTS1000	CCN1000			
NT2000	2100	2,35	1,15	1,32	2	-	2	-	PP77



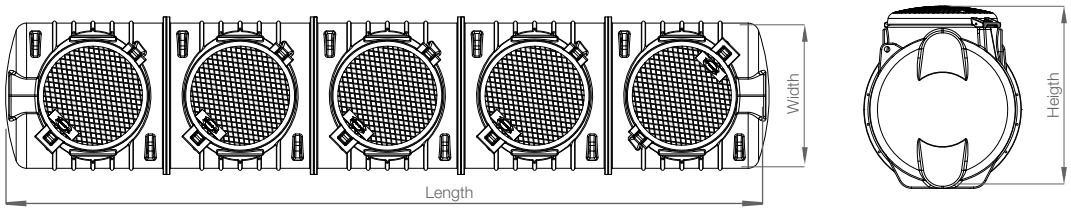
Item	Useful volume l	Length m	Width m	Height m	Basic modules		N° Standard inspection covers	N° Optional inspection covers	Extensions
					CTS1000	CCN1000			
NT3000	3150	3,42	1,15	1,32	2	1	2	1	PP77



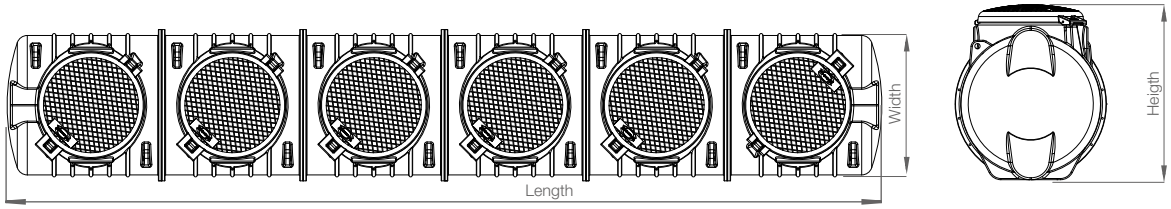
Item	Useful volume l	Length m	Width m	Height m	Basic modules		N° Standard inspection covers	N° Optional inspection covers	Extensions
					CTS1000	CCN1000			
NT4000	4200	4,5	1,15	1,32	2	2	2	2	PP77



Item	Useful volume l	Length m	Width m	Height m	Basic modules		N° Standard inspection covers	N° Optional inspection covers	Extensions
					CTS1000	CCN1000			
NT5000	5250	5,57	1,15	1,32	2	3	2	3	PP77

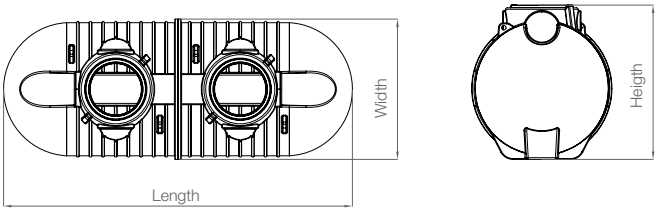


Item	Useful volume l	Length m	Width m	Height m	Basic modules		N° Standard inspection covers	N° Optional inspection covers	Extensions
					CTS1000	CCN1000			
NT6000	6300	6,65	1,15	1,32	2	4	2	4	PP77

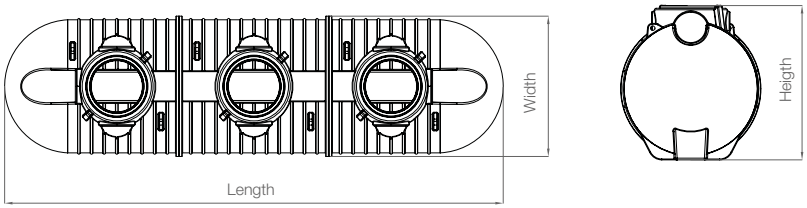


MINITANK / MT

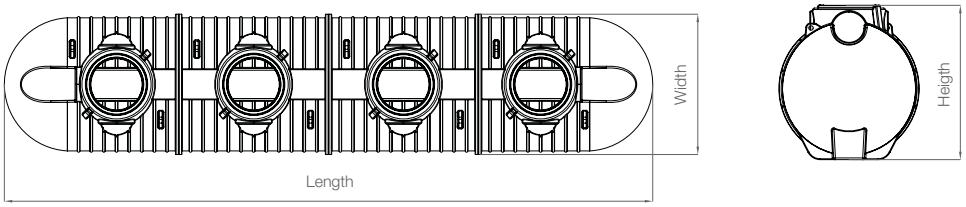
Item	Useful volume l	Length m	Width m	Height m	Basic modules		N° Standard inspection covers	N° Optional inspection covers	Extensions
					CTS3000	CCN3000			
MT6000	6010	3,87	1,55	1,71	2	-	2	-	PP77



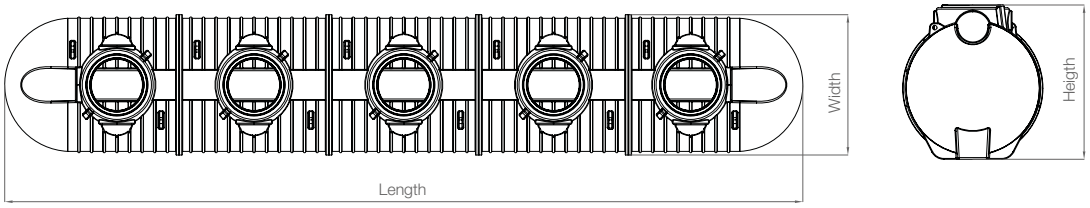
Item	Useful volume l	Length m	Width m	Height m	Basic modules		N° Standard inspection covers	N° Optional inspection covers	Extensions
					CTS3000	CCN3000			
MT9000	9020	5,52	1,55	1,71	2	1	2	1	PP77



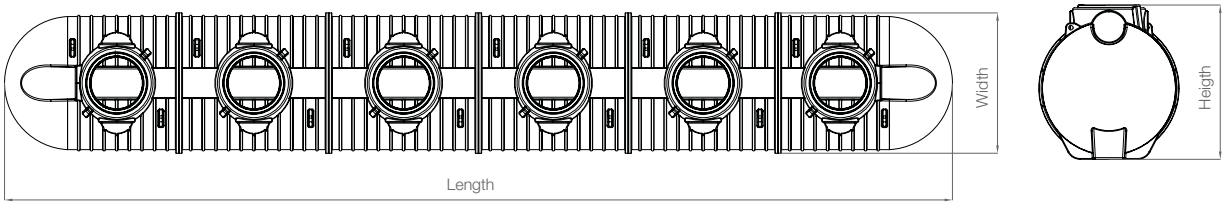
Item	Useful volume l	Length m	Width m	Height m	Basic modules		N° Standard inspection covers	N° Optional inspection covers	Extensions
					CTS3000	CCN3000			
MT12000	12030	7,18	1,55	1,71	2	2	2	2	PP77



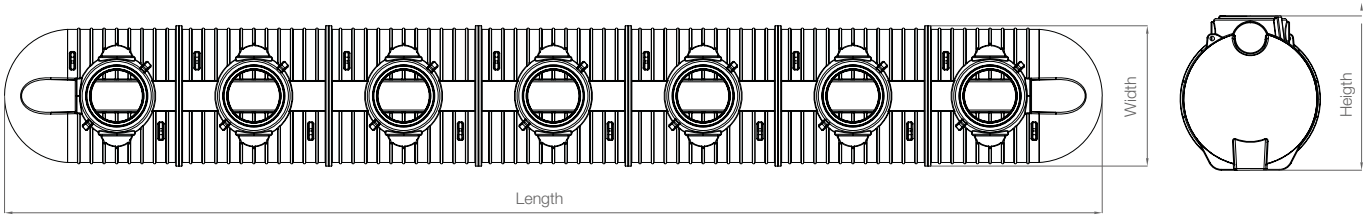
Item	Useful volume l	Length m	Width m	Height m	Basic modules		N° Standard inspection covers	N° Optional inspection covers	Extensions
					CTS3000	CCN3000			
MT15000	15040	8,84	1,55	1,71	2	3	2	3	PP77



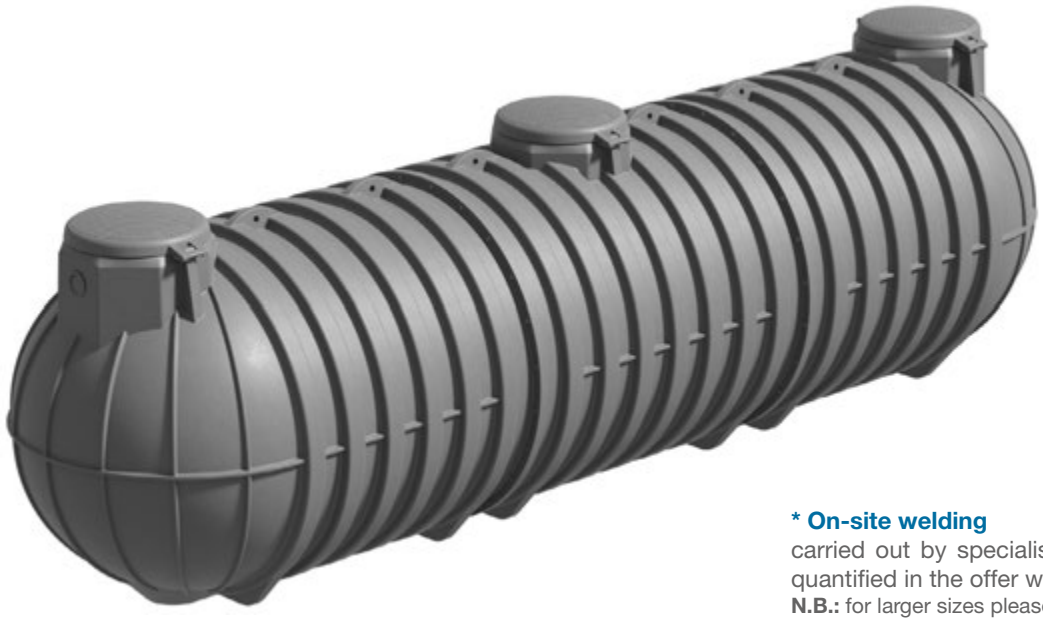
Item	Useful volume l	Length m	Width m	Height m	Basic modules		N° Standard inspection covers	N° Optional inspection covers	Extensions
					CTS3000	CCN3000			
MT18000	18050	10,51	1,55	1,71	2	4	2	4	PP77



Item	Useful volume l	Length m	Width m	Height m	Basic modules		N° Standard inspection covers	N° Optional inspection covers	Extensions
					CTS3000	CCN3000			
MT21000	21060	12,17	1,55	1,71	2	5	2	5	PP77



INFINITANK / STRAIGHT (IT)



*** On-site welding**
carried out by specialist Rototec technicians, to be quantified in the offer when foreseen.
N.B.: for larger sizes please contact our technical office.
N.B.: the position of the asterisk is purely indicative.

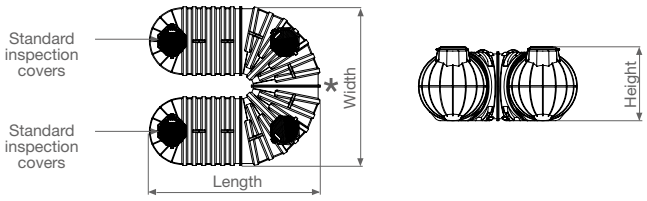
Item	Useful volume l	Length m	Width m	Height m	Basic modules			N° Standard inspection covers	N° Optional inspection covers	Extensions	On-site welding
					TS5500	TS7500	CN7000				
IT13000	13375	5,01	2,1	2,2	1	1	-	2	-	PP77	-
IT15000	15750	5,62	2,1	2,2	-	2	-	2	-	PP77	-
IT18000	18350	6,68	2,1	2,2	2	-	1	2	1	PP77	-
IT20000	20725	7,27	2,1	2,2	1	1	1	2	1	PP77	-
IT22000	23100	7,88	2,1	2,2	-	2	1	2	1	PP77	-
IT25000	25700	8,94	2,1	2,2	2	-	2	2	2	PP77	-
IT28000	28075	9,53	2,1	2,2	1	1	2	2	2	PP77	-
IT30000	30450	10,14	2,1	2,2	-	2	2	2	2	PP77	-
IT33000	33050	11,2	2,1	2,2	2	-	3	2	3	PP77	-
IT36000	37800	12,4	2,1	2,2	-	2	3	2	3	PP77	-
IT40000	40400	13,46	2,1	2,2	2	-	4	2	4	PP77	-
IT42000*	42775	14,05	2,1	2,2	1	1	4	2	4	PP77	1
IT45000*	45150	14,66	2,1	2,2	-	2	4	2	4	PP77	1
IT48000*	47750	15,72	2,1	2,2	2	-	5	2	5	PP77	1
IT50000*	50125	16,31	2,1	2,2	1	1	5	2	5	PP77	1
IT52000*	52500	16,92	2,1	2,2	-	2	5	2	5	PP77	1

SPECIAL SHAPES

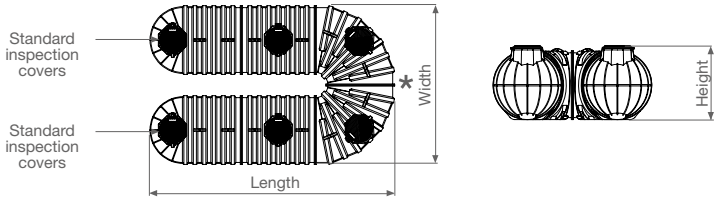
U (ITU)
INFINITANK

*** On-site welding**
carried out by specialist Rototec technicians, to be quantified in the offer when foreseen.
N.B.: for larger sizes please contact our technical office.
N.B.: the position of the asterisk is purely indicative.

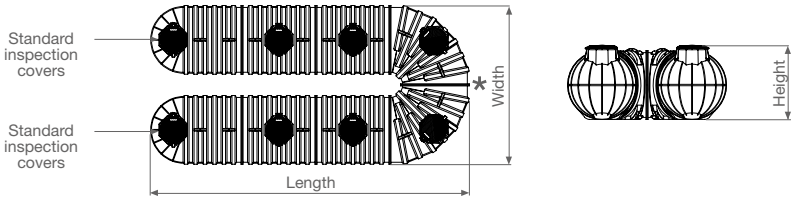
Item	Useful volume l	Length m	Width m	Height m	Basic modules				N° Standard inspection covers	N° Optional inspection covers	Extensions	Welding on site
					TS 7500	CN 7000	CR 7000	TE 8500				
ITU30000 000	30450	5,23	4,85	2,2	2	-	2	-	2	2	PP77	1



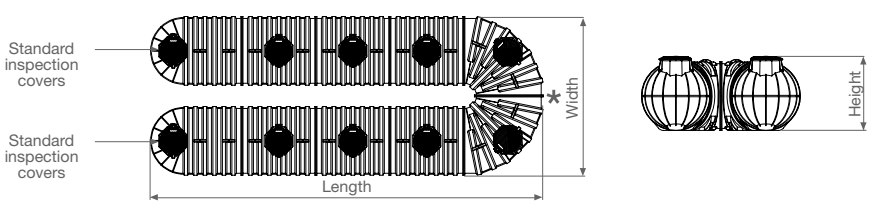
Item	Useful volume l	Length m	Width m	Height m	Basic modules				N° Standard inspection covers	N° Optional inspection covers	Extensions	Welding on site
					TS 7500	CN 7000	CR 7000	TE 8500				
ITU45000 110	45150	7,40	4,85	2,2	2	2	2	-	2	4	PP77	1



Item	Useful volume l	Length m	Width m	Height m	Basic modules				N° Standard inspection covers	N° Optional inspection covers	Extensions	Welding on site
					TS 7500	CN 7000	CR 7000	TE 8500				
ITU60000 220	59850	9,75	4,85	2,2	2	4	2	-	2	6	PP77	1



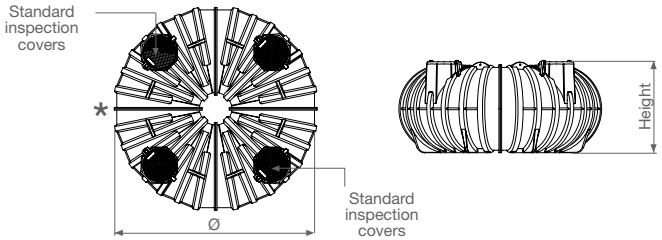
Item	Useful volume l	Length m	Width m	Height m	Basic modules				N° Standard inspection covers	N° Optional inspection covers	Extensions	Welding on site
					TS 7500	CN 7000	CR 7000	TE 8500				
ITU75000 330	74550	11,85	4,85	2,2	2	6	2	-	2	8	PP77	1



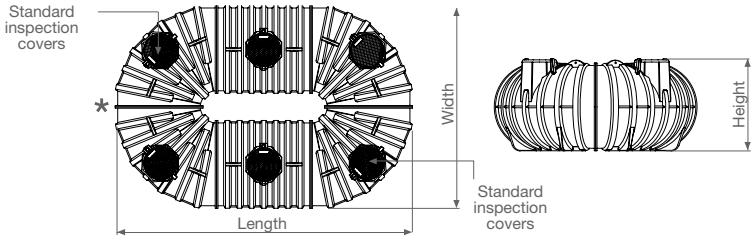
CANOTTO (ITC)
INFINITANK

*** On-site welding**
carried out by specialist Rototec technicians, to be quantified in the offer when foreseen.
N.B.: for larger sizes please contact our technical office.
N.B.: the position of the asterisk is purely indicative.

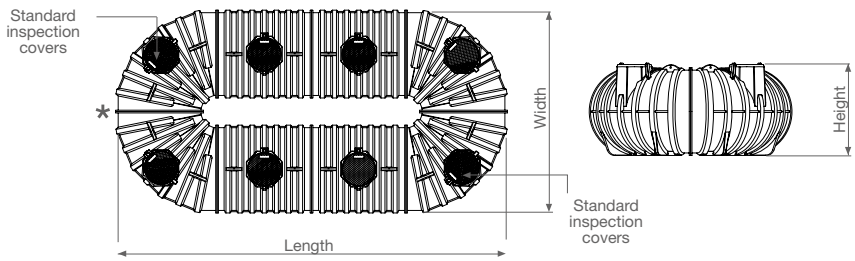
Item	Useful volume l	Length m	Width m	Height m	Basic modules				N° Standard inspection covers	N° Optional inspection covers	Extensions	Welding on site
					TS 7500	CN 7000	CR 7000	TE 8500				
ITC30000 00	29400	4,85	4,85	2,2	-	-	4	-	2	2	PP77	1



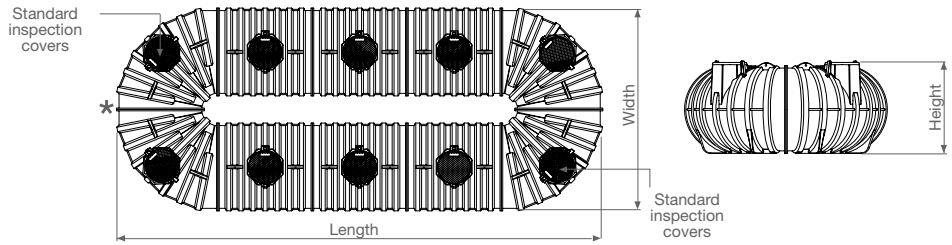
Item	Useful volume l	Length m	Width m	Height m	Basic modules				N° Standard inspection covers	N° Optional inspection covers	Extensions	Welding on site
					TS 7500	CN 7000	CR 7000	TE 8500				
ITC45000 01	44100	7,36	4,85	2,2	-	2	4	-	2	4	PP77	1



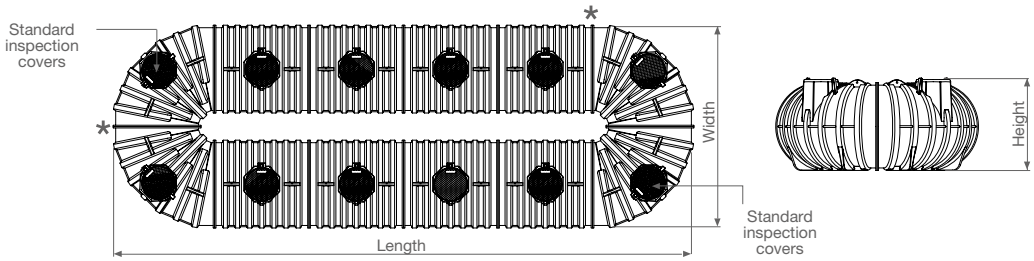
Item	Useful volume l	Length m	Width m	Height m	Basic modules				N° Standard inspection covers	N° Optional inspection covers	Extensions	Welding on site
					TS 7500	CN 7000	CR 7000	TE 8500				
ITC60000 02	58800	9,62	4,85	2,2	-	4	4	-	2	6	PP77	1



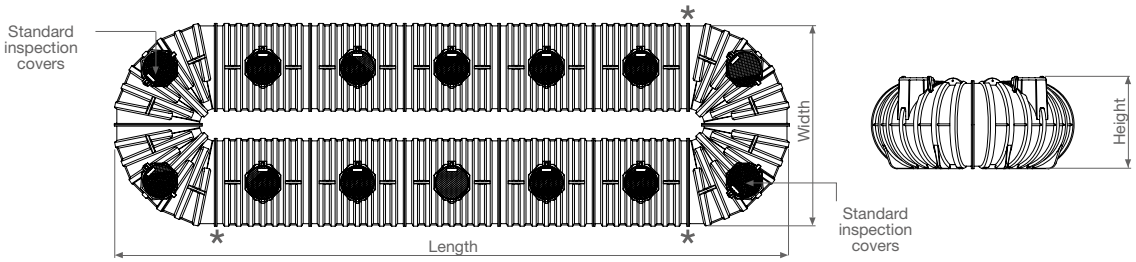
Item	Useful volume l	Length m	Width m	Height m	Basic modules				N° Standard inspection covers	N° Optional inspection covers	Extensions	Welding on site
					TS 7500	CN 7000	CR 7000	TE 8500				
ITC75000 03	73500	11,88	4,85	2,2	-	6	4	-	2	8	PP77	1



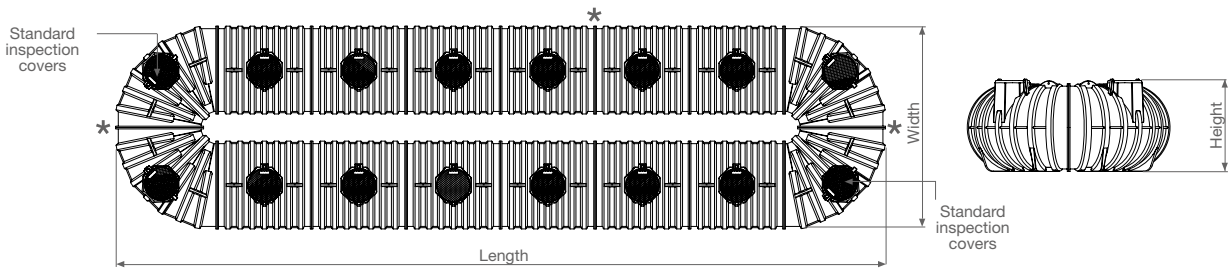
Item	Useful volume l	Length m	Width m	Height m	Basic modules				N° Standard inspection covers	N° Optional inspection covers	Extensions	Welding on site
					TS 7500	CN 7000	CR 7000	TE 8500				
ITC90000 04	88200	14,14	4,85	2,2	-	8	4	-	2	10	PP77	2



Item	Useful volume l	Length m	Width m	Height m	Basic modules				N° Standard inspection covers	N° Optional inspection covers	Extensions	Welding on site
					TS 7500	CN 7000	CR 7000	TE 8500				
ITC100000 05	102900	16,40	4,85	2,2	-	10	4	-	2	12	PP77	3



Item	Useful volume l	Length m	Width m	Height m	Basic modules				N° Standard inspection covers	N° Optional inspection covers	Extensions	Welding on site
					TS 7500	CN 7000	CR 7000	TE 8500				
ITC120000 06	117600	18,66	4,85	2,2	-	12	4	-	2	14	PP77	3

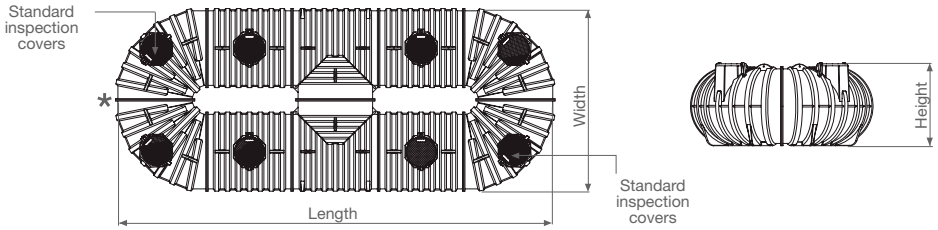


REINFORCED CANOTTO (ITCR)

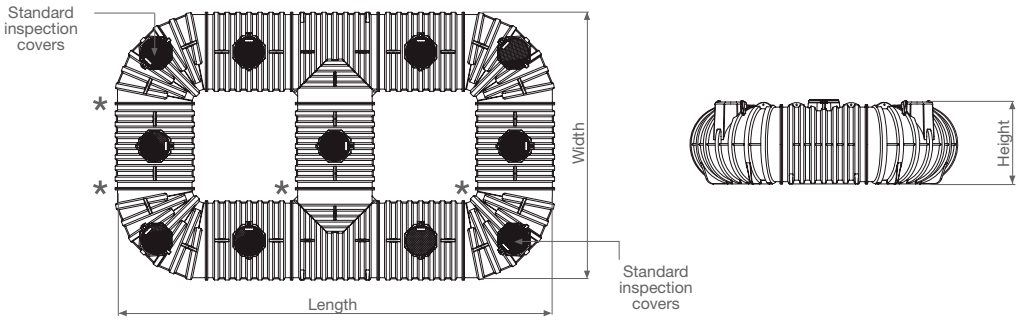
INFINITANK

*** On-site welding**
carried out by specialist Rototec technicians, to be quantified in the offer when foreseen.
N.B.: for larger sizes please contact our technical office.
N.B.: the position of the asterisk is purely indicative.

