User’s manual

Sand Filter

63342, 63343, 63344, 63345, 63346, 63347

Illustration similar, may vary depending on model

Please read and follow the operating instructions and safety information prior to initial operation.

Technical changes reserved!
Illustrations, functional steps, and technical data may deviate insignificantly due to continuous further developments.

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Although WilTec Wildanger Technik GmbH has made every possible effort to ensure that this operating manual is complete, accurate, and up-to-date, errors cannot be ruled out entirely.
If you have found an error or wish to suggest an improvement, we look forward to hearing from you.
Send us an e-mail to:

service@wiltec.info

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Our postal address is:

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52249 Eschweiler Germany

To return your goods for exchange, repair, or other purposes, please use the following address. Attention! To allow for a trouble-free complaint or return, it is important to contact our customer service team before returning your goods.

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Introduction

Thank you for choosing to purchase this quality product. To minimise the risk of injury, we ask you to always take some basic safety precautions when using this product. Please read this operating manual carefully and make sure that you understand it.
Keep these operation instructions in a safe place.

Safety instructions

CAUTION:
In and near standing water, garden ponds, and swimming ponds, the use of this device is only allowed with a fault current protection switch with a triggering nominal current up to 30 mA (according to VDE 0100 Article 702 and 738).

The device is not intended for use by persons (including children) with impaired or limited physical, sensory, and mental abilities, or lack of experience and/or real knowledge, unless they are supervised by a person responsible for their safety or follow the instructions made by this person on how to correctly use the device. Children should be supervised to ensure that they do not play with the device.

ATTENTION:

- Perform a visual inspection of the device before every use. Do not use the device if the safety appliances are damaged or worn out. Never override safety regulations.
- Only use the device accordingly to the intended purpose stated in this manual.
- You are responsible for the safety of the working zone.
- If the cable or the plug is damaged due to external influences, the cable must not be repaired, but must be replaced with a new one. This work may only be carried out by an electrician.
- The voltage of 230 V AC indicated on the nameplate of the device must match the existent mains voltage.
- Never lift, carry, or fix the device by using the power cable.
- Make sure that the electrical plug connection is protected from flood and moisture.
- Always unplug the appliance before working on it.
- Avoid exposing the device to direct jets of water.
- The user is responsible for complying with local safety and mounting regulations. Ask an electrician, if necessary.
- The user must take appropriate measures (e.g., installation of an alarm system, a reserve pump, etc.) to prevent damage caused by the flooding in case of device malfunctioning.
- In case of device failure, repairs can only be carried out by an electrician.
- The device must never run dry or be operated with its suction line fully closed. The manufacturer's warranty is void for damage to the device caused by dry running.
- This device must not be integrated into any kind of domestic water circuit meant for potable water.
- The device is only installed outside the water.
- The minimum distance between the device and the pond is 2 m.
- It must be ensured that the device cannot fall into the water.
- Install the device so that it is not exposed to direct sunlight and that it cannot be used as access to the pool by children.
- The device is to be mounted horizontally on a appropriate mounting spot by the use of screws.
- The universal-hose stepped tails can be shortened according to the hose diameter if necessary.
- Fix the hoses using hose clamps.
- Before working on the filter, purge the air. To do so, press down the control valve lever. — Important note: Repeat this step whenever you will re-commission the pump after wintering, maintenance, and backwashing.
- The device must only be used for the operation of storable pools, never for the operation of permanently installed pools. Storable pools are those being disassembling for storing and re-

assembling for re-use; permanently used pools are those integrated into the ground or the floor of a building and that cannot be removed.

- High pressure coming out of the sand filter can provoke serious damages and/or injuries when the tank is separating. Therefore, before working on the sand filter, purge the pressure first and thoroughly read the instructions. If the filter clamp is adjusted with the tank being under pressure, the tank can separate by itself, causing serious damages and/or injuries.
- The pump is operated with high voltage. Contact with this voltage can lead to serious injuries and even to death. Therefore, always disconnect the device from its energy supply before working on the pump.

Functionality

- This high-rate sand filter is designed to clean water and can be operated during many years with little maintenance effort if installed, operated, and maintained according to these instructions.
- This filter works with a special filtering sand (not included) that filters dirt particles from the pool water. The filtering sand is filled into the sand tank, serving as dirt-removing media. The pool water containing suspended dirt particles is pumped through the control valve of the filter device to the top of the device. As the pool water is pumped through the filter sand, dirt particles are trapped by the sand and removed from the water. The pool water cleaned like that flows from the bottom of the device upwards through the standpipe, back to the valve at the top of the device, and from this point through the pipes or hoses back into the pool.
- After a certain time, the dirt particles accumulated cause a rise of resistance causing the water flow to reduce. Then, the filter needs to be cleaned (backwashed). To do so, the control valve is set to the “backwash” position so that the water is reversed through the filter, flowing to the bottom of the device and from there upwards through the sand, washing the dirt and debris out of the waste line. After backwashing, the control valve is re-set to “rinse” by hand to allow the filter to work normally.

