EN **Original Operating Instructions for**

BADU®Jet perla
BADU®Jet riva
BADU®Jet stella

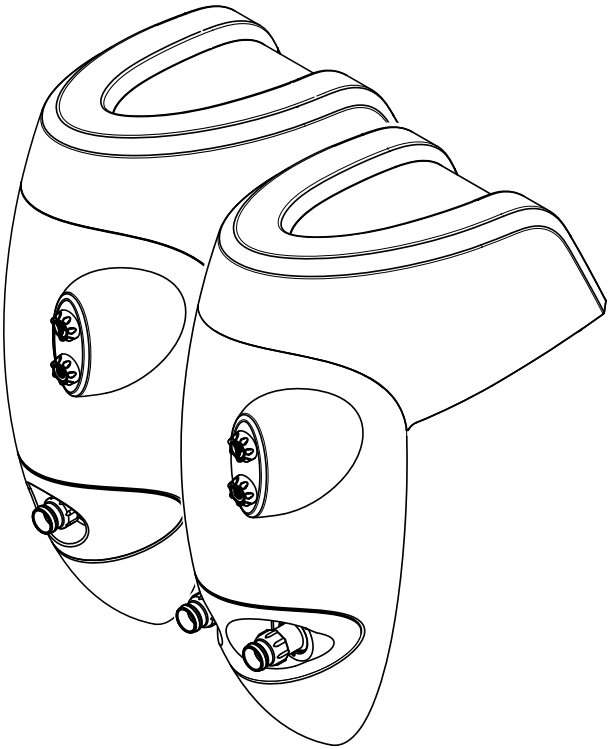


Table of Contents

1 Manual Introduction

1.1 Preface.

This manual contains important information for reliable and efficient operation of the overhang counter swim units. Compliance with the operating instructions is of vital importance to ensure reliability and a long service life of the product and to avoid any risks.

These units have been developed using state of-the-art-technology and manufactured with utmost care and have been subjected to the stringent Speck Pumpen testing facilities and continuous quality control. Speck Pumpen Verkaufsgesellschaft GmbH does not accept any liability for damage and injury caused by not observing the directions and instructions in this manual. This also applies in cases of carelessness during the installation procedure, use and maintenance of the product.

Non-compliance with the safety instructions can jeopardize the safety of personnel, the environment and the product itself. Non-compliance with the instructions will also lead to forfeiture of any and all rights to claims for damages

➔ Keep the instructions available for the life of the product.

➔ Make sure the instructions are accessible to all operators and service personnel.

➔ Ensure the instructions are passed on to each owner or user of the product.

1.2 Related Documentation

- Replacement parts list
- Packing list

1.2.1 Icons and Symbols

Icons and symbols are used to introduce safety instructions whose non-observance can lead to personal injury.

➔ Always read and follow the warnings.

Icons & Symbol	Warning	Meaning
⚠	**DANGER**	Physical Danger Non-observance can result in death or severe injury.

Icons & Symbol	Warning	Meaning
⚠	**WARNING**	Physical Danger Non-observance can result in death or severe injury.
⚠	**CAUTION**	Physical Danger Non-observance can result in personal injury.
❗	**–**	Instructions to prevent material damage, and optimize operation.

To ensure easy and correct operation, important technical information in a step by step procedure have been highlighted.

Symbol	Meaning
➔	Single step action
1. 2.	Multi-step action ➔ Follow the sequence of steps.

2 Safety

2.1 Introduction

Designed for installation in all swimming pool structures as an added attraction, the counter swim units offers the ultimate in flexible installations and are an easy addition to any existing swimming pool

Use to increase fitness, as a tingling wave or air bubble bath, for a soothing underwater massage (after consultation with a physician), or as a sporting endless no-lap swimming challenge with no need to turn around even in the smallest of pools.

The reliability of the unit delivered will only be guaranteed if it is used in the manner for which it is intended. Make sure the product operates within its working range. Water temperatures may not exceed 35°C.

The limit values specified in the data sheet must under no circumstances be exceeded.

These instructions should be followed closely since the counter swim units are subject to special requirements.

2.1.1 Possible Misuse

- The unit is not properly secured.
- The system has not been completely filled with water.
- Opening and maintenance of the unit by unqualified personnel.

2.2 Precautions and Qualifications

The overhang counter swim unit is not intended to be used by persons, including children, with limited physical, sensory or cognitive abilities. Also persons with a lack of experience or lack of knowledge. These persons must be supervised by a person responsible for their safety or have received instructions from them on how the device is to be used. Children must be supervised at all times. This device is not a toy.

➔ Only authorised personnel may install, maintain and inspect the unit and repair electrical components.
  – For work on the mechanical parts, such as changing the bearings or mechanical seal: qualified mechanic.
  – For work on the electrical system: certified electrician.

➔ Assure that the following requirements are fulfilled:
- If the personnel in question cannot provide proof of the relevant qualification, appropriate training and instruction must be provided before they are assigned to tasks typical for the unit.
- Personnel responsibilities, competence and supervision must be clearly defined by the operator, as work on the electronic or the hydraulic systems are to be determined based on qualification and job description.
- The operator is responsible for ensuring that the contents of the operating instructions are read and fully understood by the responsible person prior to assembly and commissioning.

2.3 Safety Regulations

The operator is responsible for adherence to all relevant legal regulations and guidelines.

