



POLYTROPIC

Instructions Manual

URBAN



**URBAN 20
URBAN 30**

EN

EN-SWIMMING POOL HEAT PUMP

Declaration of conformity

Guidelines – Harmonised standards

POLYTROPIC SAS - 4 Chemin des Eclapons - 69390 VOURLLES

We hereby declare under our sole responsibility that this product complies with the relevant guidelines

SAFETY	EN 60335-1:2012/A2:2019	EN 60335-2-40:2003/A13:2012	EN 62233:2008	
EMC	EN 55014-1:2017	EN 61000-3-11:2000	EN 55014-2:2015	EN 61000-3-3:2013
	EN 61000-3-12:2011	EN 61000-3-2:2014		
NOISE	200/14/CE			

HP Models:

URBAN 20/ URBAN 30

Other normative documents

RoHS 2011/65/EU

WEEE 2012/19/EU

Person authorised to manage technical documentation

POLYTROPIC SAS
4 Chemin des Eclapons
69390 VOURLLES -
France



Fabrice GRANIER

R&D manager
Vourles, 10-2021

Operating temperature: 0°C to 38°C Power supply: 230 V ~, 50 Hz IPX4 Maximum operating altitude: 2000 m

Product : URBAN 20	Max. power consumption = 0,826 kW	Weight: 28kg
Product : URBAN 30	Max. power consumption = 0,981 kW	Weight: 32 kg

Processing by individuals of electronic appliances reaching the end of their lifespan:



The symbol depicting a barred wastebin that features on the main parts constituting the product indicates that it must not be discarded alongside household waste. It must be brought to an adequate collection point where electronic appliances are recycled (information available from your local waste treatment service). This product contains potentially hazardous substances.

DELIVERY AND TRANSPORT

When you have unpacked the HP, please check the content to report any damage. The HP should always be stored and transported in a vertical position, on a pallet and inside its original packaging.

Transporting and/or storing the HP horizontally will void the guarantee.

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This symbol indicates that the device uses R32, a coolant featuring a low combustion speed.



This symbol indicates that a maintenance technician must handle this equipment according to the operating manual.



This symbol indicates that the operating manual should be read attentively prior to use.

WARNING: In normal conditions, a suitable HP can heat the water of the pool by 1°C to 2°C per day.

It is therefore quite normal not to feel a temperature difference at the outlet of the circuit when the HP is operating. A heated pool should be covered to prevent heat losses.

The appliance is designed to be used in a swimming pool as described in standard NF-EN-16713.

- Failure to comply with the warnings could cause damage to the swimming pool equipment as well as severe injuries or death.
- Only a qualified person possessing the adequate technical skills (electricity, hydraulic, refrigeration) is authorised to undertake maintenance operations or repairs on the device. A qualified technician working on the device must use/wear personal protective equipment (safety goggles, protection gloves, etc...) to avoid all risk of injury arising during work on the device.
- Prior to any intervention on the device, ensure that it is powered down and has undergone the lockout-tagout procedure.
- The device is designed specifically for use in swimming pools and spas; it must not be used for purposes other than the ones it was designed for.
- This device is not intended for children.
- This device is not intended to be used by persons (including children, of 8 or more) who lack experience or who suffer from physical, sensory, or mental impairment, except:
 - if it is operated under supervision or with operating instructions issued by a person responsible for their safety; and
 - if they understand the risks taken.
- Children must be supervised to ensure that they do not play with the device.
- The installation of the device should be carried out according to the manufacturer's instructions and in compliance with local and national applicable standards. The installer is responsible for the installation of the device and for compliance with national regulations relating to installation procedures. The manufacturer will not be liable in case of non-compliance with the installation standards that apply locally.
- For any action other than simple maintenance operations by the user as described in this manual, the product should be maintained by a certified professional.
- Any improper installation and/or use can cause damages and severe injuries (and even death).
- Do not touch the fan or the moving parts, and do not insert objects or your fingers close to the moving parts when the device is operating.
- Moving parts can cause severe injuries and even death.
- Do not pull on the hoses and the connections to move the machine.