Technical specifications

	63342	63343	63344	63345	63346	63347
Power supply	220–240 V, 50 Hz					
Power (W)	180	250	250	370	550	750
Filter diameter (mm)	250	250	330	330	400	500
Filter area (m²)	0.05	0.05	0.08	0.08	0.12	0.2
Sand tank capacity (ℓ)	14	14	26	26	38	71
Required filter media quantity (kg)	10	10	20	20	30	65
Max. working pressure (bar)	2.4	2.4	2.4	2.4	2.4	2.4
Max. flow rate (ℓ/h)	9000	10,000	10,000	13,200	18,000	20,000
Max. lifting height (m)	7	9	9	11	13	14
Max. water temperature (°C)	43					
Isolation class	IPX5 (protected from water jets)					
Recommended filter media	Type-20 quartz sand (0.45–0.85 mm)					

Installing the filter

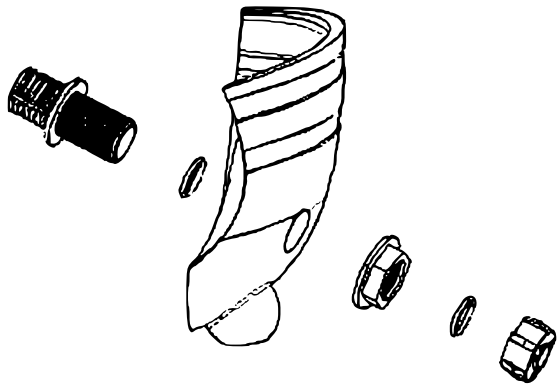
Attention: First, read all installation instructions before attempting to install the filter!

1. Carefully remove all individual parts from the packaging and check them for possible outer damage. If the packaging or components are damaged, contact the seller.

WARNINGS:

- If suction fittings are blocked, serious, even mortal injuries can be provoked due to drowning. **To reduce risk of injury, not to be used by children!**
- Never work on the pump while the device is operating or connected to the power supply. High voltage provokes serious, even mortal injuries. The energy source of the device must be equipped with an earth fault circuit interrupter. The motor needs to be earthed before the device can be connected to the energy supply. **Missing earthing can provoke electric shocks! Never earth the device to a gas supply pipe line!**

2. – for 63342, 63343: The filter system should always be installed so that it is standing beneath the water level and on a concrete slab, a very firm ground, etc.
   – for 63344–63347: The filter system should be installed to a maximum of 50 cm above the pool water level and stand on a concrete slab, a very firm ground, etc.
   Consult the pool seller. A device filled with sand and water will be very heavy. Install the device so that the pipe and hose connections, the control valve, and the wintering drain is easily accessible.
3. Connect the lower drain to the bottom of the sand tank. Make sure that the O-rings are attached properly to prevent any water from leaking. See following figure.



4. – for 63342, 63343: Assemble the sand tank to the system base.
   – for 63344–63347: Place the sand tank to the system base and slightly turn it clockwise. Place the sand tank so that the wintering drain is in the opposite direction of the pump.
5. – for 63342, 63343: Using a screw set, fix the pump to the system base.
   – for 63344–63347: Assemble the sand tank to the system base.
6. Place the standpipe and underdrain assembly in the centre of the sand tank. Cover the standpipe using the sand shield to prevent any sand from entering. Fill the tank about to the half with water, being sure first that the winter drain cap is securely in place. Then, pour in the correct amount and grade of filtering sand. When doing so, make sure that the standpipe remains centred in the opening.

   Important! You must only use type-20 quartz sand having a uniformity coefficient of 1.75 or less. Type-20 quartz sand has a particle size of 0.45–0.55 mm (0.018–0.022″).
7. Remove the sand shield from the standpipe. Remove the sand from the opening on the top of the tank. Thoroughly make sure that the top of the filter is free from sand and debris and that the O-ring is properly attached to the valve body. Insert the control valve into the tank neck, making sure that the standpipe slips into the hole in the bottom of the control valve.

8. Position the control valve so that the ports are located as desired. The ports of the valve are marked so that you will understand the spot that they must be connected to. The pump port must lead to the pump discharge, the waste port to the waste line, the return port to the pool return.
9. Wipe the filter flange clean. Place the flange clamp around the tank and valve flange. Assemble screws and nuts using a hexagon wrench and tighten the clamp screws. Then visually inspect the valve, tank, and clamp to know if the joint is placed correctly.