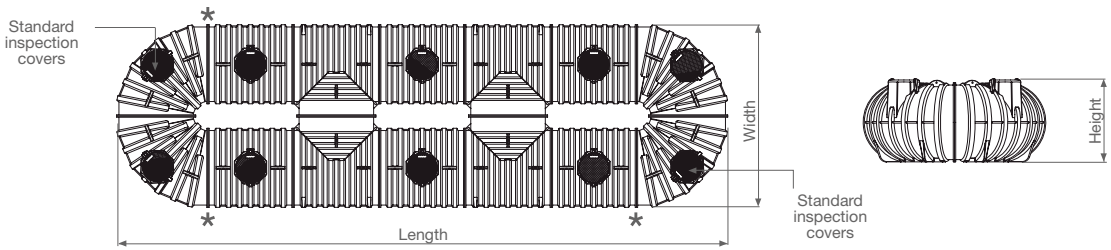
Item	Useful volume l	Length m	Width m	Height m	Basic modules				N° Standard inspection covers	N° Optional inspection covers	Extensions	Welding on site
					TS 7500	CN 7000	CR 7000	TE 8500				
ITCR75000 1110	76650	11,67	4,85	2,2	-	4	4	2	2	6	PP77	1



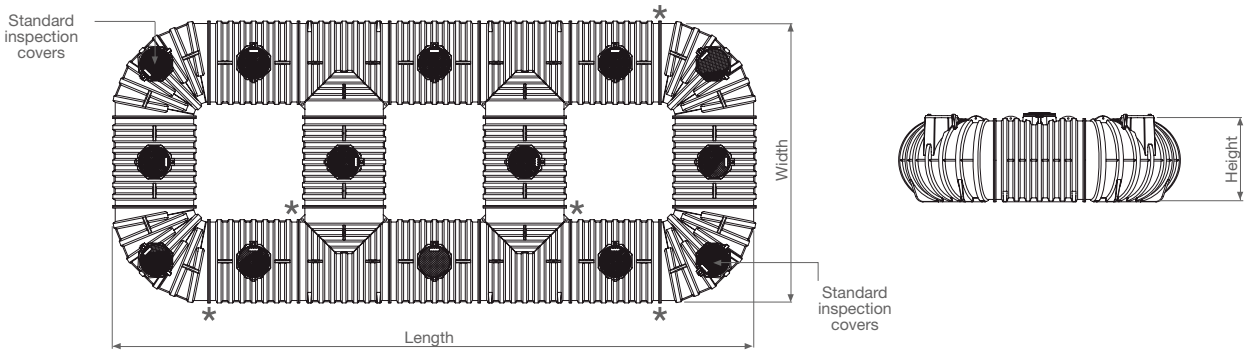
Item	Useful volume l	Length m	Width m	Height m	Basic modules				N° Standard inspection covers	N° Optional inspection covers	Extensions	Welding on site
					TS 7500	CN 7000	CR 7000	TE 8500				
ITCR100000 1111	98700	11,67	7,11	2,2	-	7	4	2	2	6	PP77	4



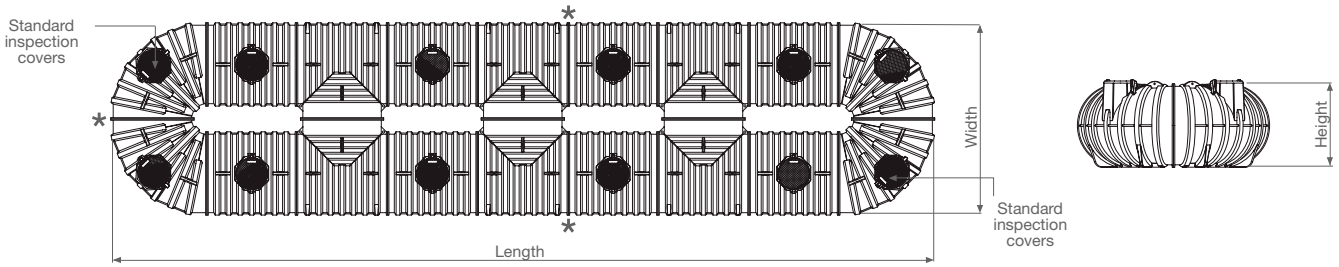
Item	Useful volume l	Length m	Width m	Height m	Basic modules				N° Standard inspection covers	N° Optional inspection covers	Extensions	Welding on site
					TS 7500	CN 7000	CR 7000	TE 8500				
ITCR110000 21110	109200	16,44	4,85	2,2	-	6	4	4	2	8	PP77	3



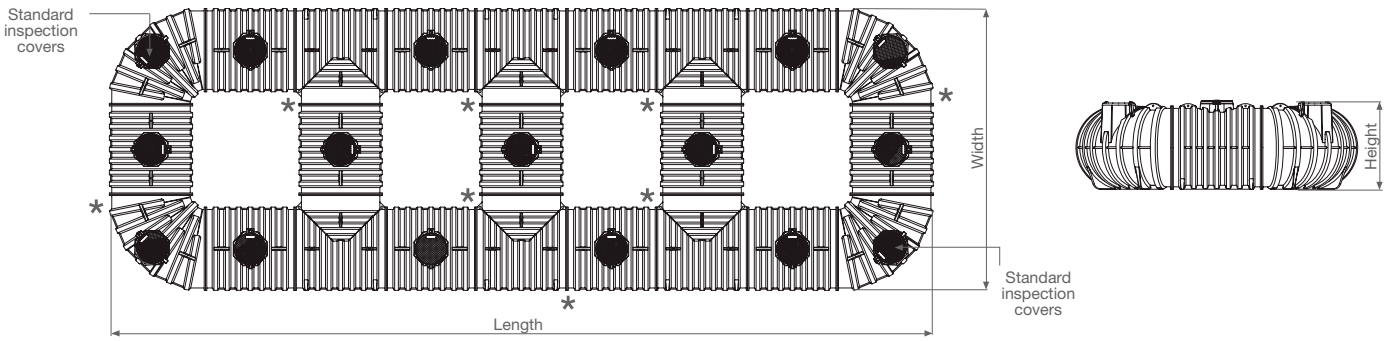
Item	Useful volume l	Length m	Width m	Height m	Basic modules				N° Standard inspection covers	N° Optional inspection covers	Extensions	Welding on site
					TS 7500	CN 7000	CR 7000	TE 8500				
ITCR140000 21111	138600	16,44	7,11	2,2	-	10	4	4	2	12	PP77	5



Item	Useful volume l	Length m	Width m	Height m	Basic modules				N° Standard inspection covers	N° Optional inspection covers	Extensions	Welding on site
					TS 7500	CN 7000	CR 7000	TE 8500				
ITCR140000 311110	141750	20,80	4,85	2,2	-	8	4	6	2	10	PP77	3

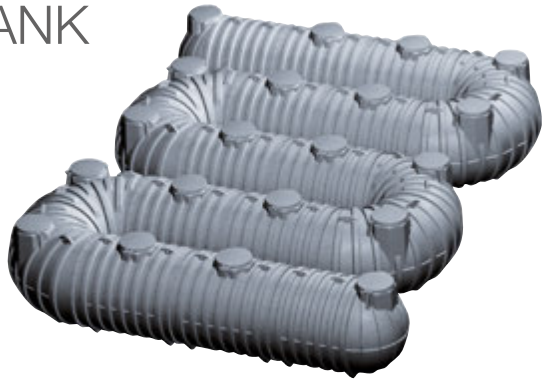


Item	Useful volume l	Length m	Width m	Height m	Basic modules				N° Standard inspection covers	N° Optional inspection covers	Extensions	Welding on site
					TS 7500	CN 7000	CR 7000	TE 8500				
ITCR180000 311111	178500	20,80	7,11	2,2	-	13	4	6	2	15	PP77	8



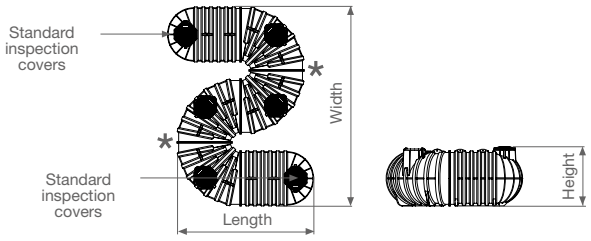
SERPENTINA (ITSR)

INFINITANK

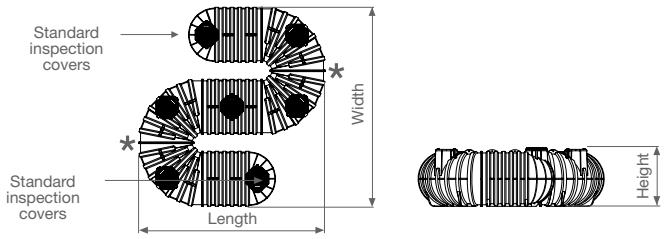


*** On-site welding**
carried out by specialist Rototec technicians, to be quantified in the offer when foreseen.
N.B.: for larger sizes please contact our technical office.
N.B.: the position of the asterisk is purely indicative.

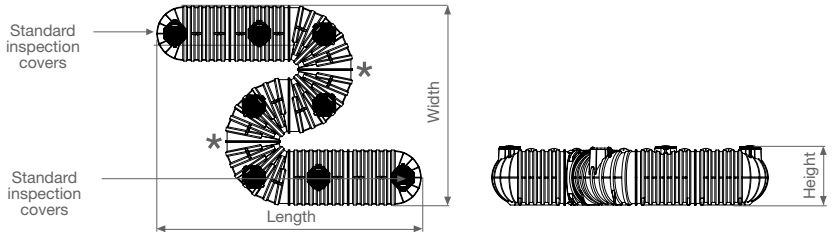
Item	Useful volume l	Length m	Width m	Height m	Basic modules				N° Standard inspection covers	N° Optional inspection covers	Extensions	Welding on site
					TS 7500	CN 7000	CR 7000	TE 8500				
ITSR45000 200000	45150	5,22	7,60	2,2	2	-	4	-	2	4	PP77	2



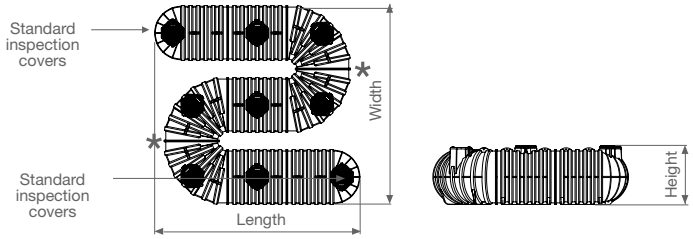
Item	Useful volume l	Length m	Width m	Height m	Basic modules				N° Standard inspection covers	N° Optional inspection covers	Extensions	Welding on site
					TS 7500	CN 7000	CR 7000	TE 8500				
ITSR50000 200100	52500	7,11	7,60	2,2	2	1	4	-	2	5	PP77	2



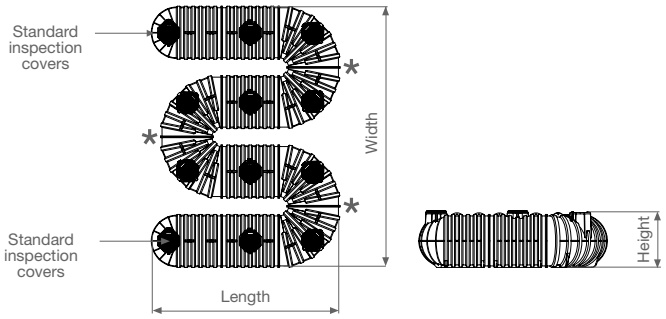
Item	Useful volume l	Length m	Width m	Height m	Basic modules				N° Standard inspection covers	N° Optional inspection covers	Extensions	Welding on site
					TS 7500	CN 7000	CR 7000	TE 8500				
ITSR60000 210001	59850	10,10	7,60	2,2	2	2	4	-	2	6	PP77	2



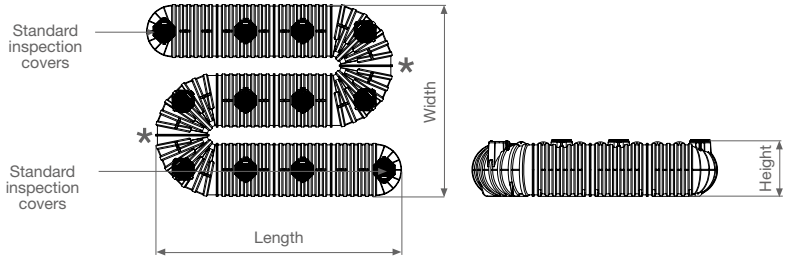
Item	Useful volume l	Length m	Width m	Height m	Basic modules				N° Standard inspection covers	N° Optional inspection covers	Extensions	Welding on site
					TS 7500	CN 7000	CR 7000	TE 8500				
ITSR65000 210101	67200	7,84	7,60	2,2	2	3	4	-	2	7	PP77	2



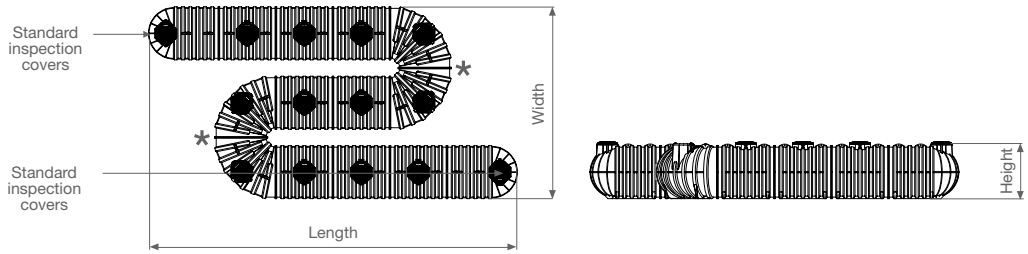
Item	Useful volume l	Length m	Width m	Height m	Basic modules				N° Standard inspection covers	N° Optional inspection covers	Extensions	Welding on site
					TS 7500	CN 7000	CR 7000	TE 8500				
ITSR90000 31010101	89250	7,48	10,35	2,2	2	4	6	-	2	10	PP77	3



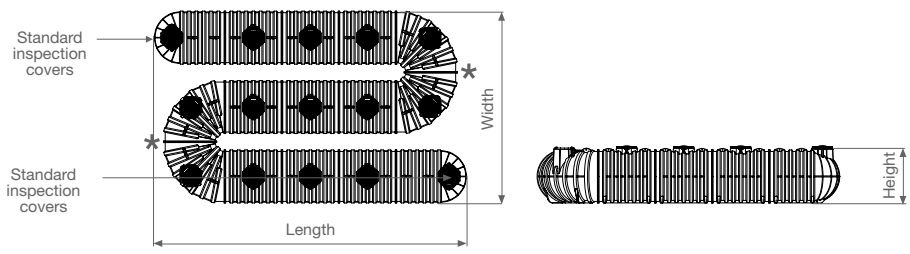
Item	Useful volume l	Length m	Width m	Height m	Basic modules				N° Standard inspection covers	N° Optional inspection covers	Extensions	Welding on site
					TS 7500	CN 7000	CR 7000	TE 8500				
ITSR90000 220202	89250	10,10	7,60	2,2	2	6	4	-	2	10	PP77	2



Item	Useful volume l	Length m	Width m	Height m	Basic modules				N° Standard inspection covers	N° Optional inspection covers	Extensions	Welding on site
					TS 7500	CN 7000	CR 7000	TE 8500				
ITSR100000 230203	103950	15,20	7,60	2,2	2	8	4	-	2	12	PP77	2



Item	Useful volume l	Length m	Width m	Height m	Basic modules				N° Standard inspection covers	N° Optional inspection covers	Extensions	Welding on site
					TS 7500	CN 7000	CR 7000	TE 8500				
ITSR110000 230303	111300	12,36	7,60	2,2	2	9	4	-	2	13	PP77	2



CISTERNA

CORRUGATED UNDERGROUND TANKS

Type
Underground tank

Applications
Drinking water storage, rainwater recovery

Volumes
From 3100 to 10700 litres

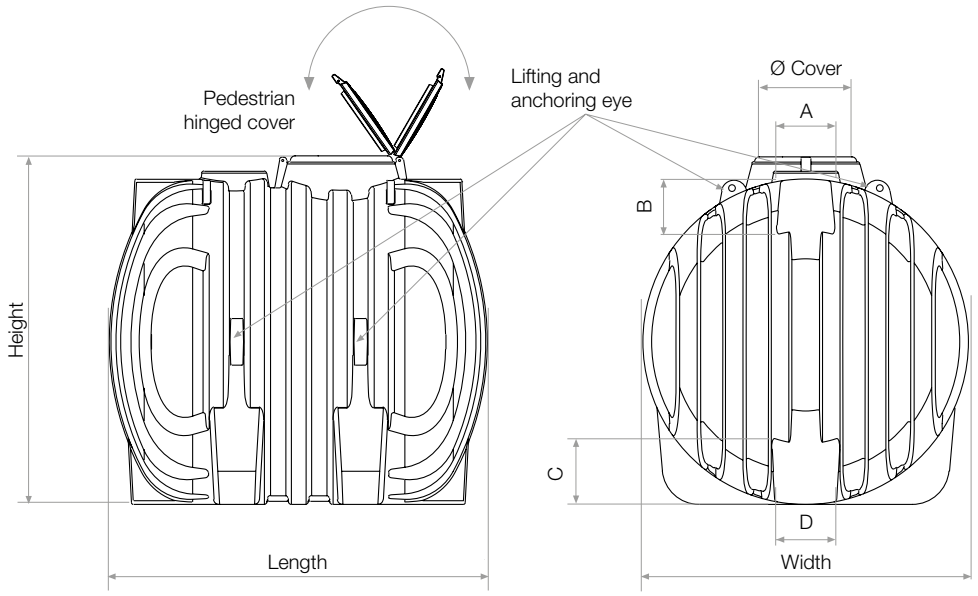
Installation
See the chapter “Underground installation”

Available colours:

standard

- black
- marbled grey

Item	Capacity l	Length cm	Width cm	Height cm	Ø cover cm	Cover	A cm	B cm	C cm	D cm	Extensions	Lifting eye
CI 3000	3100	209	150	172	63	TAP800	27	23	23	27	PP77	8
CI 5700	5700	242	192	210	63	TAP800	35	30	30	35	PP77	8
CI 10700	10700	278	243	258	63	TAP800	32	32	32	40	PP77	8



CANOTTO
CORRUGATED UNDERGROUND TANKS

Type
Underground tank

Applications
Ideal for storing large volumes of drinking water or rainwater in the case of shallow excavations and rocky substrata. Makes laying easy using small size earth moving equipment (mini excavators, compact excavators)

Volumes
From 3500 to 5300 litres

Installation
See the chapter “Underground installation”

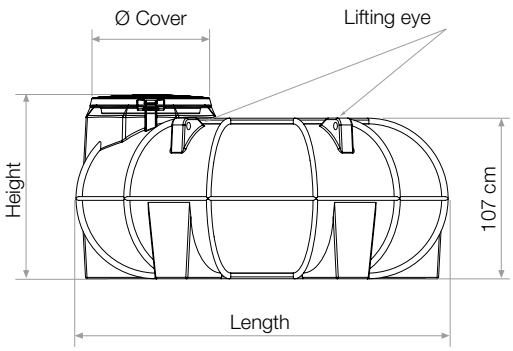
Available colours:

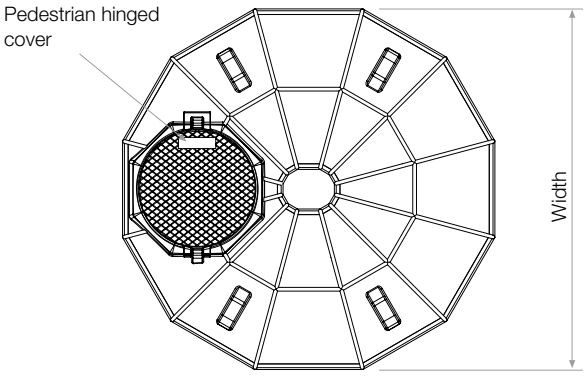
standard

black

marbled grey

Item	Capacity l	Length cm	Width cm	Height cm	Ø cover cm	Cover	A cm	B cm	C cm	D cm	Extensions	Lifting eye
CI 3500	3500	249	241	123	63	TAP800	-	-	-	PP77	4	8
CI 5300	5300	365	241	123	63	TAP800	-	-	-	PP77	4	8





PANETTONE

CORRUGATED UNDERGROUND TANKS

Type
Underground tank

Applications
Drinking water storage, rainwater recovery

Volumes
From 3000 to 10000 litres

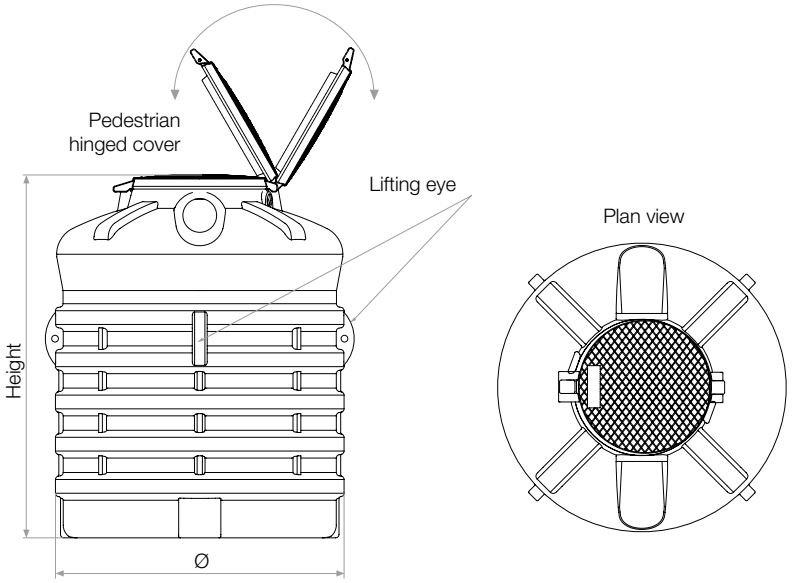
Installation
See the chapter “Underground installation”

Available colours:

standard

- black
- marbled grey

Item	Capacity l	Ø cm	Height cm	Ø cover cm	Cover	Inlet	Outlet	Full drain outlet	Extensions	Lifting eye
NPI 3000	3050	171	165	63	TAP800	-	-	-	PP 77	4
NPI 4000	4050	171	215	63	TAP800	-	-	-	PP 77	4
NPI 5000	5500	195	247	63	TAP800	-	-	-	PP 77	4
NPI 8000	7800	227	275	63	TAP800	-	-	-	PP 77	4
NPI 10000	9800	227	300	63	TAP800	-	-	-	PP 77	4