➔ When operating the overhang counter swim unit the following safety guidelines must be observed:
- These instructions
- Warning and signs affixed to the product
- Other applicable documents
- The relevant national regulations for accident prevention
- Local safety regulations and internal company guidelines.

2.4 Protective Cover

Reaching into moving parts (e.g. coupling), can cause severe injury.

➔ Only operate the overhang counter swim unit with the cover on.

2.5 Structural Changes and Replacement Parts

Restructuring or changes may affect operational safety.

➔ Modifications or alterations of the product supplied are only permitted after consultation with the manufacturer.

➔ Original spare parts or accessories authorized by the manufacturer ensure safety. The use of other parts can invalidate any liability of the manufacturer for consequential damage.

2.6 Signs

➔ It is important that all signs on the product be observed and kept legible throughout the life of the product.

2.7 Other Risks

2.7.1 Falling Parts

The motor suspension rings are only intended for the weight of the motor and are not intended for carrying the weight of a complete overhang counter swim unit. The suspension rings may break out.

➔ The device must be mounted on the base plate.

➔ Only use suitable and technical appropriate hoists and load bearing materials.

➔ Do not linger under swinging loads.

2.7.2 Rotating Parts

Risk of injury due to open rotating parts can result in cuts and bruises.

➔ Always disconnect the energy supply to the product first before installation, maintenance and repairs. Secure this disconnection.

➔ Immediately following completion of the work, all safety-relevant and protective devices must be re-installed and/or re-activated.

2.7.3 Electrical Power

During work on the electrical system, there is an elevated danger of shock due to the moist environment.

Improper installation of the electrical earth protection wire can lead to shock: e.g. through oxidation or cable breakage.

➔ Hazards resulting from electricity are to be prevented. VED and EVU specifications and by-laws of the local power supply company must be followed.

➔ The swimming pool and its protective area must be in accordance with DIN VDE 0100-702.

➔ Take the following precautions before working on the electrical system:
- Separate the unit from the power supply. Secure the separation.
- Display a warning sign: "Do not start up! Work in progress on the system."
- Ensure there is no voltage.

➔ Check the unit regularly to ensure it is in operating order.

2.7.4 Hot Surfaces

The electric motor can reach temperatures of up to 70 °C and therefore poses a potential risk of burns.

➔ Do not touch the motor when it is running.

➔ Allow the motor to cool before working on the unit.

2.7.5 Entrapment Hazard

⚠ **WARNING!** Improper use of this product can present the following risks:

– Body and limb entrapment, intake or suction entrapment of clothing and jewellery, hair entrapment: which can lead to drowning?

➔ Maintain installation distance to the pool wall of ≤ 45 mm.

➔ Never operate the unit without its approved cover (7) or light protection cover (41).

➔ Wear close fitted clothing.

➔ To avoid hair entanglement uses a bathing cap.

➔ Suction openings should be checked and cleaned regularly.

2.7.6 Entrapment Hazard of sensitive body parts.

Intake nozzles and massage equipment move large volumes of water and operate at high pressure and high flow speeds. This can lead to serious injury to the eyes and other sensitive body parts such as severe intestinal damage or evisceration

➔ Avoid direct contact to these areas with the water stream from the intake nozzles or the massage equipment.

2.8 Malfunctions

➔ If the unit has a malfunction, stop it and turn it off immediately.

➔ Have any malfunction rectified.

Seized Pump

Repeated starting of a blocked pump can damage the motor. Use the following procedure:

➔ Avoid switching on the device several times in succession.

➔ Turn the motor shaft.

➔ Clean the pump.

2.9 Prevention of Material Damage

2.9.1 Leakage and Burst Pipes

Vibrations and thermal expansion can result in breakage in the piping.

Install the unit so that it is running smoothly and ensure physical and airborne noise transmissions are reduced. Use the anti-vibration buffers included. Follow the relevant regulations.

Housing

Avoid excessive strain on the housing parts as this can cause damage.

➔ The cover is not designed to withstand excessive weight and should not be stood on or used as a diving board.

2.9.2 Protection against Running Dry

Check the pump is properly filled with water. Running the unit dry can destroy the mechanical seals and plastic parts within seconds.

➔ Never let the pump run dry not even when checking for the direction of rotation.

➔ Ventilate the pump and the suction line before starting up.

2.9.3 Overheating

The following factors may lead to the pump overheating:

- Improperly set motor protection switch.
- Air vents are blocked by leaves, branches, etc.
- Lack of separation wall.

➔ Ensure the external or built-in overload switch is correctly set.

➔ Only operate the unit with the attached insulation wall. See page 66, figure 12.

2.9.4 Seized Pump

Dirt particles in the suction line can clog and block the pump.

➔ When necessary, suction openings should be freed from foreign bodies (branches, leaves, clothing, etc.)

➔ Check the pump for smooth operation before start-up and after extended storage or down- time.

2.9.5 Drainage

Insufficient leak drainage can damage the motor.

➔ Do not obstruct or seal off the leak drain between the pump housing and motor.