   Attention! High pressure! Improper tank valve assembly can cause the valve to jump off by itself, leading to serious damages and/or injuries!
10. Wrap sealing tape for use on plastic tubes around the ¼″ male thread of the pressure gauge. Thoroughly screw the pressure gauge into the ¼″ threaded opening of the valve body. Do not tighten too much!
11. Screw the hose adaptors into the control valve port marked “PUMP” and pump discharge port. Wrap five turns of sealing tape around each adaptor. Connect the adaptors with a 1.5″ hose and fix this with hose clamps.
12. Make the return to pool pipe connection to the control valve opening marked “RETURN.” Complete the other necessary connections: waste line, suction lines of the pump, etc.
13. To prevent water leakage, make sure that the winter drain cap is securely in place and all pipe/hose connections tight.

    Attention! Always keep safety labels in good conditions! Replace them if they are not readable or missing!

Filter control valve functions

Name	Function/description
FILTER	Directs the water from the pump through the valve, then downwards through the sand, back upwards through the standpipe to return port control valve and back to the pool; for normal filtering and vacuuming the pool water via the filter
BACKWASH	Directs the water from the pump through the valve, then downwards through the standpipe, back upwards through the sand and out through the waste port; for cleaning the filter by reversed flow
RINSE	Directs the water from the pump through the valve, then downwards through the sand, back upwards through the standpipe and out through the waste port; for start-up cleaning and resetting the filter after backwashing
WASTE	Directs the water from the pump through the valve, then bypassing the filter sand directly to the waste port; for vacuuming directly to waste, lowering the water level, or draining the pool
CLOSE	No flow in this position – do not use during operation of the pump!
WINTER	Valve position with device winterised

Commissioning

1. Clean a new pool first before filling in water. Too many or too large dirt particles might damage the pump and filter.
2. Make sure that all suction lines and WASTE lines are open to allow the water to flow freely from the pool to the WASTE line. Set the control valve to the “BACKWASH” position.
3. Check if the valve clamp is tight.
4. Make sure that the pump strainer pot is filled with water. If no strainer pot is present, make sure that the hose is filled with water. Tighten the lid of the pump. Prime and start the pump to allow the filter tank to be filled with water.

Attention! Never let the filter run dry!

5. As soon as the water flow from the WASTE line has become steady, run the pump for additional 2 min or until the water coming out is clean. This first backwash of the filter is advisable to remove contaminations and fine sand particles from the quartz sand media.
6. Turn the pump off and set the control valve to “RINSE.” Make sure that all suction lines and WASTE lines are open to allow the water to flow freely from the pool to the WASTE line. STAND CLEAR OF THE FILTER and turn the pump on.
7. Let the pump for a minimum of 2 min.
8. Turn the pump off and set the control valve to “FILTER.” Make sure that all suction lines and RETURN lines are open to allow the water to flow freely from the pool and back to the pool. STAND CLEAR OF THE FILTER and turn the pump on.
9. The filter now begins the filtering cycle. Make sure that the water returns to the pool and observe the operating pressure of a clean water.
10. Check if there is any water leak to the filter device. If water is leaking, turn the pump off before repairing the leak.
11. As the filter removes dirt and impurities from the pool water, the pressure will rise over time, causing the flow rate to diminish. If the pressure gauge reading is 0.3–0.7 bar (5–10 psi) above the operating pressure stated in the technical specifications, the filter needs to be backwashed.

Cleaning

1. Operating a new pool, the filter must be backwashed after 48 operation hours and cleaned to allow plaster dust and/or construction debris to be removed.
2. There are three methods to determine the need of the filter being backwashed:
   - The most accurate indicator is a flow meter that the pool is equipped with. If the flow rate is reduced by 30 % from the initial (clean-filter) flow rate, a backwash must be performed. — Example: With a initial flow rate of approx. 230 l/min, the filter requires backwashing if the flow rate is reduced by 80 l/min (30 %) to 150 l/min.
   - A more subjective, though less accurate indicator is the observation of the quantity of the water coming out the of flow directionals located in the wall of the pool. The filter should be backwashed when the water quantity is reduced.
   - The most used indicator for the need of the filter being backwashed, that however is the less accurate, is a rising pressure reading being 0.7 bar (10 psi) higher than the initial clean-filter value.
3. It is important that the backwash of the filter is not exclusively performed on time base, e.g., after every three days. Too high a backwash frequency might cause poor filtration. Weather conditions, heavy rains, dust, pollen, water temperature, etc. do also affect the frequency of backwashing. During the use of the pool, you will familiarise yourself with these factors.
4. To avoid damages of the pump or filter and to ensure proper operation of the filtering system, the pump strainer and skimmer baskets must be cleaned regularly.
5. If after backwashing the starting pressure is 0.3–0.4 bar (4–6 psi) higher than then normal starting pressure, the sand must be cleaned chemically.

