



A Tsurumi Pump Company



POLYETHYLENE LIFTING STATIONS
FOR DOMESTIC AND
CIVIL WASTEWATER

blue **BOX**

zenit.com

EN

Polyethylene lifting stations for domestic and civil wastewater

Polyethylene **blueBOX lifting stations** are an effective solution for collecting and pumping wastewater or drainage water to the sewer system when the latter is too far away or when gravity feed is not available.

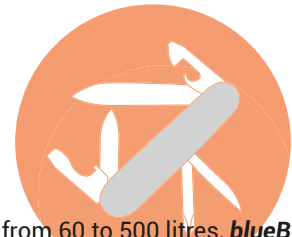
They are used in systems located below the level of the sewer system or when, following building redevelopment, the intended use of rooms requiring a hydraulic connection is to be changed.

Because of their many advantages, lifting stations are now a must for anyone looking for a low cost, safe and environmentally friendly solution.



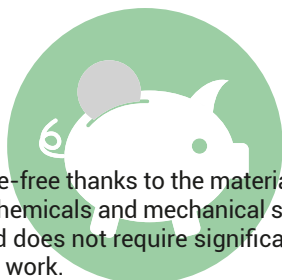
INNOVATIVE

The entire **blueBOX** range was completely redesigned using 3D fluid-dynamic simulation programmes that have made it possible to add the reinforcing elements only in the parts subject to the greatest stress, for an optimised structure.



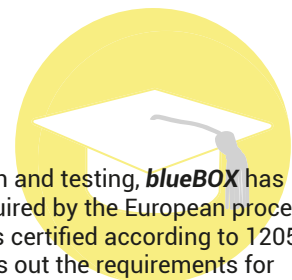
VERSATILE

With capacities ranging from 60 to 500 litres, **blueBOX** stations can be used for the collection and lifting of rain and black wastewater from domestic, large residential and civil installations, in both outdoor and underground configurations.



CONVENIENT

blueBOX is maintenance-free thanks to the materials used, which are resistant to chemicals and mechanical stress. Installation is quick and does not require significant plumbing and masonry work. The polyethylene structure, which is lighter than concrete, reduces transport costs.



CERTIFICATE

Thanks to careful design and testing, **blueBOX** has passed all the tests required by the European procedure for lifting stations and is certified according to 12050-1/2 standard, which sets out the requirements for pumping systems, in order to define the correct draining of wastewater with and without faecal material.



The **EN 12050-1/2 standard** - that came into force on 7 May 2015 - applies to **lifting plants for wastewater** with or without faecal material for drainage below flood level in buildings and sites in order to prevent any backflow of wastewater into the building. The standard specifies general requirements, basic construction principles and test methods, together with information on materials and performance assessment and verification.

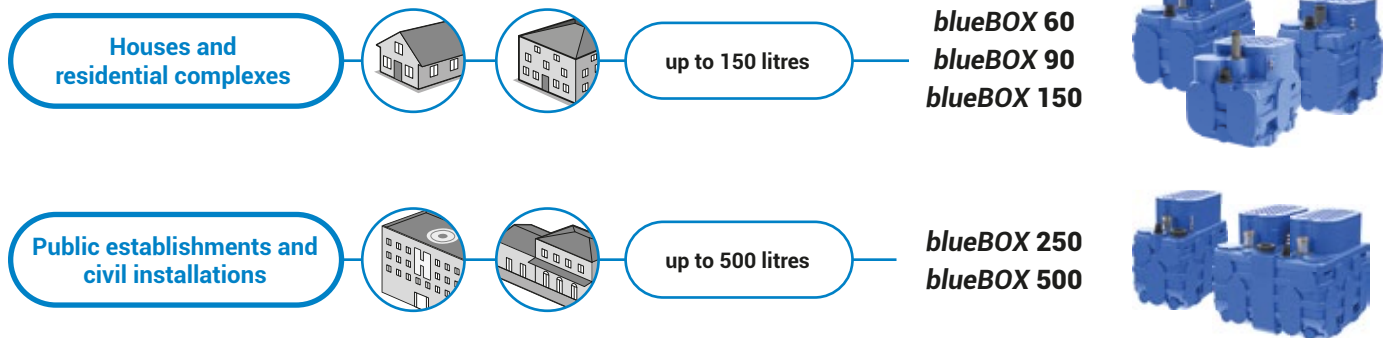
Specifications

- Range of rotationally moulded polyethylene tanks
- Constant, thick walls with horizontal reinforcing ribs
- Contoured bottom to prevent stagnation and facilitate positioning of the pump
- Certification of compliance with EN 12050-1, 12050-2 standards
- Rated volume from 60 to 500 litres
- Extension element for 250 and 500 litre models
- Intake pipe diameter up to DN110
- Delivery pipe diameter DN40/DN50



Read the QR-code and watch the installation procedure!