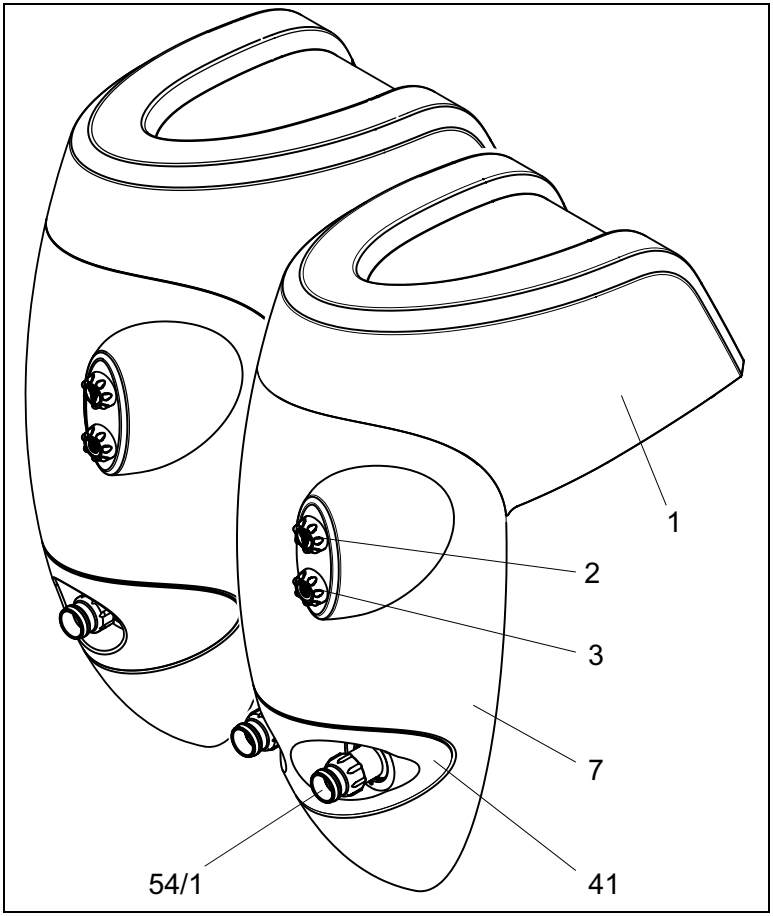
2.9.6 Frost protection

➔ If there is a danger of frost during prolonged idle periods the pump and all pipes must be drained ahead of time.

➔ During winter the unit must be emptied and stored in a dry location.

3 Description

Components



1 Cover
2 Light ON-OFF
3 Unit ON-OFF
7 Cover
41 Light Protection cover
54/1 Ball nozzle

Function

The overhang counter swim unit draws water from the swimming pool via a suction line which is then injected back into the swimming pool under high pressure via the pressure line through the ball nozzles.

4 Transport and Interim Storage

Prolonged intermediate storage in an environment of high humidity and fluctuating temperatures must be avoided!

Moisture condensation can damage windings and metal parts.

➔ Store the unit in a dry environment where temperatures are as constant as possible.

4.1 Lifting the counter swim unit.

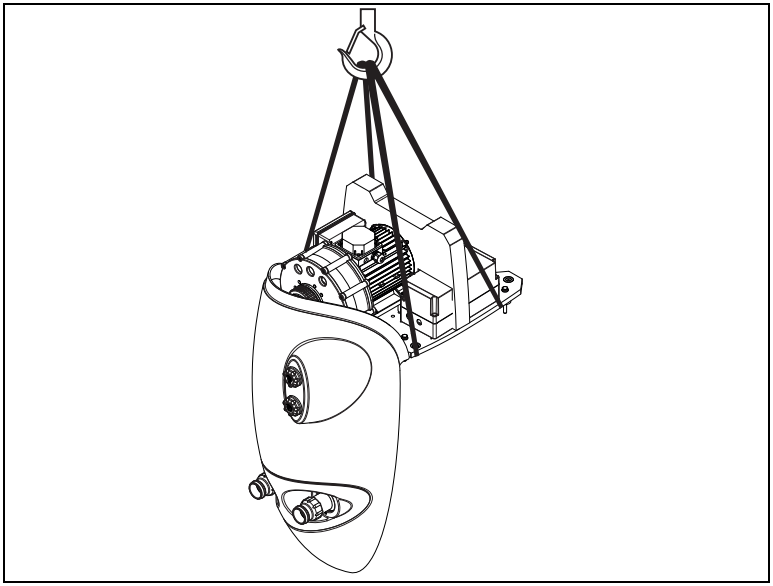
WARNING! Death or injury can occur through falling parts during transport.

The motor suspension rings are intended for the weight of the motor only and are not designed to hold the weight of a complete overhang counter swim unit as the suspension rings may break out.

➔ The device is to be mounted on the base plate.

➔ Only use suitable and technically appropriate hoists and load bearing materials.

➔ Do not linger under swinging loads.



5 Installation

5.1 Location

5.1.1 Mounting site

➔ Select the mounting site and prepare in accordance to page 62 figure 6. If the unit is being installed on an above ground pool, the telescope safety support must be used. See page 64, figure 9.

5.1.2 Checklist

➔ Check the unit contains all parts listed on the packing list.

5.1.3 Position

Set the unit on the edge of the pool and mark the mounting holes.

5.1.4 Securing the unit

➔ Lift the unit and drill the holes of Ø 10 mm on the markings.

5.1.5 Insert the brass dowels

Insert brass dowels (25) and screw on the vibration rubber metal buffer (26) - see page 63 figures 7 and 8. Make sure that the bolts with the buffers are securely anchored in the base, so that the unit sits securely.

5.1.6 Secure the unit

➔ Set the unit on the vibration buffers and secure it with the hexagonal bolts (32), toothed lock washers (31) and flat washers (30): See page 63 figures 7 and 8.