Backwashing the filter

1. Switch off the pump.

   Warning! Always turn the pump off before re-setting the control valve. When re-setting the control valve during operation of the pump, the control valve can be damaged, leading to serious damages and/or injuries.
2. Make sure that all suction lines and WASTE lines are open to allow the water to flow freely from the pool to the WASTE line. Set the control valve to the “BACKWASH” position.
3. STAND CLEAR OF THE FILTER and turn the pump on.
4. Perform backwashing of the filter during 3–5 min or until the water coming out is clean.
5. Turn the pump off and set the control valve to “RINSE.”
6. STAND CLEAR OF THE FILTER and turn the pump on.

7. Rinse the filter during approx. 30 s.
8. Turn the pump off and set the control valve to “FILTER.”
9. Make sure that all suction lines and RETURN lines are open to allow the water to flow freely from the pool and back to the pool.
10. STAND CLEAR OF THE FILTER and turn the pump on.
11. The filter now begins the filtering cycle. Make sure that the water returns to the pool and observe the operating pressure of a clean water.
6. The filter pressure in step 11 must not exceed the pressure read during commissioning of the filter. If after backwashing the starting pressure is 0.3–0.4 bar (4–6 psi) higher than then normal starting pressure, the sand must be cleaned chemically.

Storage during winter

Attention! If water freezes inside the system, the total system will be damaged. Then, water might flow out, causing flooding and damages! — In regions with freezing winter temperatures, the pool and all its components must be stored during the cold season to avoid any damage.

1. Perform backwashing of the sand filter.
2. After backwashing, turn the pump off and set the control valve to the “WINTER” position.

   Warning! The multi-port control valve must be left to the “WINTER” position during shut-down season. If the control valve is not left to the “WINTER” position, water might leak, causing damages.
3. Remove the drain cap on the bottom of the filter tank and leave the cap off during the winter. Completely drain the filter tank.
4. Drain and prepare the pump for wintering.
5. Drain all pipes and hoses.

