



Rainwater Harvesting



# Installation and maintenance instructions

## Garden Comfort Rainwater Harvesting System



## 1. GENERAL NOTES

The points described in these instructions must be followed correctly. If not correctly observed, any right to claim on the warranty may be refused.

Any missing instructions must be requested directly from us.

A complete check of all the items/components for possible damage must be carried out before the assembly or installation begins.

The installation must be carried out in a professional manner.

### Safety

The relevant accident prevention regulations must be observed during all work.

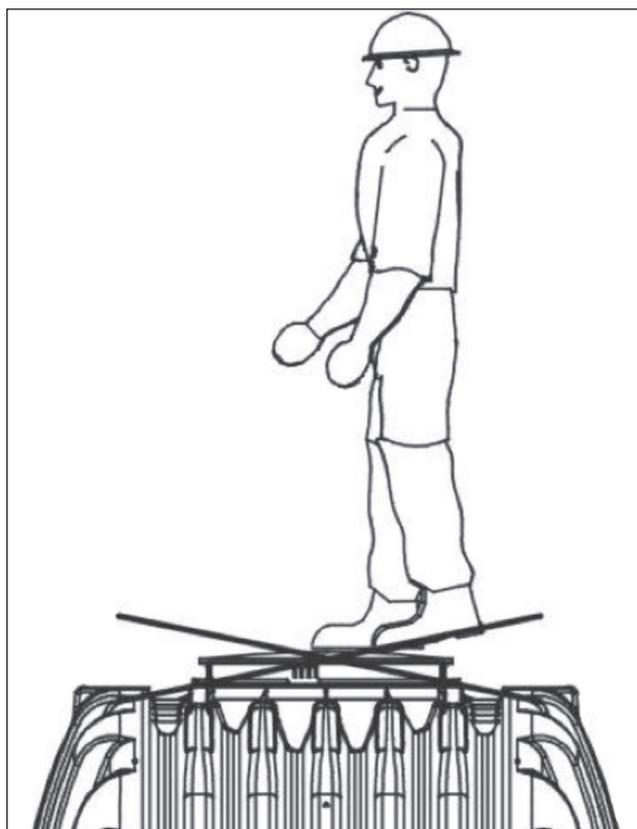
The relevant regulations and standards must additionally be taken into consideration during installation, assembly, servicing, repair, etc.

The system or individual parts of the system must be installed by qualified specialists.

During all work on the system or parts of the system, the entire system must always be rendered inoperable and secured to prevent unauthorised reactivation.

Except in the event of work carried out in the tank, the cover of the tank must always be kept sealed, as this otherwise constitutes a maximum risk of accident. Only original GRAF covers or covers approved in writing by GRAF must be used.

GRAF offers an extensive range of accessories, all of which are designed to match each other and which can be extended to form complete systems. The use of accessories that have not been approved by GRAF results in the exclusion of the warranty/guarantee.



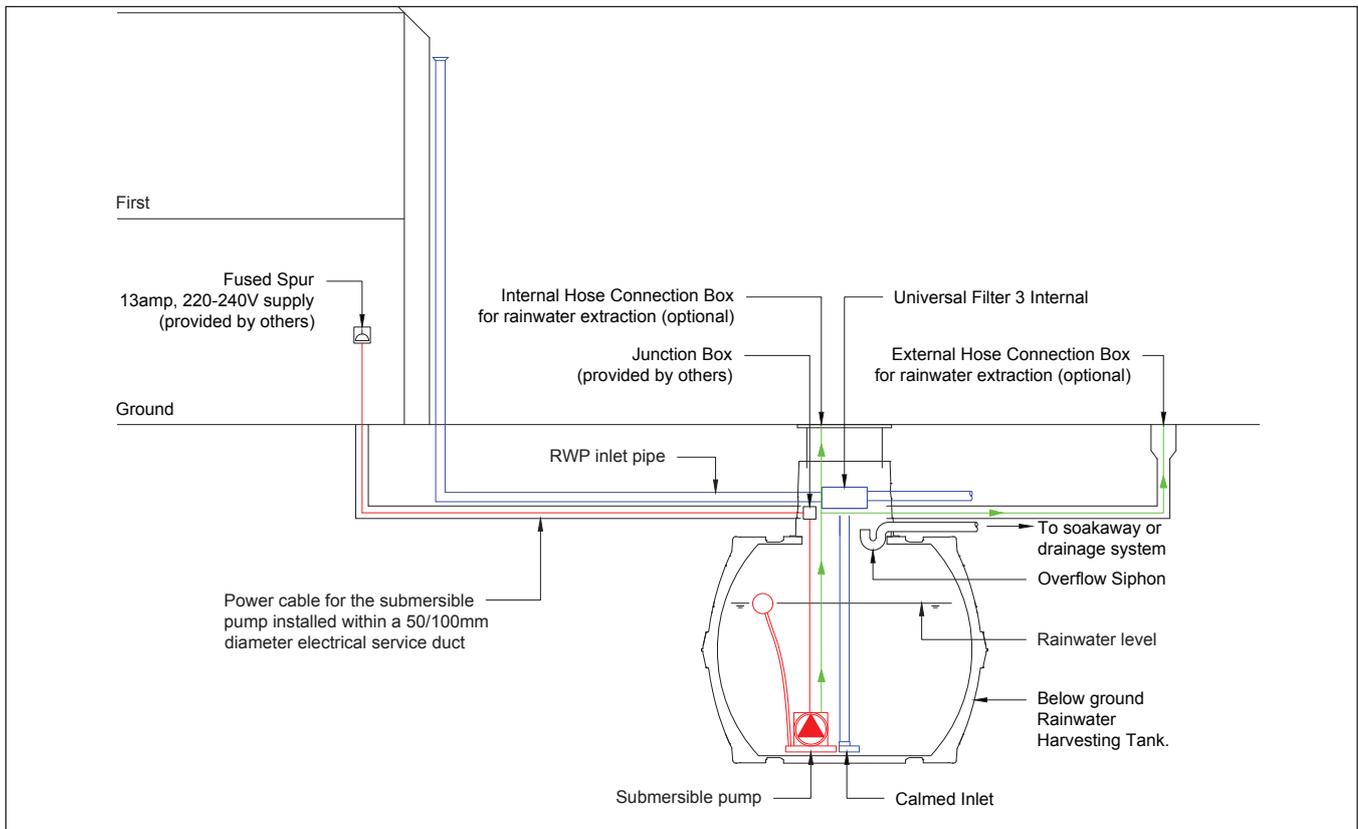
### Identification obligation - Regulation

The water in these systems is not suitable for consumption or personal hygiene.