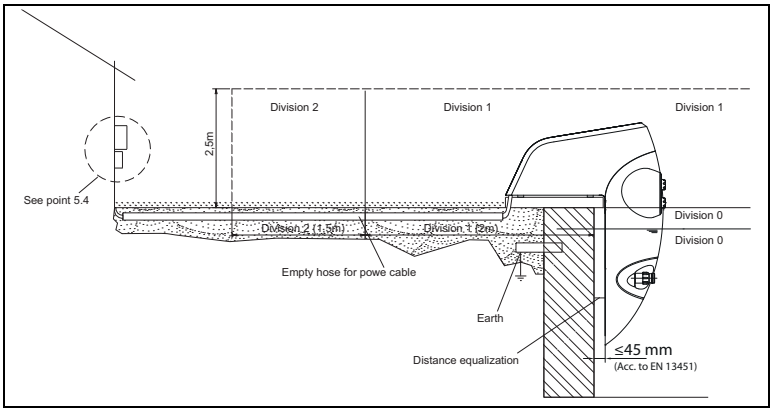
5.1.7 Distance equalization

➔ Equalize the distance between the housing and the pool edge This adjustment gives the unit added stability.

5.1.8 Power supply

➔ Before connecting the power supply carefully read and complete point 5.3 - Electrical connection and point 5.4 - Additional parts not provided for.

5.2 Assembly Recommendation



5.3 Electrical Connection

⚠ **WARNING!** Hazards resulting from electrical power are to be prevented.

- ➔ VED and EVU specifications and by-laws of the local power supply company must be followed.
- ➔ The swimming pool and its protective area must be in accordance with DIN VDE 0100-702.

- ➔ A disconnecting device has to be installed to cut off the power supply (contact opening according to the conditions of the overvoltage category III).

⚠ **WARNING!** Voltage on the housing may cause electric shock.

- ➔ Set the motor protection overload switch settings. Take the values on the type plate into consideration.

- ➔ Protect the electric circuit by means of an earth leakage switch: residual current $I_{\Delta N} \leq 30$ mA.
- ➔ Only use cable types pursuant to the regional regulations.
- ➔ Check that the min. diameter and length of the cable used is suitable for the current drawn by the motor. See values on the motor type plate.

➔ In the event of an emergency, an Emergency Switch in accordance to DIN EN 809 must be provided for.

5.4 Additional parts required

The following parts are not included with the unit and must be provided for before installation on site.

➔ Earth leakage switch $I_{\Delta N} \leq 30$ mA.

➔ Fuse 16 A -slow blow 230 V and 400 V.

➔ Emergency switch – disconnects all phases.

6 Start Up

Allowing the pump to run dry will damage the unit!

Protection against Running Dry

Check the pump is always fully filled with water. Running the pump dry can destroy the mechanical seals and plastic parts within seconds.

➔ Never let the pump run dry not even when checking for the direction of rotation.

➔ Ventilate the pump and the suction line before starting up.

6.1 Filling the pump

1. Remove the cover. No tool is required to remove it.

When replacing the cover make sure that the key snaps snugly into place over the position switch

➔ Do not use force.

2. Using the hand pump included (attached to the base plate) ventilate the unit as follows: See page 66, figure 11.
   - Attach the tube of the hand pump to the air drain valve on the pump.
   - Turn the air drain valve anti-clockwise to open.
   - Pump until water flows out.
   - Close the air drain valve clockwise and remove the hand pump.
   - Replace the hand pump

➔ The air regulation valve must be closed during aeration to prevent any air being sucked in

3. Replace the cover.

➔ Make sure that the position switch on the cover is seated correctly. See page 61, figure 5.

6.2 Start-up after prolonged downtime

After an extended down- time, the overhang counter swim unit must be thoroughly checked before it is switched on and connected to the power supply.

➔ Insert a screwdriver into the slot on the end of the motor shaft (fan side) and turn it.

➔ If there is no slot on the motor shaft, remove the fan cover and turn the fan wheel manually in the direction of rotation.

6.3 Switching ON

Prerequisites:

- Unit must be filled with water
- Cover on

Running dry will damage the pump!

➔ Ventilate the pump and the suction line.

4. Switch the unit on.

If the pump in the unit has a three-phase motor and is running in the wrong direction, this can normally be detected as the unit runs louder and pumps less.

5. For three-phase motors: make sure that the motor is running in the direction of the adhesive arrow. If the rotational direction is wrong, report this to a certified electrician. Check using the directional arrow on the fan cover.
6. Check the mechanical seal.

7 Operation

7.1 Operating the overhang counter swim unit

7.1.1 Turning the unit ON and OFF

- Switching the unit ON and OFF is done by pressing the pneumatic push button built into the housing. See page 65, figure 10.

7.1.2 Air Regulation Function

- The air regulator enables the intake of air via the nozzle in order to achieve a bubbling bath effect. See page 65, figure 10.

7.1.3 Light operation

- Turning the light ON and OFF is done by pressing the pneumatic button built into the housing. See page 65, figure 10.

7.1.4 Setting the ball nozzle

- The direction of the ball nozzle is adjustable. The nozzle is normally set in a horizontal or slightly upwards position which then provides the optimal effect for counter swimming.
- Ensure the ball nozzle is fully opened by turning it anti-clockwise before start- up.

7.1.5 Cover damage.

➔ . The cover is not designed to withstand excessive weight and should not be stood on or used as a diving board or starting block.

7.1.6 Optimal water level

If there is insufficient water in the pool, the unit will not function properly.