PANETTONE

SMOOTH UNDERGROUND TANKS

Type
Underground tank

Applications
Drinking water storage, rainwater recovery

Volumes
From 1000 to 2000 litres

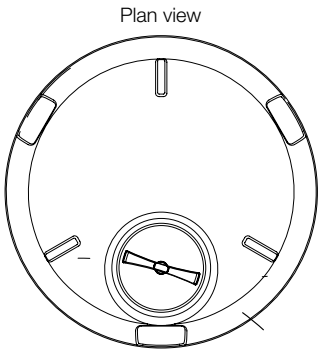
Installation
See the chapter “Underground installation”

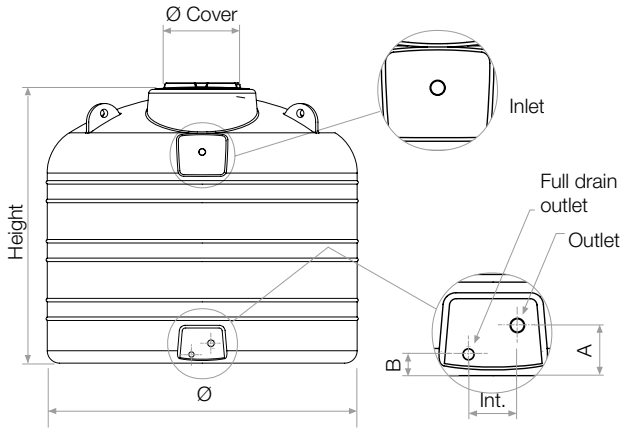
Available colours:

standard

- black
- marbled grey

Item	Capacity l	Ø cm	Height cm	Ø cover cm	Cover	Inlet	Outlet	Full drain outlet	Extensions	Lifting eye	Threaded insert dimensions cm		
											A	B	Int.
PI 1000	1040	120	105	30	CC 300	1”	1”	¾”	PP 35	3	9	5	11
PI 2000	2075	150	133	40	CC 400	1”	1”	¾”	PP 45	3	9	5	11





CISTERNA

SMOOTH UNDERGROUND TANKS

Type
Underground tank

Applications
Drinking water storage, rainwater recovery

Volumes
From 1000 to 2000 litres

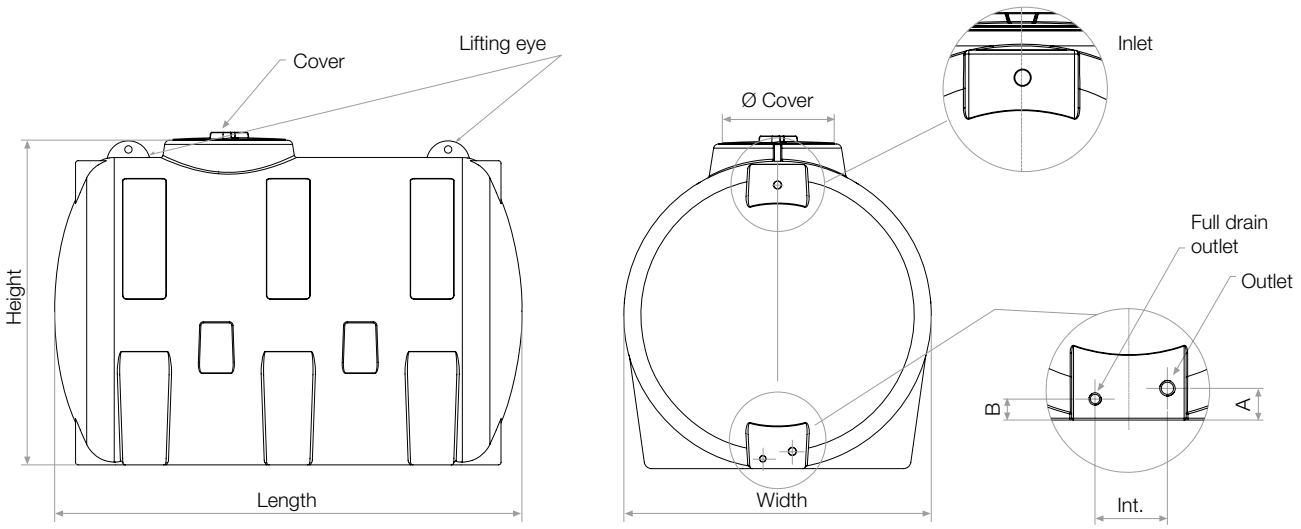
Installation
See the chapter “Underground installation”

Available colours:

standard

- black
- marbled grey

Item	Capacity l	Length cm	Width cm	Height cm	Ø cover cm	Cover	Inlet	Outlet	Full drain outlet	Extensions	Lifting eye	Threaded insert dimensions cm		
												A	B	Int.
CI1000	1020	155	97	104	30	CC 300	1”	1”	¾”	PP 35	-	7.8	4	11
CI1500	1665	170	115	122	40	CC 400	1”	1”	¾”	PP 45	2	7	4	11
CI2000	2200	190	125	132	40	CC 400	1”	1”	¾”	PP 45	2	7	4	12



UNDERGROUND TANKS

TECHNICAL CHARACTERISTICS

Thanks to rotational moulding technology and the chemical-physical-mechanical characteristics of linear polyethylene (LLDPE), the underground tanks possess the ideal characteristics for the problem-free storage of large volumes of liquids. Polyethylene, in fact, is totally **non-toxic** and does not foster the growth of algae in the fluids contained in the tanks, thus making the tanks ideal for storing potable water and other foodstuffs. Furthermore, linear polyethylene also supports sudden changes in temperature (from -20 to + 80 °C) and is **inert** in the presence of chemical substances in the soil. For these reasons, there are no material oxidation or corrosion problems that would prejudice the mechanical characteristics and impermeability of the tanks. These characteristics are also guaranteed by the fact that rotational moulding allows **one-piece tanks** to be produced, i.e. free of welds that could weaken parts of the tanks subjected to internal stresses. Furthermore, while possessing the same characteristics as other materials (cement, fibreglass, metal), tanks in polyethylene are much lighter, and as such transport, installation and maintenance are extremely **simple and economical**. Finally, polyethylene tanks **can be bored** when the need arises, for example when connecting tanks together, installing inlet/outlet pipes, overflows, etc.

ROTOTEC supplies three models of tanks for underground installation, which differ in shape, structure and capacity: the Cisterna model stores from 1000 to 10000 litres, the Panettone model has a capacity of from 3000 to 10000 litres, while the modular system (NANOTANK, MINITANK and INFINITANK) can be used to create very large storage tanks, in theory of infinite size.

Each tank is equipped with one or more threaded or hinged inspection covers on which it is possible to install extensions when the top of the tank is below ground level. Finally, on request, the tanks can be equipped with the appropriate pumps for delivering the stored water at flow rates, pressures and heads needed for the various applications.

APPLICATIONS

The characteristics previously mentioned render the underground tanks ideal for:

- **Storing potable water** or other liquid foodstuffs;
- **Creating large volumes of stored water** for fire-fighting, washing or irrigation plants;
- **Creating lift stations** for pumping water to higher levels;
- **Collecting and storing rainwater** for eventual re-use for irrigation, washing hardstandings, filling toilet cisterns, etc…

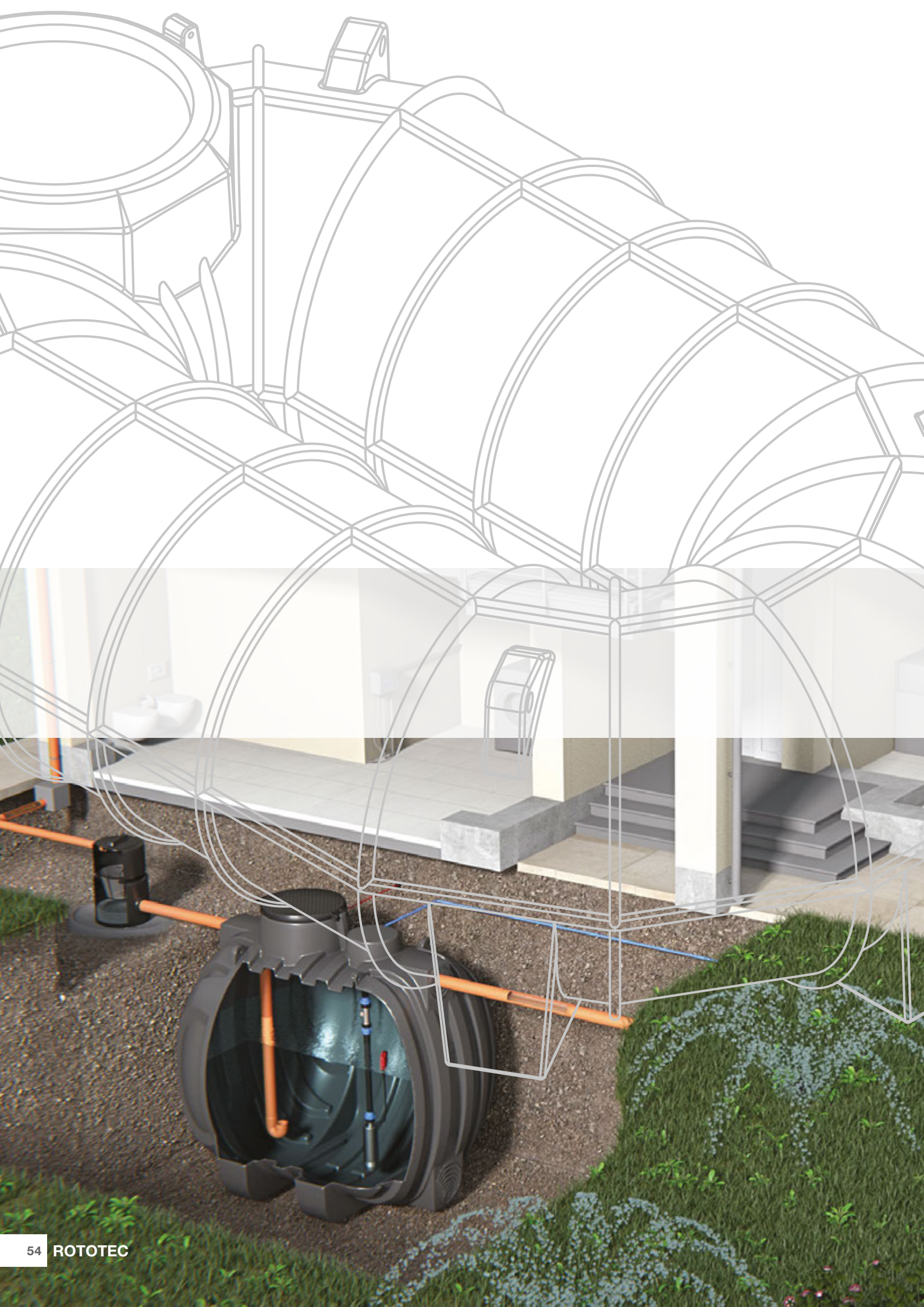
WARNINGS

In order to ensure that the characteristics of the underground tanks remain unaltered over time, that the stored substances do not deteriorate and that the ROTOTEC guarantee remains valid (25 years against full-depth corrosion) the following instructions must be carefully followed:

- **The underground tanks must not, under any circumstances, be installed above ground**;
- **Prior to installation, carefully check the integrity of the tanks** and the tightness of the gaskets;
- Do not install the tanks near to sources of heat;
- The tanks must be positioned on a flat stable surface. Special care must be taken in areas characterised by ground instability. **When positioning, always adhere strictly to the installation methods provided (see Installation)**;
- When installing the tanks, to prevent the formation of algae, make sure that no light can filter in;
- Use flexible hoses when connecting to the water system in order to prevent stresses during tank filling and emptying;
- Do not leave the tank without its cover for any length of time;
- In the case of rainwater storage, it is advisable to install a filter chamber upstream of the tank to prevent a build-up of grit, silt, leaves, etc. inside the tank;
- **For storing fluids not expressly indicated in this catalogue, contact our technical office.**

USE AND MAINTENANCE

- When carrying out maintenance operations and cleaning of the tank and any components installed inside it, always comply with the requirements indicated in the safety regulations about temporary or mobile work sites;
- keep the area around the tank **free** from any material that might obstruct or impede the maintenance work;
- always work in pairs when carrying out tank inspection and cleaning operations, and wear suitable safety equipment (safety harness, lines, gloves,...);
- check the tank **every 6 months**. If any sediment is found on the floor, extract it and clean the tank carefully using a normal domestic detergent. If any foreign bodies are found, disinfect the tank thoroughly;
- check that any PVC inlet, outlet, overflow pipes or brass or plastic filling, drainage, full drain connectors are not blocked by large solids that prevent the passage of the fluid in the tank. If any sediment is found, it must be removed;
- check **every 6 months** to ensure that pipes, connectors and gaskets are sealed;
- periodically check that the vent serving the pump and installed on the tank is free. If it is blocked it must be cleaned.



RAINWATER HARVESTING AND RE-USE SYSTEMS

RAINWATER HARVESTING AND RE-USE SYSTEMS

Rototec offers a full range of rainwater harvesting and re-use systems, suitable for any type of use: from simple irrigation of green areas (gardens, flower beds, etc...) to domestic re-use (toilet flushing, washing cars and floors). According to the type of use, our range comprises the following harvesting and re-use systems.

SYSTEM	USE
IRRIGATION STATION **SIR**	IRRIGATION OF GARDENS AND GREEN AREAS
IRRIGATION STATION **HABITA**	IRRIGATION OF GARDENS AND GREEN AREAS FILLING TOILET CISTERNS WASHING OUTDOOR SURFACES
MODULE **HABITA PRESS**	IRRIGATION OF GARDENS AND GREEN AREAS FILLING TOILET CISTERNS WASHING OUTDOOR SURFACES WITH EXISTING UNDERGROUND STORAGE TANK ALREADY PRESENT
MODULE **REINTEGRA**	IRRIGATION OF GARDENS AND GREEN AREAS FILLING TOILET CISTERNS WASHING OUTDOOR SURFACES WITH EXISTING UNDERGROUND STORAGE TANK ALREADY PRESENT AND PUMP

SUPPLY

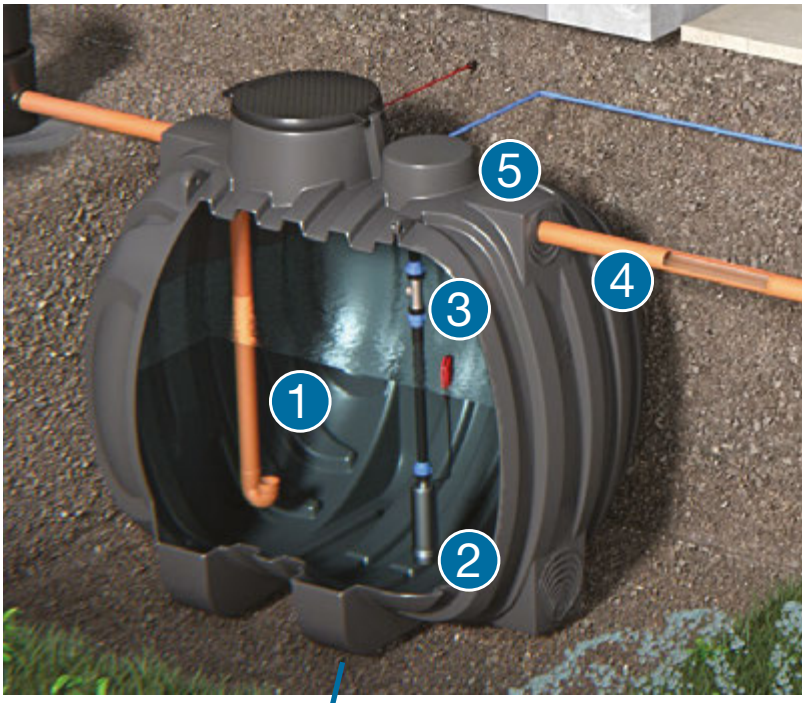
- UNDERGROUND TANK
- INLET PIPE WITH STILLING PIPE AND OVERFLOW PIPE
- SUBMERSIBLE PUMP

- UNDERGROUND TANK
- INLET PIPE WITH STILLING PIPE AND OVERFLOW PIPE
- SUBMERSIBLE PUMP
- PROBE KIT + AUTOMATIC CONTROL PANEL + TOPPING-UP SOLENOID VALVE

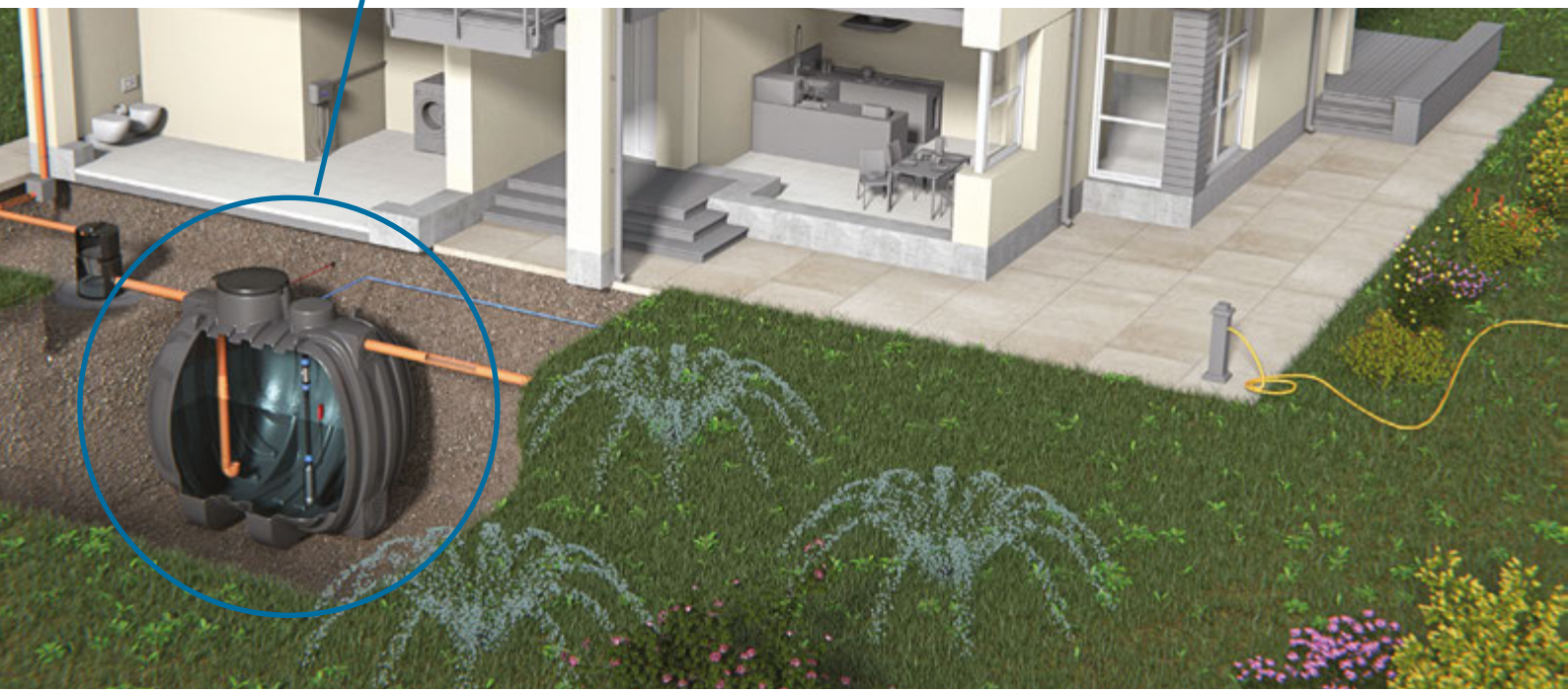
- SELF-PRIMING PUMP
- PROBE KIT + AUTOMATIC CONTROL PANEL + TOPPING-UP SOLENOID VALVE

- PROBE KIT + AUTOMATIC CONTROL PANEL + TOPPING-UP SOLENOID VALVE

SIR IRRIGATION STATIONS



1. PVC INLET STILLING PIPE
2. SUBMERSIBLE PUMP
3. CLAPET VALVE
4. PVC OVERFLOW PIPE
5. PP PUMP OUTLET



SPECIFICATIONS

TECHNICAL CHARACTERISTICS

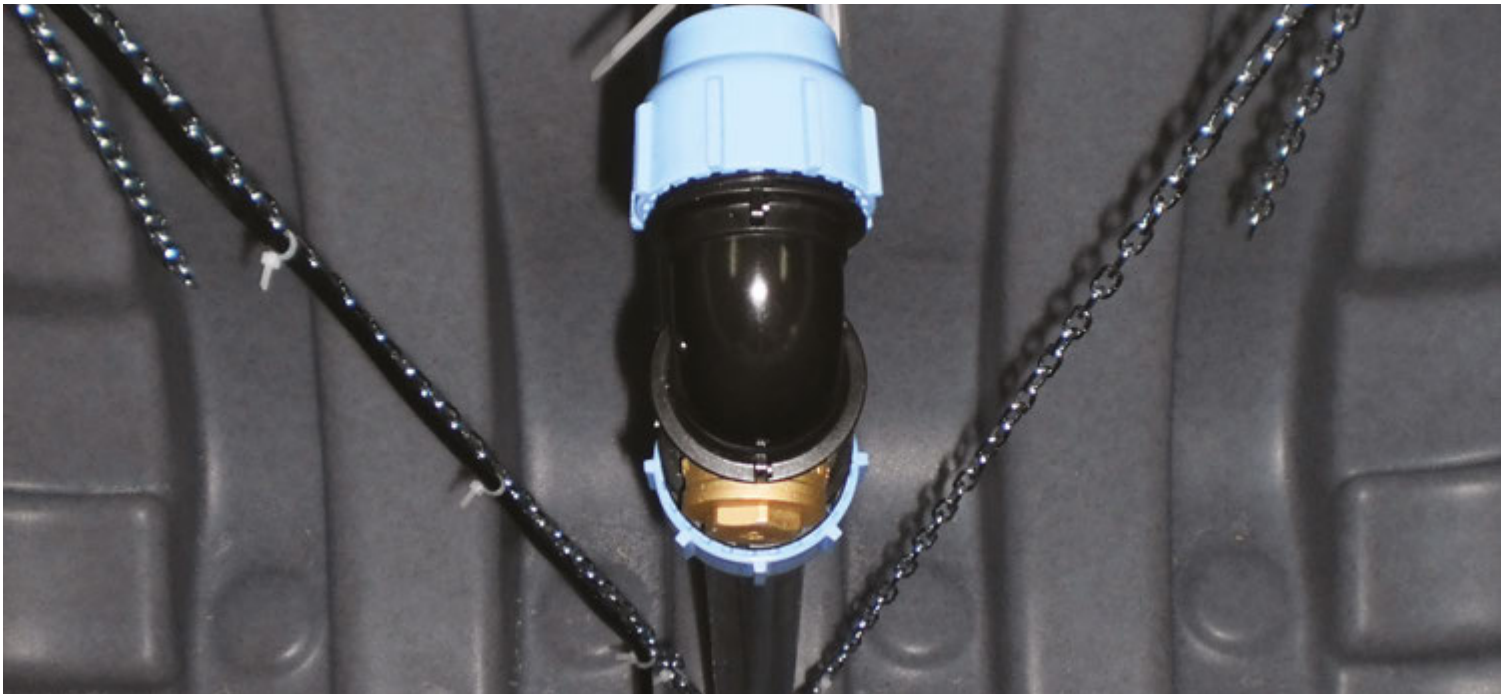
SIR irrigation stations consist of both smooth and corrugated underground tanks. They are fitted with a PVC inlet stilling pipe and overflow pipe, PP (polypropylene) outlet pipe and connectors, submersible electric pump, polyethylene (PE) delivery pipe, clapet type check valve, pump lift chain and electronic control pressure switch.