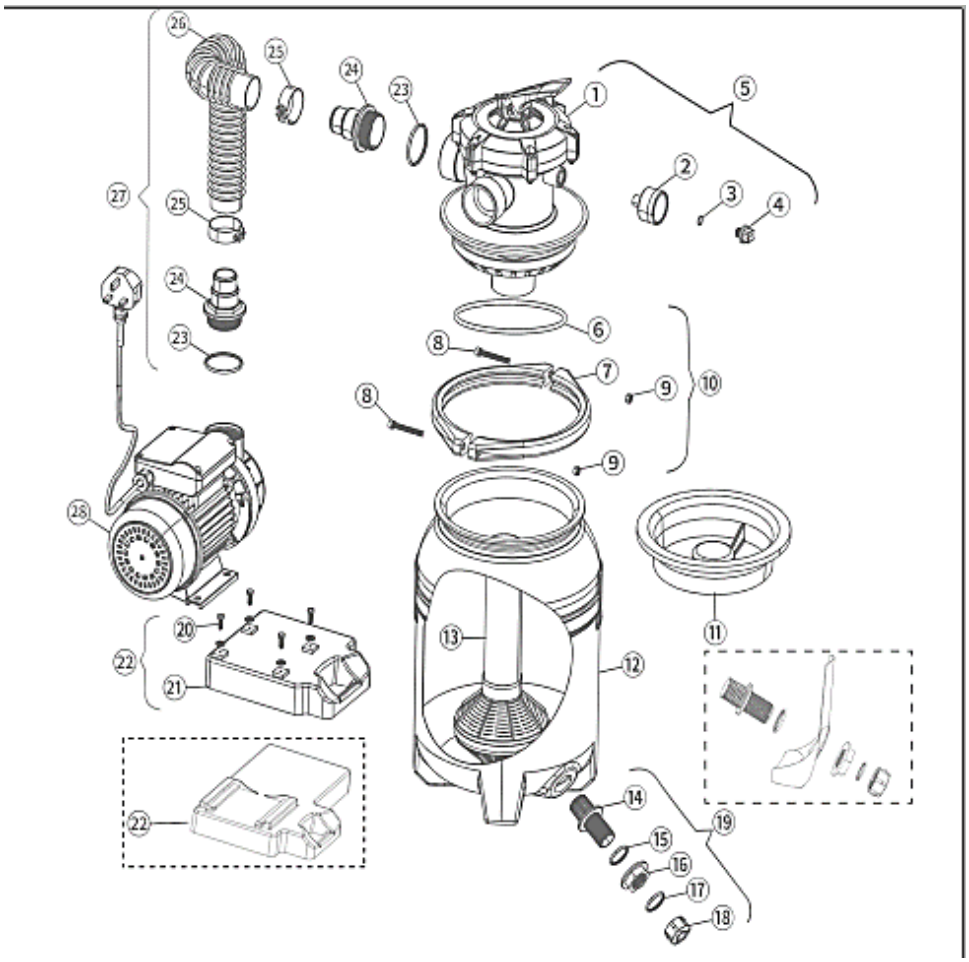
Troubleshooting

Problem	Cause	Solution
Pool water not sufficiently cleaned	1. Pool chemicals not adequate to inhibit algae growth.	1. Adapt chemical administration or consult expert.
	2. Wrong quantity or size of sand	2. Check sand depth and size or contact expert.
	3. Wrong flow rate	3. Run system for longer time or consult expert.
Untight control valve	1. Control valve between two functions	1. Set control valve properly.
	2. Gasket broken	2. Replace gasket.
Running motor, though absence of water flow through pump	1. Air entering the system	1. Check all hose/pipe connection and make sure that the lid is tight.
	2. Too high a suction height, wrong installation place	2. Move device/pump to a lower place.
Sand flowing in the pool	1. Too small sand size	1. Use type-20 sand.
	2. Sand level too high	2. Reduce sand level to two thirds of the filter tank height.
	3. Broken underdrain assembly	3. Replace damaged or broken assembly.
Rise of filter pressure	1. Insufficient backwashing	1. Perform backwashing until water coming out is clean.

	2. Partially closed valve or restriction	2. Completely open valve or repair obstruction.
Water return flow to pool reduced, low filter pressure	1. Obstruction inside pump	1. Dismantle and clean the pump. Clean strainer/skimmer basket.
	2. Obstruction in suction line or pump	2. Repair obstruction in lines.