Range and applications



blueBOX 60 - 90 - 150

- Grey and black water with solids of domestic origin
- Sewage drains from residential complexes

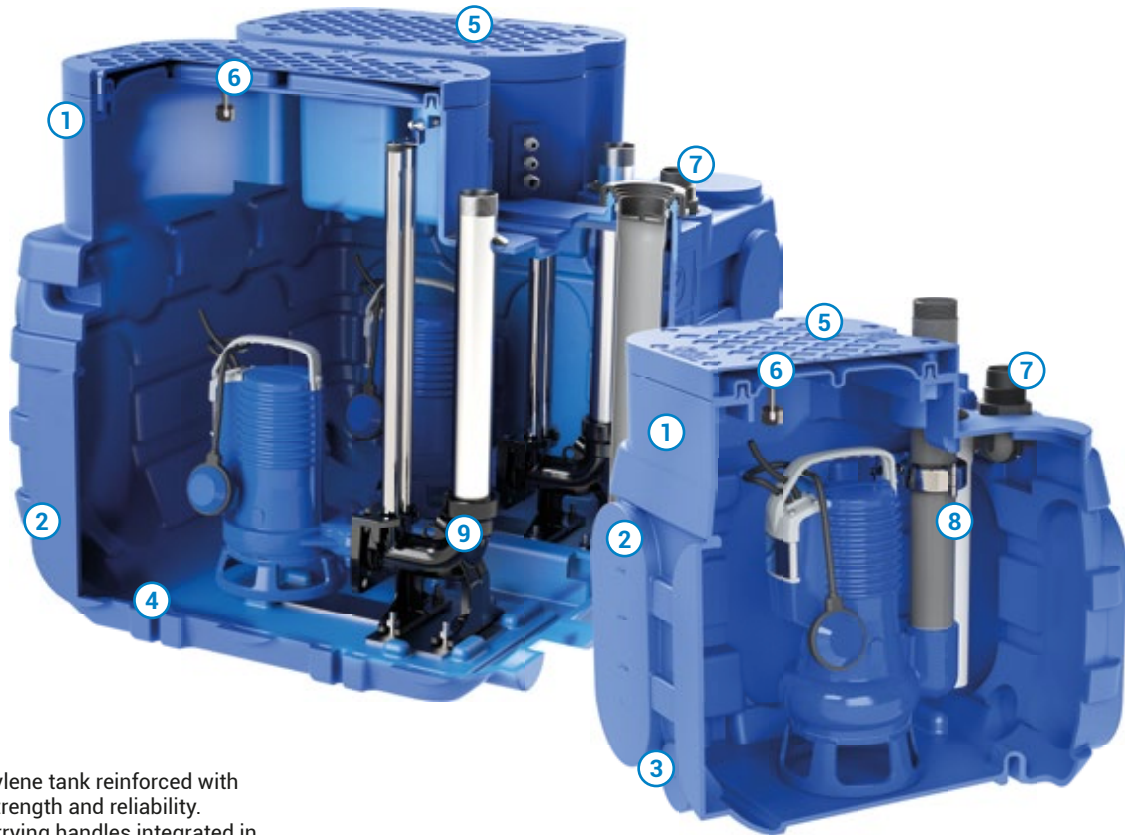


blueBOX 250 - 500

- Rainwater, surface water and seepage water containing solids
- Wastewater and sewage in civil installations
- Wastewater from the toilets of public establishments



Constructive details



① Thick polyethylene tank reinforced with side ribs for strength and reliability. Lifting and carrying handles integrated in the structure.

② Arrangement for intake pipe connection on each side with standard dimensions engraved in the mould for precise wall drilling. Several tanks can be joined through a side duct to obtain multiple compositions and increase the total capacity of the system.

③ Through-wall fitting for emergency emptying (standard). Possibility of installing a gate valve (optional).



④ Slots integrated in the structure for floor fastening. The system uses normal expansion plugs, no special brackets are required.



⑤ Sturdy walk-over cover (max. permissible load 100 kg) with gasket to guarantee an watertight seal against liquids and odours.