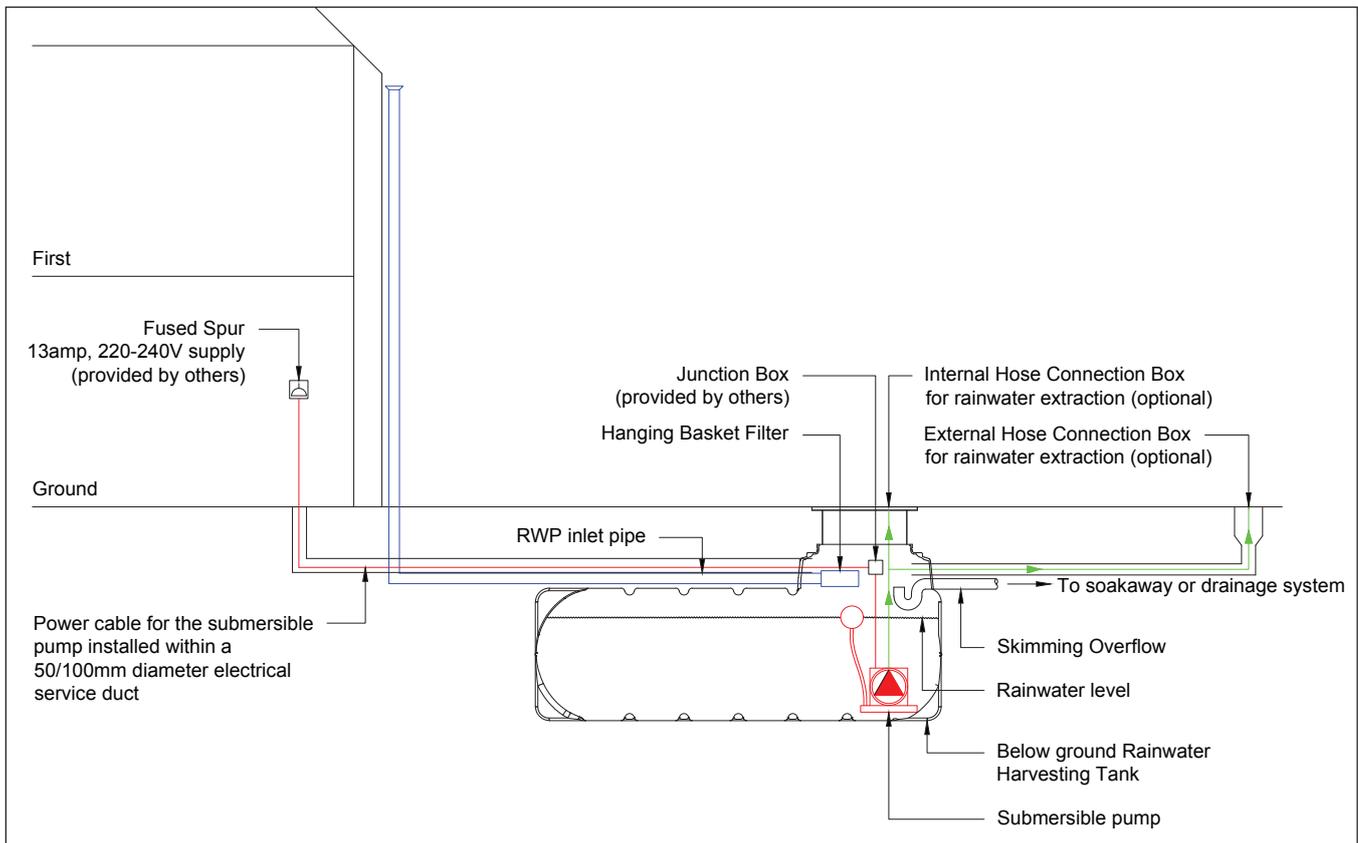
All pipe work and outlets of the water systems are to be labelled with the words "Not drinking water" either in words or graphically. (British Standard BS EN 16941-1:2024) so that after years of use, an accidental connection to the drinking water system is prevented. Even when correctly labelled it may possibly be mistaken, for example by children. For this reason, all the outlets of the systems process water must be fitted with child safe valves.