Exploded views and parts lists

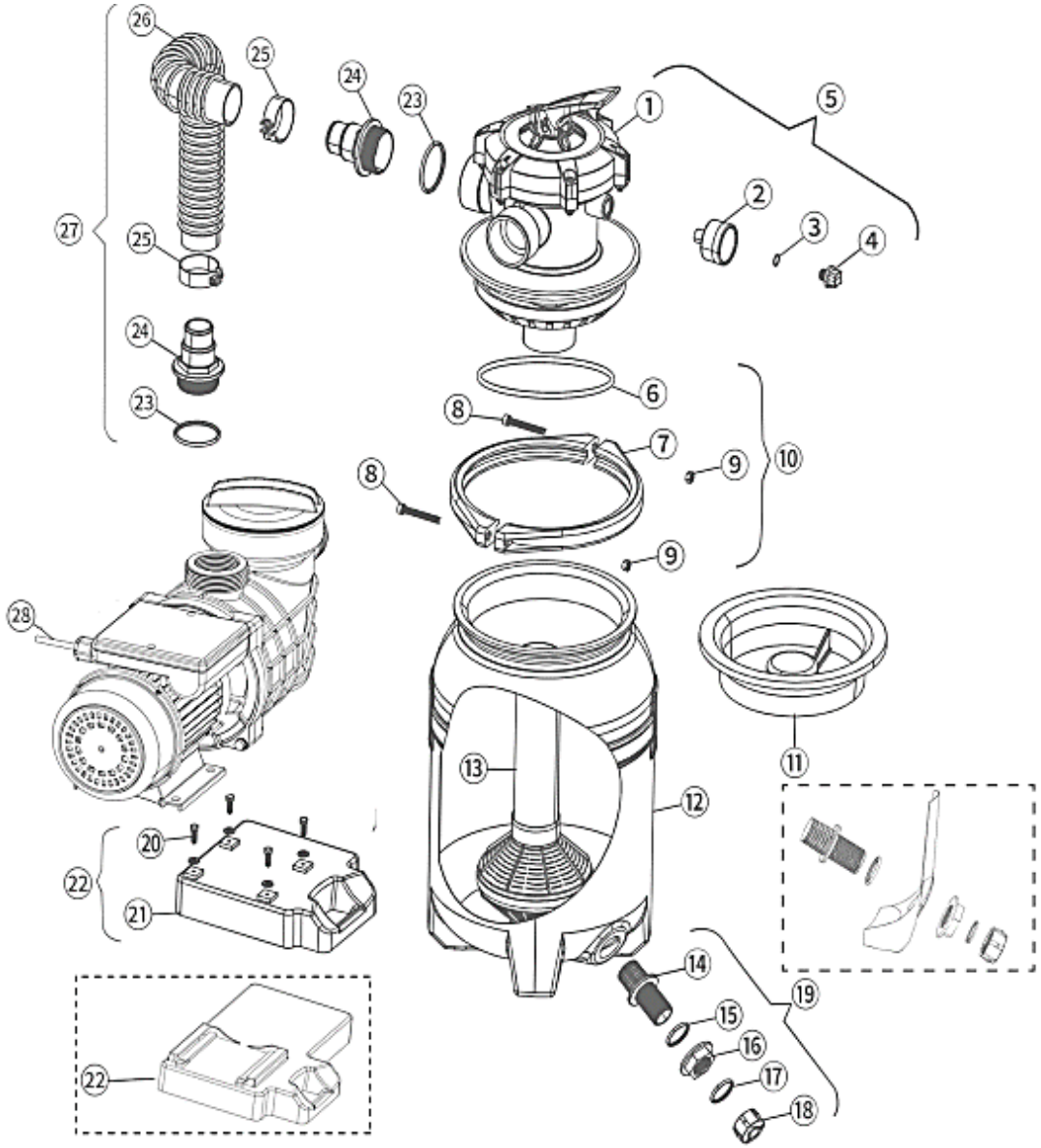
63342



№	Name	№	Name
1	1½″ 5-way clamp-style valve	**15**	O-ring of drain nut
2	Pressure gauge	**16**	Drain nut
3	O-ring of plug	**17**	O-ring of drain cap
4	Pressure gauge plug	**18**	Drain cap
5	Valve assembly	**19**	Drain kit
6	Valve O-ring	**20**	Screw kit with washers
7	Flange clamp	**21**	Pump base
8	Screw	**22**	Base kit
9	Nut	**23**	O-ring of hose connector

10	Clamp kit	**24**	Hose connector
11	Sand shield	**25**	Hose clamp
12	Sand tank	**26**	Hose from pump to filter
13	Standpipe and underdrain assembly	**27**	Pump-filter connecting kit
14	Outlet connector	**28**	Pump

