



better together



LIFTING STATIONS
FOR CIVIL WASTE WATER

pump **BOX**

zenit.com

EN

Reaching the sewerage system that's too far away or at a higher level? With **pumpBOX** this is possible.

pumpBOX is a pre-assembled lifting station certified in accordance with EN 12050-1 and 12050-2 standards for collecting and pumping waste water from toilets, washrooms or kitchens into the sewer system when a gravity feed is not available or distances are too great.

pumpBOX combines a robust polyethylene tank with a single or dual Zenit pump, resulting in a complete system for collecting and lifting municipality sewage and grey water.

Compact, quiet and reliable, **pumpBOX** is ready to use and does not require excavation or masonry work.

The different configurations with one or two pumps, vortex or grinder type, give the **pumpBOX** a high degree of versatility and allow it to be used in a wide range of situations, from individual houses to residential complexes, from public buildings to shopping centres.



Why choose the **pumpBOX** solution?



Time

pumpBOX is supplied pre-wired and pre-assembled. All electrical and hydraulic connections are factory made and only need to be connected to the respective plants, with a significant reduction in installation time



Space

pumpBOX comprises tank, pump and fittings complete with check valves in a single, compact and rational system. No additional accessories are required to ensure a small footprint and optimal installation in any environment.



Costs

Opting for a single, complete product means optimising purchase costs, not only because of the avoidance of additional costs, but also because of the advantages of having a single commercial reference. Reducing the impact of installation, maintenance and transport on the project results in significant savings without affecting the quality of the end result.

Specifications

- PE tank, EN 12050-1, 12050-2 certified
- Rated volume 80 litres (GR version) or 115 litres (DG version)
- White colour for immediate verification of liquid level inside
- Strong one-piece construction with internal reinforcement feet
- Low-noise version (<70 dB), sealed against liquids and odours
- Large Ø 90 mm inspection window on top wall
- GR version (grinder pump) or DG version (vortex pump)
- Single or dual pump version
- Maintenance-free PVC fittings and check valves (GR version)
Double check valve in UNI flanged cast iron (DG version)
- Float for maximum level alarm as standard
- Automatic pump start/stop system via float or level sensor



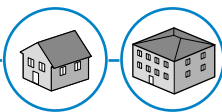
Applications

pumpBOX enables waste water to be collected and raised to a higher level in situations where gravity feed is not possible or could only be achieved with costly masonry and plumbing work.