## 2. TECHNICAL DATA

### Schematic drawing of GRAF Garden Comfort System - Carat Tank

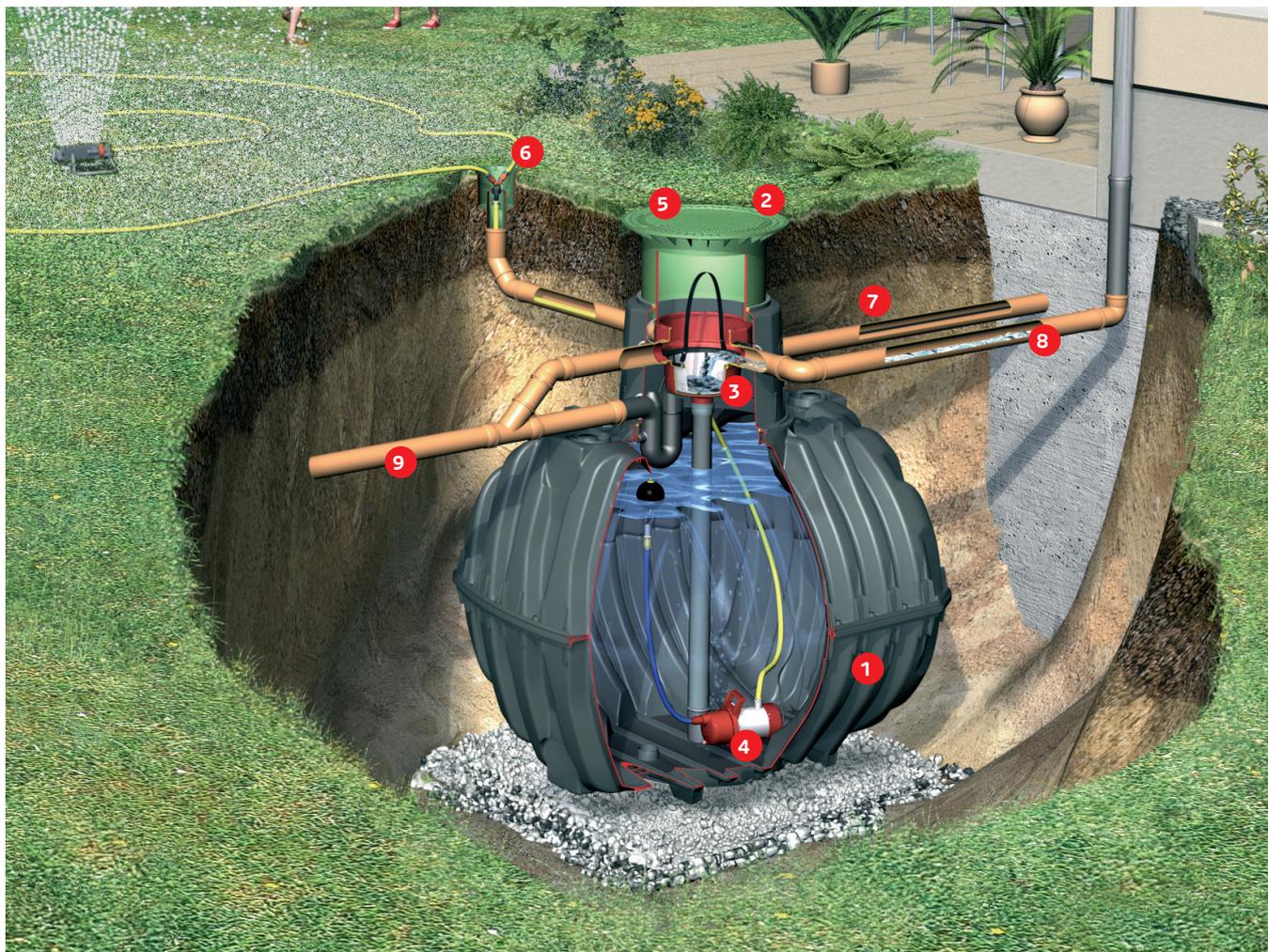


### Schematic drawing of GRAF Garden Comfort System - Platin Tank



### 3. GARDEN COMFORT PACKAGE

The simple garden solution with submersible pump system



#### 3.1 Scope of supply

- 1 Underground tank (choice of tanks available, sizes vary according to property type)
- 2 Telescopic lid (choice of telescopic dome shaft available, depending on tank location)
- 3 Filter (Basket filter supplied in accordance with type of tank)
- 4 Submersible pump with floating water intake
- 5 Internal hose connection box
- 6 External hose connection box

#### 3.2 Supplied by others

- 7 100mm diameter duct pipe to contain; power cable for pump
- 8 100mm diameter drainage pipe connected from downpipes to the inlet at the top of the tank (all downpipes brought into one pipe for connection to the filter)
- 9 100mm diameter pipe for overflow from the tank to mains drainage network or soakaway

## 4. GARDEN COMFORT - INSTALLATION OF TECHNICAL PARTS

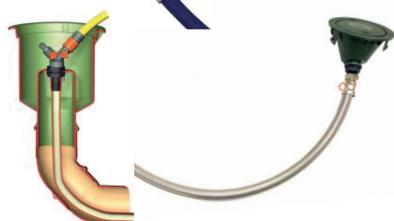
### 4.1 Scope of supply main components



Submerged and suction pump



Floating water extraction unit



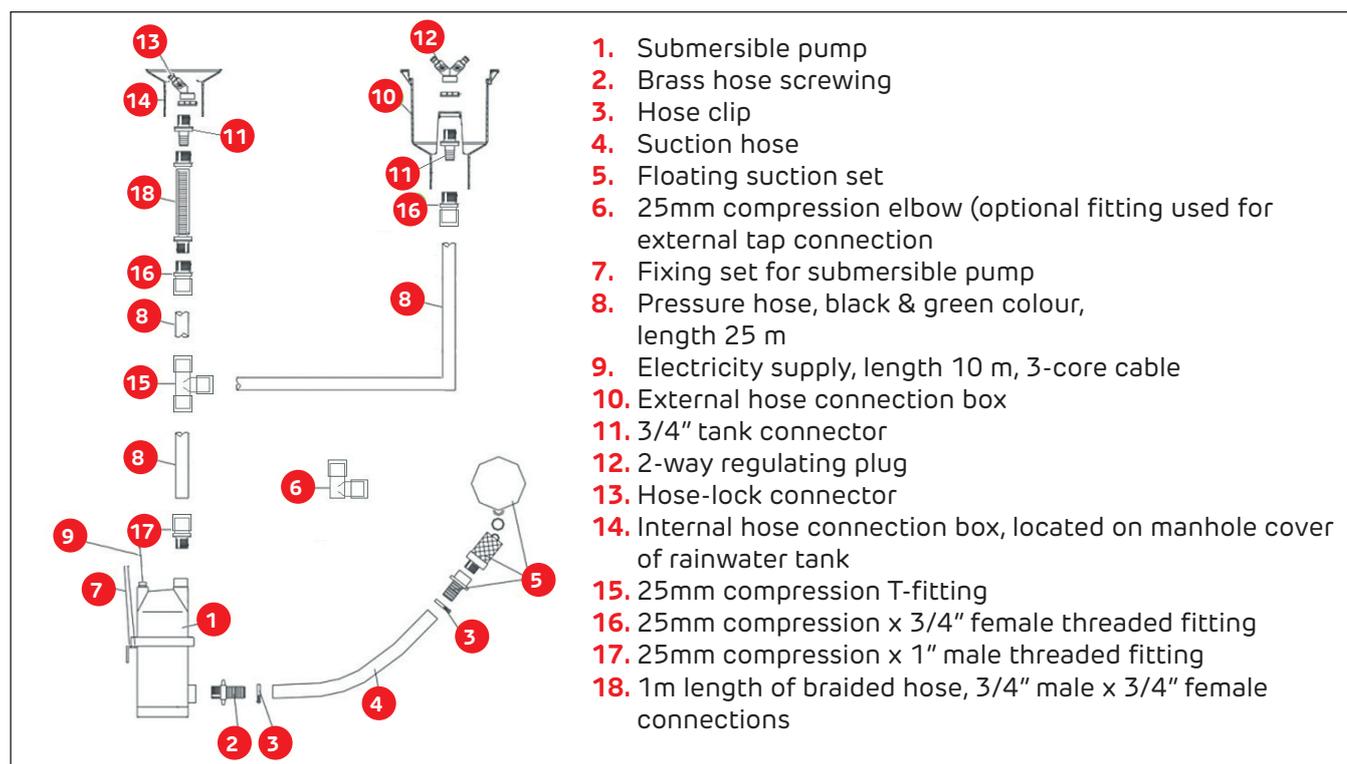
Hose connection - Internal & External



25m roll of HDPE pipe, 25mm diameter, black/green, labelled as Rainwater

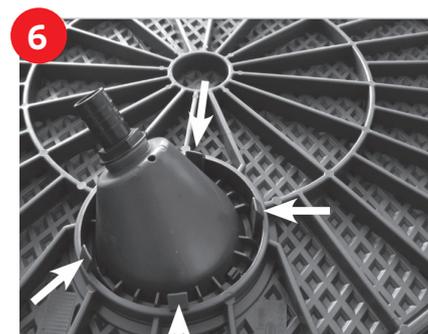
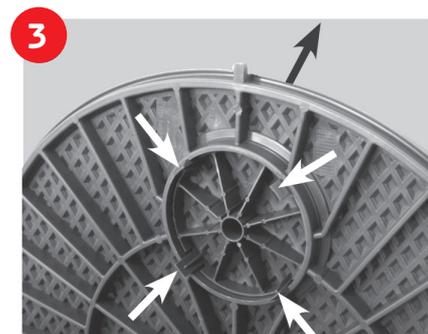
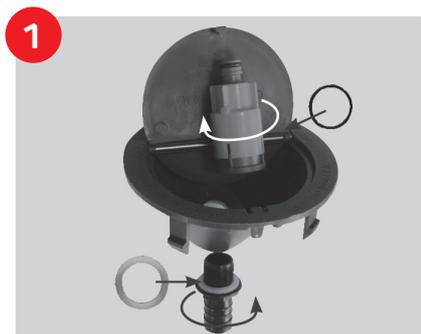
### 4.2 Rainwater storage tank / set up of internal and external hose connection box

Caution: The distance between the external hose connection box and the underground tank is limited by the pressure hose – length of the pressure hose is 25 m. This is the standard length in the supply, more hose can be supplied on request.