USE

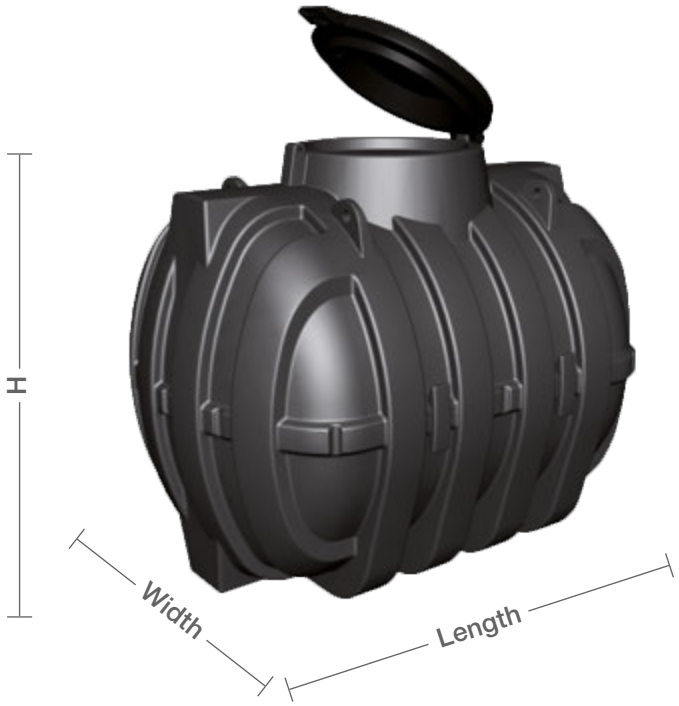
rainwater harvesting and re-use for irrigation purposes, feeding automatic (telescopic irrigators, sprinklers, sprays, etc...) or manual systems (taps, fountains,...).

OPERATION

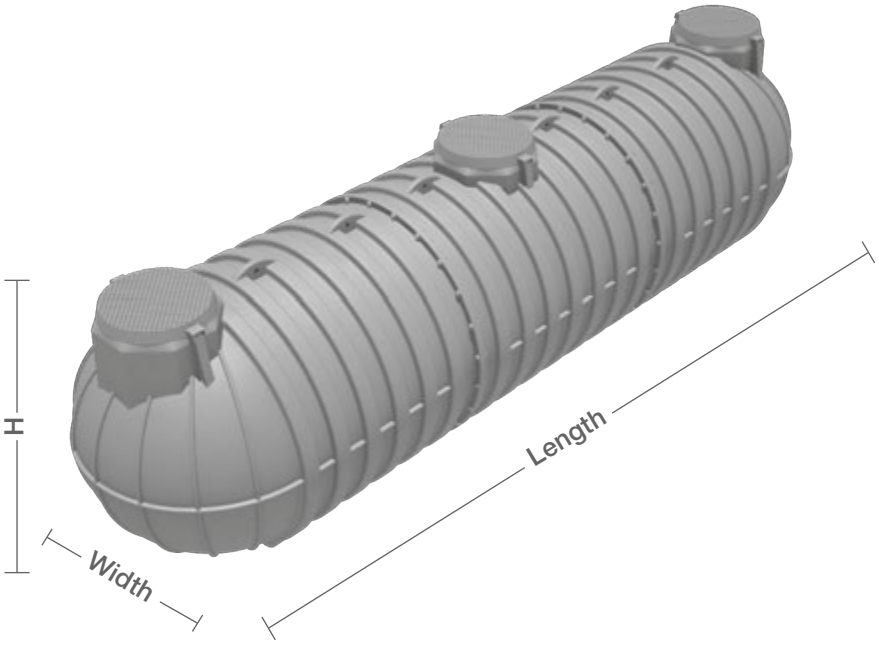
the system allows storage and delivery of between 1000 and 10000 litres of water. Rainwater runoff from roofs (or other exposed surfaces) enters the storage tank through the inlet pipe, after flowing through a filtering system (recommended). When the tank is full, any excess water is sent to the main drainage system through the overflow pipe. A submersible electric pump is installed in the tank. An electronic control pressure switch controls the pump, allowing the stored water to be used.



SIR IRRIGATION STATIONS



SIR IRRIGATION STATIONS MODULAR



MODEL

PANETTONE SMOOTH

CORRUGATED

PANETTONE CORRUGATED

CANOTTO

MODULAR

Item	Mod.	Capacity l	Length cm	Width cm	Ø cm	H cm	HI cm	HO cm	ØI mm	Ø overflow mm	Ø O mm	Ø cover cm	Cover	Extension	Pump
SIRPI1075		1000	-	-	120	105	95	76	110	110	50	30	CC300	PP35	PI40/08M
SIRPI2075		2000	-	-	150	133	117	98	110	110	50	40	CC400	PP45	PI40/08M
SIR3075		3000	209	150	-	172	160	139	125	125	50	63	TAP800	PP77	PI40/08M
SIR3015		3000	209	150		172	160	139	125	125	50	63	TAP800	PP77	PI80/15M
SIRPI3075		3000	-	-	171	165	147	138	125	125	50	63	TAP800	PP77	PI40/08M
SIRPI3015		3000	-	-	171	165	147	138	125	125	50	63	TAP800	PP77	PI80/15M
SIR3575		3000	249	241	-	123	96	94	125	125	50	63	TAP800	PP77	PI40/08M
SIR3515		3000	249	241	-	123	96	94	125	125	50	63	TAP800	PP77	PI80/15M
SIRPI4075		4000	-	-	171	215	197	188	125	125	50	63	TAP800	PP77	PI40/08M
SIRPI4015		4000	-	-	171	215	197	188	125	125	50	63	TAP800	PP77	PI80/15M
SIR5075		5000	242	192	-	210	194	173	125	125	50	63	TAP800	PP77	PI40/08M
SIR5015		5000	242	192	-	210	194	173	125	125	50	63	TAP800	PP77	PI80/15M
SIR5375		5000	365	241	-	123	96	94	125	125	50	63	TAP800	PP77	PI40/08M
SIR5315		5000	365	241	-	123	96	94	125	125	50	63	TAP800	PP77	PI80/15M
SIRPI8075		8000	-	-	227	275	254	246	125	125	50	63	TAP800	PP77	PI40/08M
SIRPI8015		8000	-	-	227	275	254	246	125	125	50	63	TAP800	PP77	PI80/15M
SIR10075		10000	278	243	-	266	247	223	125	125	50	63	TAP800	PP77	PI40/08M
SIR10015		10000	278	243	-	266	247	223	125	125	50	63	TAP800	PP77	PI80/15M
SIRPI10075		10000	-	-	227	300	280	271	125	125	50	63	TAP800	PP77	PI40/08M
SIRPI10015		10000	-	-	227	300	280	271	125	125	50	63	TAP800	PP77	PI80/15M
MTSIR12075		12000	718	155	-	171	151	148	125	125	50	63	TAP800	PP77	PI40/08M
MTSIR12015		12000	718	155	-	171	151	148	125	125	50	63	TAP800	PP77	PI80/15M
ITSIR13075		13000	501	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI40/80M
ITSIR13015		13000	501	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI80/15M
ITSIR15075		15000	562	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI40/08M
ITSIR15015		15000	562	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI80/15M
ITSIR18075		18000	668	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI40/80M
ITSIR18015		18000	668	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI80/15M
MTSIR18075		18000	1051	155	-	171	151	148	125	125	50	63	TAP800	PP77	PI40/08M
MTSIR18015		18000	1051	155	-	171	151	148	125	125	50	63	TAP800	PP77	PI80/15M
ITSIR20075		20000	727	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI40/80M
ITSIR20015		20000	727	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI80/15M
ITSIR22075		22000	788	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI40/08M
ITSIR22015		22000	788	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI80/15M
ITSIR25075		25000	894	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI40/80M
ITSIR25015		25000	894	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI80/15M
ITSIR28075		28000	953	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI40/80M
ITSIR28015		28000	953	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI80/15M
ITSIR30075		30000	1014	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI40/08M
ITSIR30015		30000	1014	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI80/15M
ITSIR33075		33000	1120	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI40/80M
ITSIR33015		33000	1120	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI80/15M
ITSIR36075		36000	1240	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI40/08M
ITSIR36015		36000	1240	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI80/15M
ITSIR40075		40000	1346	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI40/80M
ITISR40015		40000	1346	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI80/15M

Ø = diameter; **H** = height; **ØI/O** = inlet/outlet pipe diameter.

SIR IRRIGATION STATIONS
SUBMERSIBLE PUMPS

SUBMERSIBLE PUMP FOR 5" WELLS

MATERIAL
Outer shell, motor cover, seal holder disk, filter and fastening ring in AISI 304; impeller, diffuser and spacer in PPE+PS reinforced with fibreglass; shaft in AISI 431; upper mechanical seal (motor side) in carbon/ceramic/NBR and lower seal (pump side) in SiC/carbon/NBR.
Electric pump with double mechanical seal surrounding an oil chamber. 2-pole self-ventilated asynchronous motor cooled by the fluid transported, insulation class F and protection level IP68.

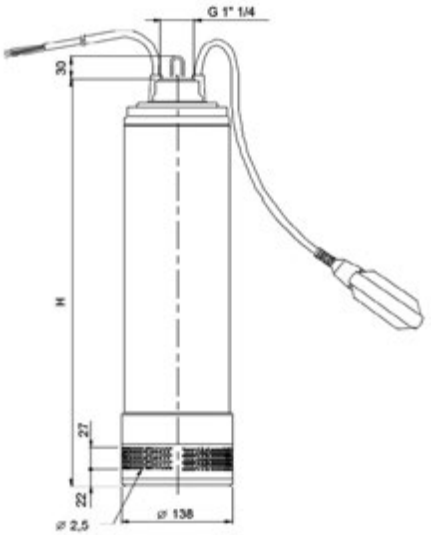
FUNCTION
Movement of clean water from wells, cisterns and rainwater collection tanks; pressurisation of domestic systems; small-scale irrigation; carwashes; pressure increases in general.

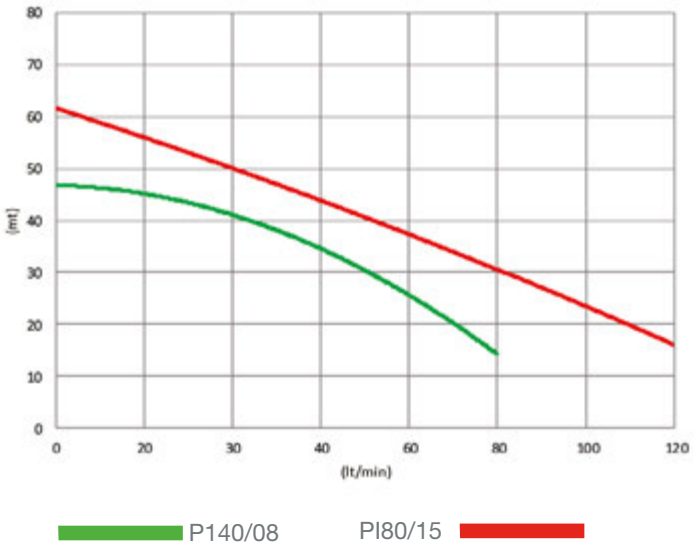
USE AND MAINTENANCE
Under normal operating conditions, the electric pump does not require any maintenance operations. The only recommendation is that proper operation be checked periodically, in particular checking for any abnormal noise and vibration that may arise and checking any loss of mechanical seal.

PUMP MODEL:
PI 40/08 M
PI 80/15 M

Pump model	Power		A1~A	µF	DNM inches	H mm	Weight Kg	Flow rate		Head m
	HP	Kw						l/min	m³/h	
PI 40/08M	0,8	0,6	4,3	16	1" ¼	513	14,6	20	1,2	43,3
								80	4,8	13,4
PI 80/15M	1,5	1,1	7,5	31,5	1" ¼	564	17,7	30	1,8	57
								120	7,2	19

Pump model	Max. immersion depth m	Max. grit concentration g/m³	Max. no. start-ups n°/h	Max. water temp. °C
PI 40/08M	20	2,5	20	40
PI 80/15M	20	2,5	20	40





SIR IRRIGATION STATIONS
ACCESSORIES

PRESSURE REGULATOR **(supplied)**

Application Automatic electronic pressure-flow switch to adjust the operation of electric pumps.

Function Commands automatic start-up and stoppage of the pump when a tap or a valve connected to the system is opened or closed. When the pump is started, it remains in operation for as long as any one of the users is open, transmitting the required flow rate to the network. If there is an absence of water during suction, the pump will stop automatically.

Construction characteristics Complete with non return valve. Adjustable start-up pressure. Operation indicators and RESET button. Maximum water temperature 60°C. Protection level IP65.

Item	Supply voltage V	Frequency Hz	Max. current intensity A	Start-up pressure bar	Max. working pressure bar	Max. flow rate l/h	Connector diameter	Weight kg
PRESSCMF	220	50/60	10	1,5-2,5	10 (±10%)	10000	1”	0,6

ELECTRIC PUMP CONTROL PANEL WITH PRESSURE SWITCH **(optional)**

Function Electronic panel to command and protect a single phase user equipped with a pressure switch.

Installation method If the panel with the pressure switch is installed outside and not protected against atmospheric agents, it should be housed in an appropriate casing or cabinet with protection grade IP55.

Construction characteristics

• Power supply 1 ~ 50/60Hz 230V±10% • Low voltage inputs and command circuits; • Normally open input for start-up command; • Level control relay for 3 unipolar probes or float switches; • Button pad to select automatic, manual (momentary), Off/Reset; • Dip-switch for Filling/Emptying probe operation; • Adjustable probe sensitivity; • Green mains electricity present LED; • Green automatic operation LED; • Green motor On LED; • Red level alarm LED; • Red motor in overload alarm LED; • Electronic adjustable motor overload control; • Auxiliaries and motor protected by fuses; • Alarm output (com-no-nc resistive load); • Main switch with door interlock; • Box in ABS, IP55; • Room temperature: -5/+40 °C; • Relative humidity 50% at 40 °C (without condensation).

Pressure switch characteristics

• Pressure switch built in compliance with EN60947-4/-5; • Working room temperature: from -40 to +65 °C;
• Protection IP30; • Electrical connection: inlet with 6 to 14 mm cable; • Max. pressure: 17 bars.

Item	Pump power		Current A	Size			Weight Kg
	Kw	HP		Height mm	Length mm	Depth mm	
QCSIRPRESS1	0,37-2,2	0,5-3	16	320	240	190	1,5

FILTER CARTRIDGES **(optional)**

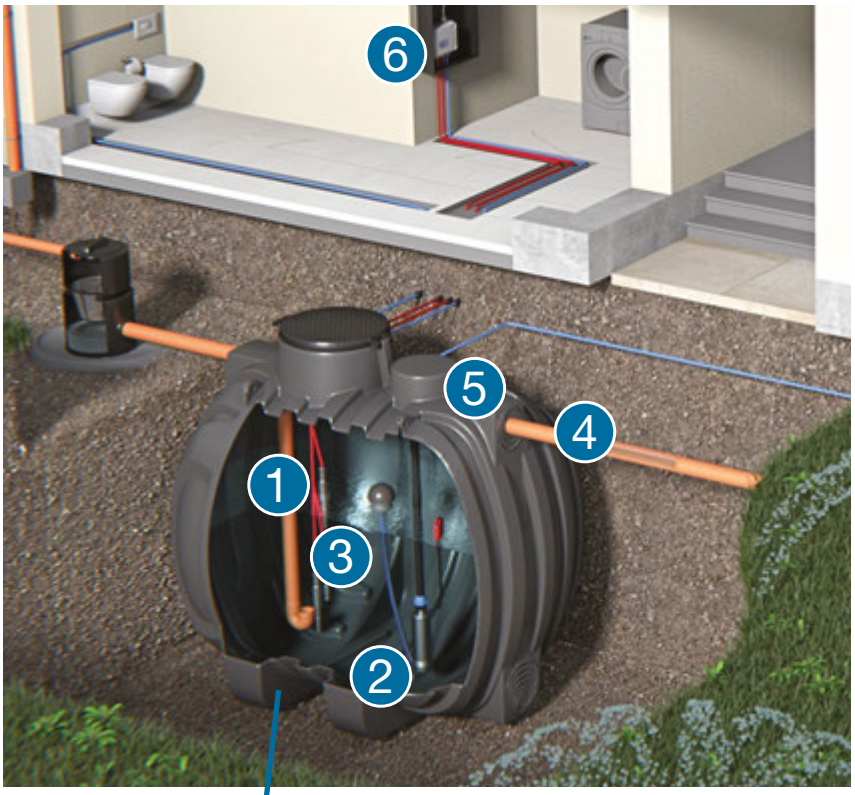
Material Transparent SAN bowl, filled polypropylene head, brass threaded inserts.

Application Filtration system to be installed downstream of a rainwater harvesting and re-use plant.

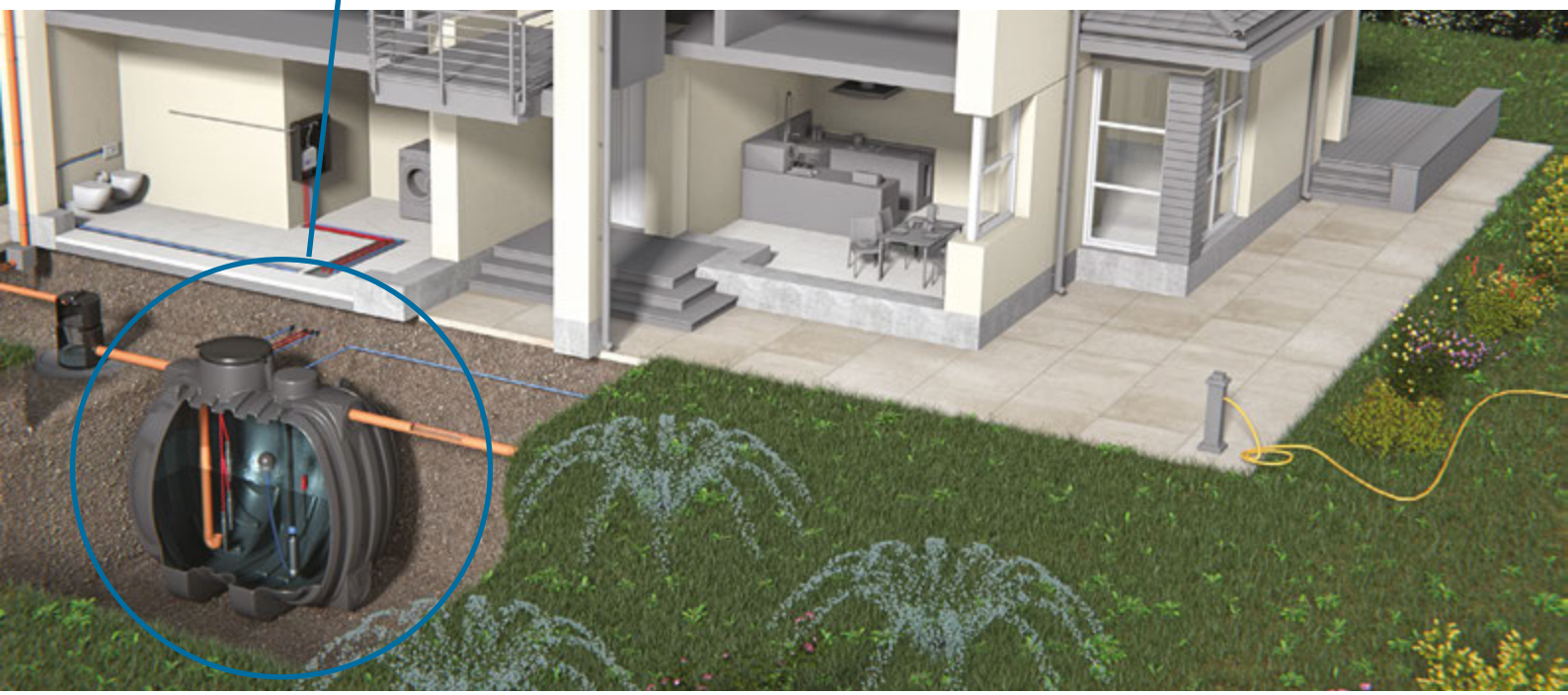
Function Single cartridge filtration to eliminate sediment and other physical impurities. Double cartridge filtration to eliminate chlorine and reduce odours.

Item	N° cartridges	Filtration type	Micron	Cartridge width mm	Cartridge height mm	Inlet/outlet diameter mm
FCR9SB	1	Rete in poliestere	150	133	307	1”
FCR9SBCA	2	Rete in poliestere + carbone estruso compresso	150 + 5/10	133	307	1”

HABITA IRRIGATION STATIONS



1. PVC INLET STILLING PIPE
2. SUBMERSIBLE PUMP WITH SUBMERGED SUCTION INLET
3. WATER LEVEL CONTROL PROBES
4. PVC OVERFLOW PIPE
5. PP PUMP OUTLET
6. EXTERNAL MODULE WITH ELECTRIC PANEL, SOLENOID VALVE AND ISOLATING SYSTEM



SPECIFICATIONS

TECHNICAL CHARACTERISTICS

HABITA irrigation stations consist of corrugated underground tanks. They are fitted with a PVC inlet stilling pipe and overflow pipe, PP (polypropylene) outlet pipe and connectors, submersible electric pump with steel rapid extraction system, level probes, under head submerged suction inlet with float and filter, polyethylene (PE) delivery pipe, electric control panel, 3-way solenoid valve and flow breaker kit to top-up with mains water in the absence of rainfall.

USE

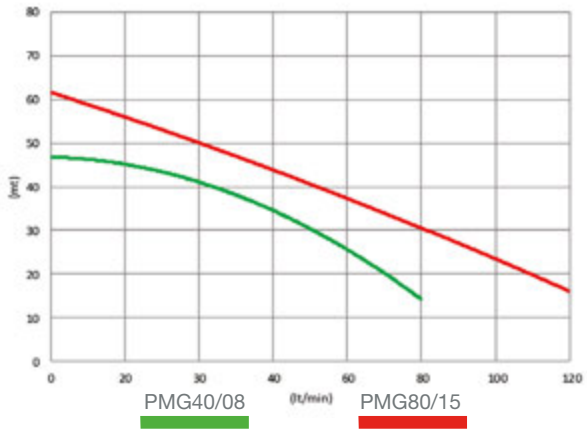
rainwater harvesting and re-use for irrigation purposes, feeding automatic (telescopic irrigators, sprinklers, sprays, etc...) or manual systems (taps, fountains,...) and for domestic use (filling toilet cisterns, washing cars and outdoor surfaces).

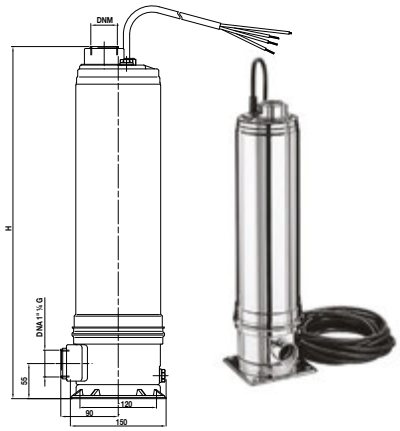
OPERATION

the system allows storage and delivery of between 3000 and 10000 litres of water. Rainwater runoff from roofs (or other exposed surfaces) enters the storage tank through the inlet pipe, after flowing through a filtering system (recommended). When the tank is full, any excess water is sent to the main drainage system through the overflow pipe. A submersible electric pump is installed in the tank with level control probes which, through a control unit and a 3-way solenoid valve, allow the tank to be replenished directly from the mains water supply. By using this engineering solution, the customer will never have problems caused by a shortage of water in his storage tanks. Furthermore, with the pump installed inside the tank, there is no noise, no space taken up by other smaller tanks, no unsightly boxes installed near the storage tanks, etc.