WARNINGS CONCERNING ELECTRICAL APPLIANCES:

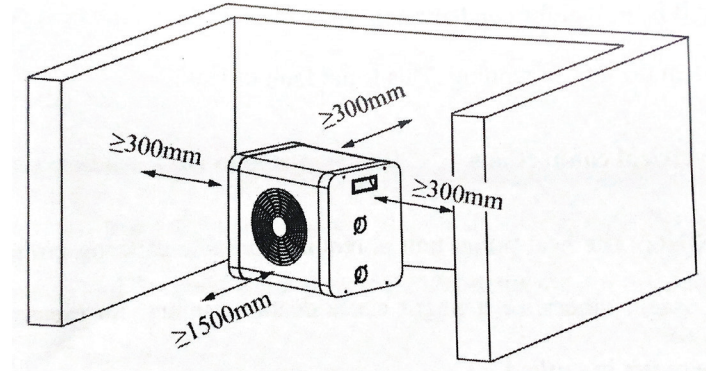
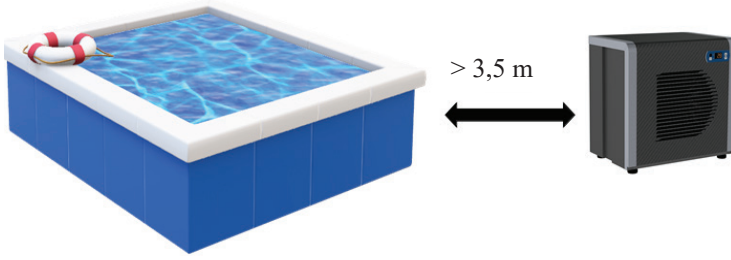
- The power supply of the device must be protected by a 30-mA security residual current protection system, as per the standards that apply in the country of installation.
- Do not use an extension to connect the device; only connect the device directly to a suitable power outlet.
- If a fixed device does not feature a power cord and a plug, or any other means to disconnect from the power supply with a separation of the contacts in all the poles, enabling total disconnection in case of a category III electrical surge, the manual will mention that the disconnection means must be integrated in the fixed wiring, as per relevant wiring rules.
- An adapted disconnection method, complying with all local and national requirements relating to category III electrical surges, and that disconnects all the poles of the supply circuit, must be installed in the supply circuit of the device. This disconnection method is not provided with the device and should be provided by the installation technician.
- Prior to installation, check that:
 - The voltage featuring on the information plate of the device matches the voltage of the power supply,
 - The power supply is suitable for operating the device and has an earthing connection.
 - The plug (as necessary) adapts to the plughole.
- If the power cord is damaged, it should imperatively be replaced by the manufacturer, a technician or a person qualified to ensure safety.

WARNINGS RELATING TO DEVICES CONTAINING A COOLANT:

- The coolant R32 is a coolant of category A2L, which is considered as potentially flammable.
- Do not release R32 fluid into the atmosphere. This fluid is a greenhouse effect fluorinated gas, covered by the Kyoto Protocol, with a global warming potential (GWP) = 675 for R32 and 2088 (European regulation EU 517/2014).
- The device must be stored in a well-ventilated place and kept away from flames.
- Install the unit outdoors. Do not install the unit indoors or in an outdoor area that is closed and poorly ventilated.
- Please keep and transmit these documents for reference throughout the lifespan of the device.

INSTALLATION (SITE, TYPE OF SUPPORT, NECESSARY SPACE)

- Install the HP outdoors at more than 3,5 m from the pool.
- Place the HP on a surface that is stable, solid (able to bear the weight of the device) and leveled.
- Maintain 1 m (30 cm minimum) of open space in front of the vertical air intake grids (behind and on the side of the HP) and 1.5m at the outlet of the fan (in front) of open space without any obstacles.
- Prepare sufficient space around the HP for maintenance operations.
- Prepare a water evacuation system close to the HP to protect the installation zone.
- Keep the HP out of the reach of children, insofar as possible.



The HP should never be installed:

- in an area covered by sprinkling systems, or subject to spray or running water or mud (close to a road, take into account the effects of wind),
- under a tree,
- close to a source of heat or of flammable gas,
- in an area where it would be exposed to oil, flammable gases, corrosive products, and compounds containing sulphur,
- close to equipment operating at high frequencies,
- in a place where snow is likely to accumulate,
- in a place where it could be flooded by the condensates produced by the device as it operates,
- on a surface that could transfer the vibrations to the house.