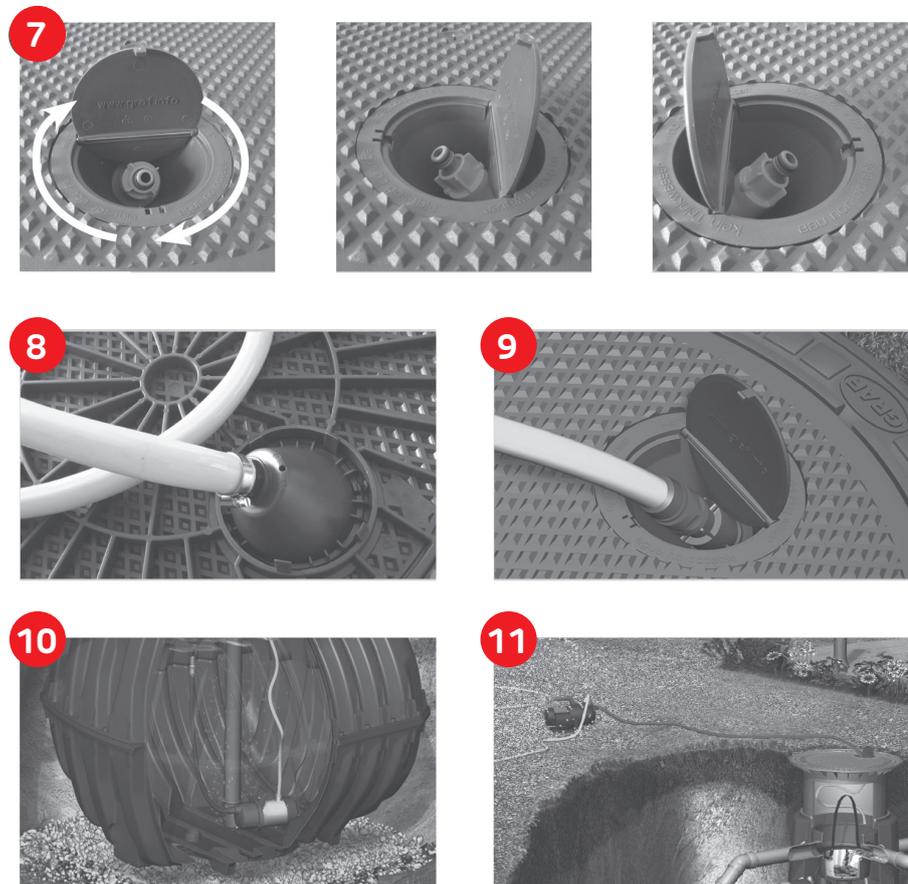
## 4. GARDEN COMFORT - INSTALLATION OF TECHNICAL PARTS

### 4.3 Installation of internal hose connection box



## 4. GARDEN COMFORT - INSTALLATION OF TECHNICAL PARTS

### 4.4 Installation of internal hose connection box (continued)



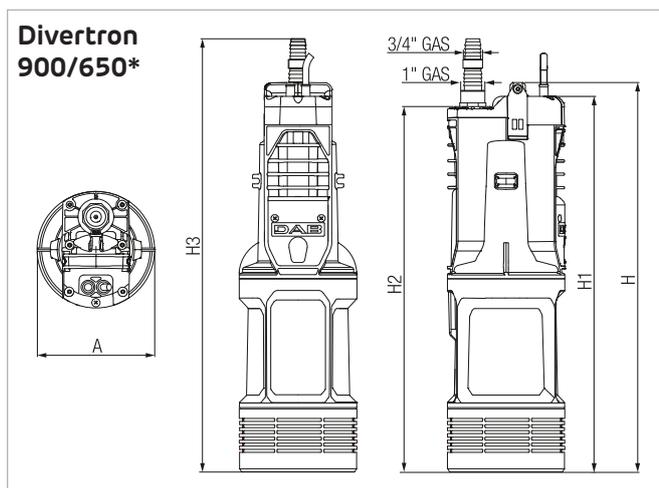
## 4. GARDEN COMFORT - INSTALLATION OF TECHNICAL PARTS

### 4.5 Submersible pump

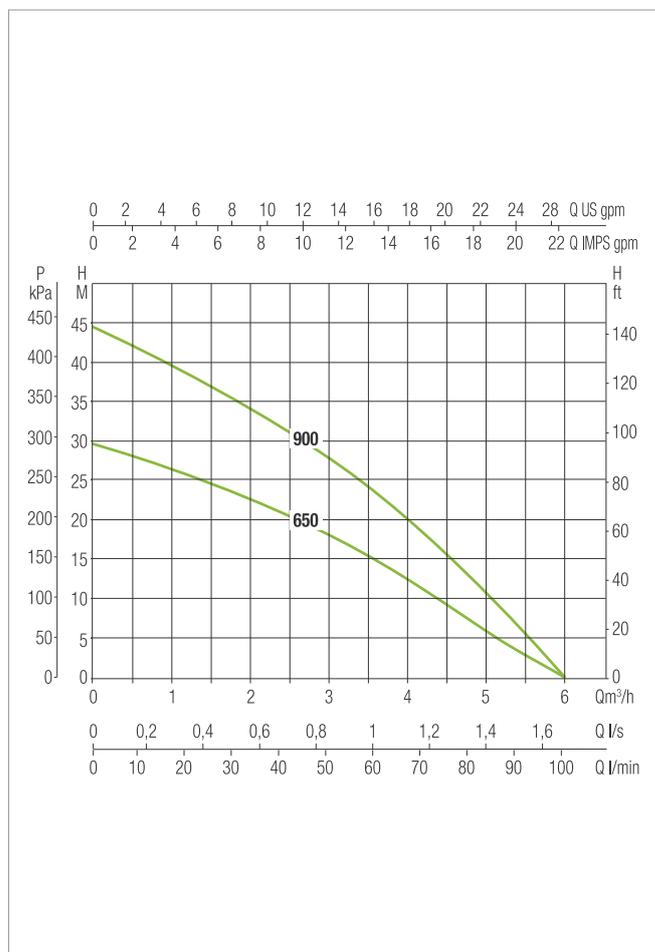
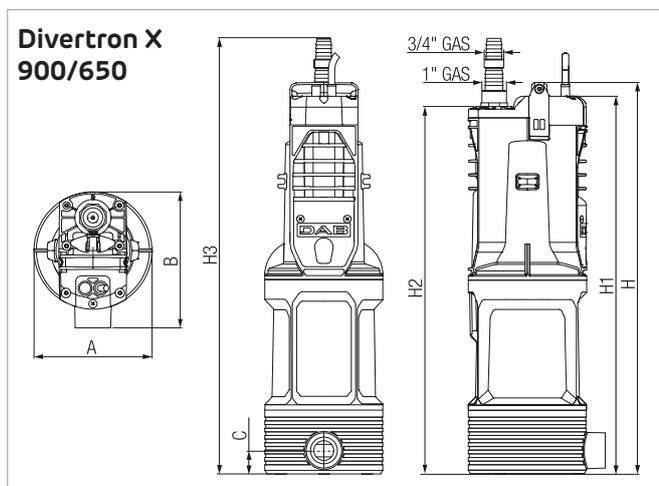
#### Electrical data and dimensions

**Note:** Standard scope of supply is Divertron X 900

MODEL	ELECTRICAL DATA							DIMENSIONS									PACKING VOLUME dm <sup>3</sup>	Q.TY X PALLET	WEIGHT Kg	
	POWER INPUT 50 Hz	P1 W	P2 NOMINAL		I <sub>n</sub> A	CAPACITOR		A	B	C	H	H1	H2	H3	PACKING DIMENSIONS					
			kW	HP		μF	V								L/A	L/B				H
DIVERTRON 900	1 x 220-240 V ~	920	0,56	0,75	4,2	12,5	450	∅ 160	-	-	536	517	503	596	550	195	250	28,6	32	11
DIVERTRON 650	1 x 220-240 V ~	630	0,42	0,56	2,9	8	450	∅ 160	-	-	488	469	455	548	550	195	250	28,6	32	9,5
DIVERTRON X 900	1 x 220-240 V ~	920	0,56	0,75	4,2	12,5	450	∅ 160	186	33	536	517	503	596	550	195	250	28,6	32	11
DIVERTRON X 650	1 x 220-240 V ~	630	0,42	0,56	2,9	8	450	∅ 160	186	33	488	469	455	548	550	195	250	28,6	32	9,5



\* Same dimensions for models 900 A - 650 A (with float switch)

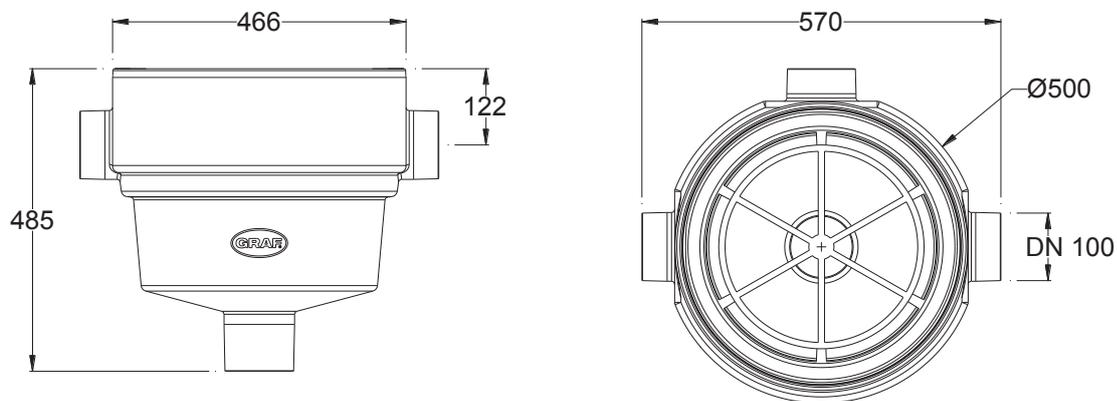


The performance curves are based on kinematic viscosity values = 1 mm<sup>2</sup>/s and density equivalent to 1000 kg/m<sup>3</sup>. Curve tolerance according to ISO 9906.

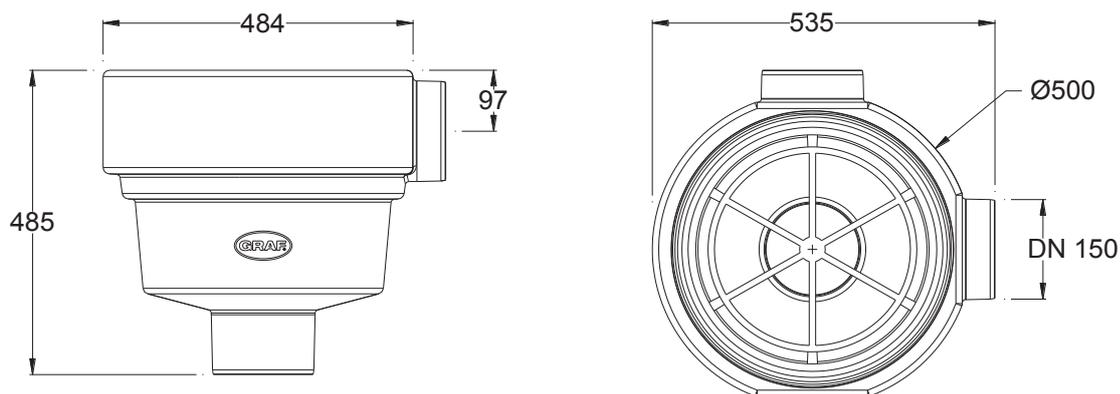
## 5. UNIVERSAL-FILTER 3 PACKAGE - FOR CARAT TANKS

### 5.1 Technical data

#### Universal-Filter 3 internal - Connection DN 100



#### Universal-Filter 3 XL internal - Connection DN 150



## 5. UNIVERSAL-FILTER 3 PACKAGE - FOR CARAT TANKS (CONTINUED)

### 5.2 Assembly & installation of the Universal-Filter 3 Internal

#### 5.2.1 Universal Filter 3 internal DN 100 / Universal Filter 3 XL internal DN 150

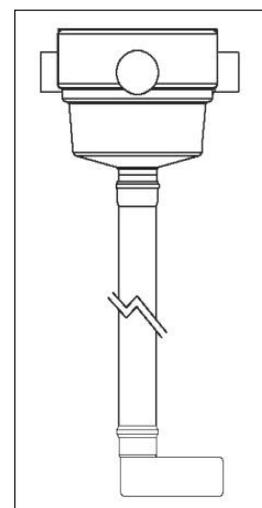
- The filter is suitable for installation in a pilot shaft or in a cistern.
- The difference in height between the supply pipe and outlet is 275mm
- The filter may not be installed directly in the earth.
- Roof areas provided with a pipe connection of DN 100 = 350m<sup>2</sup> and for DN 150 = 500m<sup>2</sup>

#### 5.2.2 Filter preparation

Before the installation in the tank, the filter must be prepared as shown in the adjacent depiction. Length of the HT/canalisation pipe – connections (completed on site) from the filter to the inflow pot:

Carat volume (litre)	Universal-Filter 3 Connection DN 100*	Universal-Filter 3 XL Con-nection DN 150*
2700	1274 mm	1308 mm
3750	1454 mm	1498 mm
4800	1684 mm	1728 mm
6500	1974 mm	2008 mm
8500	1957 mm	1991 mm
10000	2157 mm	2191 mm
from 16000	2417 mm	2451 mm

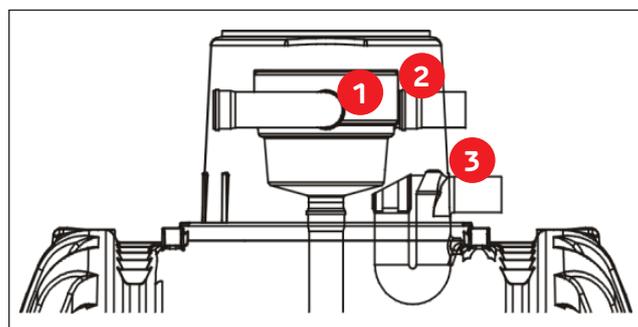
\* (+ / - 10 mm)



#### 5.2.3 Preparation on the tank

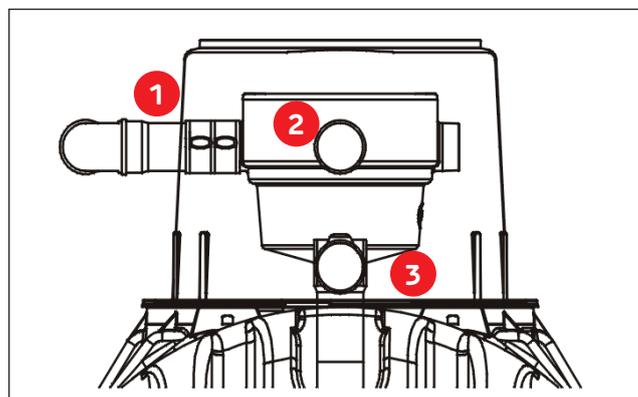
The siphon is installed in the lowest seal **3** of the tank dome. The emergency overflow **2** is installed above the siphon **3** and is installed by pushing through from the inside. The inlet pipe is mounted on the side opening **1** the pipe is inserted from the outside.

Important: The sealing ring from the HT – pipe coupling of the emergency overflow **2** must be removed.



#### 5.2.4 Installing the Filter

The fixing collar is pushed over the inlet pipe that is mounted on the tanks' dome. Finally the prepared filter assembly is placed into the tank dome from above then connected with the emergency overflow and inlet pipe using the fixing collar. In this case it is a butt joint that requires no collar.



## 5. UNIVERSAL-FILTER 3 PACKAGE - FOR CARAT TANKS (CONTINUED)

### 5.2 Assembly & installation of the Universal-Filter 3 Internal

#### 5.2.5 Assembly of the extraction mechanism

Remove the seal from the filter basket and push the metal angle of the lift out mechanism over the rim as shown in the picture.

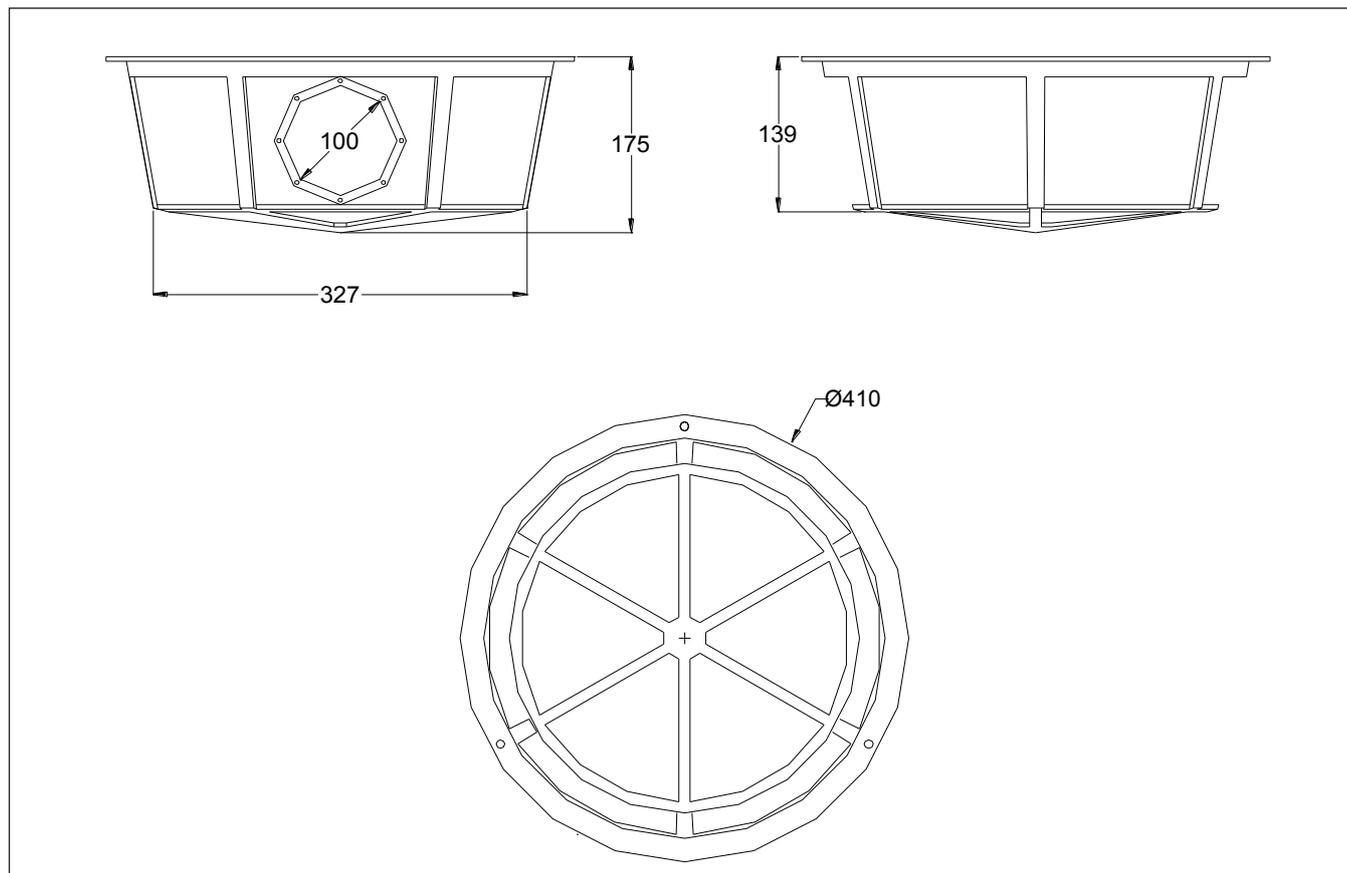
Finally place the seal over the rim and pull back the metal angle.



## 6. UNIVERSAL INTERNAL FITTED FILTER STRAINER - FOR PLATIN TANKS

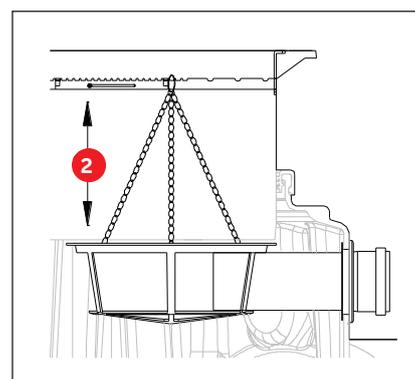
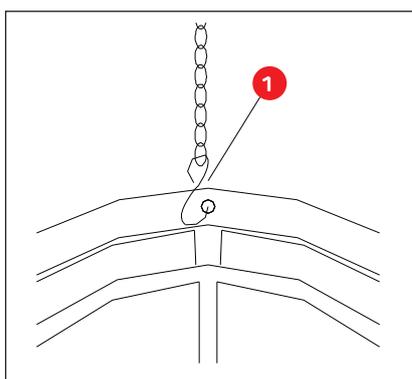
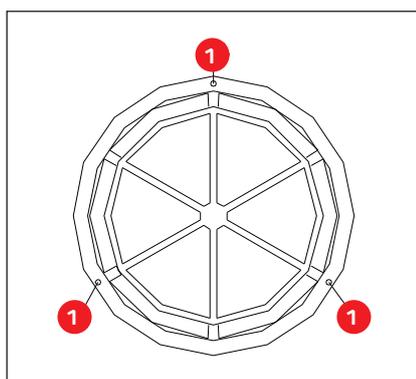
### 6.1 Universal internal fitted filter strainer

- The filter is suited to installation in a pilot shaft or cistern.
- The difference in height between inlet and outlet is around 100 mm.
- The filter must not be installed in the ground itself.
- The filter is suited to roof surfaces of up to around 200 m<sup>2</sup>.