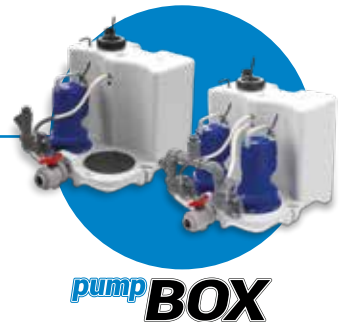


Civil dwellings and residential buildings

Basement bathrooms and laundry rooms



Pump with grinding knife
 $P_2 = 1.1 - 1.5 \text{ kW} - 2 \text{ poles}$

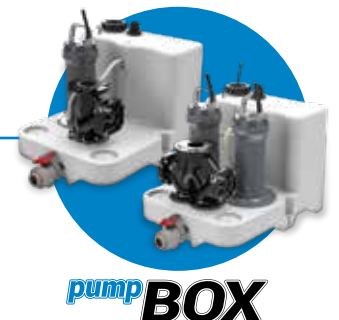


Bars, restaurants and catering establishments

Washbasins and dishwashers

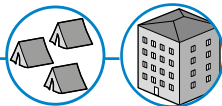


Pump with vortex impeller
 $P_2 = 1.8 - 3.0 \text{ kW} - 2 \text{ poles}$



Campsites and accommodation

Showers and toilets



Pump with vortex impeller
 $P_2 = 1.5 - 2.2 \text{ kW} - 4 \text{ poles}$

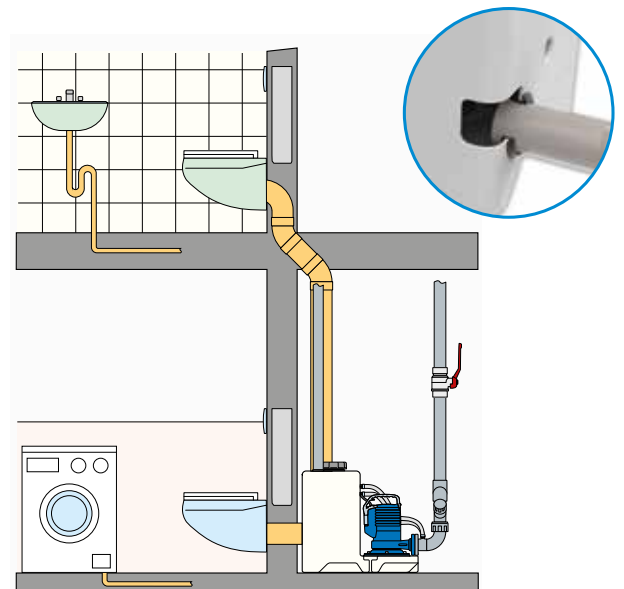
Constructive details



- ① Thick polyethylene tank, tight to odours and liquids. Strong one-piece construction with internal reinforcement feet and floor fastening slots integrated into the casing.
- ② Internally shaped bottom to facilitate the suction of solids and reduce the accumulation of sediment that can generate bad odours and reduce the useful volume of the tank.
- ③ Emergency emptying valve in lowered position (ready for connection to optional hand pump).
- ④ PVC discharge unions and check valves (GR models). Cast iron double check valve with UNI flange (DG models).
- ⑤ 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.



- ⑥ Maximum level alarm via stainless steel float switch.
- ⑦ Pump start/stop device via pressure sensor or multiple contact float switch.
- ⑧ Prepared for inlet pipework from above or from side and rear walls (standard height: h 180, 250, 315 mm for direct connection to the WC). Gaskets Ø 75-110 mm, included.



Automatic start/stop device

The pump is started and stopped by an automatic device that detects the liquid level in the tank.

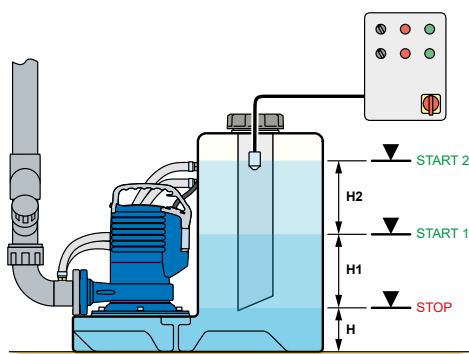
The system can use a **pressure sensor** to be connected to a control panel or an innovative **multiple-contact float**.

In both cases, the device is housed inside the tank and can be removed through a large Ø 90 mm inspection window by unscrewing the locking ring nut of the watertight cover.

Pressure sensor

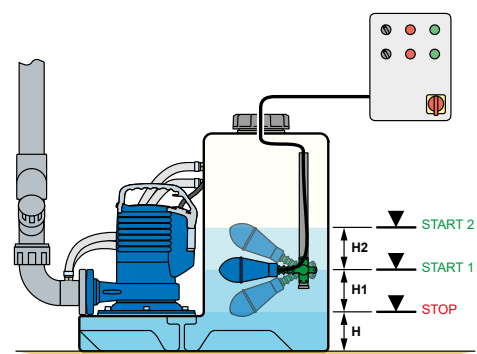
for constant detection of the liquid level and setting of the start/stop thresholds for the main and the secondary pump (if installed). Thanks to its wide reading range, it can use all the available volume while optimising operation.

It uses a standard 4-20 mA sensor.



Multiple-contact float

for controlling with a single cable the start and stop of the main and the secondary pump (if installed) by means of internal contact closure, based on preset liquid level heights.



Pumping system

pumpBOX lifting stations can be equipped with grinding system or vortex type pumps, in single or dual configuration, depending on the type of waste water and the workload to be carried out.

All motors have two silicon carbide mechanical seals (SiC-SiC) in an inspectable oil chamber to give the system maximum reliability.

GR bluePRO pumps

Pumps with high head **grinder impeller** suitable for soiled waste water containing fibres and filaments.

Single-phase version supplied with ammeter protection and circuit breaker to ensure high starting torque and effective cutting action even during start-up.



Rotary knife

with three blades made of specially treated chrome steel for greater reliability when cutting solids.

DGG pumps

Vortex impeller pumps with full free passage suitable for use with soiled waste water with solids.



Free passage

the recessed vortex impeller and the internal shape of the tank ensure a wide free passage and smooth operation even in the presence of large solids.