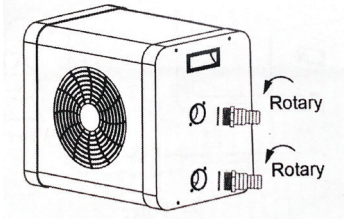
Advice: dampen the possible noise nuisance caused by your HP.

- Do not install it close to or underneath a window.
- Do not direct the outlet of the fan towards your neighbours' property.
- Do not direct the fan outlet (cold air) towards the swimming pool.
- Install it in an open area (sound waves bounce off surfaces).
- Install a sound barrier around the HP, making sure to maintain the required distances.
- Install 50 cm of PVC piping at the water inlet and outlet of the HP.
- To improve its performance, it is recommended to insulate the piping between the HP and the swimming pool, especially if the distance is significant.

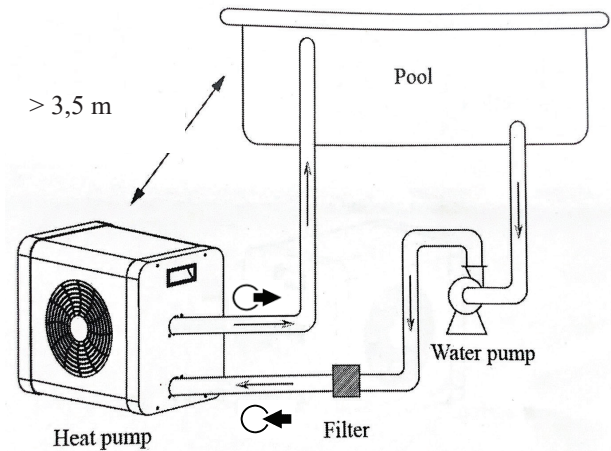
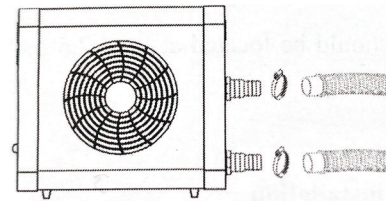
HYDRAULIC CONNECTION

- Water quality necessary for this device: NF-EN-16713-3
- The HP is compatible with all types of water treatment. The HP must imperatively be connected by a PVC pipe of Ø 50mm to the swimming pool's hydraulic circuit, after the filter and before the treatment system, regardless of its type (Cl, pH, Br metering pumps and/or electrolyser).
- Follow the hydraulic connection order (↻ = water in, ↻ = water out)
- Before connecting the PVC pipes to the HP, make sure the circuit is clean of any work residue (stone, soil, etc.).

Step 1 :



Step 2 :

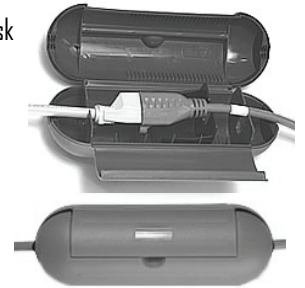


Connection of the condensate evacuation pack:

During operations, the HP is subject to a condensation phenomenon. This translates into a water flow, which can be more or less important depending on the degree of humidity. To channel this flow, which can represent several litres of water per day, we recommend you install the provided condensate evacuation pack and connect it to a suitable water evacuation circuit.

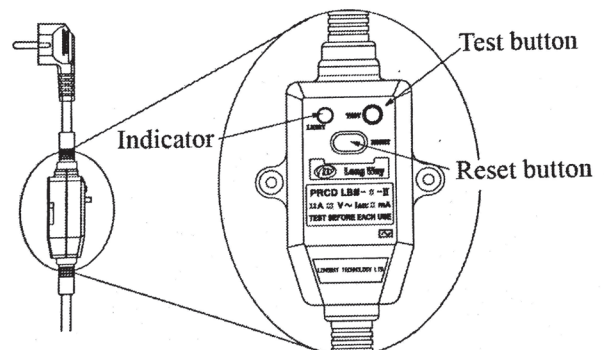
ELECTRICAL CONNECTION

- Prior to undertaking any intervention inside the HP, it is imperative to disconnect the power supply from the HP; there is a risk of electrocution that can cause damages, severe injuries and even death.
- The power supply should match the voltage featuring on the information plate of the HP.
- The HP must be connected to an earthing connection.
- The electrical terminal should be covered from water with an adapted system (**not included**).



⚠ Only a certified electrician can confirm if your electrical installation is in conformity with local law in force. Power supply must be equipped with grounding, circuit breaker and 30 mA differential protection.

- The plug provided with the machine is equipped with an additional 10 mA differential security with manual reset button.
- The heat pump must work in the same time as the water pump.



Once the HP is connected to the water circuit with the bypass, and is connected to the power supply by a professional, ensure that:

- The HP is horizontal (level).
- The HP is stable.
- The water circuit has been purged of air that has been trapped in the piping of the HP.
- The water circuit is properly connected (no leaks or damage to the hydraulic connections, the connections are properly tightened).
- The electric circuit is properly connected, properly insulated, and connected to the earthing connection.
- The conditions of installation and use described above have all been met.
- The outdoor temperature is between 0 and +35°C.
- The water temperature is of 15°C minimum.
- The evaporator at the rear/on the sides of the HP is clean (leaves, dust, pollen, cobwebs...)

You can now start your device by following, in the given order, the following steps:

- Remove all unused items or tools from the area surrounding the HP.
- Start the pump of the filtration system.
- Power up the HP by using the ON/OFF button of the display.
- Check that the HP starts and stops in sync with the filtration circuit: if no water is detected in the HP, the display shows "E3"
- The HP starts after a delay of a few minutes.
- Adjust the temperature ("Regulation" chapter).
- After a few minutes, you can adjust the bypass valve as indicated in the "Water flow setting" chapter. Having completed the above steps, cover the pool and let the HP operate for a few days with the filtration pump in "forced mode" until the water of the pool reaches the desired bathing temperature.

GENERAL USE

Water quality (standard):

the following water quality standards should be strictly respected:

- Chlorine concentration less than 2.5 ppm
- pH between 6.9 and 8
- In case of sudden chlorination, isolate the heat pump by shutting the inlet and outlet valves of the device, and reset them to their initial positions after treatment.

Maintaining the temperature:

- Once the desired temperature has been reached, you can set the daily filtration time according to your habits (8 to 10 hours per day minimum during the season).

The heat pump will start automatically whenever necessary. The minimum operating time varies based on the time of use, please contact your distributor for further information.

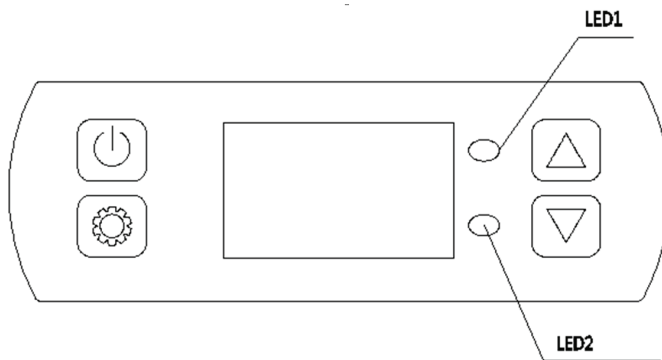
If you notice the water temperature of the pool is falling, despite the device operating continuously, increase the daily filtration time.

Do not forget to cover the pool with an insulated cover when you are not using it, to limit heat losses.

IMPORTANT: a swimming pool without a cover will lose 4 times more energy than the same pool with a cover.

The choice of the heat pump should always take into account the presence of a tarpaulin, a rolling shutter, or any other type of protection of the pool when it is not being used.







LED Display:



Screen instructions:

- "OFF" will show in screen if unit is OFF.
- Water inlet temperature will show in screen if unit is ON.
- Error code will show in system is abnormal.
- LED 1: If cooling, LED 1 will be green, and if defrosting, LED 1 will blink.
- LED 2: If heating, LED 2 will be red.