DESCRIPTION OF SUPPLY

ELECTRIC PUMP CHARACTERISTICS





Item	Power		Amp. 230V A	µF	Ø inches	H mm	Weight Kg	Flow rate		Head M
	HP	Kw						l/min	m^3/h	
PMG40/08	0,8	0,6	4,3	16	1" ¼	513	14,6	20	1,2	43,3
								80	4,8	13,4
PMG80/15	1,5	1,1	7,5	31,5	1" ¼	564	17,7	30	1,8	57
								120	7,2	19

MANAGEMENT KIT (fig. A)

Item
MSIRHMT

SUCTION KIT (fig. B)

Item
N150114

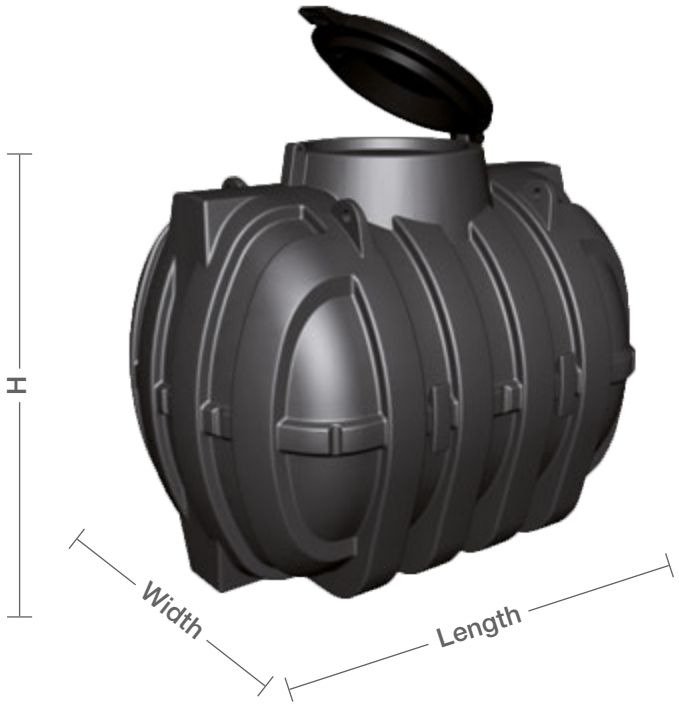
Fig. A

Control panel + solenoid valve + level probes

Fig. B

Suction pipe fitted with float, valve and filter

HABITA IRRIGATION STATIONS

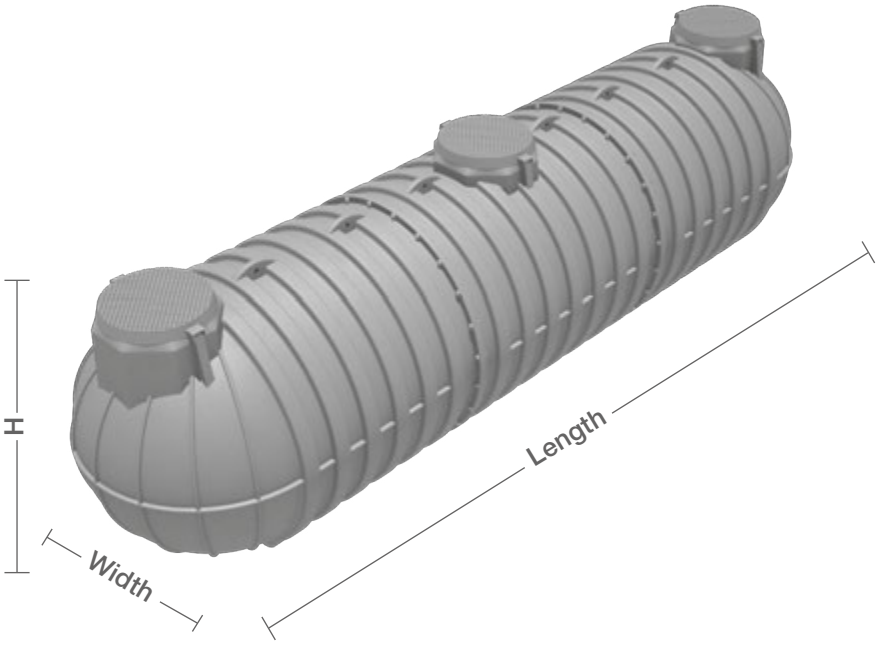


MODEL

CORRUGATED

MODULAR

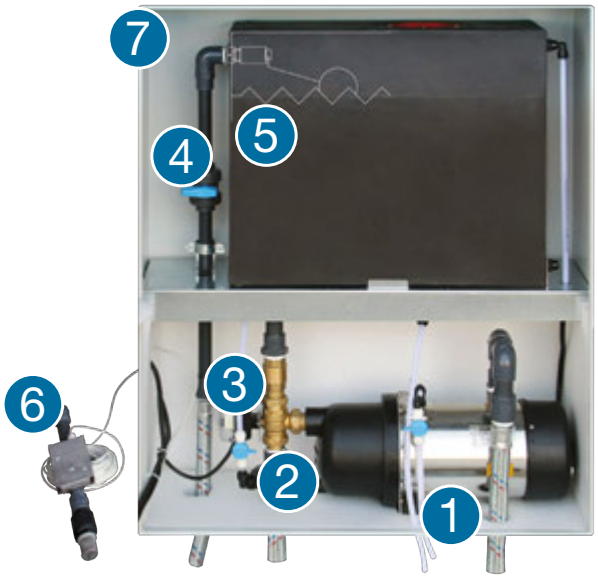
HABITA IRRIGATION STATIONS MODULAR



Item	Mod.	Capacity l	Length cm	Width cm	H cm	HI cm	HO cm	ØI mm	Ø overflow mm	Ø O mm	Ø top-up mm	Ø cover cm	Cover	Extension	Pump
SIR3100H		3000	209	150	172	160	139	125	125	50	50	63	TAP800	PP77	PMG40/08
SIR3120H		3000	209	150	172	160	139	125	125	50	50	63	TAP800	PP77	PMG80/15
SIR5100H		5000	242	192	210	194	173	125	125	50	50	63	TAP800	PP77	PMG40/08
SIR5120H		5000	242	192	210	194	173	125	125	50	50	63	TAP800	PP77	PMG80/15
MTSIR9100H		9000	552	155	171	151	148	125	125	50	50	63	TAP800	PP77	PMG40/08
MTSIR9120H		9000	552	155	171	151	148	125	125	50	50	63	TAP800	PP77	PMG80/15
SIR10100H		10000	278	243	266	247	223	125	125	50	50	63	TAP800	PP77	PMG40/08
SIR10120H		10000	278	243	266	247	223	125	125	50	50	63	TAP800	PP77	PMG80/15
MTSIR12100H		12000	718	155	171	151	148	125	125	50	50	63	TAP800	PP77	PMG40/08
MTSIR12120H		12000	718	155	171	151	148	125	125	50	50	63	TAP800	PP77	PMG80/15
ITSIR13100H		13000	501	210	220	190	194	125	125	50	50	63	TAP800	PP77	PMG40/80M
ITSIR13120H		13000	501	210	220	190	194	125	125	50	50	63	TAP800	PP77	PMG80/15M
ITSIR15100H		15000	562	210	220	190	194	125	125	50	50	63	TAP800	PP77	PMG40/08
ITSIR15120H		15000	562	210	220	190	194	125	125	50	50	63	TAP800	PP77	PMG80/15
ITSIR18100H		18000	668	210	220	190	194	125	125	50	50	63	TAP800	PP77	PMG40/80M
ITSIR18120H		18000	668	210	220	190	194	125	125	50	50	63	TAP800	PP77	PMG80/15M
MTSIR18100H		18000	1051	155	171	151	148	125	125	50	50	63	TAP800	PP77	PMG40/08
MTSIR18120H		18000	1051	155	171	151	148	125	125	50	50	63	TAP800	PP77	PMG80/15
ITSIR20100H		20000	727	210	220	190	194	125	125	50	50	63	TAP800	PP77	PMG40/80M
ITSIR20120H		20000	727	210	220	190	194	125	125	50	50	63	TAP800	PP77	PMG80/15M
ITSIR22100H		22000	788	210	220	190	194	125	125	50	50	63	TAP800	PP77	PMG40/08
ITSIR22120H		22000	788	210	220	190	194	125	125	50	50	63	TAP800	PP77	PMG80/15
ITSIR25100H		25000	894	210	220	190	194	125	125	50	50	63	TAP800	PP77	PMG40/80M
ITSIR25120H		25000	894	210	220	190	194	125	125	50	50	63	TAP800	PP77	PMG80/15M
ITSIR28100H		28000	953	210	220	190	194	125	125	50	50	63	TAP800	PP77	PMG40/80M
ITSIR28120H		28000	953	210	220	190	194	125	125	50	50	63	TAP800	PP77	PMG80/15M
ITSIR30100H		30000	1014	210	220	190	194	125	125	50	50	63	TAP800	PP77	PMG40/08
ITSIR30120H		30000	1014	210	220	190	194	125	125	50	50	63	TAP800	PP77	PMG80/15
ITSIR33100H		33000	1120	210	220	190	194	125	125	50	50	63	TAP800	PP77	PMG40/80M
ITSIR33120H		33000	1120	210	220	190	194	125	125	50	50	63	TAP800	PP77	PMG80/15M
ITSIR36100H		36000	1240	210	220	190	194	125	125	50	50	63	TAP800	PP77	PMG40/08
ITSIR36120H		36000	1240	210	220	190	194	125	125	50	50	63	TAP800	PP77	PMG80/15
ITSIR40100H		40000	1346	210	220	190	194	125	125	50	50	63	TAP800	PP77	PMG40/80M
ITISR40120H		40000	1346	210	220	190	194	125	125	50	50	63	TAP800	PP77	PMG80/15M

Ø = diameter; **H** = height; **ØI/O** = inlet/outlet pipe diameter.

MODULO HABITA PRESS



1. SELF-PRIMING ELECTRIC PUMP
2. THREE-WAY SOLENOID VALVE
3. PRESSURE SWITCH CONTROLLING THE PUMP
4. MAINS WATER INLET PIPE
5. RESERVE TANK
6. PROBE KIT WITH CHECK VALVE, TO BE FITTED IN THE EXISTING TANK
7. SOUNDPROOF SAFETY CABINET

SPECIFICATIONS

TECHNICAL CHARACTERISTICS

pre-assembled control unit containing a self-priming electric pump, a command/control unit, a motorised solenoid valve, an auxiliary tank for mains water and all the fittings required for correct operation of the system. The supply also includes a suction kit to install in the collection tank, complete with probes, check valve and stainless steel filter.

USE

suction and delivery under pressure of the rainwater in the storage tanks. Ideal for feeding automatic irrigation systems (telescopic irrigators, sprinklers, sprays, etc.) or manual systems (taps, fountains,...), or for washing outdoor surfaces, car washing, filling toilet cisterns,...

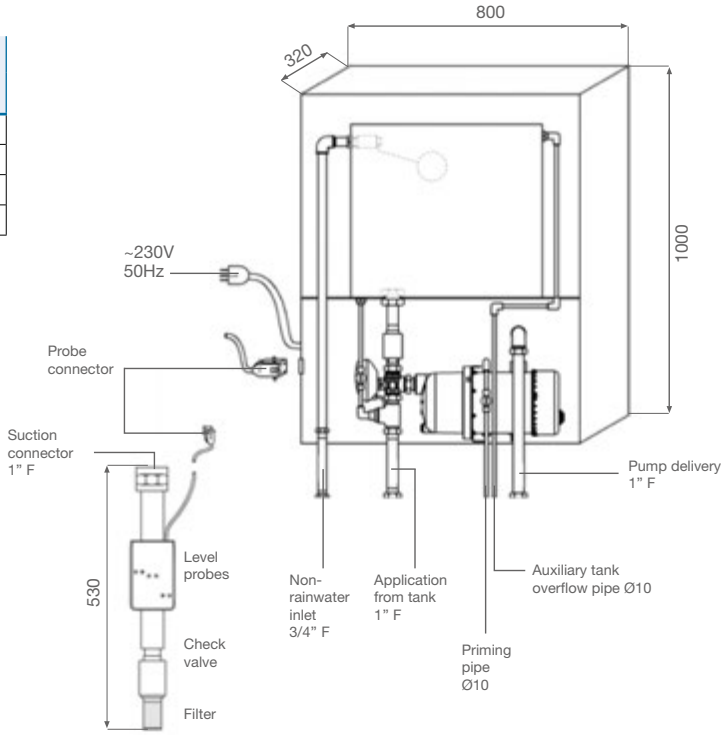
OPERATION

in the HABITA PRESS system the pump is not submersible, but is external and housed in a soundproofed cabinet together with the intermediate tank holding mains water. The system also has an isolating system kit that prevents any risk of contact between the mains water and the rainwater. In order to prevent the pump from entering an alarm state due to lack of water in the underground tank, the minimum rainwater level control is entrusted to a special system of probes, giving consent to the control unit to open the motorised valves to feed the tank. This control system is installed on a calibrated tube, complete with bottom valve, to be lowered into the underground storage tank so as to guarantee the standard working level and, as a consequence, minimum control over the amount of water to add to the tank.

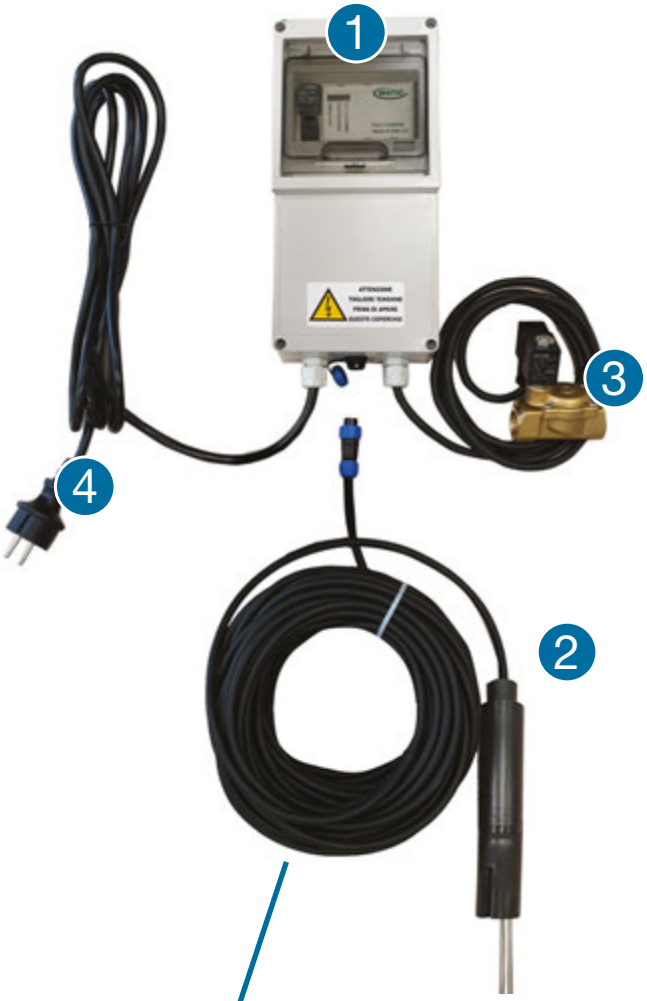
DESCRIPTION OF SUPPLY

ELECTRIC PUMP CHARACTERISTICS

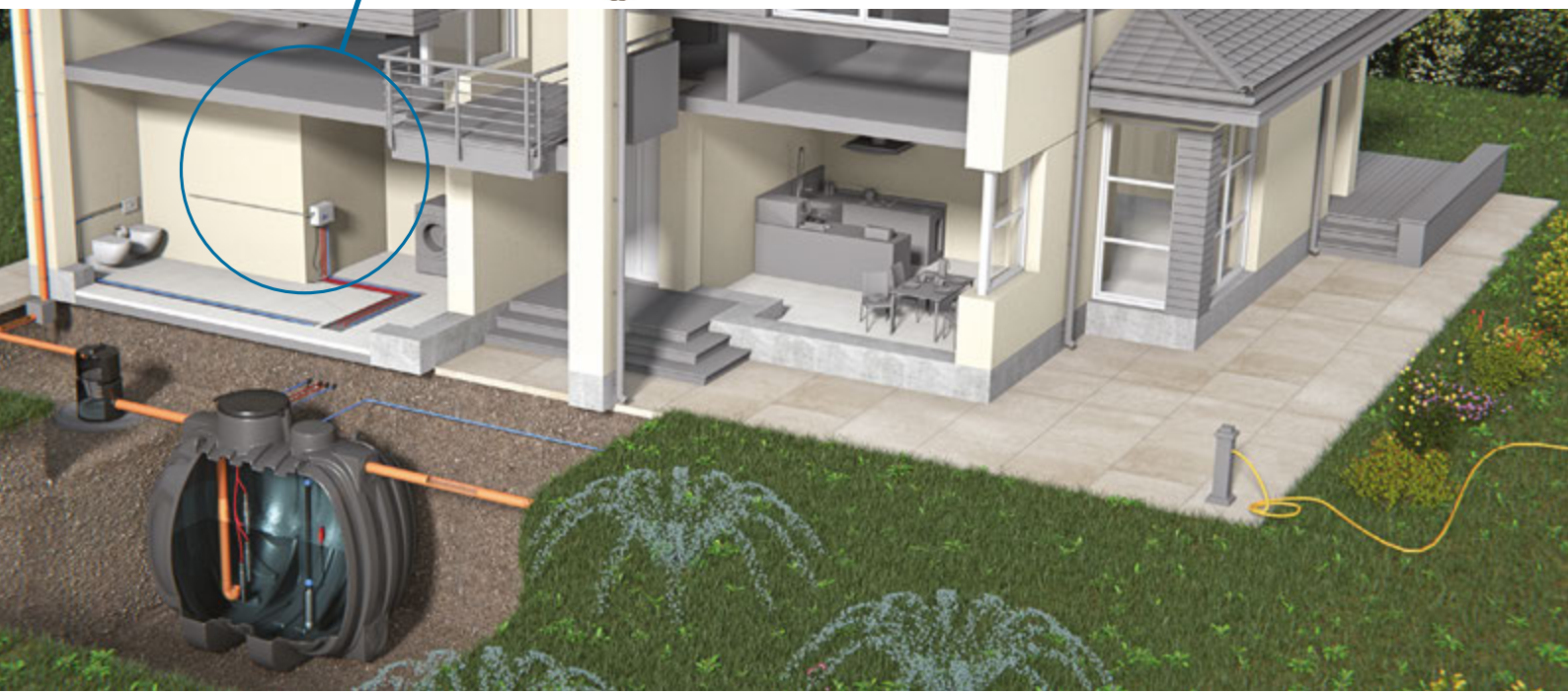
Item	Power		Amps A	Volt V	Flow rate l/min	Head m
	Kw	HP				
MHP100	0,75	1	5,3	230	0	47
					60	5
MHP120	0,90	1,2	6,3	230	0	49
					60	8



REINTEGRA MODULE



1. ELECTRIC PANEL WITH LEDS INDICATING ALARM LEVEL, RAINWATER USAGE LEVEL AND TOP-UP IN OPERATION
2. PROBE KIT TO BE FITTED IN THE EXISTING TANK
3. SOLENOID VALVE
4. POWER CABLE



SPECIFICATIONS

TECHNICAL CHARACTERISTICS

control panel with protection grade IP40 complete with leds indicating alarm level, rainwater usage level, top-up in operation and plant fed; normally closed solenoid valve in brass with ½ " female connections; stainless steel level probes; 2 m power cable with schuko plug; 2 m solenoid valve cable; 20 m probes cable.

USE

module to be combined with rainwater recovery tanks in which a delivery system is already installed, to allow control of the minimum level of accumulated rainwater and manage topping-up from the mains supply.

OPERATION

during periods of low rainfall, the rainwater recovery tank empties and it becomes necessary to top-up the water in order to use the services that make use of the harvested rainwater. This operation is carried out by the REINTEGRA module, simply connecting the solenoid valve to the mains water supply and installing probes inside the storage tank.
The system electronics registers the status of the tank through led indicators, providing information on whether the level is sufficient, whether it will soon require topping-up, or whether topping-up is already in progress.

DESCRIPTION OF SUPPLY

Item	Power supply V	Frequency Hz	Probes n°	Height mm	Length mm	Depth mm
XMR	230	50	3	240	190	90

IRRIGATION STATIONS

TECHNICAL CHARACTERISTICS

Rototec has designed a line of products specifically for simple and efficient rainwater harvesting. These products, together with the Rototec underground tanks (above-ground on request), allow rainwater to be harvested for “less noble” uses: watering gardens, washing outdoor surfaces and cars, flushing toilets, etc.
The irrigation stations consist of underground tanks with rainwater inlet and overflow pipes and an electric submersible pump with protection panel for delivering the stored water under pressure.
A typical evolution of the irrigation station is the **HABITA irrigation station** in which the submersible electric pump is linked to an automatic control unit which, thanks to the probes installed in the tank, replenishes the system from the mains water supply through a solenoid valve during periods of low rainfall.
Another system, similar to the first, is the **HABITA PRESS module** in which the above-ground installation of the self-priming pump, control unit and motorised valve in a single module is used to replenish the system from the mains water supply.
Finally, in the case of an existing rainwater harvesting system, the **REINTEGRA module** can be used to top-up the water stored in the tank.

APPLICATIONS

- **Rainwater harvesting and re-use** for re-use in irrigation, washing of external surfaces and cars and to fill toilet cisterns.
- **Creating volumes of stored water** and their subsequent delivery into the domestic system

USE AND MAINTENANCE

All maintenance operations must be carried out with the pump disconnected from the power supply. The pump must be disconnected by trained technicians, so that there is no risk of it starting accidentally.
The maintenance recommendations provided in these instructions are not to be understood as “do-it-yourself” operations, as they require specific technical knowledge. A service contract with a specialist technician will ensure you receive the best technical assistance at all times.

a) When carrying out maintenance operations and cleaning of the tank and any components installed inside it, always comply with the requirements indicated in the safety regulations about temporary or mobile work sites;
b) in the event of a maintenance operation of any kind, always comply with the safety regulations regarding operations within closed waste water treatment areas, and with the general technical procedures applicable;
c) keep the area around the tank **free** from any material that might obstruct or impede the maintenance work;
d) always work in pairs when carrying out tank inspection and cleaning operations, and wear suitable safety equipment (safety harness, lines, gloves,...);
e) check the tank **every 6 months**. In the presence of high levels of sludge, clean the tank with a jet of pressurised water, and if necessary empty the tank.
f) check that the inlet, outlet and overflow pipes are not blocked by large solids that prevent the passage of fluid. If any sediment is found, it must be removed. Also check the vent, and if anything is obstructing the free flow of air, remove it.
g) check **every 6 months** to ensure that pipes, connectors and gaskets are sealed;

Electric pumps:

- Under normal operating conditions, the electric pumps do not require any maintenance operations.
- In the case of permanent installations, an annual inspection is recommended. Remove any residual dirt that may have accumulated on the command floats.
- Check the state of the electric cable; if it is damaged, contact the **service department**.
- Check the state of the handle and the fixing devices.
- Should it be necessary to **dismantle** a pump for any reason, unfasten the compression fitting on the pump delivery pipe, then extract the pump, with the aid of the lifting chain.

WARNINGS

RISK OF ELECTRIC SHOCK:

- Do not transport or handle the pump using the electric power supply cable;
- Before connecting up the pump, make sure that the power supply network is **properly earthed**;
- Before carrying out any type of control or maintenance operation, **disconnect the power supply**;
- Never start the pump if you are in contact with the liquid to be pumped;
- Always ensure that the pump is checked and repaired **by authorised personnel only**. Unauthorised repairs might make the product unsafe and/or dangerous;

SEVERE RISK TO PERSONS AND/OR PROPERTY:

- If the electric pump is not properly fixed, it may become unsteady or topple over on start-up due to the starting torque;
- **Never** move the electric pump when it is operating or with the power cable connected to the power supply;
- Never use the electric pump to **pump dangerous liquids** (toxic, flammable, etc…)
- **Never put your hands** or other objects into the pumped liquid inlets or outlets in the vicinity of the impellers, if present, as these are moving parts;

RISK OF DAMAGE TO THE PUMP OR SYSTEM:

- The electric pump must only operate **in a vertical position** (with the motor at the top and the pump section at the bottom);
- Only start the electric pump once it has been installed; **do not attempt a dry start**;
- Do not remove the suction filter, if there is one, for any reason whatsoever;
- On the **three-phase version of the pump**, the correct direction of rotation is indicated by the arrow stamped on the pump body and on the identification plate.

TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
The electric pump does not work, the motor does not turn	no power supply	- check the power supply
	circuit broken	- check the circuit
	pump blocked	- check the state of the electric pump
	float blocked	- check that the float is free and that it reaches the ON level
	impeller blocked	- free the impeller from any obstructions
	thermal cut-out triggered	- the pump will re-start automatically
	short-circuit	- check that the amp range corresponds with that of the pump
The motor turns, but the electric pump does not work or the flow rate is restricted	bad connections (three-phase model)	- reverse the phase connections
	delivery pipe or suction filter partially blocked	- remove the obstructions
	impellers worn	- replace the impellers
	check valve blocked	- clean the valve
	groundwater level has dropped	- lower the pump, taking into account the minimum head
	turns in the wrong direction	- reverse the direction of rotation
	project values have changed	- check that the required head, linear distance or capacity have not changed
	pipes are leaking	- check that the pipes are undamaged

For further information on how to deal with malfunctions please see the information provided in the manual for installation and use of the electric panel supplied inside the panel itself.