➔ Check that the level of water in the swimming pool is sufficient. See page 66 figure 13 and observe the markings on the unit.

7.2 Massage hose.

7.2.1 Instructions for the massage hose.

- The use of the massage hose for an underwater massage should, in general only be done after consultation with a physician. The massage hose is not a toy and is not be used by children.
- The model Badu®Jet Stella is delivered together with a blind coupling which is used to attach the massage hose to the second nozzle. This allows an optimal underwater massage.

7.2.2 Air regulation and the massage hose.

- Ensure the air regulator is closed before a massage; otherwise water will be forced through due to the increased pressure.

8 Malfunctions

It is normal that from time to time a small amount of water escapes through the mechanical seal. This applies in particular to the running-in period.

The main factors influencing the efficiency of the mechanical seal and subsequent leakage is the water quality and the number of operating hours.

➔ Replace in the event of permanent leakage.

In the event of any irregularities please notify the swimming pool manufacturer.

8.1 Failures

Problem	Possible Cause	Possible solution
Unit cannot be switched on	Positional switch is not snapped into place.	➔ Check the cover position.
Overhang counter swim unit is shut off by the built in or external overload switch.	Overload	➔ Check the overhang counter swim unit. See chapter 8.1.1, page 56.
The pump has seized.	Mechanical seal has become stuck through lack of use.	➔ Turn motor shaft. See chapter 6.2, page 52. ➔ Clean the pump.
Constant water leakage from the pump.	Running surface of the mechanical seal is worn or damaged.	➔ Replace the mechanical seal.
Pump is noisy.	Defective/worn bearings	➔ Have the bearings changed by a mechanic.

Problem	Possible Cause	Possible solution
No water jet despite the unit being turned on.	- Air in the system - Leakage in the suction line - Air drain valve leaking or not closed	➔ Check screws, replace seals. ➔ Ventilate the pump and suction line. See point 6.1, page 51

8.1.1 Overload switch has triggered.

If the built-in or external overload switch triggers, implement the following steps:

➔ Separate the unit from the power supply.

– Turn the motor shaft on the fan side with a screwdriver and check that it is running smoothly.

Motor shaft not running smoothly:

➔ Remove screwdriver.

– Notify customer services and have the overhang counter swim unit inspected.

Motor shaft runs smoothly:

➔ Remove screwdriver.

– Reconnect the power supply.

If the pump has seized, repeated starting can damage the motor.

➔ Only switch the unit on once.

– Wait until the motor has cooled and only then reset the overload switch

– Have an electrician check the power supply, safeguards and power consumption.

– If the built-in or external overload switch trips again, notify customer services.

9 Maintenance/Service

➔ Always disconnect from the power supply before commencing any maintenance work. Secure this disconnection.

When?	What?
Regularly	➔ Check the pump is not leaking. ➔ Check the stability of the unit All impurities should be removed. ➔ Check the electrical contacts in general. ➔ Separate potential connector.
If there is a risk of frost.	➔ During winter, remove the unit out of the pool. Empty and store it in a dry location.

➔ Only have the pump repaired by the manufacturer or an authorized dealer.

➔ If the case pf pump leakage, the unit may not be operated and must be disconnected from the power supply.

➔ After finishing maintenance work, take all required steps for start up. See chapter 6, page 51.

9.1 Care Instructions

If needed, wash the unit with water and wipe with a moist cloth. **Do not use abrasive cleaning agents!**

A few sprays of a cleaning agent especially for the use on acrylic surfaces can be occasionally used. Wipe with a clean dry cloth. Heavily soiled surfaces can be cleaned with warm soapy water or a mild cleanser.

Lime-scale deposits/water spots can be removed with a mixture of white vinegar and water. Removal of light scratches or rough spots on shiny surfaces can be done with the help of a buffing kit found in sanitary supply stores.

10 Appendix I

10.1 Technical Information

	BADU®Jet perla	BADU®Jet riva	BADU®Jet stella
JET- Pump	21-81/31 G	21-81/32 G 21-81/32 RG	21-81/33 G
Voltage (V)	3 N~ 400/230 V / 1~ 230 V	3 N~ 400/230 V / 1~ 230 V	3 N~ 400/230 V
Flow rate (m^3/h)	40/40	58/54	75
Power Input P_1(kW)	2.10/2.30	3.30/2.90	3.80
Power Output P_2(kW)	1.60/1.60	2.60/2.20	3.00
Flow pressure at nozzle (bar)	0.90/0.90	1.10/1.00	1.00
Flow velocity 2m from the nozzle (m/s)	1.10/1.10	1.20/1.15	1.40
Massage pressure (bar) max.	1.20/1.20	1.60/1.60	1.60
Number of nozzles Ø 40 mm (pieces)	1/1	1/1	2
Omni directional swivel nozzle(degrees)	60	60	60
Control	Pneumatics	Pneumatics	Pneumatics
ON/OFF switch accessible from inside the pool	Yes	Yes	Yes
Attachable massage hose	Additional	Additional	Additional
Attachable pulsator	Additional	Additional	Additional
Telescopic support	Additional	Additional	Additional
Noise emission Lwa/db(A)	69,2/77	70,5/79	70,7/79
Weight [kg]	3~/1~ 36/41 / 39*)/44*)	3~/1~ 52/52 / 55*)/55*)	3~ 54/60