63343

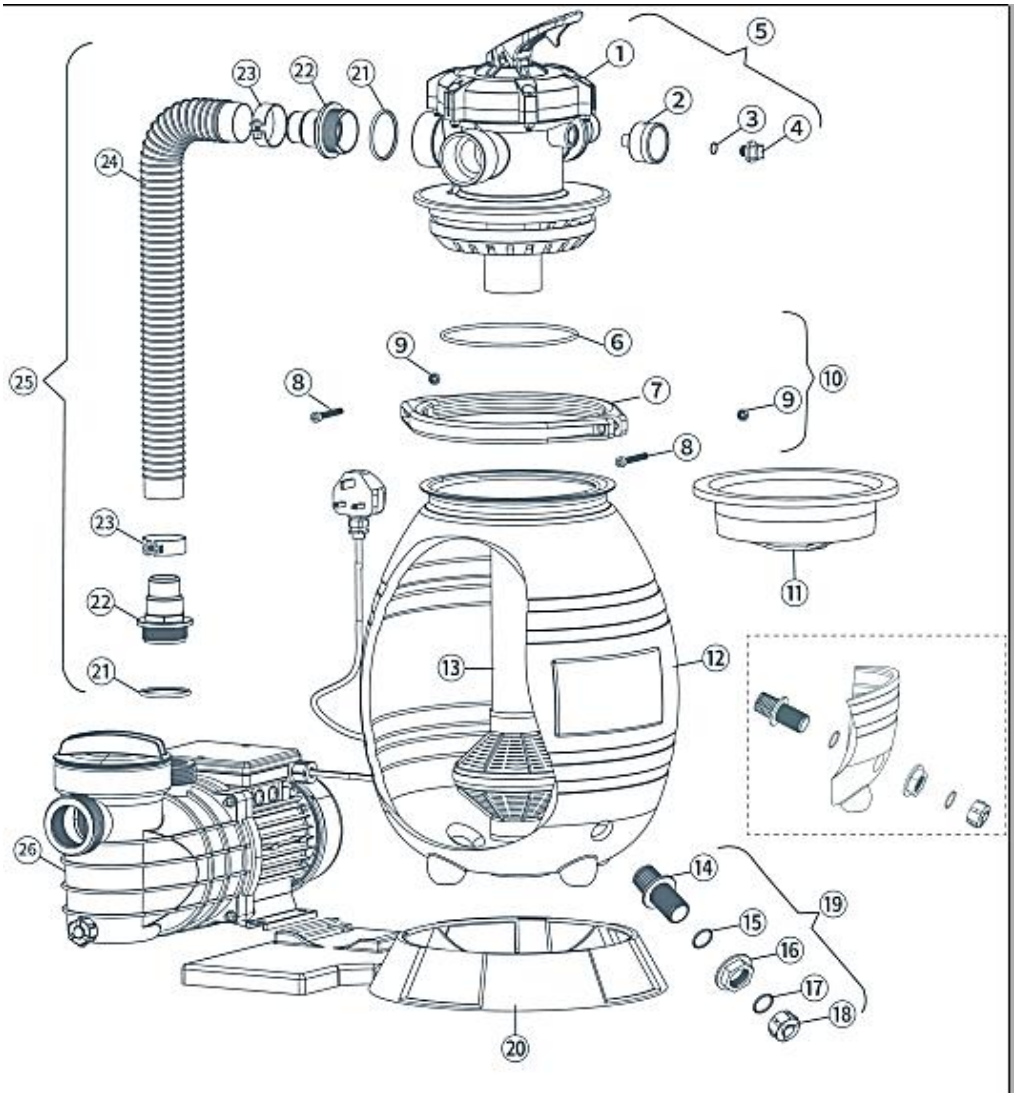


№	Name	№	Name	№	Name
1	1½″ 5-way clamp-style valve	**11**	Sand filter filling protector (*)	**21**	Pump base
2	Pressure gauge	**12**	Sand tank	**22**	Pump base
3	O-ring of plug	**13**	Standpipe and underdrain assembly	**23**	O-ring
4	Pressure gauge plug	**14**	Outlet connector	**24**	Hose nozzle

5	Valve assembly	**15**	O-ring of drain nut	**25**	Hose clamp
6	Valve O-ring	**16**	Adaptor	**26**	Hose
7	Flange clamp	**17**	O-ring of drain cap	**27**	Connecting kit
8	Screw	**18**	Drain cap	**28**	Pump
9	Nut	**19**	Drain kit		
10	Clamp assembly	**20**	Screw and washer		

(*) The filling protector for sand filters is used during the filling or emptying process. It secures the standpipe and prevents sand from entering when there is no water in the filter. This makes it easier to fill or empty the filter with sand. The filling protector must not be used during normal operation.

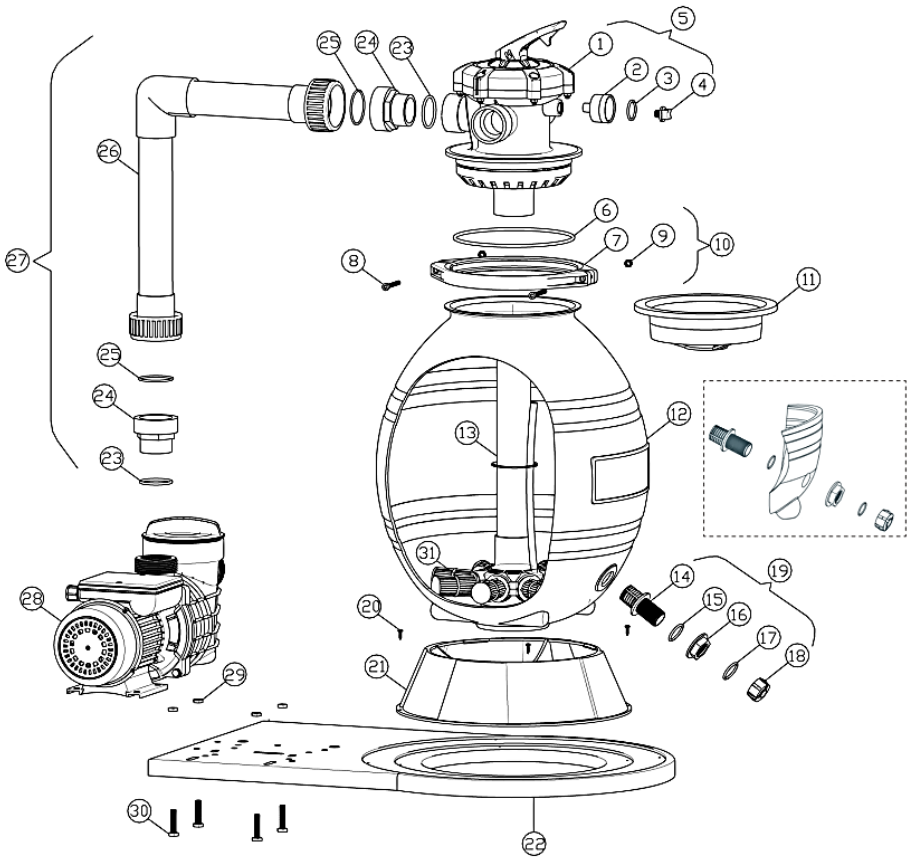
63344–63345



№	Name	№	Name	№	Name
1	1½″ 5-way clamp-style valve	**10**	Clamp assembly	**19**	Drain kit
2	Pressure gauge	**11**	Sand shield	**20**	Filter base
3	O-ring of plug	**12**	Sand tank	**21**	O-ring

4	Pressure gauge plug	**13**	Standpipe and underdrain assembly	**22**	Hose nozzle
5	Valve assembly	**14**	Outlet connector	**23**	Hose clamp
6	Valve O-ring	**15**	O-ring of drain nut	**24**	Hose
7	Flange clamp	**16**	Drain nut	**25**	Connecting kit
8	Screw	**17**	O-ring of drain cap	**26**	Pump
9	Nut	**18**	Drain cap		