CHAMBERS

CHAMBERS

LEAF FILTER CHAMBER

Item	Ø mm	H mm	IH mm	OH mm	I/O Ø mm	Cover Ø cm	Cover
FAPI	420	780	560	60	110	30	CC 300
FAPI D125	420	780	560	60	125	30	CC 300
FAPI D160	420	780	510	60	160	30	CC 300

Material Chamber in linear polyethylene (LLDPE), complete with PVC inlet and outlet pipes, internal filter basket in polypropylene with stainless steel handle for easy removal.

Application Filters out the coarse materials present in the collected rainwater (stones, leaves, tile residues, debris, etc.…).

new

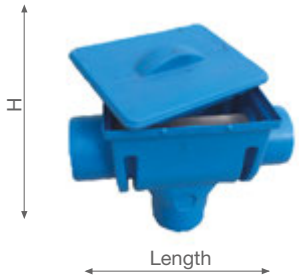
COMPACT SELF-CLEANING LEAF FILTER CHAMBER

Item	Ø mm	H mm	Ø I/O/BP mm	IH mm	OH mm	BPH mm	Cover Ø cm	Cover
FAPI50CP	430	430	125	150	30	150	30	CC 300

Material Chamber in linear polyethylene (LLDPE), complete with PVC inlet, outlet and bypass pipes and internal self-cleaning filter basket. To be installed upstream of the storage tank. The chamber is characterised by the presence of an inlet pipe, an outlet pipe and a bypass, all in PVC.

Application The water arriving through the inlet pipe passes through a fine mesh filter and is then carried to the storage tank via the outlet pipe. The impurities that accumulate in the filter are washed away by the incoming water and discharged through a bypass pipe. Consequently, in addition to its self-cleaning characteristics, the filter also has minimum height difference between the inlet and outlet pipes.

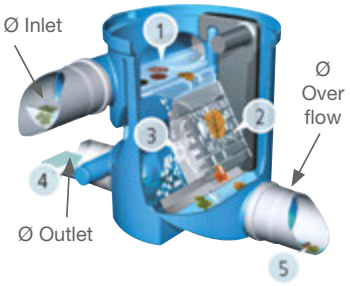
new



COMPACT LEAF FILTER

Item	H mm	Length mm	Width mm	ΔHI-HO mm	Ø I/O/BP mm	Filter mesh mm
FAPI CP	420	230	340	0	125	1

Application This is a compact filter that filters out the coarse materials present in the collected rainwater (stones, leaves, debris, etc.…). For installation on the inlet pipe inside a rainwater storage tank. The filter solves filtration problems caused by a very shallow gradient and/or very little available space. The presence of an overflow ensures that the filter is cleaned automatically by the inlet flow.



SELF-CLEANING LEAF FILTER CHAMBER

Item	Ø mm	H mm	Ø I/O mm	Ø Overflow mm	Filter mesh mm	Filtered water volume m³/d	Max. flow rate supported (l/s)	Maximum roof area (m²)
FAPIVF1	404	451	100	125	0,25x0,65	5,43	11,6	350

Application Filters out the coarse materials present in the collected rainwater (stones, leaves, tile residues, debris, etc…). The considerable slope of the filter body enables 2 filtration phases to be carried out:
- rough filtration of larger particles, with the residue being sent to the overflow;
- further filtration of the separated water, with clean water being sent into the storage tank.

NON-RETURN/ANTI-RAT CHAMBER

Item	Ø mm	H mm	Ø I/O mm	Ø cover cm	Cover	Extension
PAR 50	430	430	125	30	CC 300	PP 35

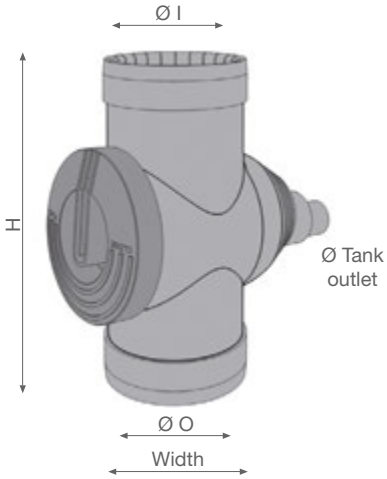
Material Chamber in linear polyethylene (LLDPE), complete with PVC inlet and outlet pipes and rubber watertight gasket, inspectable PVC anti-backflow valve with stainless steel clapet and locking lever.

Application When installed on a waste water drain pipe, stops any backflow from the main sewer and prevents the basement from being flooded. At the same time, the valve prevents animals (e.g. rats) from running up the pipe.

EXAMPLES OF INSTALLATION



CARTRIDGE FILTER



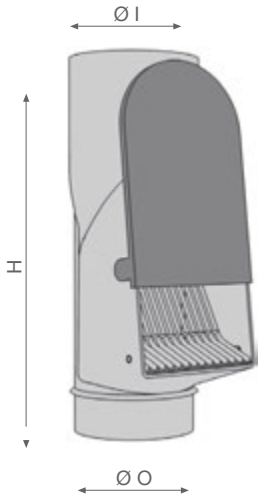
Item	H mm	Width mm	Ø I/O mm	Ø Tank outlet mm	Filter mesh mm	Maximum roof area m²
FPP 27	270	260	110	32/50	0,7x1,7	70

*variable diameter thanks to the adapter kit provided (DN80/DN100)

Material Downpipe filter in polypropylene with stainless steel filter-cartridge, complete with adapter kit for gutters (DN68/DN100), available in grey or brown (see figure on next page). Suitable for both metal and plastic downpipes.

Application Filters out the coarse materials present in the collected rainwater (stones, leaves, tile residues, debris, etc…) with 95% efficiency under normal rainfall conditions. The filter is installed directly in the downpipe and also acts as an overflow for the tank it is connected to. To improve water storage management, it can be used in either Summer or Winter mode (Close/Open).

SINGLE SCREEN FILTER



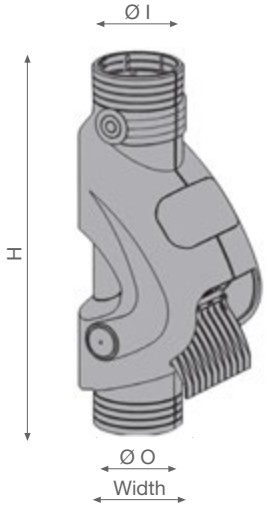
Item	H mm	Ø I mm	Ø O mm	Filter mesh mm	Maximum roof area m²
FPP 33	330	110	100	5	70

*variable diameter thanks to the adapter kit provided (DN80/DN100)

Material Downpipe filter in polyethylene with single screen filter, complete with adapter kit for gutters (DN80/DN100), available in grey or brown. Suitable for both metal and plastic downpipes.

Application Filters out the coarse materials present in the collected rainwater (stones, leaves, tile residues, debris, etc…) under normal rainfall conditions. The filter is installed directly in the downpipe. To improve water storage management, it can be used in either Summer or Winter mode.

DOUBLE SCREEN FILTER



Item	H mm	Width mm	Ø I mm	Ø O mm	Filter mesh mm	Flow rate l/s	Flow rate m³/h	Maximum roof area m²
FPP50	505	220	100	110	0,7x1,7	0,6	2	70

*variable diameter thanks to the adapter kit provided (DN80/DN100)

Material Downpipe filter in ABS with double screen in ABS and stainless steel, complete with adapter kit for gutters (DN80/DN100), available in grey or brown (see figure below). Suitable for both metal and plastic downpipes.

Application Filters out the coarse materials present in the collected rainwater (stones, leaves, tile residues, debris, etc…) under normal rainfall conditions. The filter is installed directly in the downpipe. It is advisable to install it at the lowest part of the pipe to ensure that the filtered water is sent directly to the underground or above-ground storage tank. To improve water storage management, it can be used in either Summer or Winter mode.

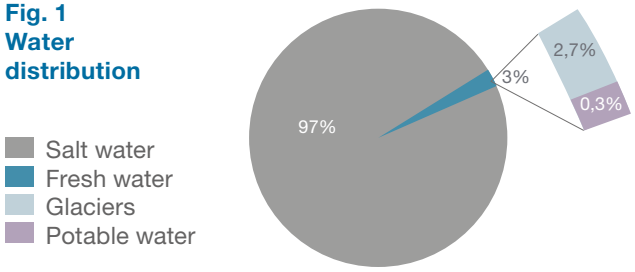
NOTE

TECHNICAL SECTION

SIZING OF RAINWATER STORAGE

As the population increases, so does the number of built-up areas, which leads to a higher degree of impermeability of the ground. Potential climate changes provoke an exponential increase in the demand for water, while actual potable water reserves are extremely limited.
The Earth, in fact, has approximately 1440 million km^3 of water in the form of seas, glaciers and fresh surface and subterranean water, 97% however is unusable in that it is salt water. The remaining 3% is made up principally of glaciers (most of which are at the poles) and non-potable water, only a minute percentage (0.3%) is available for human consumption (Fig. 1). This percentage is destined to reduce even further due to the increasing pollution of aquifers.

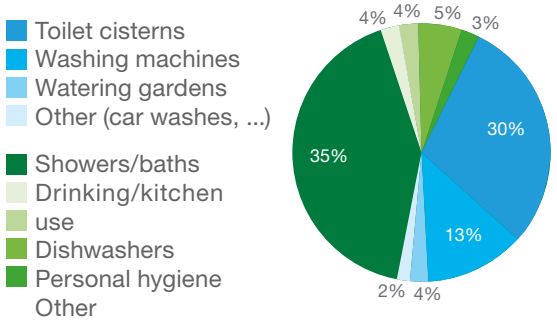
Fig. 1
Water distribution



To ensure sustainable use of this precious resource, i.e. avoiding waste, rationalising its extraction and considering future generations, it is necessary to develop systems for storing and re-using rainwater in order to be able to save potable water. In terms of domestic consumption, almost half of daily water needs can be satisfied using rainwater (Fig. 2).
In addition to being a free commodity, it does not contain limestone or chlorine and thus can be stored in tanks and re-used for flushing toilets, watering gardens, washing vehicles and even for washing clothes.

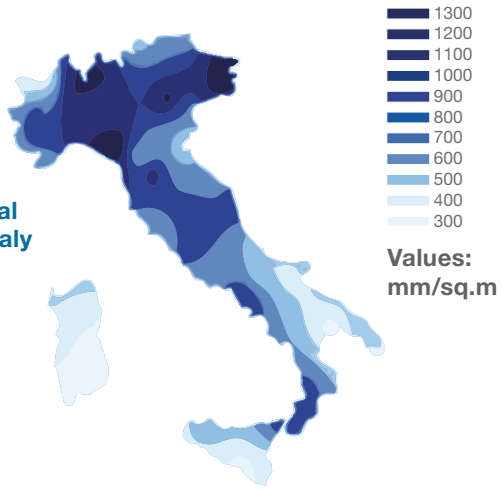
Fig. 2
Pro capita domestic potable water consumption

Consumption of potable water that can be replaced by rainwater



The advantages offered by installing rainwater collection plants are not only enjoyed at private level but also have positive implications in the management of water resources and in the treatment of domestic sewage:
• they prevent the sewerage system from being overloaded in the case of high intensity rainfalls;
• they increase the efficiency of the sewage treatment process (in the case of combined storm and foul water sewerage systems), by eliminating high volumes of stormwater runoff which, by diluting the effluent to treat, reduce the effect of the biological/digestion treatment phase;
• they retain and/or disperse the excess rainwater (e.g. during heavy storms) no longer absorbed by the ground in built-up areas, which have been made almost totally impermeable, rendering any development of the public collection system pointless and ineffective.

Mean annual rainfall in Italy



Example of mean annual rainfall data that has to be put in the table A in the next page (see “Rainfall Height” column)

The sizing of rainwater storage tanks depends principally on two factors:
a) **Distribution of the rainwater:** indicates the theoretically accumulable quantity determined from quantity of rainfall and the characteristics of the available collection surfaces.
b) **Annual water demand:** indicates the amount of water necessary according to the various activities carried out within a residential complex.
The volume of the tank must therefore be proportionate to the distribution of the rainwater and the demand for service water. The greatest possible amount of rainwater must be used, in order to reduce its integration with potable water to a minimum.

A) DISTRIBUTION OF THE RAINWATER

Rainfall height (mm rainfall)		Collection surfaces (sq.m. roof)		Runoff coefficient (see table 1)		Distribution of rainwater
.....mm	X	.....m^2	X	.....	=	l

Table 1

Type of covering	Runoff coefficient
Hard pitched roof	0.9
Non-gravel flat roof	0.8
Gravel flat roof	0.6
Paved surfaces	0.5
Asphalt	0.8

B) ANNUAL WATER DEMAND

Type of activity	Annual consumption pro capita				Total consumption
Toilet flushing	9000 litres	X	.....n° inhabitants	=	.....l +
Washing machine	5000 litres	X	.....n° inhabitants	=	.....l +
Domestic cleaning	900 litres	X	.....n° inhabitants	=	.....l +
Irrigation	60 litres	X	.....sq.m.	=	.....l =
			Annual water requirement		l

C) STORAGE TANK VOLUME

Storage volume

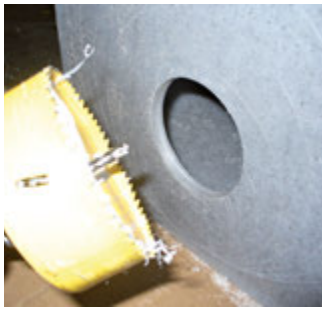
Distribution of rainwater	+	Annual water demand	=...../2	=..... X21 (days of reserve)	=...../365	=.....l

FITTING PIPE UNIONS ON THE TANKS

1. PREPARING THE HOLE

Use a hole saw to cut a hole with the same diameter as the external diameter of the union in the appropriate flat area of the tank. The hole must be made at the centre of the flat area at a height of approximately 10 cm from the bottom of the tank. A suitable wooden spacer will make this operation easier.



2. FITTING THE UNION

Fit the inner gasket onto the union then insert the union in the hole from the inside of the tank. If the union is difficult to insert, hit it lightly with a rubber mallet.
At this point, place the outer gasket on the union and then screw on the ring nut.




3. FIXING THE UNION

Screw the ring nut on the union. Carefully tighten the nut using a chain pipe wrench or similar. Finally, clean the inside of the tank and union, removing any fragments of polyethylene produced during the assembly phase.



SPECIAL OPERATIONS

On request, Rototec is able to carry out special machining operations on its tanks: diversions with smooth and corrugated PE pipes, flanged connectors, threaded brass or plastic diversions, ...

TABLE OF TANK RESISTANCE TO CERTAIN FLUIDS AND REAGENTS

R = Resistant / LR = Limited resistance / NR = No resistance

Product	23°	60°	Product	23°	60°	Product	23°	60°	Product	23°	60°
Vinegar	R	R	Amyl chloride	R	R	Iron nitrate (ico)	R	R	Potassium persulfate	R	R
Acetic acid (10 %)	R	R	Ammonia (100 % gas)	R	R	Iron sulphate (oso)	R	R	Potassium sulphate (conc.)	R	R
Acetic acid (50 %)	R	LR	Ammonium carbonate	R	R	Bisodium phosphate	R	R	Potassium sulphite (conc.)	R	R
Arsenic acid (all conc.)	R	R	Ammonium chloride (sat.sol.)	R	R	Sodium phosphate (tri)	R	R	Potassium sulphide (conc.)	R	R
Ascorbic acid (10 %)	R	R	Ammonium fluoride (sol. sol.)	R	R	Fructose	R	R	Propylene dichloride (100 %)	NR	NR
Benzoic acid (all conc.)	R	R	Ammonium hydrate (10 %)	R	R	Furfural	NR	NR	Propylenglycol	R	R
Boric acid (all conc.)	R	R	Ammonium hydrate (30 %)	R	R	Diesel vehicle fuel*	R	R	Copper cyanide (sat.)	R	R
Bromidic acid (50 %)	R	R	Ammonium nitrate (sat. sol.)	R	R	Domestic diesel fuel*	R	R	Copper chloride (sat.)	R	R
Butyric acid (all conc.)	NR	NR	Ammonium persulfate (sat.sol.)	R	R	Glycerine	R	R	Copper fluoride (2 %)	R	R
Carbonic acid	R	R	Ammonium sulphate (sat. sol.)	R	R	Triethylene glycol	R	R	Copper nitrate (sat .)	R	R
Hydrocyanic acid	R	R	Acetic anhydride	NR	NR	Glycol	R	R	Copper sulphate (sat.)	R	R
Citric acid (sat.)	R	R	Carbon dioxide	R	R	Ethylene glycol	R	R	Resorcinol	R	R
Hydrochloric acid (dry gas)	R	R	Aniline	NR	NR	Glucose	R	R	Brine	R	R
Hydrochloric acid (all conc.)	R	R	Silver nitrate (sol.)	R	R	Aromatic hydrocarbons	NR	NR	Diazo salts	R	R
Chlorosulphonic acid (100 %)	NR	NR	Air	R	R	Hydroquinone	R	R	Cider	R	R
Diglycolic acid	R	R	Barium carbonate (sat. sol.)	R	R	Hydrogen	R	R	Sodium acetate	R	R
Fluoboric acid	R	R	Barium chloride (sat. sol.)	R	R	Ink	R	R	Sodium benzoate (35 %)	R	R
Fluorhydric acid (40 %)	R	R	Barium hydrate	R	R	Iodine (sol. In KI)	LR	NR	Sodium bicarbonate	R	R
Fluorhydric acid (60 %)	R	R	Barium sulphate (sat. sol.)	R	R	Milk	R	R	Sodium bichromate	R	R
Fluosilicic acid	R	LR	Barium sulphide (sat. sol.)	R	R	Photo developer liquids	R	R	Sodium bisulphate	R	R
Fluosilicic acid (30 %)	R	R	Benzene	NR	NR	Lye (10 %)	R	R	Sodium bisolphite	R	R
Formic acid (all conc.)	R	R	Petrol	NR	NR	Yeast	R	R	Sodium borate	R	R
Gallic acid	R	R	Beer	R	R	Magnesium carbonate	R	R	Sodium bromide	R	R
Glycolic acid	R	R	Bismuth carbonate (sat. sol.)	R	R	Magnesium chloride	R	R	Sodium carbonate	R	R
Hypochlorous acid	R	R	Borax	R	R	Magnesium hydroxide	R	R	Sodium cyanide	R	R
Nitric acid (30 %)	R	R	Boron trifluoride	R	R	Magnesium nitrate	R	R	Sodium chlorate	R	R
Nitric acid (50 %)	R	LR	Bromine (liquid)	NR	NR	Magnesium sulphate	R	R	Sodium chloride	R	R
Nitric acid (70 %)	R	LR	Butandiol (100 %)	R	R	Mercury	R	R	Sodium ferrocyanide	R	R
Nitric acid (95 %)	NR	NR	Butandiol (10 %)	R	R	Methylene chloride (100%)	LR	NR	Sodium fluoride	R	R
Oxalic acid	R	R	Butandiol (50 %)	R	R	Naphtha	LR	NR	Sodium hydroxide	R	R
Salicylic acid	R	R	Butylacetate	NR	NR	Naphthalene	NR	NR	Sodium hypochlorite	R	R
Selenic acid	R	R	Coffee	R	R	Nickel chloride	R	R	Sodium nitrate	R	R
Sulfidic acid	R	R	Calcium bisulphite	R	R	Nickel nitrate	R	R	Sodium sulphate	R	R
Sulphuric acid (humate)	NR	NR	Calcium carbonate (sat. sol.)	R	R	Nickel sulphate	R	R	Sodium sulphite	R	R
Sulphuric acid (10 %)	R	R	Calcium chlorate (sat. sol.)	R	R	Nicotine (diluted)	R	R	Sodium sulphide	R	R
Sulphuric acid (50 %)	R	R	Calcium chloride (sat. sol.)	R	R	Nitrobenzene	NR	LR	Carbon disulphide	NR	NR
Sulphuric acid (70 %)	R	LR	Calcium hydrate (all conc.)	R	R	n-Heptane	LR	LR	Soap solution (all conc.)	R	R
Sulphuric acid (80%)	R	NR	Calcium nitrate (50%)	R	R	n-Octane	R	R	Photographic solutions	R	R
Sulphuric acid (96 %)	LR	NR	Calcium oxide (sat. sol.)	R	R	Mineral oils	R	LR	Silver plating solution	R	R

R = Resistant / LR = Limited resistance / NR = No resistance

Product	23°	60°	Product	23°	60°	Product	23°	60°	Product	23°	60°
Sulphuric acid (98 %)	LR	NR	Calcium sulphate	R	R	Camphor oil	LR	NR	Cadmium plating solution	R	R
Sulphurous acid	R	R	Carbon tetrachloride	LR	NR	Cotton seed oil	R	R	Nickel plating solutions	R	R
Stearic acid	R	R	Liquid chlorine	NR	NR	Corn oil	R	R	Gold plating solutions	R	R
Tannic acid	R	R	Chlorine (100 %) dry gas	LR	NR	Castor oil (all conc.)	R	R	Brass plating solutions	R	R
Water	R	R	Chlorobenzene	NR	NR	Olive oil	R	NR	Lead plating solutions	R	R
Sea water	R	R	Cola concentrates	R	R	Perchlorethylene	NR	NR	Tin plating solutions	R	R
Aqua regia (Nitrohydrochloric acid)	NR	NR	Dextrin	R	R	Lead acetate	R	R	Zinc plating solutions	R	R
Turpentine	LR	LR	Dextrose	R	R	Lead nitrate	R	R	Tin chloride (ico)	R	R
Wetting agents	R	R	Dextrose (sat. aqueous sol.)	R	R	Pyridine	R	R	Tin chloride (oso)	R	R
Amyl alcohol	R	R	Synthetic detergents	R	R	Fruit pulp	R	R	Tetrahydrofuran	LR	NR
Butyl alcohol	R	R	Dibutyl phthalate	LR	LR	Potassium bicarbonate	R	R	Titanium tetrachloride	NR	NR
Coconut oil alcohol	RR	R	Dicholoro ethane	NR	NR	Potassium bromide	R	R	Toluene	LR	LR
Ethyl alcohol	R	R	Dichlorobenzene (ortho and para)	NR	NR	Potassium carbonate	R	R	Trichloroethylene	NR	NR
Ethyl alcohol (35 %)	R	R	diethyl ketone	LR	LR	Potassium cyanide	R	R	Urea (30 %)	R	R
Furfural alcohol	LR	LR	Diethylene glycol	R	R	Potassium chlorate	R	R	Vanilla	R	R
Methyl alcohol (100 %)	R	R	Dimethylamine	NR	NR	Potassium chloride	R	R	Wine	R	R
Propargylic alcohol	R	R	Photographic emulsifiers	R	R	Potassium chromate (40 %)	R	R	Whisky	R	R
Propylic alcohol	R	R	Hexachlorobenzene	R	R	Potassium dichromate (40%)	R	R	Xylene	NR	NR
Acetic aldehyde	LR	NR	Hexanol (tertiary)	R	R	Potassium hexacyanoferrate II	R	R	Zinc bromide	R	R
Alum (all types)	R	R	Ethyl ether	NR	NR	Potassium hexacyanoferrate III	R	R	Zinc carbonate	R	R
Aluminium chloride (all conc.)	R	R	Ethyl acetate	LR	NR	Potassium fluoride	R	R	Zinc chloride	R	R
Aluminium fluoride (all conc.)	R	R	Ethyl benzene	NR	NR	Potassium hydroxide (conc)	R	R	Zinc oxide	R	R
Aluminium sulphate (all conc.)	R	R	Ethyl chloride	NR	NR	Potassium nitrate	R	R	Zinc sulphate	R	R
Starch (saturated solution)	R	R	Ferrous chloride (ico)	R	R	Potassium perchlorate (10%)	R	R	Zinc stearate	R	R
Amyl acetate	NR	NR	Ferrous chloride (oso)	R	R	Potassium permanganate (20%)	R	R			

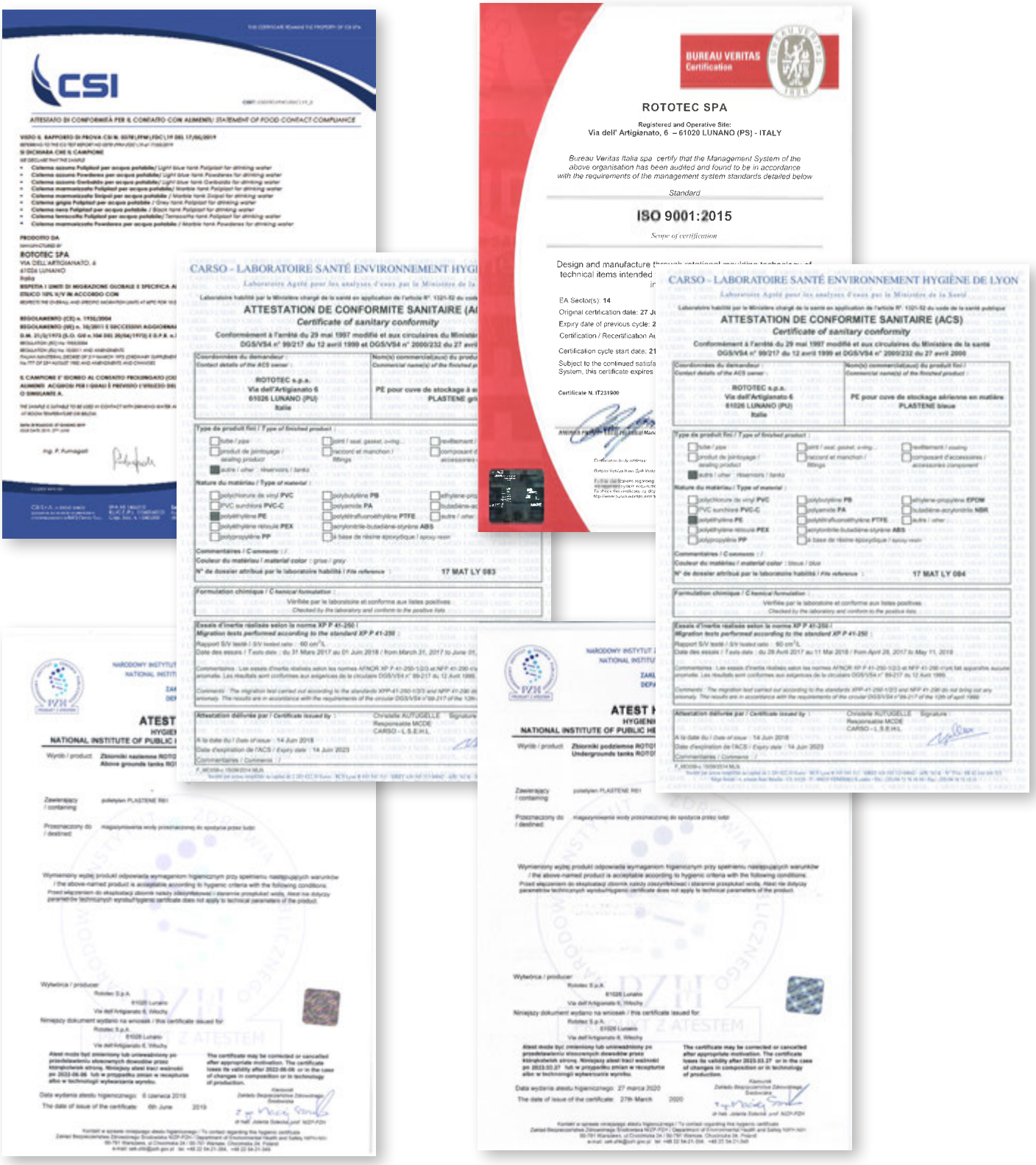
We herewith declare that our polyethylene tanks are suitable for storing diesel fuel, as reported in the above polyethylene compatibility table. The information reported in this table is purely indicative, in that the resistance of the products against chemical agents is also influenced by their form and by the conditions of use. It is well known that an increase in temperature always results in an increase in the aggressive nature of the substance stored in the tank. Consequently, for all the above fluids, if the working temperature is near to 70° C, prior to using the tank, the customer must always carry out a test using a sample of the material, in that in these cases, ROTOTEC S.p.A. is unable to offer precise guarantees or assume any responsibility. It is nevertheless advisable to contact our technical office beforehand.

For further information, contact our sales office:
some of the mentioned agents may require special connections or gaskets.

NB: when using with liquids other than water, take into account the differences in specific weight.

* The tanks do not have Fire Service type-approval for containing diesel fuel

CERTIFICATIONS



NOTES


CASE

UNDERGROUND **INSTALLATION**

HANDLING


Corrugated tanks model Cisterna


Corrugated tanks model Canotto


Corrugated tanks model Panettone


Smooth tanks model Cisterna


Smooth tanks model Panettone


Modular tanks


Corrugated septic tanks


Corrugated septic tanks model Elipse


Reinforced septic tanks


Smooth septic tanks


Septic tanks with separation baffles

WARNINGS

a) When carrying out any of the operations, comply with Legislative Decree 81/08 and subsequent amendments governing safety at temporary and mobile construction sites.
b) On arrival of the goods, carefully check the material to make sure it corresponds to the order and the project data. Any defects and/or damage due to transport must be reported immediately. Contact the company directly by telephone, fax or e-mail.
c) Check that the product is provided with all the standard documentation (technical data sheets, installation instructions, etc.…). Inform the company of any missing items. A copy will be sent immediately.
d) Make sure that the gaskets, pipes and all the various parts other than in polyethylene are suitable for the liquid to be contained.
e) Avoid impacts and contact with sharp-edged objects that could compromise the integrity of the product.
f) Only handle the tanks when they are completely empty, and then using the lifting eyes (where provided). NEVER lift the tanks by the inlet and/or outlet pipes.
g) For the choice of backfill material and compaction methods, refer to European Standards ENV 1046 and UNI EN 1610.
h) During the installation works, mark the boundary of the working area with suitable warning signs.

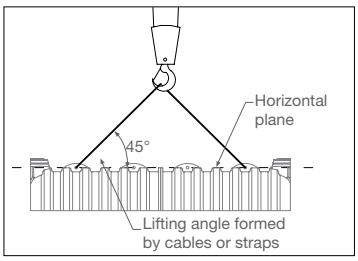
PROHIBITIONS

a) It is absolutely forbidden to install underground tanks above ground.
b) It is absolutely prohibited to use the tanks for storing industrial waste or liquids containing chemical substances or mixtures that are not compatible with polyethylene (see compatibility table supplied by Rototec).
c) Underground tanks are NOT suitable and must NOT be used for storing diesel fuel.

HANDLING

a) Use transport and/or lifting equipment of adequate capacity for the load and compliant with current safety regulations when handling the material.
b) During transport, avoid harsh movements that could compromise the integrity of the tank.
c) Only lift the tank if it is completely empty. Never stand under a raised load.
d) When lifting, use cables or straps suitable for the load to be supported and in perfect condition. Hook the cables or straps onto the lifting eyes present on the tanks.

To prevent the load from becoming unbalanced, place the lifting cables symmetrically, respecting the lifting angle which must NEVER be less than 45° (see figure below).



UNDERGROUND INSTALLATION

N.B. The best location for the tank is specified by the design engineer according to his own detailed technical assessment. These installation instructions provide the guidelines to follow during installation.

1. EXCAVATION

1.1 Excavate a hole of suitable dimensions with a flat bottom, leaving a space of at least 20/30 cm around the tank. In the presence of heavy ground (e.g. clayey subsoil and/or groundwater) the distance must be at least 50 cm. Spread a 15/20 cm deep layer of 20 /30 mm washed gravel on the bottom of the excavation to allow the tank to rest on a uniform and level base. Excavated material must not be used as backfill. The excavation must be a minimum of 1 m from any structures.

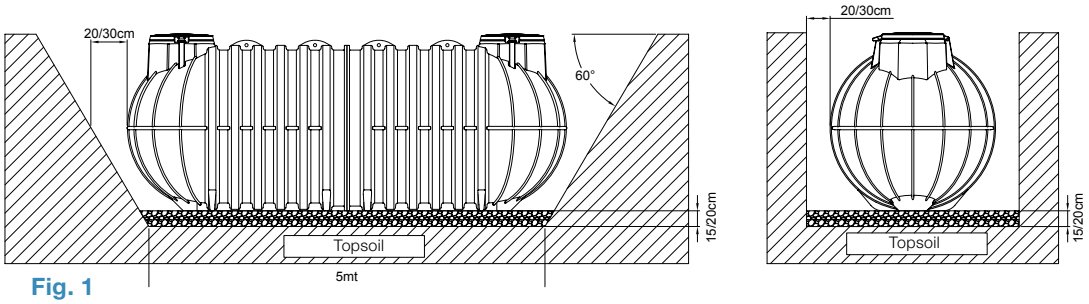


Fig. 1

2. BACKFILL AND FILLING

2.1 Place the totally empty tank on a bed of 20/30 washed gravel spread at the bottom of the excavation, gradually fill the tank with water and at the same time backfill with 20/30 washed gravel. Continue with successive layers of 15/20cm, filling the tank and then backfilling with gravel. Fill the tank to 3/4 of its capacity and backfill the last 40cm with topsoil (NOT clayey/limey material, NOT excavated material). To prevent excessive pressure on the tank, NEVER use backfill material with sharp edges.
N.B. For installation in more severe conditions (groundwater, clays soils or in sloping ground), refer to chapter 3 “Exceptional Installation”.

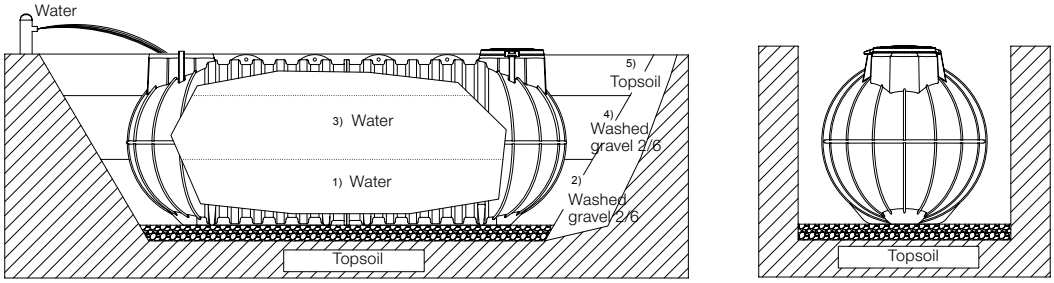


Fig. 2.1

2.2 After the tank has been filled and the excavation suitably backfilled, gradually cover with topsoil (NOT clayey/limey material, NOT excavated material) or with lightened material, e.g. expanded clay, to a depth of 30/40cm, leaving the inspection covers exposed. In this way, the area concerned is suitable for pedestrian traffic, while the transit of motor vehicles within 2m of the excavation is prohibited.
When installing treatment plants, leave the tank filled with water. However, when installing a water storage tank, leave it full of water until the ground has fully settled (minimum 7 days. This period may vary following an assessment by the designer). N.B. To render the site trafficable by motor vehicles, refer to chapter 4 “Trafficability”.

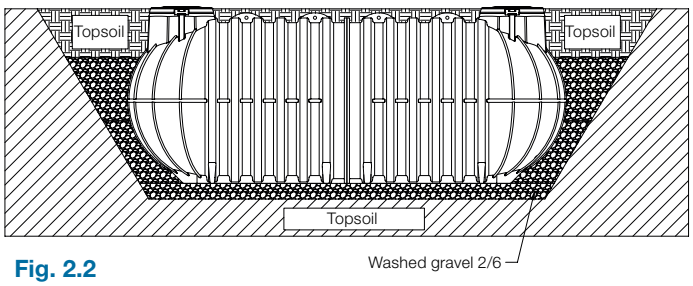


Fig. 2.2

UNDERGROUND INSTALLATION

2.3 EXTENSION INSTALLATION

If the tank is installed at a depth of 30/40 cm and the site is to remain open to pedestrian traffic, it is advisable to install the Rototec PE extension directly on the inspection holes. In the case where the tank is installed deeper than that previously indicated and more than one extension needs to be installed, which constitutes an unfavourable condition and not recommended, adhere scrupulously to the instructions reported in chapter 4 “Trafficability”. The technician responsible for the installation will follow the instructions reported in the two paragraphs according to the installation depth.

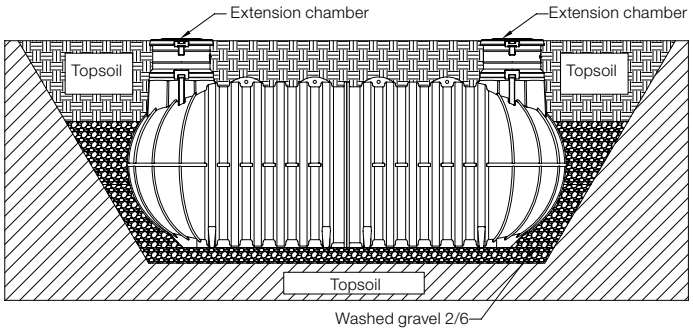


Fig. 2.3

2.4 PUMP/BIOGAS VENT CONNECTION

a) When installing a pump, whether internally or externally, ALWAYS install an open-air vent, free and correctly sized to prevent the formation of a vacuum and deformation of the tank when the pump is running. After connecting the vent, make the necessary connections and check them.

b) In order to prevent the formation of bad smells and, consequently, enable the treatment plant to function efficiently, ALWAYS connect a pipe (PVC or PE) to the connection point provided for the biogas vent on the tank. Run the pipe to the highest point of the building or along the downpipes, but in any case higher than the level of the roof.

The pipe indicated on the drawing for venting is not included in the supply.

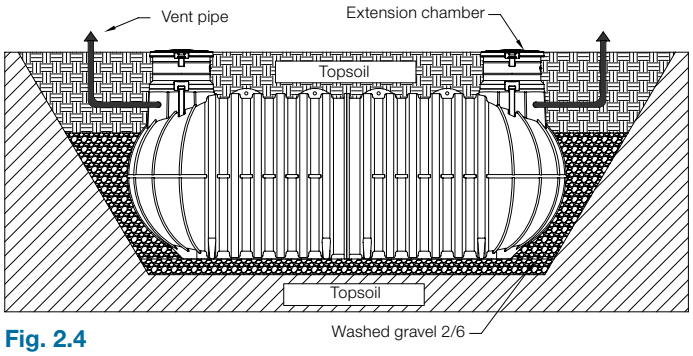


Fig. 2.4

2.5 MANHOLE INSTALLATION

The installation of manholes or covers of weight exceeding 50kg must always be solid with the concrete slab, suitably designed for the load to support and exerting a uniformly distributed load over the tank. The slab, therefore, must NOT be constructed directly on the tank but must rest on undisturbed, load-bearing ground. AVOID constructions in brickwork which would compromise maintenance and/or eventual replacement of the tank.

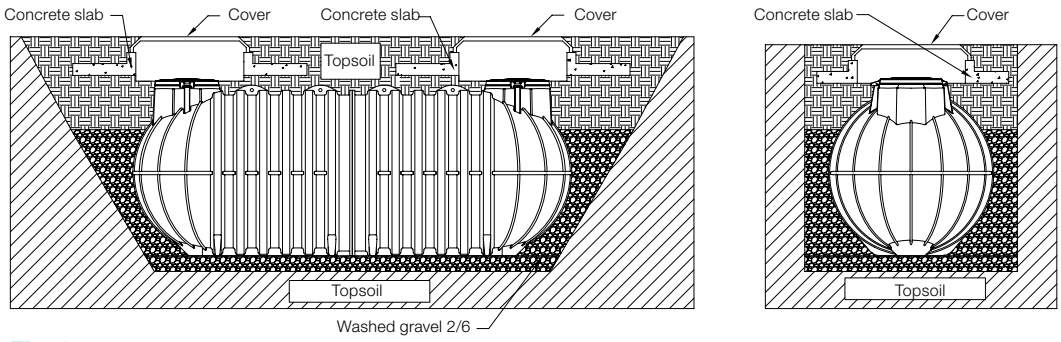


Fig. 2.5

EXCEPTIONAL INSTALLATIONS

3.1 INSTALLATION IN ZONES WITH GROUNDWATER

Installation in the presence of groundwater is not recommended as it represents one of the riskiest conditions for a storage tank. In this case, it is advisable to obtain a geotechnical report from a specialist. From the report, the installation technician will be able to define the expected pressure from the groundwater and design the backfill material and slab accordingly. In particular, he will design the backfill to have the necessary capacity for resisting the high lateral forces. The resistance capacity can be increased by inserting an electro-welded steel mesh. Construct the concrete slab at the bottom of the excavation, then spread a 10cm thick layer of 20/30 washed gravel over the top to fill in the voids between the corrugations in the base of the tank. The tank filling and backfilling operations must always be carried out progressively. It is advisable, therefore, to half fill the tank and at the same time backfill with concrete and allow it to stand for 24/36 hours [points 1-2]. Then complete the tank filling and the backfill [points 3-4].

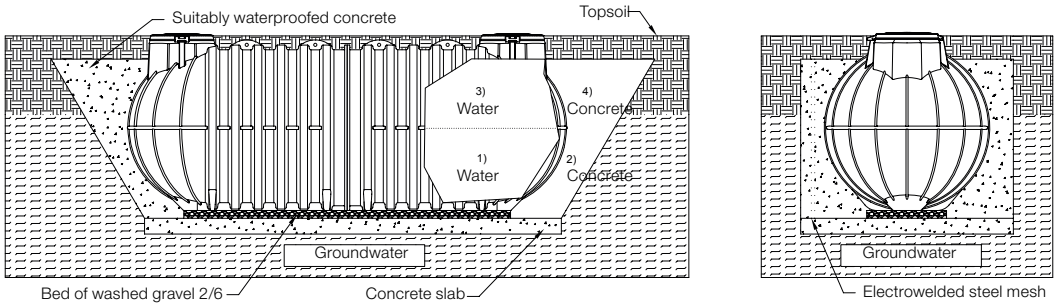


Fig. 3.1

3.2 INSTALLATION IN ZONES WITH CLAYEY/LIMEY SOIL

Installation in areas with a mainly clay/lime substrate and/or with limited drainage capacity is another unfavourable condition. A geotechnical report prepared by a specialist is advisable in this case also. From the report, the installation technician will be able to define the expected ground pressure (high in the case of clayey soil) and design the backfill accordingly. In particular, the bottom of the excavation must be covered by a bed of 20/30 washed gravel and the sides of the tank backfilled with 20/30 m gravel to aid drainage. For tank filling and backfilling, see para. 2.1. A drainage system must also be provided at the bottom of the excavation.

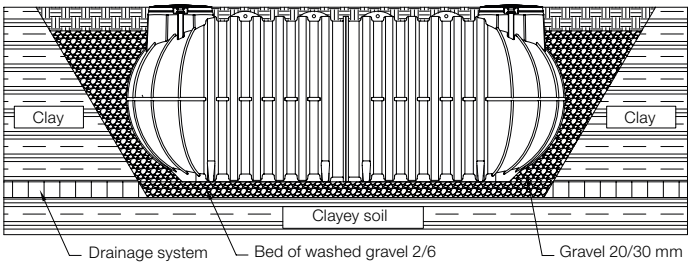


Fig. 3.2

3.3 INSTALLATION NEAR TO SLOPING GROUND

When the tank is to be installed near to a slope or on sloping ground, the tank must be protected by a reinforced concrete retaining wall, appropriately designed by a specialist, in order to balance the lateral thrust of the ground and to protect the area from possible infiltration. For tank filling and backfilling, see para. 2.1.

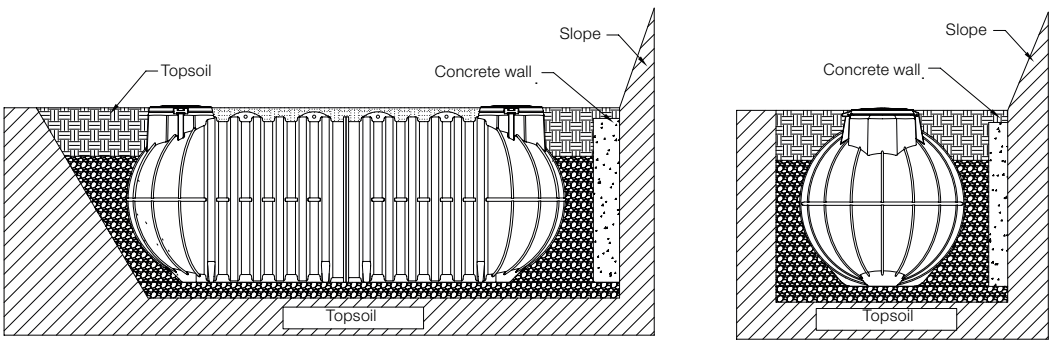


Fig. 3.3

TRAFFICABILITY

4.1 LIGHT TRAFFIC - CLASS B125-EN124/95 - MAX 12.5 TONS

To render the site suitable for the transit of light vehicles, a self-supporting reinforced concrete slab, designed in relation to the load, must be constructed. The perimeter of the slab must be larger than the excavation to prevent the weight of the slab from bearing on the tank itself. It is also advisable to construct a concrete slab (for example 15/20 cm thick) at the bottom of the excavation, over which a 10 cm thick layer of 20/30 mm washed gravel must be spread to fill in the voids between the corrugations in the base of the tank. The self-supporting slab in reinforced concrete and the bottom concrete slab must always be designed by a qualified professional. The tank filling and backfilling operations must always be carried out progressively as specified in para. 2.1.

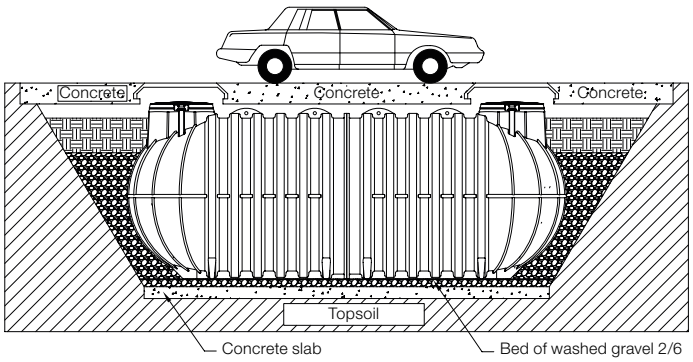


Fig. 4.1

4.2 HEAVY TRAFFIC - CLASS D400-EN124/95 - MAX 40 TONS

To render the site suitable for the transit of heavy vehicles, a reinforced concrete containment structure cast on-site with a suitable self-supporting concrete cover slab must be provided. The perimeter of the slab must be larger than the excavation in order to distribute the load on the containment walls and not on the tank itself. Then spread a 10 cm thick layer of 20/30 mm washed gravel at the bottom of the containment structure to fill in the voids between the corrugations in the base of the tank. The containment structure and cover slab must be designed by a qualified professional in relation to the expected loads. The tank filling and backfilling operations must always be carried out progressively as specified in para. 2.1.

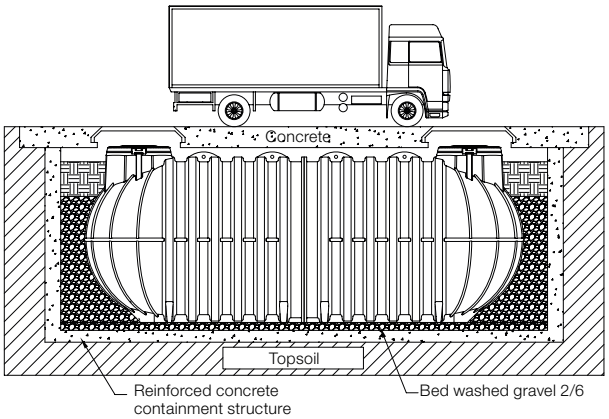


Fig. 4.2

GUARANTEE COVERING UNDERGROUND PRODUCTS

ROTOTEC S.p.A. hereby guarantees its Treatment Division tanks for underground installation, made of linear polyethylene (LLD-PE) using the rotational moulding technique, for a period of 25 years against full-depth corrosion and manufacturing defects.

This guarantee is valid on condition that the products are kept in regular service, subjected to periodic maintenance and are installed according to the methods indicated. The manufacturer will not be held liable in the event of incorrect installation.

THE GUARANTEE WILL CEASE TO BE VALID IN THE FOLLOWING CASES:

1. If the underground installation methods are not strictly adhered to.
2. If the product is modified without the prior authorisation of the manufacturer.
3. In the case of non-compliant use.

THE GUARANTEE DOES NOT COVER:

1. Installation costs.
2. Damage due to lack of use.
3. Injury to third parties.
4. Damage resulting from loss of the contents.
5. Transport costs.
6. Reinstatement of the site.