10.2 Dimensions

BADU®Jet perla®
BADU®Jet riva

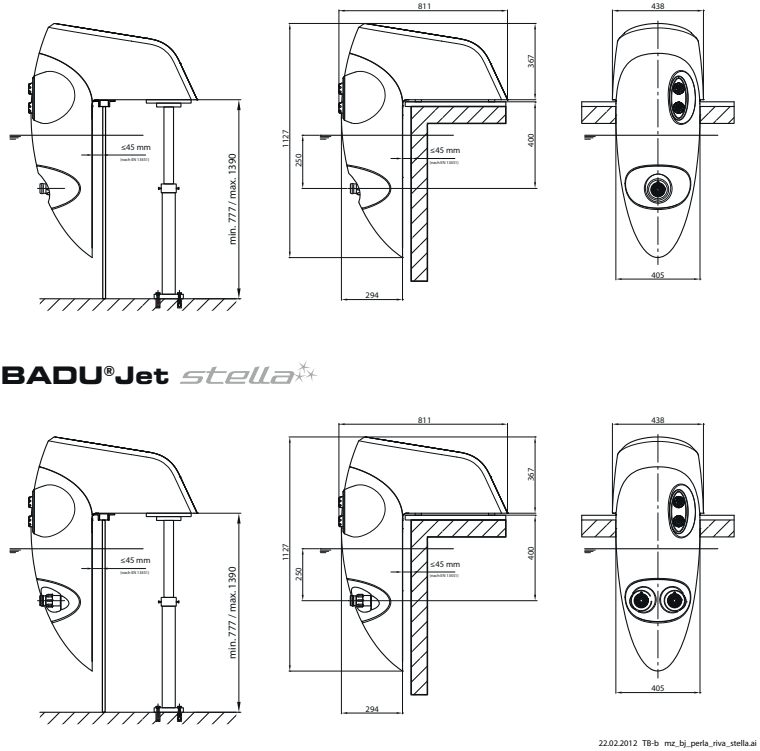


fig. 1

10.3 Wiring diagrams

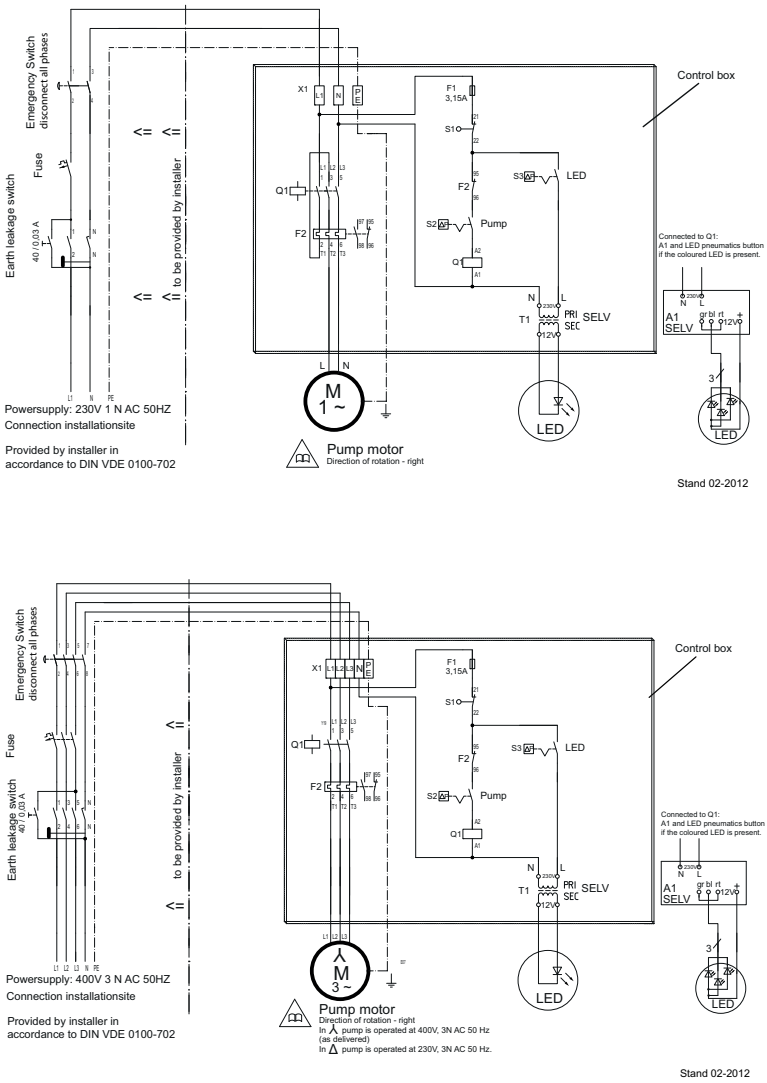


fig. 3

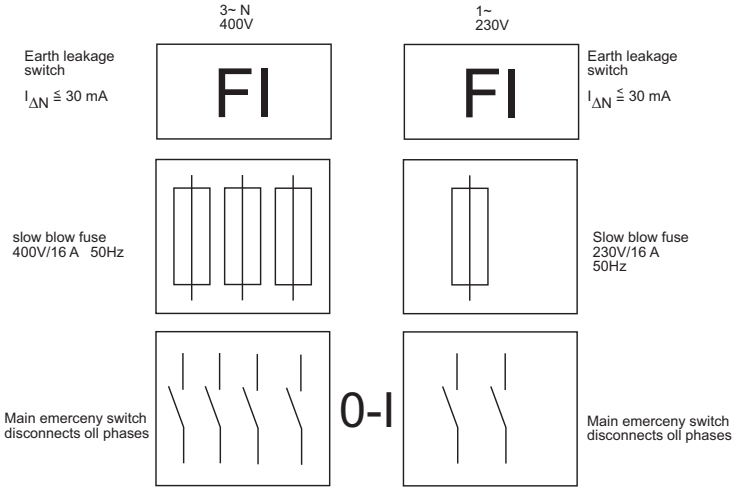


fig. 4

10.4 Information on Safety Position Switch

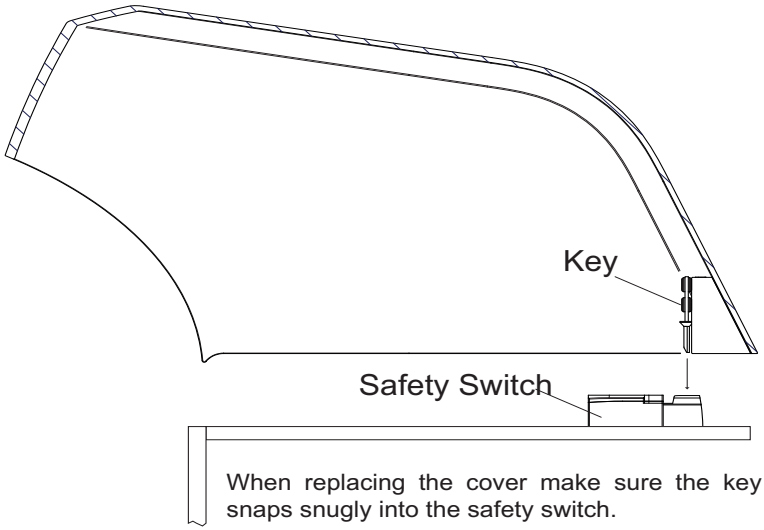
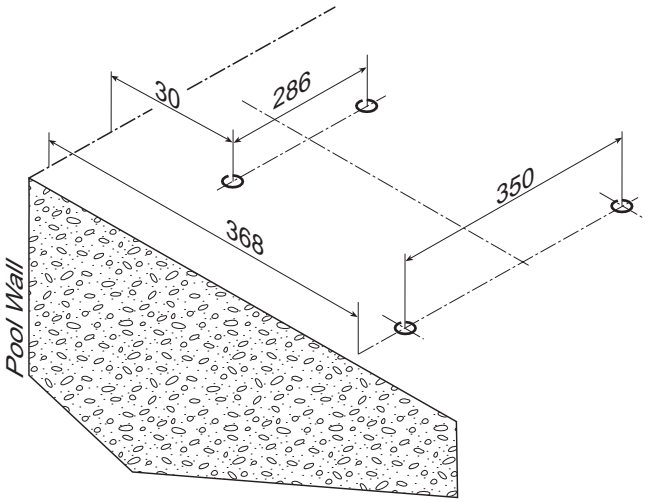


fig. 5

10.5 Securing the unit to the ground

Diagram for drilling the mounting holes on an inground pool



Dimension (in mm)
Drill holes Ø 10 mm

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fig. 6

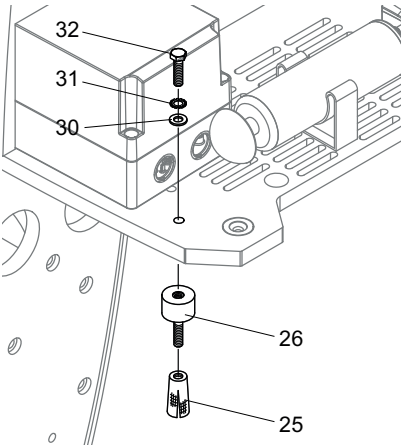

Fig. 7

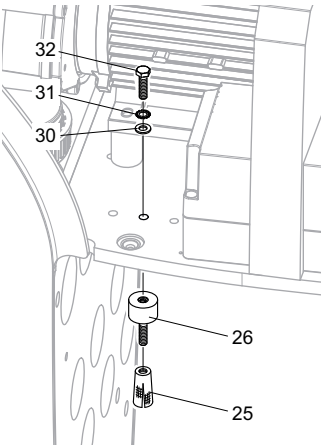

Fig. 8

Pos./ Part/ Piece	Piece/ Qty Qty	Description		Article no./ Ref.
25	4	Dowel, M8, Brass		2306.006.006
26	4	Rubber metal buffer, M8 x 36 mm		2306.006.005
30	4	Washer d=8,4 x 24 mm, A2		5879.021.080
31	4	Lock washer, d=8,4 mm, A2		5876.797.080
32	4	Hexagon bolt, M8 x 25 mm, A2		5879.330.825

