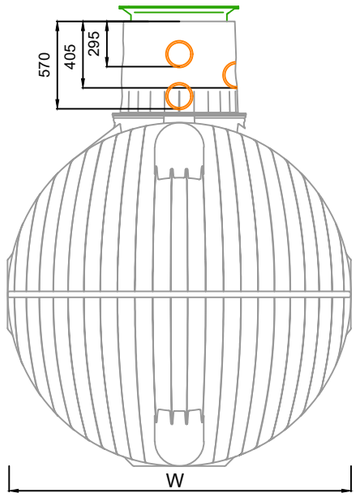
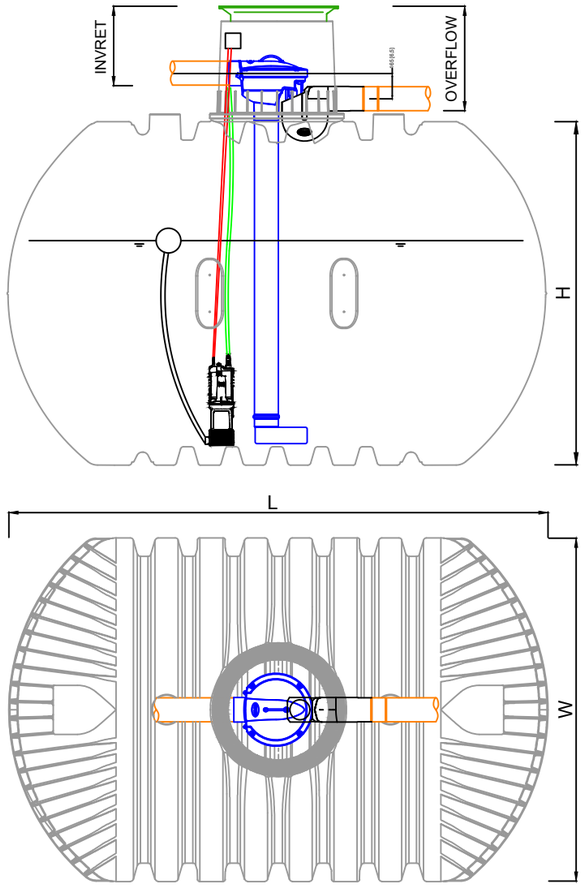
TANK SIZES & DIMENSIONS

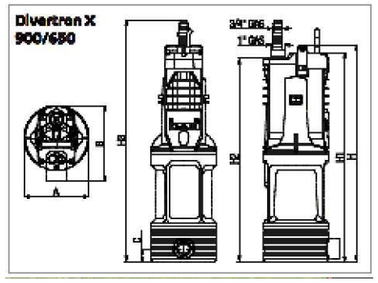


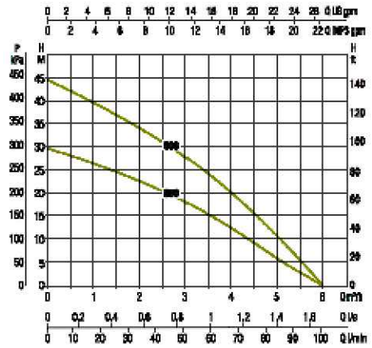


	8,500L	10,000L	13,000mm
LENGTH	3500mm	3520mm	4000mm
WIDTH	2040mm	2240mm	2420mm
HEIGHT	2085mm	2285mm	2465mm
INVERT	465-765mm	465-765mm	465-765mm
OVERFLOW	630-930mm	630-930mm	630-930mm

SUBMERSIBLE PUMP DETAILS

DAB DIVERTRON 900X





The performance curves are based on kinetic viscosity vaules = 1 mm²/s and density equivalent to 1000 kg/m³. Curve tolerance according to ISO 9906.

SYSTEM ACCESSORIES (OPTIONAL EXTRAS)

HOSE CONNECTION BOX (EXTERNAL)

HOSE CONNECTION BOX (INTERNAL)

SPRING WATER SHAFT

INTERNAL CLEANING UNIT

DIGITAL FILL LEVEL SENSOR

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HOME DIRECT CARAT XL SPECIFICATION

TANK ACCESSORIES

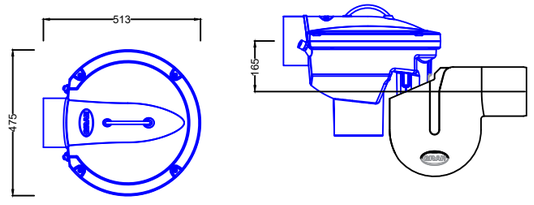
Item	Diameter ⌀	Min. Height (mm)	Max. Height (mm)	Max. Loading (kg)*
Pedestrian Loading Lid (Mini)	⌀ 600mm	60mm	360mm	150kg
Pedestrian Loading Lid (Maxi)	⌀ 600mm	60mm	476mm	150kg
Vehicle Loading Lid	⌀ 625mm	60mm	476mm	3,500kg
Extension Sleeve (1m)	⌀ 670mm	500mm	1,000mm	
Extension Sleeve	⌀ 680mm	250mm		
Tank Dome (Maxi)	⌀ 650mm	610mm		

* Loading up to 12,000kg achievable (suitable cover to be provided by others)

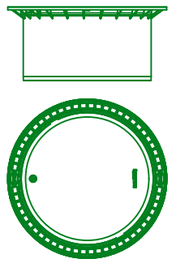
** Tank Dome (Maxi) available with DN100 or DN150 connections

FILTER DETAILS

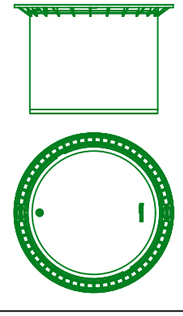
OPTIMAX XL PRO FILTER (INTERNAL)



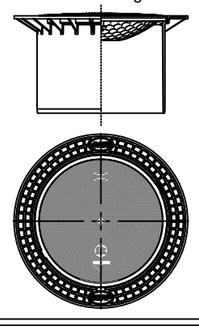
Pedestrian Loading Lid (Mini)



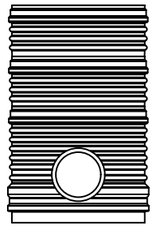
Pedestrian Loading Lid (Maxi)



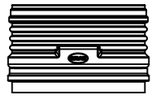
Vehicle Loading Lid



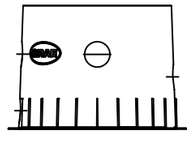
Extension Sleeve (1m)



Extension Sleeve



Tank Dome (Maxi)



NOTE:- Tank accessory suitability may vary depending on project. Please contact Graf UK for sizing and support.

REV.	DESCRIPTION	BY	DATE
P0	LATEST REVISION	DS	18.04.24

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DRAWN : DS DATE : 18.04.2024

CHECKED : FC SCALE : VARIOUS@A3

PROJECT

GRAF STANDARD DETAILS

DESCRIPTION

HOME DIRECT
RAINWATER HARVESTING SYSTEM
CARAT XL TANK

DRAWING No. HOME_DIRECT_STANDARD_DETAIL_CARAT_XL

REV. P0

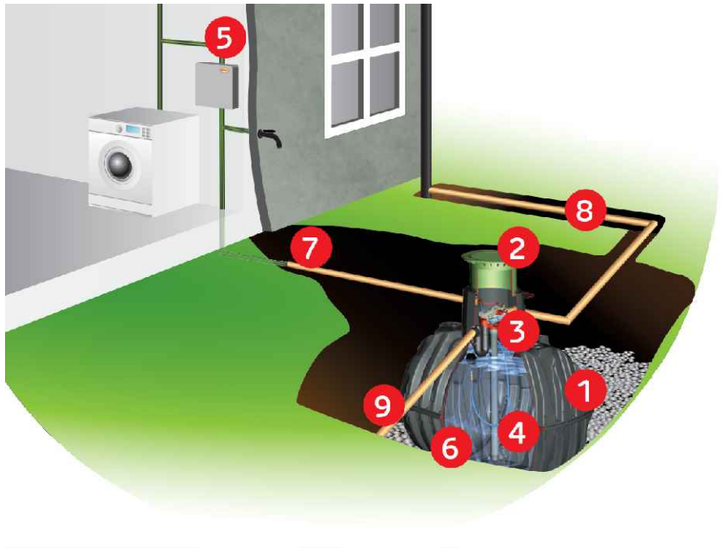
SCOPE OF SUPPLY

SUPPLIED BY GRAF:

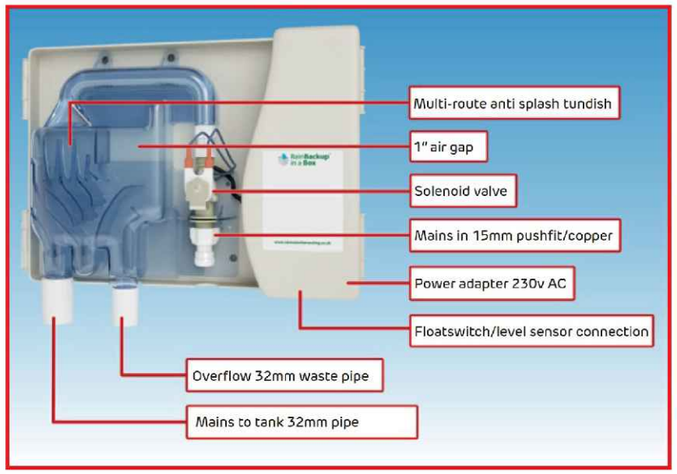
1. Underground tank
2. Telescopic lid
3. Filter
4. Pipe and fixings
5. Mains Water Top-up Unit
6. Submersible pump

SUPPLIED BY OTHERS:

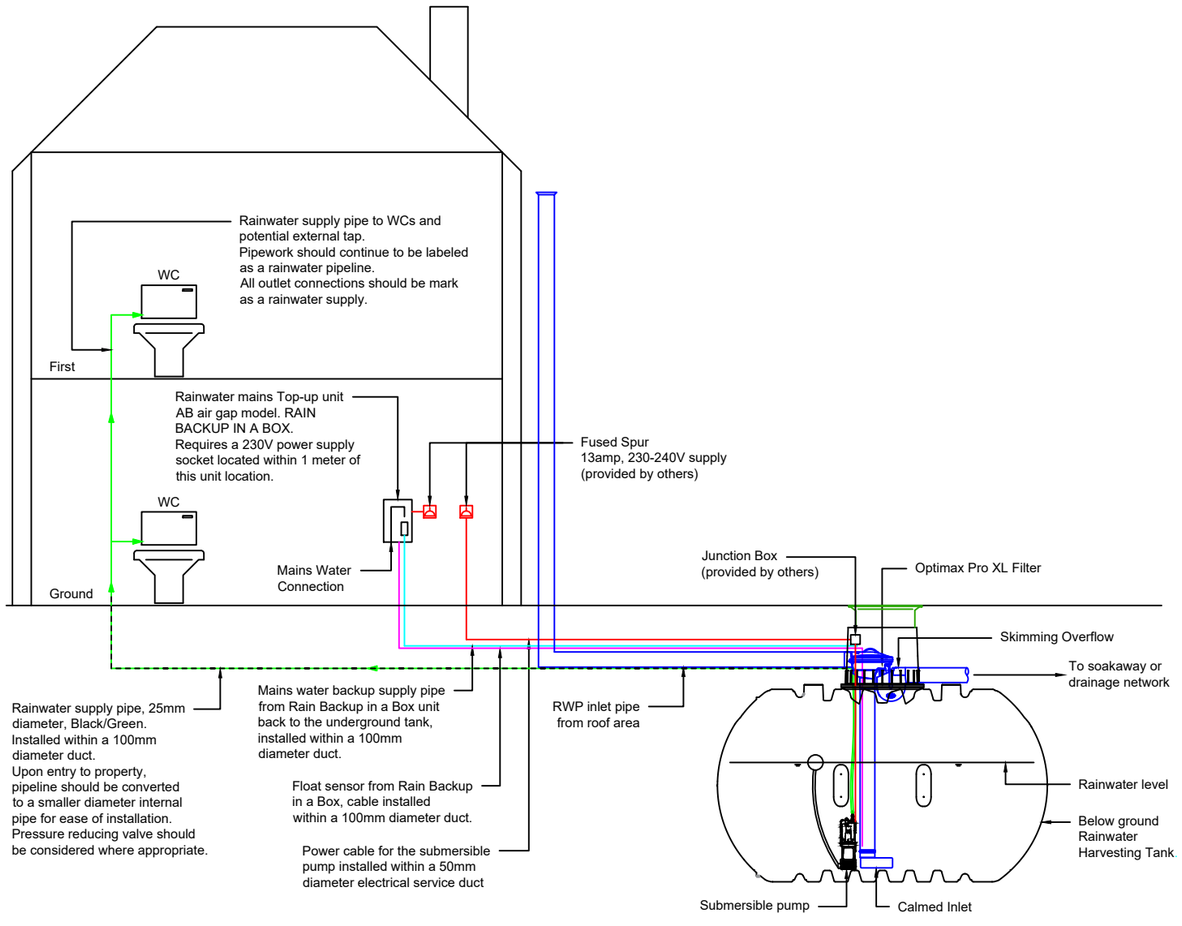
7. 100mm duct for pump cable
8. 100mm drainage pipe to connect downpipes to inlet (all downpipes to be brought into one single inlet)
9. 100mm pipe for overflow from tank



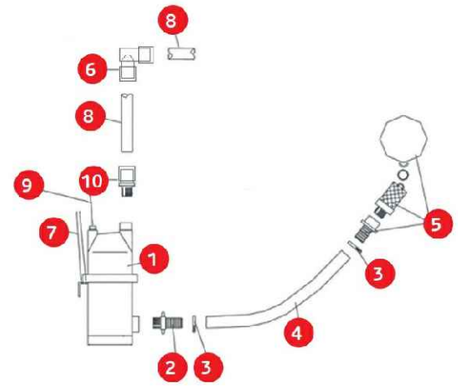
MAINS WATER TOP-UP ASSEMBLY



HOME DIRECT CARAT XL SCHEMATIC



SUBMERSIBLE PUMP AND PIPE ASSEMBLY



1. Submersible pump
2. Brass hose screwing
3. Hose clip
4. Suction hose
5. Floating suction set
6. 25mm compression elbow (optional fitting used for external tap connection)
7. Fixing set for submersible pump
8. Pressure hose, black & green colour, length 25m
9. Electricity supply, length 10m, 3-core cable
10. 25mm compression x 1 " male threaded fitting

NOTE:- Tank accessory suitability may vary depending on project. Please contact Graf UK for sizing and support.

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HOME DIRECT CARAT XL SCHEMATIC

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DRAWN :	DS	DATE :	17.04.24
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PROJECT
GRAF STANDARD DETAILS

DESCRIPTION
HOME DIRECT
RAINWATER HARVESTING SYSTEM
CARAT XL TANK

DRAWING No. HOME_DIRECT_STANDARD_DETAIL_CARAT_XL

REV. P0

TRENCH DETAILS

FOR SUFFICIENT WORKING ROOM, THE BASE AREA OF THE TRENCH MUST EXCEED THE DIMENSIONS OF THE TANK BY 500mm ON ALL SIDES.

MINIMUM DISTANCE FROM SOLID STRUCTURES TO BE 1000mm.

THE TRENCH EMBANKMENT MUST BE DESIGNED SO SLIPPAGE OR COLLAPSE OF THE EMBANKMENT WALL IS NOT TO BE ANTICIPATED.

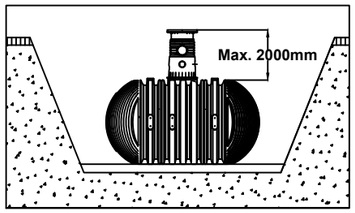
THE CONSTRUCTION SITE MUST BE HORIZONTAL AND PLANE AND MUST GUARANTEE SUFFICIENT LOAD-BEARING CAPACITY.