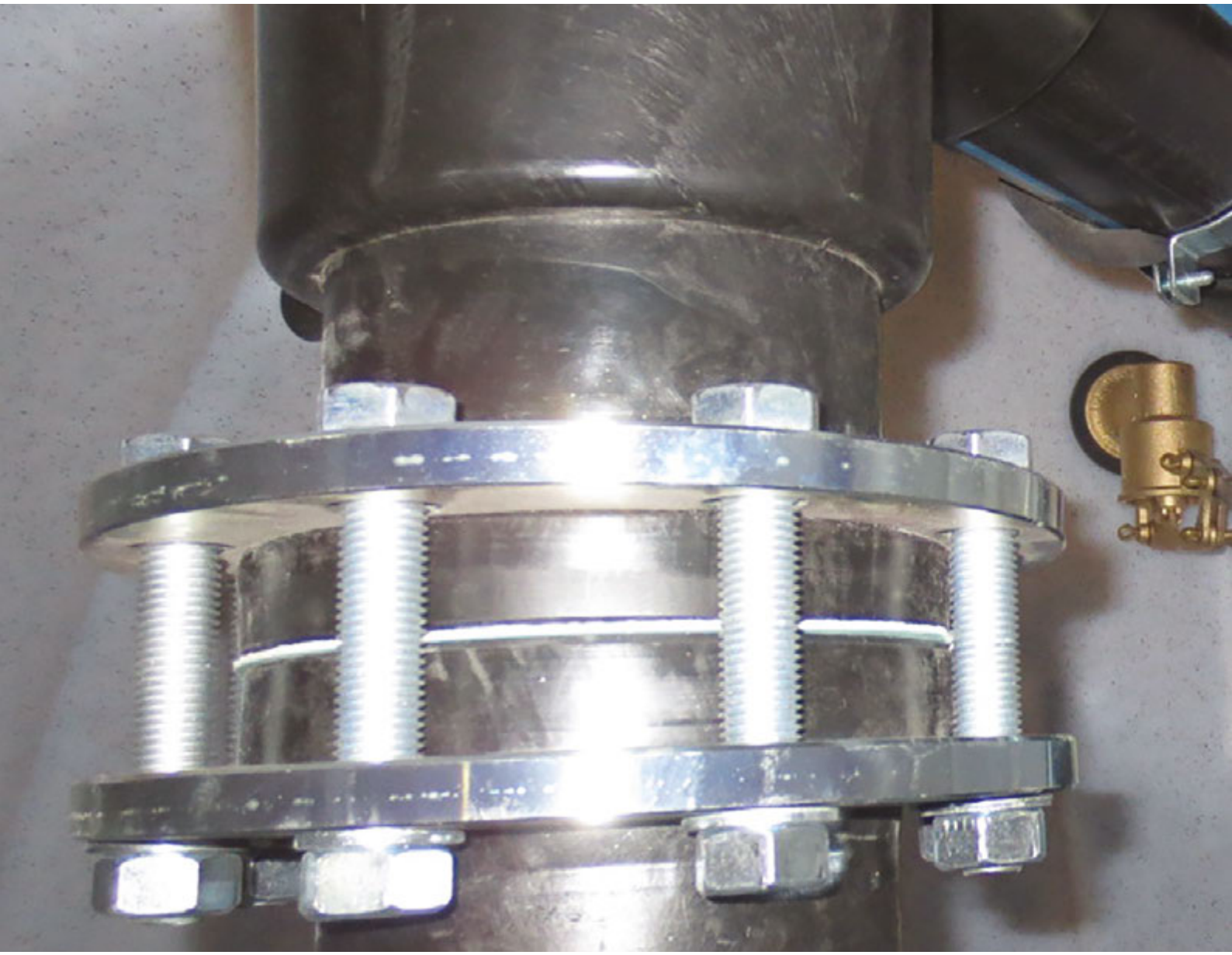
Rototec guarantees that all materials fully comply with the characteristics and conditions specified in the order confirmation and in the certificates/technical data sheet issued by the technical office.

Rototec will not be held liable for applications, installation, inspections or any operations undertaken at the buyer's premises or installation site.

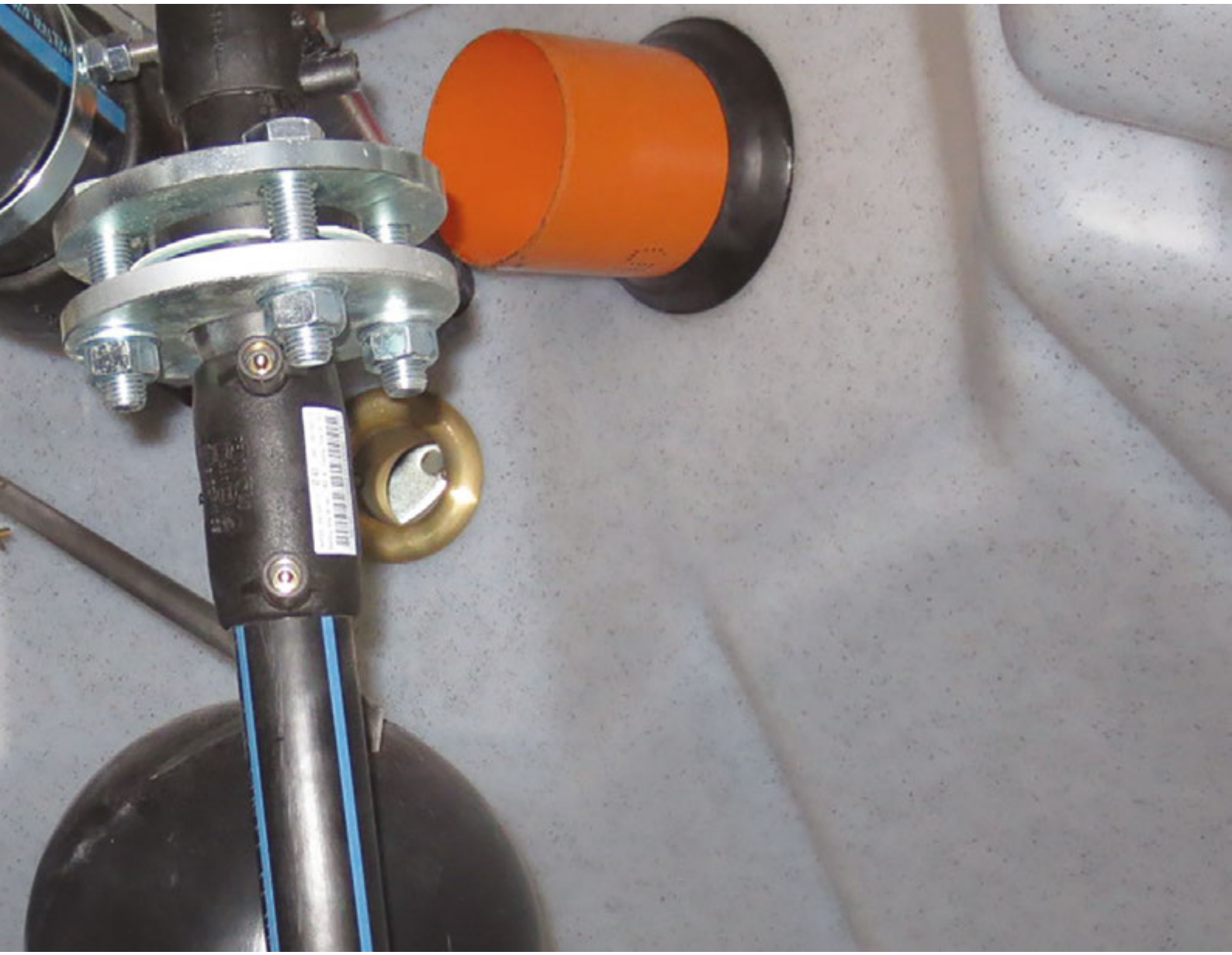
The guarantee does not cover products that become defective as a result of imprudence, improper or negligent use or as the result of incorrect installation, maintenance or operation by unqualified or unauthorised persons, or following damage deriving from any other circumstances that cannot be attributed directly to defects in materials or manufacture.

Rototec will not be held liable for injury or damage either directly or indirectly deriving from incorrect installation, use or maintenance of the products sold.

Rototec products are supplied with technical data sheets, certification according to current standards and underground installation and maintenance instructions.



ACCESSORIES



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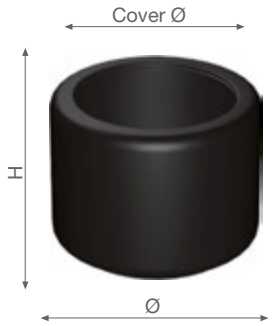
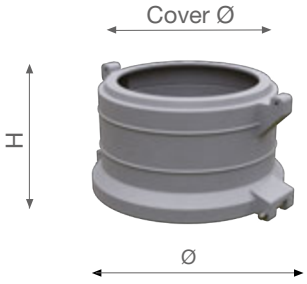


THREADED EXTENSION

Item	Ø mm	H mm	Cover Ø mm
PP30	300	300	210
PP35	435	300	300
PP45	535	300	400

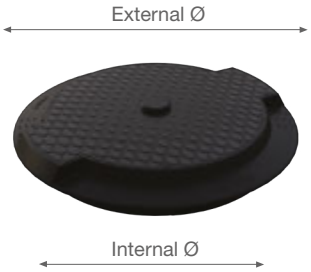
Application: installing the extensions enables the tops of the tanks to be located below ground level. More than one extension can be used at the same time (See chapter on Underground installation



HINGED TOP EXTENSION

Item	Ø mm	H mm	Cover Ø mm
PP75	750	430	630
PP77	750	430	630
PP25	750	250	630

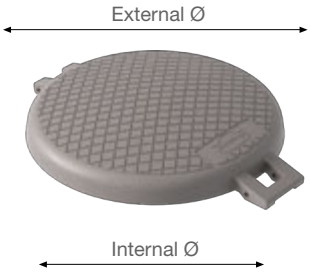
Application: installing the extensions enables the tops of the tanks to be located below ground level. More than one extension can be used at the same time (See chapter on Underground installation



THREADED COVER IN PP WITH VENT*

Item	Internal Ø mm	External Ø mm
CS200	200	250
CS300	300	355
CS400	400	454

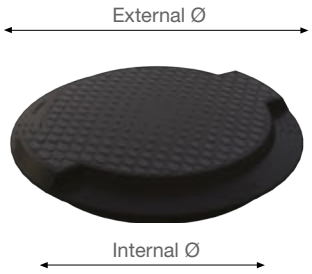
*supplied with above-ground tanks



HINGED COVER IN PE

Item	Internal Ø mm	External Ø mm
TAP700*	630	800
TAP800*	630	800

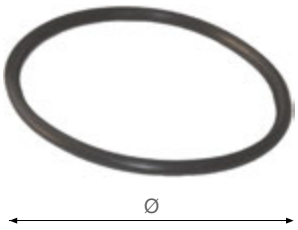
* green colour available on request



THREADED COVER IN PP*

Item	Internal Ø mm	External Ø mm
CC140	120	140
CC200	210	250
CC300	300	355
CC400	400	454
CC600	600	611

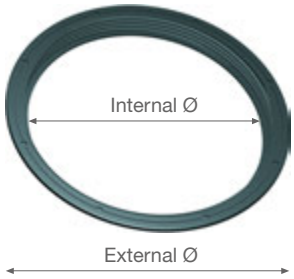
* supplied with treatment tanks



COVER GASKET

Item	Internal Ø mm	Cover model
GC255	255	CC 200 - CS 200
GC355	350	CC 300 - CS 200
GC455	460	CC 400 - CS 200
GC600	620	CC 600
GC10700	630	TAP800

Application: the gaskets are used to improve the seal between the cover and the tank manhole on both above-ground and underground tanks. The gaskets are fitted directly onto the threaded or hinged cover (GC10700). Material: NBR rubber (model GC10700: adhesive gasket).



THREADED RING

Item	External Ø mm	Internal Ø mm	Tooth H mm
AF154	155	120	10
AF255	255	210	30
AF355	355	300	30
AF455	455	400	30
AF600	617	600	30

Application: the female threaded ring is installed and riveted on polyethylene tank manholes when custom inspection holes need to be created. Threaded covers can then be screwed into the rings.

GASKET

Item	External Ø mm	Internal Ø mm	L mm	Cutter Ø for gasket hole mm
GG50	95	50	8	60
GG63	110	63	8	75
GG80	125	80	8	89
GG100	145	100	8	110
GG110	150	110	8	127
GG125	160	125	10	140
GG125 S 15	160	125	13	140
GG160	200	160	10	170
GG200	230	200	10	210
GG250	280	250	10	260

Application: the rubber gaskets are used when it becomes necessary to install stub pipes on polyethylene tanks (e.g. to create inlets, outlets, etc.). When installed correctly, these gaskets provide a perfect seal.
Installation: A hole must be cut in the polyethylene tank using a circular hole cutter. The gasket is inserted in the hole. The stub pipe is then inserted in the gasket itself.

OUTLET PIPE UNION IN BRASS

Item	D mm	Internal Ø mm	External Ø inches	L mm
BSO¾	47	19	¾ ''	75
BSO1	57	25	1''	85
BSO1 ¼	67	32	1''¼	91
BSO1 ½	75	38	1''½	96
BSO2	88	50	2''	107
BSO2 ½	108	63	2'' ½	128
BSO3	122	76	3''	158
BSO4	150	100	4''	209

Application: when installed on the special flat areas of the tanks, it allows the storage tank to be connected to the various draw-off systems for the liquid it contains: taps, irrigation systems, pumping systems. It also allows the tanks to be connected to each other (both underground and above-ground tanks) to provide very high storage volumes.

OUTLET PIPE UNION IN POLYPROPYLENE

Item	M inches	H mm	L mm	D mm
BS¾	¾	41	46	46
BS1	1	46	51.5	50
BS1.5	1 ½	50	55	65.5
BS2	2	66.5	73.5	76
BS2 ½	2 ½	70	76	100

Application: when installed on the special flat areas of the tanks, it allows the storage tank to be connected to the various irrigation systems, pumping systems, etc. It also allows the tanks to be connected to each other (both underground and above-ground tanks).

ACCESSORIES

CONNECTING PIPE IN PE

Item	Internal mm
6TRPE040S	40
6TRPE050S	50
6TRPE063S	63
6TRPE075S	75
6TRPE090S	90
6TRPE125S	125
6TRPE160S	160
6TRPE200S	200
6TRPE250S	250

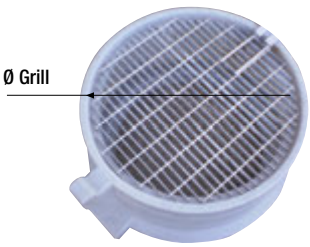
Description: stub pipes in smooth HDPE, extrusion welded to form a perfect waterproof seal.
Application: when installed on the tanks, it allows the storage tank to be connected to the various draw-off systems for the liquid it contains: taps, irrigation systems, pumping systems. It also allows the tanks to be connected to each other (both underground and above-ground tanks) to provide very high storage volumes.

AERATION SYSTEM FOR WATER STORAGE TANKS

Item
KIT AIR 40

Application: aeration system used for blowing clean air from the bottom of the tank in order to agitate and aerate the stored rainwater, thus preventing stagnation and the resulting formation of malodours. Thanks to the electric panel and timer, the air is blown at pre-set regular intervals.

Aeration system consisting of:
- QST timed electric panel
- Blower model HP 40
- Diffuser plates model IFA DN
- Connecting pipes
- Cabinet excluded



SAFETY GRILL

Item	Ø grill mm	Mesh length mm	Mesh width mm
GRANT	730	75	30

Application: the pedestrian grill is a safety device that prevents unintentional entry into the tank.
Installation: the grill is fitted directly on the underground corrugated tank inspection hatch (Cisterna, Panettone and Canotto tanks) and is fastened using the pins provided. It can be mounted directly on the tank manhole or on a hinged cover extension.

FLOAT VALVE

Item
RAG

Application: the movement of the ball float ensures that the valve opens and closes automatically when the liquid in the tank reaches a certain level. The inclination of the arm and the position of the float can be adjusted to regulate the required valve opening and closing level. The valve is installed in the appropriate inlet holes in the tanks.

FILTER BASKET

Item
CF

Application: filters out the coarse materials present in the collected rainwater (stones, leaves, tile residues, debris, etc.…). The filter is fitted with a stainless steel handle to facilitate its removal from the chamber for cleaning purposes (removing residues, deposits). The leaf filter chamber FAPI is always supplied with the filter basket.

EXTERNAL LEVEL INDICATOR

Item
IL

Application: installed on the outside of storage tanks and used to monitor the level of the contained liquid by means of a plastic sphere.
Warnings: when the indicator is installed on an above-ground tank, part of the liquid contained will be irradiated by sunlight. This could lead to the growth of algae. Consequently, it is not recommended when storing potable water.

ELECTROWELDABLE PE SLEEVE PN10

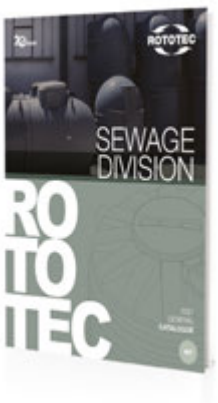
Item
MAN 90
MAN 125
MAN 160


SEPRA

OTHER PRODUCTS

SEWAGE DIVISION

- PRIMARY TREATMENT
  Grease separators, septic and Imhoff tanks
- SECONDARY TREATMENT
  Activated sludge plant and trickle filtres
- STORMWATER RUNOFF SYSTEMS
  Oil separators and grit separators
- TREATMENT PLANTS FOR CAR WASHES
- LIFT STATIONS



For more information, see the Sewage Division catalogue, available at **www.rototec.it**

PRESSURISATION AND FIREFIGHTING

- DOMESTIC PRESSURISATION UNITS
  Booster systems, water pressuring kit and inverters
- FIREFIGHTING SYSTEM
  Water storage tanks, pressuring units and enclosures

PORTABLE TOILETS

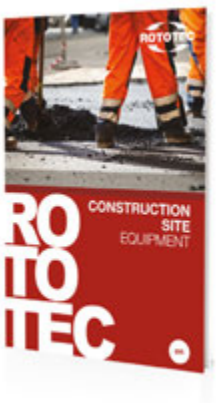
CHEMICAL TOILETS WITH SEAT OR SQUAT PAN

- Portable ONE-PIECE toilets
- Portable COLLAPSIBLE toilets
- Portable toilets for the DISABLED
- Shower cabins
- Changing cabins
- Accessories (chemical decomposing agent, deodorants…)

For more information, see the Portable Toilets catalogue, available at **www.rototec.it**

CONSTRUCTION SITE EQUIPMENT

- **DEBRIS REMOVAL SYSTEMS**
  Complete system with frame, hopper and chute
- **PERIMETER BARRIER SYSTEMS**
  Road barriers, movable bollards, barriers
- **MULTI-PURPOSE BINS**
  To store tools, equipment, fragile objects, etc...
- **PORTABLE TANKS**
  To transport diesel and petrol (ADR exempt or ADR compliant tanks)



For more information, see the Construction Site Equipment catalogue, available at **www.rototec.it**

GENERAL CONDITIONS OF SALE

Premise All buyers are considered as being aware of these conditions of sale. Unless otherwise specified, all sales are effected in line with the general conditions that follow. Any orders transmitted imply the buyer's adhesion to the conditions without reservation.

Orders Purchase orders arriving by fax, e-mail or from our own sales network are always understood as being effected in accordance with the general conditions that follow and, "unless otherwise approved by the vendor", definitively accepted only on presentation of the order confirmation, which must be returned signed for acceptance.

Prices / Invoicing / Payment Each product is sold at the list price in force at the time of ordering exclusive of VAT. Our offers are provided without obligation and, unless expressly indicated, are governed by these general conditions of sale. A validity period is specified for the offers which are available for the time period fixed. The products will be invoiced within the reference month of the delivery at the prices in force at the time of ordering and with the application of the VAT in force on the date of invoicing. The invoice will be made out in the same name as the order and will be issued in accordance with current tax legislation. It will, therefore, be the buyer's responsibility, at the time of ordering and prior to the issue of the invoice, to check and inform the vendor of any variations or additions that may modify the information in the possession of Rototec. Payment for the supply will be made adopting the methods and times provided for in the order confirmation. Delays in the payment, including partial, of the invoices and any extra-contractual renewal of the effects will give rise to interest on arrears at the official discount rate increased by 3 points. Furthermore, any stamp charges will be totally at the cost of the customer. Delayed or non-payment of the invoices will give Rototec the right to request advance payment for any remaining orders or contracts in course, and to consider them rescinded, or suspend or annul them, without the buyer having any right to demand compensation, damages or reservations on the matter.

Ownership of goods The ownership of the goods is transferred to the buyer on receipt of the final balance of the agreed price.
Claims Any claims must be forwarded in writing at the time of unloading of the goods and with an entry on the delivery note. When reporting concealed defects, all necessary documentation required by Rototec technicians (photographs, reports, etc.) for the determination of that disputed must also be sent. Following an assessment by Rototec technicians, if the complaint is deemed as valid, excluding that for which Rototec is not answerable under the terms of the guarantee described below, the company's obligation is limited to replacing the goods at the same place of delivery of the initial supply and subject to the return of the faulty items. The buyer has no rights whatsoever to request the termination of the contract or a reduction in price, or compensation for damages or reimbursement of any costs sustained whatsoever. Claims do not give the buyer any right to suspend payment of the invoice for the contested goods.
Shipping / Transport / Packing / Terms of delivery Rototec products do not require packing unless otherwise specified at the time of order confirmation. The goods are intended as delivered "free ex works". Unless otherwise agreed on the order confirmation, the goods are delivered free to destination in the case of orders of not less than 1,000.00, net of any discounts. For orders below this amount, Rototec, when in agreement with the buyer, is willing to organise transport free to destination, debiting the transport costs according to the volume of the goods and according to the list price of the transporter as indicated on the order confirmation. The goods are transported at the risk of the customer, including when sold free port and transported using Rototec vehicles. Destinations of goods other than the registered/administrative offices of the company must be indicated at the time of ordering. The contact person and the respective telephone numbers to call at the time of delivery must also be indicated. The buyer is also responsible for ensuring that all the requirements for receiving and unloading the goods have been met. Rototec will not be held liable for damage occurring during the transport of the goods, as a result of which their condition must be verified on receipt. Any claims or disputes arising from product defects must be made immediately on unloading and must be reported on the delivery note, and then sent to Rototec via fax or e-mail in order that the company can take the necessary action. The delivery times indicated in the offer and on the order confirmation are purely indicative. Under no circumstances can any delays in delivery lead to the payment of damages or cancellation, even partial, of the contract, that is unless these conditions have been expressly accepted by the company at the time of contract signing or order confirmation. In all cases, delivery time and organisation of the shipment will be undertaken with the due care and in line with experience, with communication to the customer when the goods are ready for shipment.

Guarantee Rototec guarantees that all materials fully comply with the characteristics and conditions specified in the order confirmation and in the certificates/technical data sheet issued by the technical office. Rototec will not be held liable for applications, installation, inspections or any operations undertaken at the buyer's premises or installation site. Any products with defects resulting from carelessness, incompetence or negligence during use or due to incorrect installation or maintenance by unauthorised or unqualified personnel, or damage caused as a result of circumstances that cannot be traced back to fabrication defects, are not covered by the guarantee. Rototec will not be held liable for injury or damage either directly or indirectly deriving from incorrect installation, use or maintenance of the products sold. Rototec products are supplied with technical data sheets, certification in accordance with current legislation and installation and maintenance instructions developed with the due care and know-how. The customer is informed when the goods are ready for shipment.

Force majeure In cases of force majeure and any other provided for by law, including red alerts, mobilisation, war, fire, occupation of works, etc. or any other impediment that is not the fault of Rototec, the buyer does not have any right to receive damages, compensation or reimbursement and must, where requested, pay for any finished or partly finished products.

Court of Competent Jurisdiction The buyer agrees that any disputes relating to the application, interpretation and execution of this contract fall within the jurisdiction of the Urbino Law Courts.

WARNING!
WHEN INSTALLING UNDERGROUND TANKS, THE INSTRUCTIONS SUPPLIED BY THE COMPANY MUST BE SCRUPULOUSLY FOLLOWED
The data reported in this price list is purely indicative. ROTOTEC reserves the right to modify or improve the products illustrated without prior notification. ROTOTEC can make its technical office available for the design and realisation of customised products and/or for satisfying the particular needs of its clientele. Dimensional tolerance ± 3%, capacity tolerance ± 5%.

DIAMETRO Aprile 2021

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