10.6 Securing the unit with the telescopic support foot.

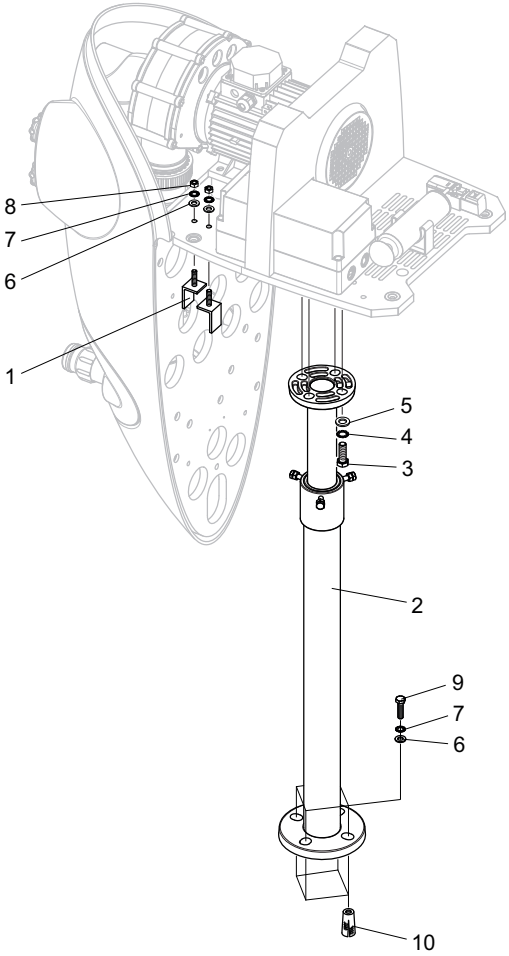

fig. 9

Pos./ Part/ Piece	Piece/ Qty Qty	Description		Article no./ Ref.
1	4	Elbow		231.9007.001
2	1	Telescopic safety support		2319.851.000
3	4	Hexagon bolt M12x35mm, Ks		5869.331.235
4	4	Lock Washer Ø 13mm, A2		5876.797.120
5	4	Washer Ø 13mm, A2		5871.251.200

6	8	Washer Ø 8.4mm, A2		5879.021.080
7	8	Lock Washer Ø 8.4mm, A2		5876.797.080
8	4	Nut M8, A4		5879.340.800
9	4	Hexagon bolt M 8 x 50mm, A2		5879.330.850
10	4	Dowel, M8, Brass		5879.330.816

10.7 Various Drawings

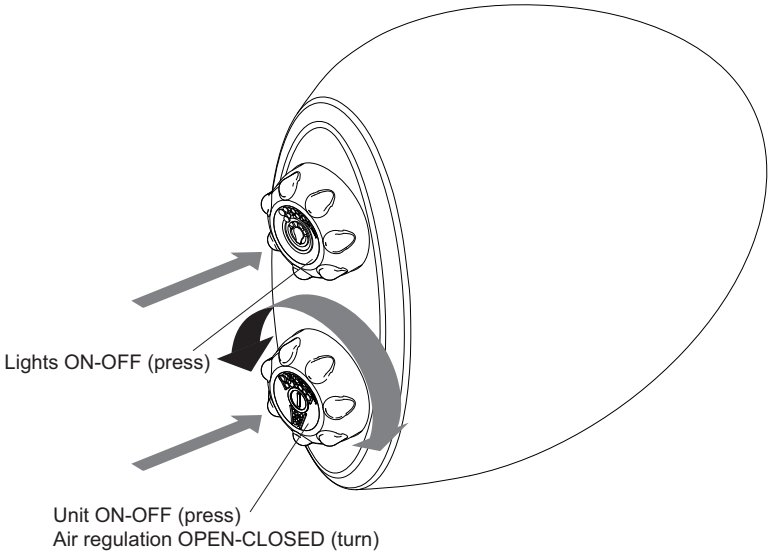

fig. 10

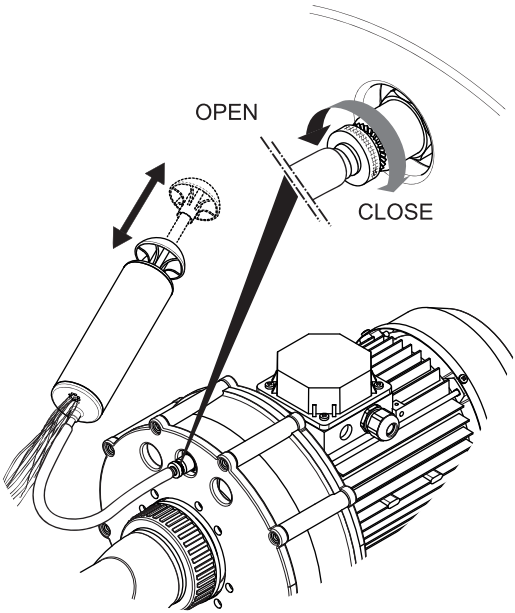

fig. 11

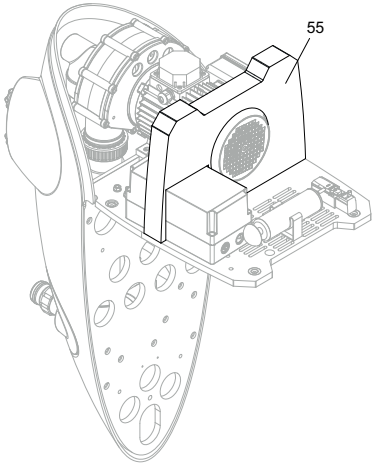

fig. 12

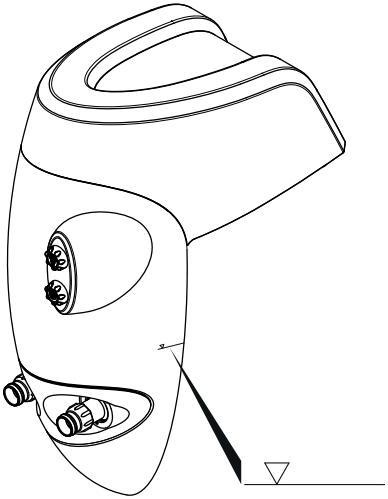

fig. 13