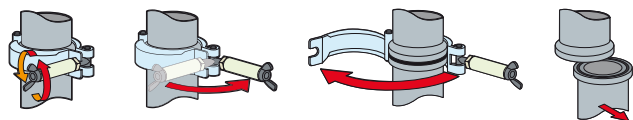


⑥ Maximum level alarm float. (optional for blueBOX 60, 90 and 150 standard)

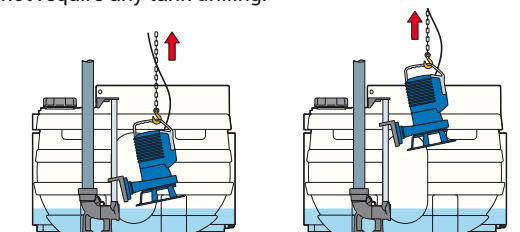
⑦ Air venting system with activated carbon filter and ready for connection to external pipework DN40. The safety valve with float ensures a tight closure of the pipeline if the level rises and prevents possible liquid spillage.



⑧ Direct installation of the pump with a **quick coupling system** for the delivery pipe that allows the pump to be easily separated from the system for maintenance without disconnecting the pipes from the lifting station.



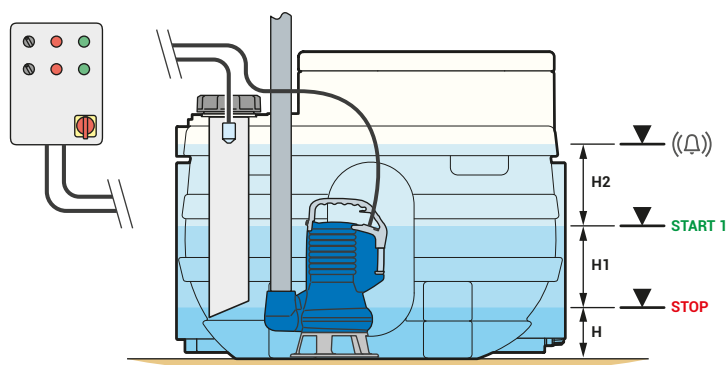
⑨ Installation with **bottom coupling device (DAC)** to allow the pump to be taken out quickly, even when the tank is full. The coupling device is installed by means of a movable plate and does not require any tank drilling.



Optional accessories

Automatic start/stop device

The motor is started and stopped by the float inside the pump or by an optional device that detects the liquid level in the tank.



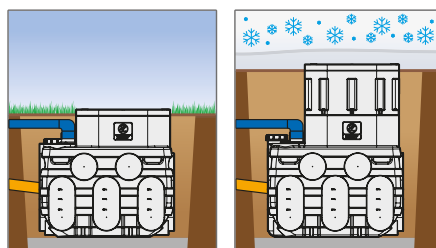
Level sensor 4-20 mA

For constant detection of the liquid level and setting of the start/stop thresholds for the main and the secondary pump (if installed). It uses a standard 4-20 mA sensor housed inside the tank that can be removed by unscrewing a tightly sealed ring nut. Thanks to its wide reading range, it can use all the available volume while optimising operation.

Extension

An extension element is available for the 250 and 500 models to raise the cover level by approximately 300 mm.

This also makes underground installation possible in very cold locations where the tank needs to be placed at a greater depth than standard.



Control boards

- Suitable for single-phase or three-phase submersible pumps with direct or star/delta starting.
- Designed for use with float switches and level probes.
- The wide range of standard products is complemented by customised control boards to meet specific customer requirements.



Recommended pumps

blueBOX lifting stations are designed for use with a Zenit vortex impeller or grinder pump, which must be ordered separately depending on your requirements.

	Impeller type	P2 (kW)	Delivery	Free flow (mm)	Capacity Max (l/s)	Head Max (m)
DG bluePRO	cast iron vortex	0.37 - 1.5	G 1½" - G 2"	vertical	40/50	5.2 - 12.6
GR bluePRO	grinding	0.74 - 1.5	G 1½" DN32 PN6	horizontal	-	4.7 - 5.6

Configurations

FIXED (for all models)

Suitable for pumps with 1 1/2" and 2" vertical or 1 1/2" horizontal delivery.
The pump rests directly on the base of the tank.

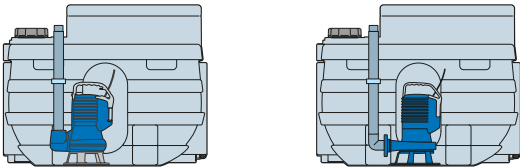
A ball check valve and/or gate valve can be connected to the end of the delivery pipeline.

It is a simple and cost-effective configuration that is easy to maintain thanks to the quick coupling system of the delivery pipeline.

The supply includes:

- straight PVC/Stainless steel delivery fitting G 1 1/2" - 2"
- elbow PVC/Stainless steel delivery fitting G 1 1/2"
- quick coupling system
- emergency drainage fitting
- *maximum level alarm float
- *level sensor 4-20 mA
- *control panel

*Optional for *blueBOX* 60, 90 and 150 standard.



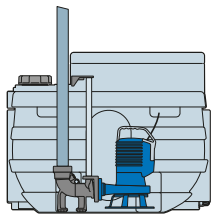
With COUPLING DEVICE (DAC), with DAC and BALL CHECK VALVE (VAP) (250 - 500)

This special and compact accessory provides all the advantages of a normal DAC, plus it prevents the formation of air pockets inside the pump body in the event of total draining, thanks to an integrated drain valve.
The coupling device is fixed to a plate resting on the base of the tank and is held in place by special references integrated into the polyethylene structure without the use of through screws that could compromise the watertightness. Suitable for horizontal delivery pumps.

The DAC+VAP version includes a ball check valve secured directly on the outlet of the coupling device in order to reduce space requirements and avoid the use of connecting pipes for a compact and uncompromising installation.

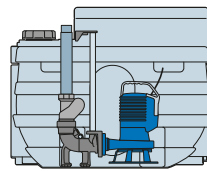
The supply includes:

- bottom coupling device (DAC)
- PVC/Stainless steel connection pipe G 2"
- emergency drainage fitting
- maximum level alarm float
- level sensor 4-20 mA
- control panel



The supply includes:

- bottom coupling device (DAC)
- ball check valve (VAP)
- PVC/Stainless steel connection pipe G 2"
- emergency drainage fitting
- maximum level alarm float
- level sensor 4-20 mA
- control panel



It is possible to install a VAP positioned externally. This can be purchased separately.

Installation

The *blueBOX* lifting stations can be installed on the floor or underground. The numerous intake pipe provisions allow for optimal installation at all times, even when used with existing systems.

FLOOR installation

The lifting station is fixed by means of screws and expansion plugs directly to the floor of a service room which is prepared with hydraulic and electrical connections.
The watertight cover and the low noise of the pump require no masonry or insulation work.



UNDERGROUND installation

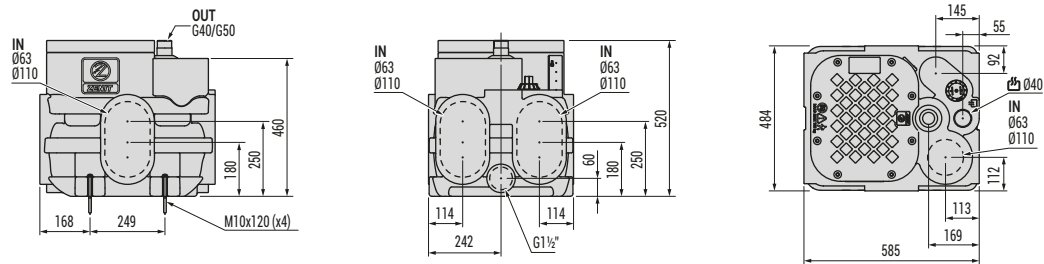
The lifting station is fixed with expansion plugs to a reinforced concrete slab at the bottom of the trench.
The cover is walk-over type but not drive-on, so a manhole cover with a suitable capacity must be used if necessary.



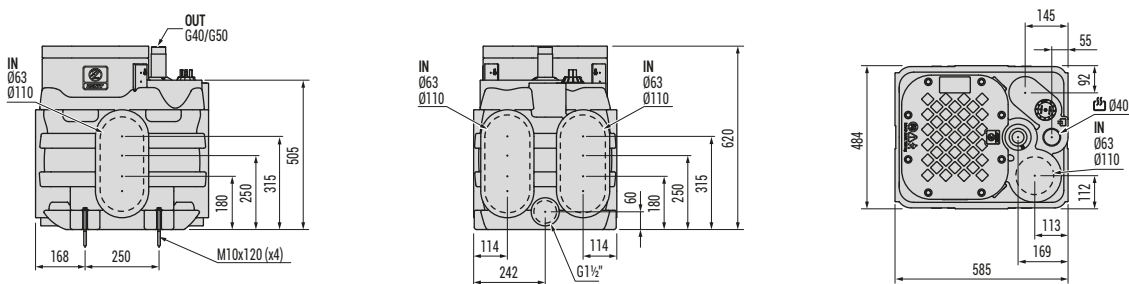
For different installation requirements please contact our CUSTOMER SERVICE.