Buttons:

Button	Definition	
	ON/ OFF	<ul style="list-style-type: none"> ▪ In the main page, long press for 3 seconds to on/off the unit ▪ In parameter page, press this button to go back to main page
	Function	<ul style="list-style-type: none"> ▪ Long press for 3 seconds to select cooling/heating ▪ Press to check the parameters
	Up and down	<ul style="list-style-type: none"> ▪ In main page, these buttons can change the setting temperature ▪ To validate the setting temperature press 
	Reset	<ul style="list-style-type: none"> ▪ Under the Off condition, press for 5S to reset all parameters to default.
	Lock and unlock	<ul style="list-style-type: none"> ▪ In main page, press for 3s to lock/unlock the screen.

Error Code:

Protection/error	Code
Ambient temp. too high/too low error	E00
Water in temp. sensor error	E01
Ambient temp. sensor error	E02
Discharge temp. too high error	E03
Discharge temp. sensor error	E04
Coil sensor error	E05
Low pressure error	EL
Water flow error	E06

Parameters list:

Parameter	Description	Range
D0	Ambient temp.	-20 °C -80 °C
D1	Water in	-20 °C -80 °C
D2	Water out	-20 °C -127 °C
D3	External coil temp.	-20 °C -80 °C
D4	Compressor	ON/OFF
D5	Fan motor	ON/OFF
D6	4-way-valve	ON/OFF
D7	High Pressur	ON/OFF
D8	Low Pressur	ON/OFF
D9	Water flow switch	ON/OFF

MAINTENANCE

Before any maintenance operation, the heat pump must be completely stopped for few minutes before connecting pressure controllers. This is because high pressure and temperature inside the heat pump could be harmful.

Please check the following on a monthly basis:

- Check and clean the evaporator **(with a soft brush)**.
- **Do not use high pressure cleaner.**
- Check all electrical connections.

Please check the following points yearly:

- Check settings.
- Check securities.
- Check all electrical connections.
- Check condenser cleanliness.
- Use soft soap and water to clean the heat pump casing, **do not use solvents.**

WINTERING

This appliance is made to be used during summer period only.

When you are winterizing your pool system, you must:

1. Turn the pool heat pump off
2. Drain the exchanger to prevent any risk of freezing.
3. Put the heat pump in a closed room protected against frost.

TEMPERATURE RISE PHASE

As soon as you wish to re-start your swimming pool at the beginning of the season:

- Proceed with all the usual initial operations (water filling, cleaning of the filter...)
- Turn the water pump on.
- Turn pool heat pump on, set temperature.
- Cover the pool with solar cover or other.
- Leave the pool system and pool heat pump working permanently until the pool has reached the required temperature (it will take approximately 36 hours to 1 week).

The time for the pool temperature to increase depends on the exposure of swimming pool to wind, sun and the pool environment as well as the heat pump size.

RECYCLING THE HP

When your HP reaches the end of its lifespan and you do not wish to keep it, do not throw it out with household waste.

The HP must be brought to a selective recycling point for its reuse or recycling.

It contains potentially hazardous substances that may harm the environment and that must, during recycling, be eliminated or neutralised.



- Bring the HP to a recycling center
- Give the HP to a not-for-profit organisation so that it can be repaired and reused
- Give the HP to the shop when buying a new unit

AFTER-SALES TECHNICAL DEPARTEMENT

In case of technical problems regarding any of the Polytropic heat pumps, the following measures should be taken:

- Provide to the technical service the following essential information:
- Serial number of the machine
- Manometer value when machine is stopped
- Manometer value when machine is working
- The position of ON/OFF button and if it is lit or not
- The value and pictograms displayed on digital controller.
- The value of programmed settings
- If fan is working or not
- Position of the by-pass valves
- Contact your dealer and pass on this information together with the dimensions of the swimming pool, your personal details (address, telephone number) and the description of the failure.

If this procedure is respected, the Polytropic technician will be able to make as accurate diagnostic of the failure.

The recommended solution made by Polytropic will be implemented briefly after that.

IMPORTANT: If this measure is not followed, warranty will be cancelled.

Hotline France :	+33 (0) 4 78 56 93 96
Hotline España:	+34 (0) 4 87 64 60 01
Hotline U.K.:	+33 (0) 4 78 56 93 96
Hotline Deutschland :	+34 (0) 4 87 64 60 02