Technical data and performance

pumpBOX DG 115S 150/2 M

1
2
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- 1 Product name
- 2 Installed pump type
- 3 Rated tank capacity (litres)
- 4 No. of pumps installed
- 5 Power (HPx100)/poles
- 6 Motor phases

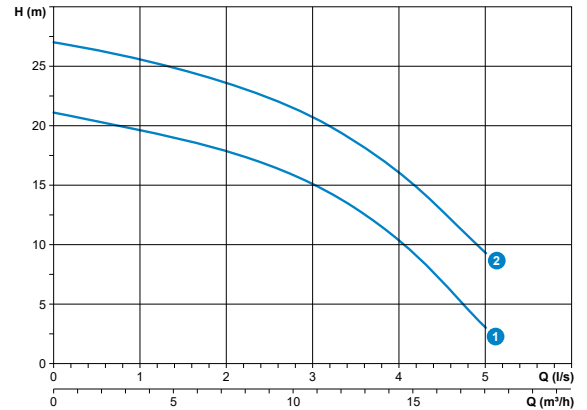
V = vortex, GR = grinder

S = 1 (single), D = 2 (dual)

M = Single-phase, T = Three-phase

impeller with grinding knife

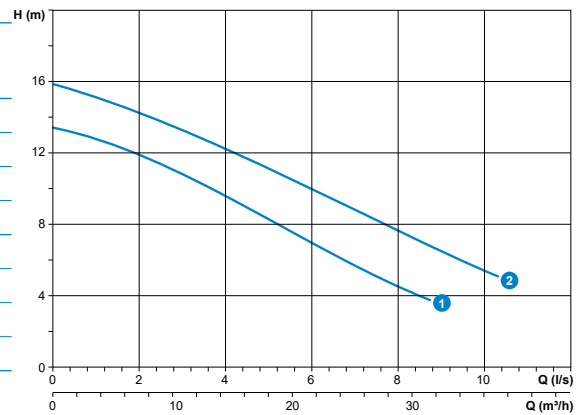
Model	no. / pumps	V/~ (50 Hz)	P ₂ (kW)/ poles	Current (A)	Free flow (mm)	kg
1 pumpBOX GR 75S 150/2 M	1	230/1	1.1/2	7.5	-	59
1 pumpBOX GR 75S 150/2 T	1	400/3	1.1/2	3.2	-	59
2 pumpBOX GR 75S 200/2 T	1	400/3	1.5/2	4.3	-	61
1 pumpBOX GR 75D 150/2 M	2	230/1	1.1/2	7.5	-	84
1 pumpBOX GR 75D 150/2 T	2	400/3	1.1/2	3.2	-	84
2 pumpBOX GR 75D 200/2 T	2	400/3	1.5/2	4.3	-	88



- DOMESTIC sector

vortex impeller

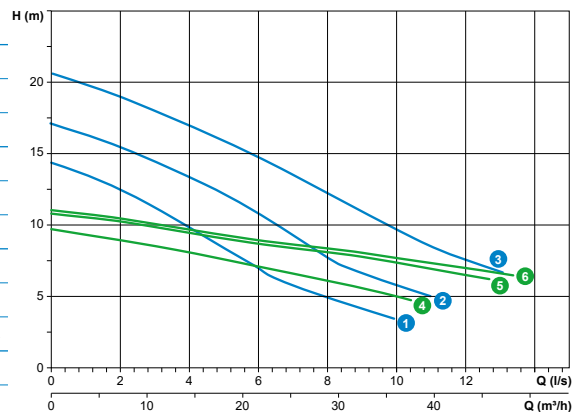
Model	no. / pumps	V/~ (50 Hz)	P ₂ (kW)/ poles	Current (A)	Free flow (mm)	kg
1 pumpBOX DG 115S 150/2 M	1	230/1	1.1/2	6.6	50	60.9
2 pumpBOX DG 115S 200/2 M	1	230/1	1.5/2	9.3	50	61.3
1 pumpBOX DG 115S 150/2 T	1	400/3	1.1/2	2.4	50	60.9
2 pumpBOX DG 115S 200/2 T	1	400/3	1.5/2	3.3	50	61.3
1 pumpBOX DG 115D 150/2 M	2	230/1	1.1/2	6.6	50	91.0
2 pumpBOX DG 115D 200/2 M	2	230/1	1.5/2	9.3	50	98.8
1 pumpBOX DG 115D 150/2 T	2	400/3	1.1/2	2.4	50	91.0
2 pumpBOX DG 115D 200/2 T	2	400/3	1.5/2	3.3	50	98.8