Dimensions

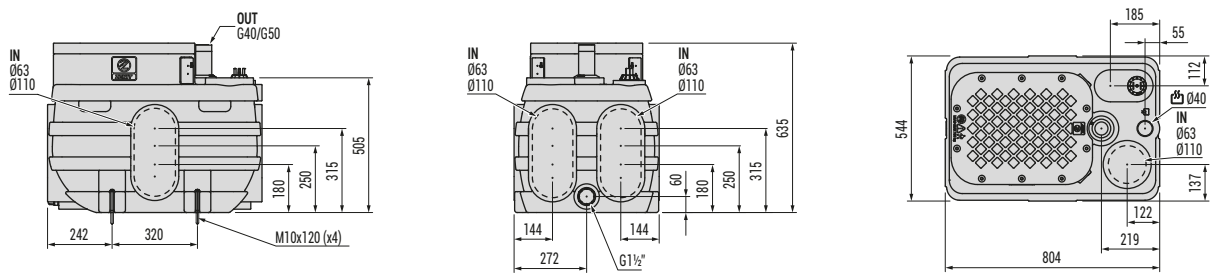
blueBOX 60



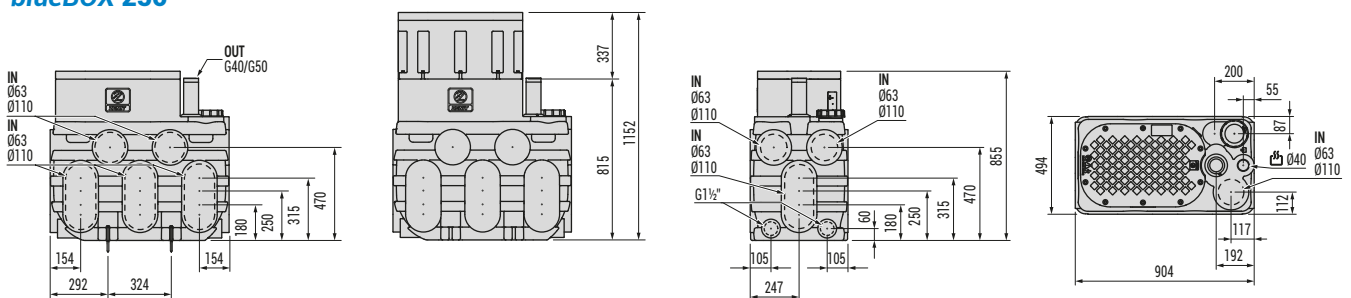
blueBOX 90



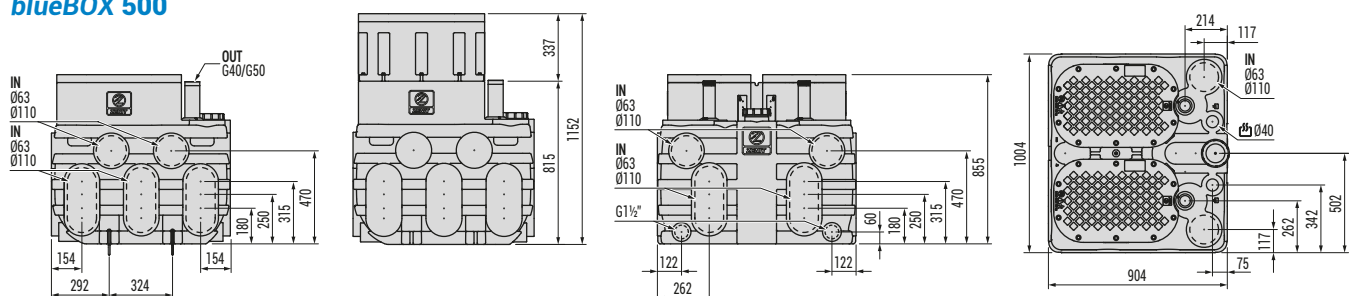
blueBOX 150



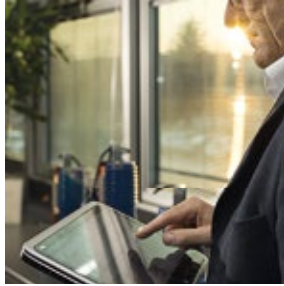
blueBOX 250







blueBOX 500



Unless otherwise stated, all dimensions are in mm. Dimensions are approximate.



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