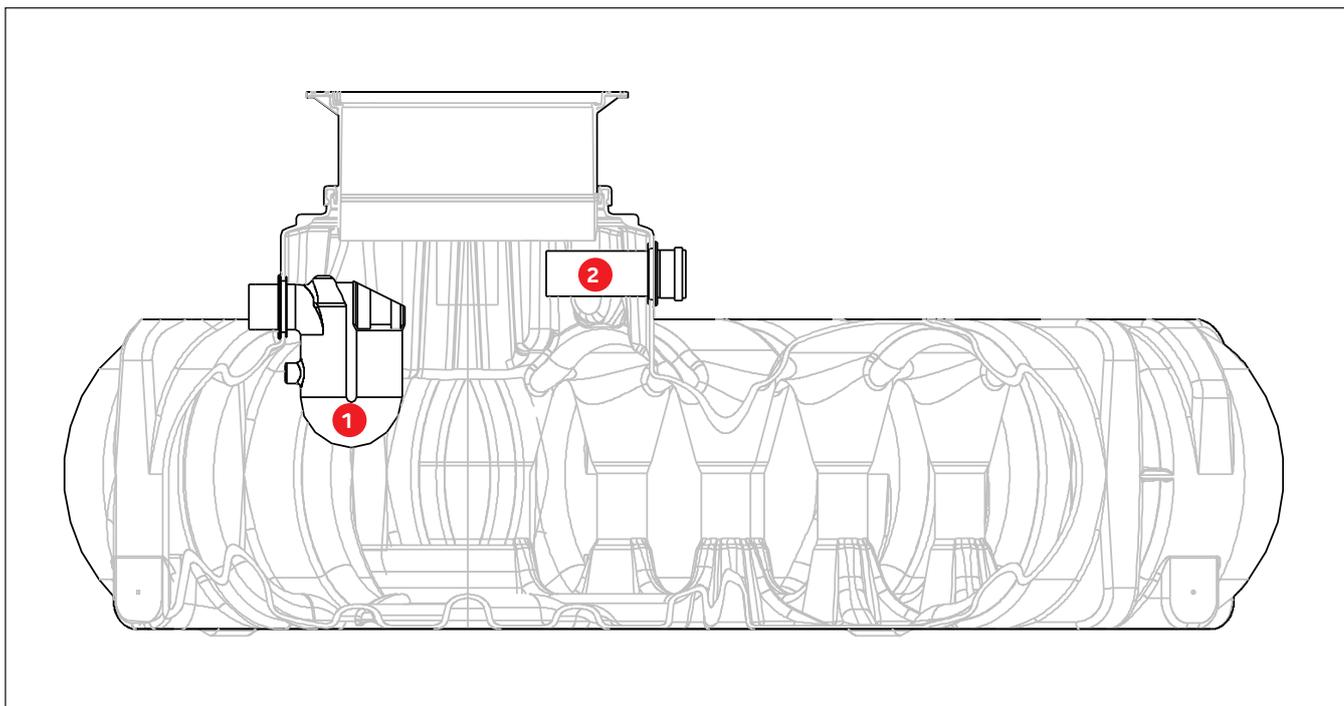


### 6.2 Filter preparation

Before being installed in the tank, the enclosed chain suspension **2** must be secured to the filter strainer using the three S-shaped hooks supplied **1** and shortened to the assembly length required.

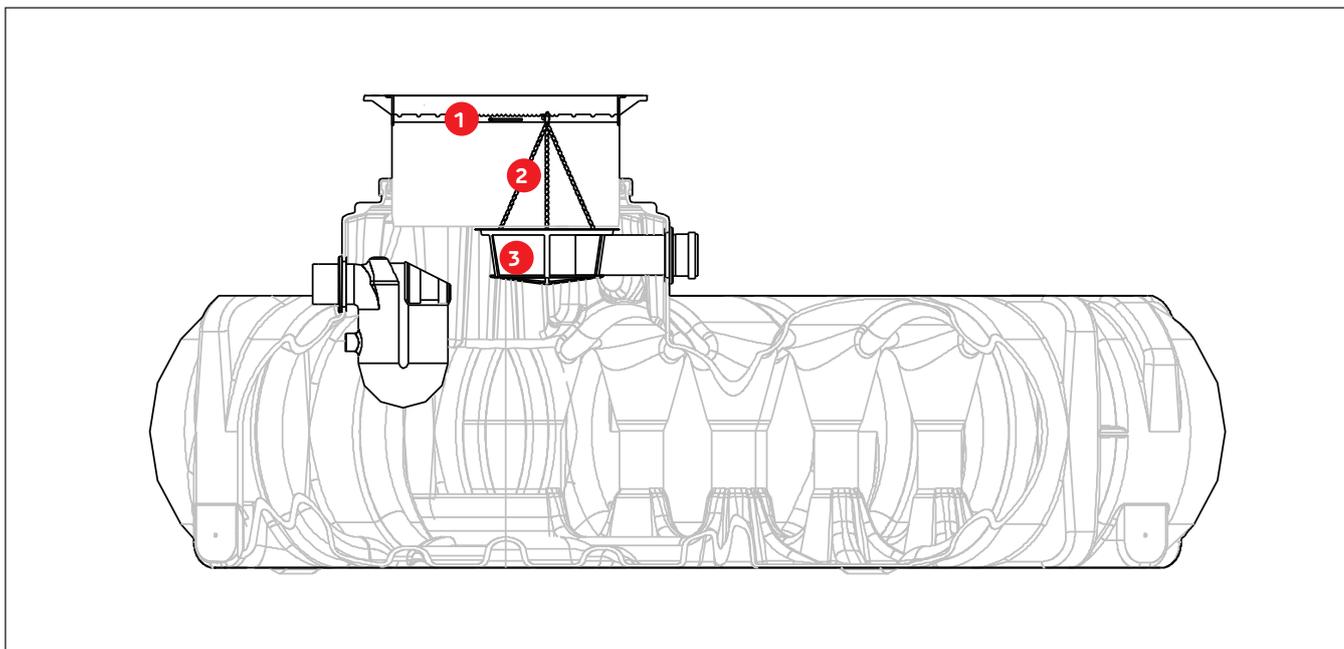


## 6. UNIVERSAL INTERNAL FITTED FILTER STRAINER - FOR PLATIN TANKS (continued)



### 6.3 Preparation on the tank

The overflow siphon **1** is inserted (passing from the inside out) in the bottommost tank dome seal. The DN 100 supply pipe **2** (provided by the customer) is fitted to one of the top holes, this involves guiding in the pipe (working from the outside in) which must protrude at least around 100mm into the filter strainer.



### 6.4 Installing the filter

The stainless steel cross bar supplied **1** is set to the diameter of the telescopic dome shaft (min. 570 mm / max. 690 mm) and then attached to the shaft's collar. The prepared filter **3** is then guided through the tank dome from above, slid onto the supply pipe, which is protruding at least 100 mm, and fitted in the cross bar using the previously adjusted chain suspension **2**.

## 7. COMMISSIONING & SERVICE

Before commissioning and at every inspection, the lifting out mechanism must be positioned at 90° to the inlet so that no large objects such as leaves and twigs can catch on the handle. The straining filter is removed for cleaning and the basket must be thoroughly cleaned with water until all the pores are open. It is advised to clean every 4 to 5 weeks (more often in autumn due to more leaves and twigs) or according to requirements.

The filter strainer basket must be lightly pressed into place taking care that the seal sits precisely after every cleaning.

At the occasion of each inspection, the overflow siphon must be checked and flushed if necessary.

The system must be checked for leaks, cleanliness and stability at least every year.

The entire system should be serviced at intervals of approx. 5 years. In this case, all parts of the system must be cleaned and their function checked. Servicing should be carried out as follows:

- Drain the tank completely
- Clean surfaces and internal parts with water
- Remove all dirt from the tank
- Check that all internal parts are firmly connected.

**The points described in these instructions must be observed under all circumstances. All warranty rights are invalidated in the event of non-observance. Separate installation instructions are enclosed in the transportation packaging for all additional articles purchased from GRAF.**

**The components must be checked for any damage prior to installation under all circumstances.**

**Missing instructions can be downloaded on [www.graf.info](http://www.graf.info) or can be requested from GRAF.**





RAINWATER HARVESTING



WASTEWATER MANAGEMENT



STORMWATER MANAGEMENT



WATER BUTTS & COMPOSTERS



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