- INDUSTRIAL sector

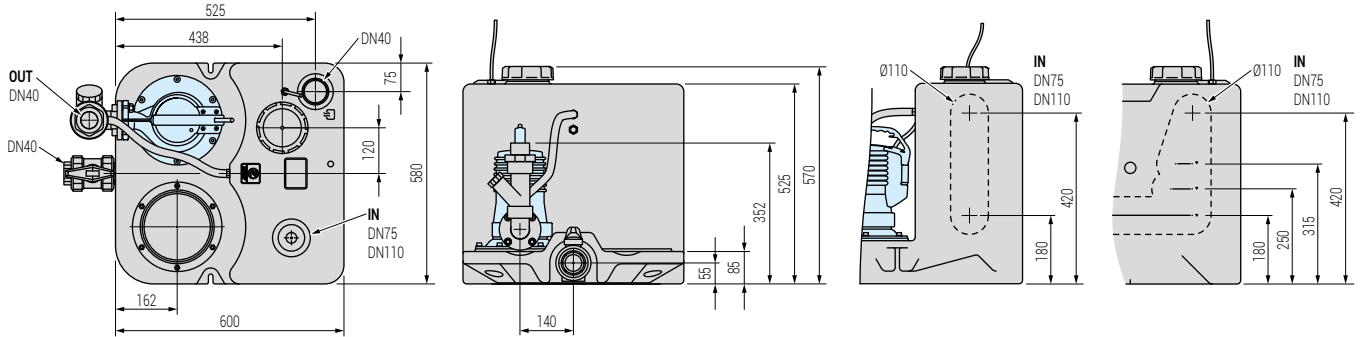
vortex impeller

Model	no. / pumps	V/~ (50 Hz)	P ₂ (kW)/ poles	Current (A)	Free flow (mm)	kg
1 pumpBOX DG 115S 250/2 T	1	400/3	1.8/2	3.7	65	57.9
2 pumpBOX DG 115S 300/2 T	1	400/3	2.2/2	4.6	65	70.3
3 pumpBOX DG 115S 400/2 T	1	400/3	3.0/2	6.4	65	72.1
4 pumpBOX DG 115S 200/4 T	1	400/3	1.5/4	3.4	65	72.8
5 pumpBOX DG 115S 250/4 T	1	400/3	1.8/4	4.3	65	75.6
6 pumpBOX DG 115S 300/4 T	1	400/3	2.2/4	5.2	65	75.6
1 pumpBOX DG 115D 250/2 T	2	400/3	1.8/2	3.7	65	92.0
2 pumpBOX DG 115D 300/2 T	2	400/3	2.2/2	4.6	65	116.8
3 pumpBOX DG 115D 400/2 T	2	400/3	3.0/2	6.4	65	120.4
4 pumpBOX DG 115D 200/4 T	2	400/3	1.5/4	3.4	65	121.3
5 pumpBOX DG 115D 250/4 T	2	400/3	1.8/4	4.3	65	126.9
6 pumpBOX DG 115D 300/4 T	2	400/3	2.2/4	5.2	65	126.9

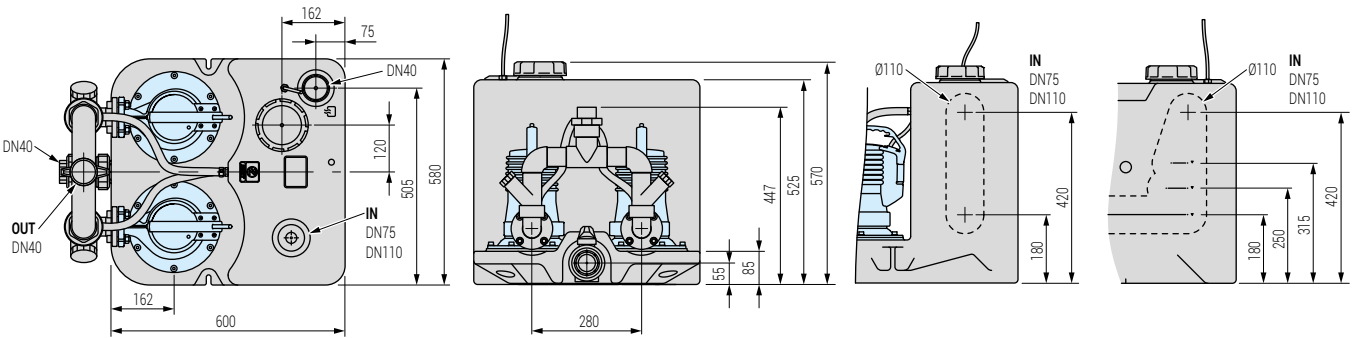


Dimensions

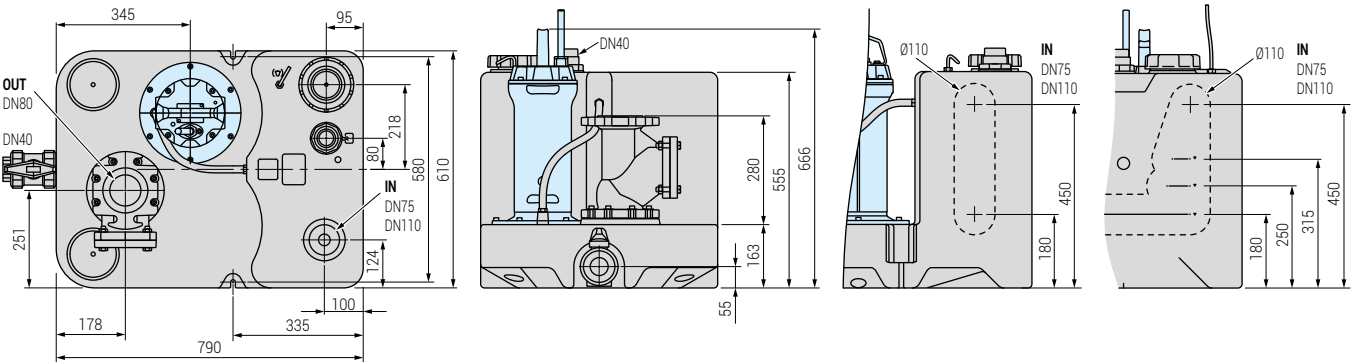
pumpBOX - impeller with grinding knife - single pump version



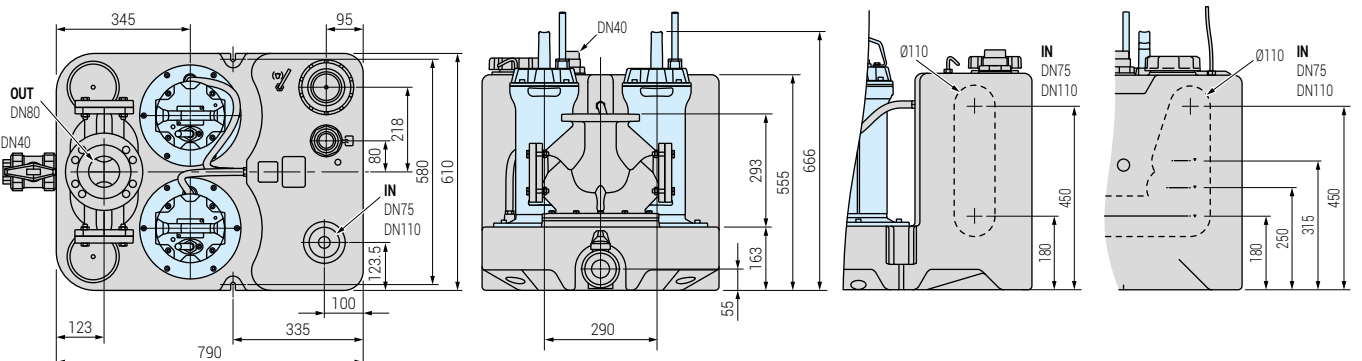
pumpBOX - impeller with grinding knife - dual pump version



pumpBOX - vortex impeller - single pump version



pumpBOX - vortex impeller - dual pump version



Optional accessories

Control boards

Electronic control panel with self-learning for direct starting of **submersible pumps**.

- Operation with floats, pressure switches, level probes and 4-20mA - 12 V transducers
- Data storage and management / data logger
- Complete pump protection for:
 - dry running *WITHOUT* probes (minimum cos φ or minimum current)
 - overload
 - maximum starts/minute and maximum starts/hour
 - continuous operation fault (duct or float breakage)
 - phase error
 - frequency error
 - min. and max. voltage
 - min. and max. current
 - motor klixon activation
 - water in oil chamber
- Programmable cut-out switch activation delay
- Ready for activating periodic user self-testing
- Pump motion reversal for impeller cleaning
- Multilanguage menu



1 PUMP	Model	V/~ (50/60 Hz)	Power (kW)	Max. current (A)
	XTREME 1 - M3	230/1	0.37 ÷ 2.2	2 ÷ 16
XTREME 1 - T10	400/3	0.55 ÷ 7.5	2 ÷ 15	

2 PUMPS	Model	V/~ (50/60 Hz)	Power (kW)	Max. current (A)
	XTREME 2 - M3	230/1	0.37 ÷ 2.2	2 ÷ 16
XTREME 2 - T10	400/3	0.55 ÷ 7.5	2 ÷ 15	

Modular "plug&play" structure



Metal structural work module that transforms the **pumpBOX** into a portable lifting station complete with control panel. Recommended for mobile and temporary installations for use at construction sites, public events, emergency situations. The steel structure makes it stackable for easy storage and transport.



The digital version of this catalogue is available for download at: www.zenit.com

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