THE DEPTH OF THE TRENCH MUST BE DIMENSIONED SO THAT THE MAXIMUM COVER ABOVE THE TANK IS NOT EXCEEDED (SEE BELOW DETAILS).

THE TANK AND ANY OTHER COMPONENTS THAT CARRY WATER MUST BE INSTALLED IN A FROST-FREE AREA. THE FROST-FREE DEPTH IS USUALLY APPROX. 600mm-800mm. EXACT DEPTHS CAN BE OBTAINED FROM THE RESPONSIBLY AUTHORITY.

A 150mm-200mm COMPACTED LAYER OF 10-20mm ROUND GRAIN GRAVEL IS INSTALLED AT THE BASE OF THE EXCAVATION.

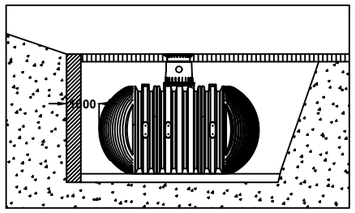
MINIMUM & MAXIMUM COVER



MINIMUM COVER IN A LANDSCAPED AREA TO BE 750mm
FROM SHOULDER OF TANK.

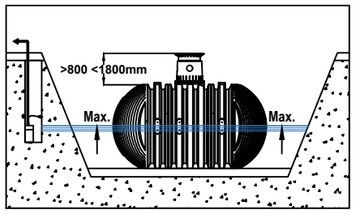
MAXIMUM COVER IN A LANDSCAPED AREA TO BE 2000mm
FROM SHOULDER OF TANK.

SLOPE/EMBANKMENT INSTALLATIONS



IF THE TANK IS TO BE INSTALLED IN THE IMMEDIATE VICINITY (<5m)
OF A SLOPE OR EMBANKMENT, A STATICALLY CALCULATED RETAINING WALL
MUST BE ERECTED TO ABSORB ANY ADDITIONAL LOADING FROM THE SOIL.
THE WALL MUST EXCEED THE DIMENSIONS OF THE TANK BY AT LEAST 500mm
IN ALL DIRECTIONS AND MUST BE LOCATED AT LEAST 1000mm AWAY FROM THE TANK.

GROUNDWATER INSTALLATIONS



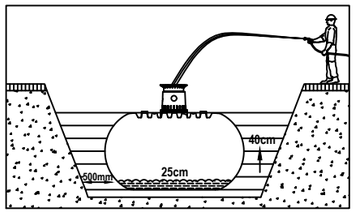
IF IT IS ANTICIPATED THAT THE TANK WILL BE IMMERSED IN GROUNDWATER DEEPER
THAN SHOWN IN THE BELOW TABLE, SUFFICIENT DISSIPATION MUST BE ENSURED.
DISSIPATION OF THE DRAINAGE WATER (E.G. VIA AN ANNULAR DRAINAGE SYSTEM)
IS RECOMMENDED IN CASES OF COHESIVE, WATER-IMPERMEABLE SOIL.

TANK SIZE	8,500L	10,000L	13,000L
IMMERSION DEPTH	1042.50mm	1142.50mm	1232.50mm

MINIMUM COVER TO BE 800mm FROM SHOULDER OF TANK
IN AREAS WITH GROUNDWATER.

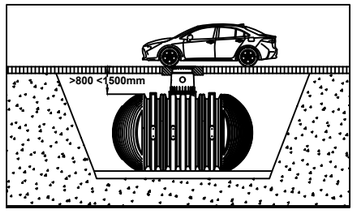
MAXIMUM COVER TO BE 1800mm FROM SHOULDER OF TANK
IN AREAS WITH GROUNDWATER.

INSERTION & FILLING



THE TANK MUST BE INSERTED, IMPACT-FREE, INTO THE PREPARED TRENCH
USING SUITABLE EQUIPMENT.
THE TANK IS FILLED WITH 250mm WATER BEFORE BACKFILLING.
THE 10-20mm ROUND GRAIN GRAVEL IS BACKFILLED IN LAYERS OF MAX. 400mm STEPS
AND IS TO BE WELL COMPACTED WITH A MANUAL TAMPER.
MECHANICAL COMPACTION MACHINES ARE NOT TO BE USED UNDER ANY CIRCUMSTANCES.
SURROUND MUST BE AT LEAST 500mm ON ALL SIDES OF THE TANK.

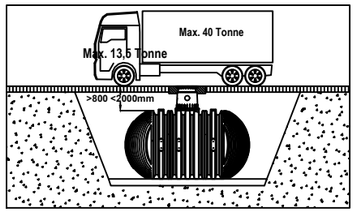
VEHICLE LOADING CONDITIONS



FOR LOADINGS OF UP TO 3,500KG IN TRAFFICKED AREAS WITH NO GROUNDWATER, THERE MUST BE;

MINIMUM COVER OF 800mm FROM THE SHOULDER OF THE TANK, AND

MAXIMUM COVER OF 2000mm FROM THE SHOULDER OF THE TANK.

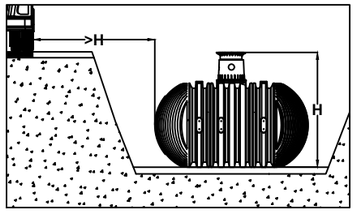


FOR LOADINGS OF MORE THAN 3,500KG AND UP TO 12,000KG IN AREAS OF NO GROUNDWATER, THERE MUST BE;

MINIMUM COVER OF 800mm FROM THE SHOULDER OF THE TANK,

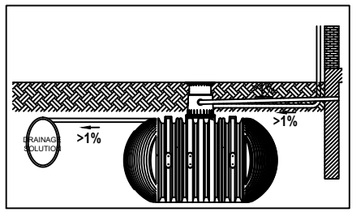
MAXIMUM COVER OF 2000mm FROM THE SHOULDER OF THE TANK, AND

SUITABLE MANHOLE COVER & FRAME (PROVIDED BY OTHERS).



FOR INSTALLATIONS ADJACENT TO SURFACES USED BY VEHICLES OF OVER 3,500KG, THE TANK MUST BE INSTALLED AT A DISTANCE FROM THE ROAD SURFACE THAT IT AT LEAST THE DEPTH OF THE TRENCH.

PIPE CONNECTIONS



ALL PIPE CONNECTIONS MUST BE INSTALLED WITH A FALL OF AT LEAST 1% IN THE DIRECTION OF FLOW (POSSIBLE, SUBSEQUENT SETTLING MUST BE TAKEN INTO ACCOUNT).
IF THE TANK OVERFLOW IS CONNECTED TO A PUBLIC SEWER, THIS MUST BE PROTECTED AGAINST REFLUX BY MEANS OF A LIFTING STATION OR REFLUX SEAL IN ACCORDANCE WITH DIN 1986.
ALL SUCTION, PRESSURE & CONTROL LINES MUST BE INSTALLED IN AN EMPTY PIPE / DUCT AND AS STRAIGHT AS POSSIBLE.
ANY NECESSARY BENDS MUST BE FORMED IN 30 DEGREE MOULDED SECTIONS.
IMPORTANT: THE EMPTY PIPE / DUCT MUST BE CONNECTED TO AN APERTURE **ABOVE** THE MAX. WATER LEVEL.

PLEASE REFER TO TANK INSTALLATION GUIDE FOR DETAILS ON; SAFETY, PRODUCT FEATURES, IDENTIFICATION OBLIGATIONS, TECHNICAL DATA, TANK STRUCTURE, TANK ASSEMBLY & SERVICING AND INSPECTION.

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HOME DIRECT
CARAT XL
TANK INSTALLATION

REV.	DESCRIPTION	BY	DATE
P0	LATEST REVISION	DS	17.04.24

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PROJECT
GRAF STANDARD DETAILS

DESCRIPTION
HOME DIRECT
RAINWATER HARVESTING SYSTEM
CARAT XL TANK

DRAWING No. REV.
HOME_DIRECT_STANDARD_DETAIL_CARAT_XL P0