63346



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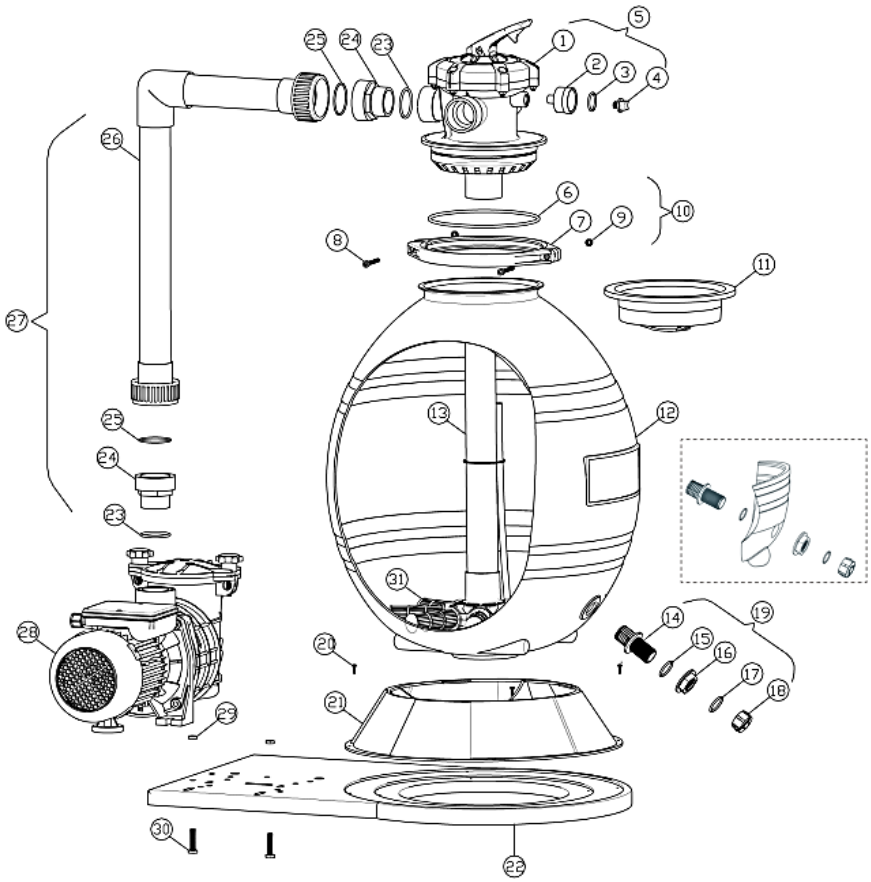
1	1½″ 5-way clamp-style valve	**11**	Sand shield	**21**	Base kit
2	Pressure gauge	**12**	Sand tank	**22**	Basis
3	O-ring of plug	**13**	Standpipe and underdrain assembly	**23**	O-ring
4	Pressure gauge plug	**14**	Outlet connector	**24**	Connector
5	Valve assembly	**15**	O-ring of drain nut	**25**	O-ring
6	Valve O-ring	**16**	Adaptor	**26**	Connecting tube
7	Flange clamp	**17**	O-ring of drain cap	**27**	Connecting kit
8	Screw	**18**	Drain cap	**28**	Pump

9	Nut	**19**	Drain kit	**29**	Nut
10	Clamp assembly	**20**	Screw	**30**	Screw
				31	Filter tubes

63347



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7	Flange clamp	**17**	O-ring of drain cap	**27**	Connecting kit
8	Screw	**18**	Drain cap	**28**	Pump
9	Nut	**19**	Drain kit	**29**	Nut
10	Clamp assembly	**20**	Screw	**30**	Screw

				31	Filter tubes

Regulations for waste disposal

The Waste Electrical and Electronic Equipment Directive (WEEE Directive, 2012/19/EU) of the EU was implemented in the German law related to electrical and electronic equipment and appliances.

All WilTec electric devices that fall under the WEEE directive are labelled with the symbol of a crossed-out wheeled rubbish bin. This symbol indicates that this electric device must not be disposed of with the domestic waste.

WilTec Technik GmbH is registered with the German registration authority EAR (Stiftung Elektro-Altgeräte Register) under the WEEE-registration number DE45283704.

Disposal of used electrical and electronic devices (intended for use in the countries of the European Union and other European countries with a separate waste collection system for these devices).
The symbol on the packaging or the product itself indicates that this product must not be treated as normal domestic waste but must be disposed of at a recycling collection station for electrical and electronic waste.
By disposing of this product correctly, you contribute to the protection of the environment and the health of your fellow people. Inappropriate disposal threatens the environment and health.

Material recycling helps to reduce the consumption of raw materials.

Additional information about the recycling of this product can be provided by your local commune, the municipal waste disposal facilities, or the store where you purchased the product.

Address:
WilTec Wildanger Technik GmbH
Königsbenden 12 / 28
52249 Eschweiler Germany

Important Note: