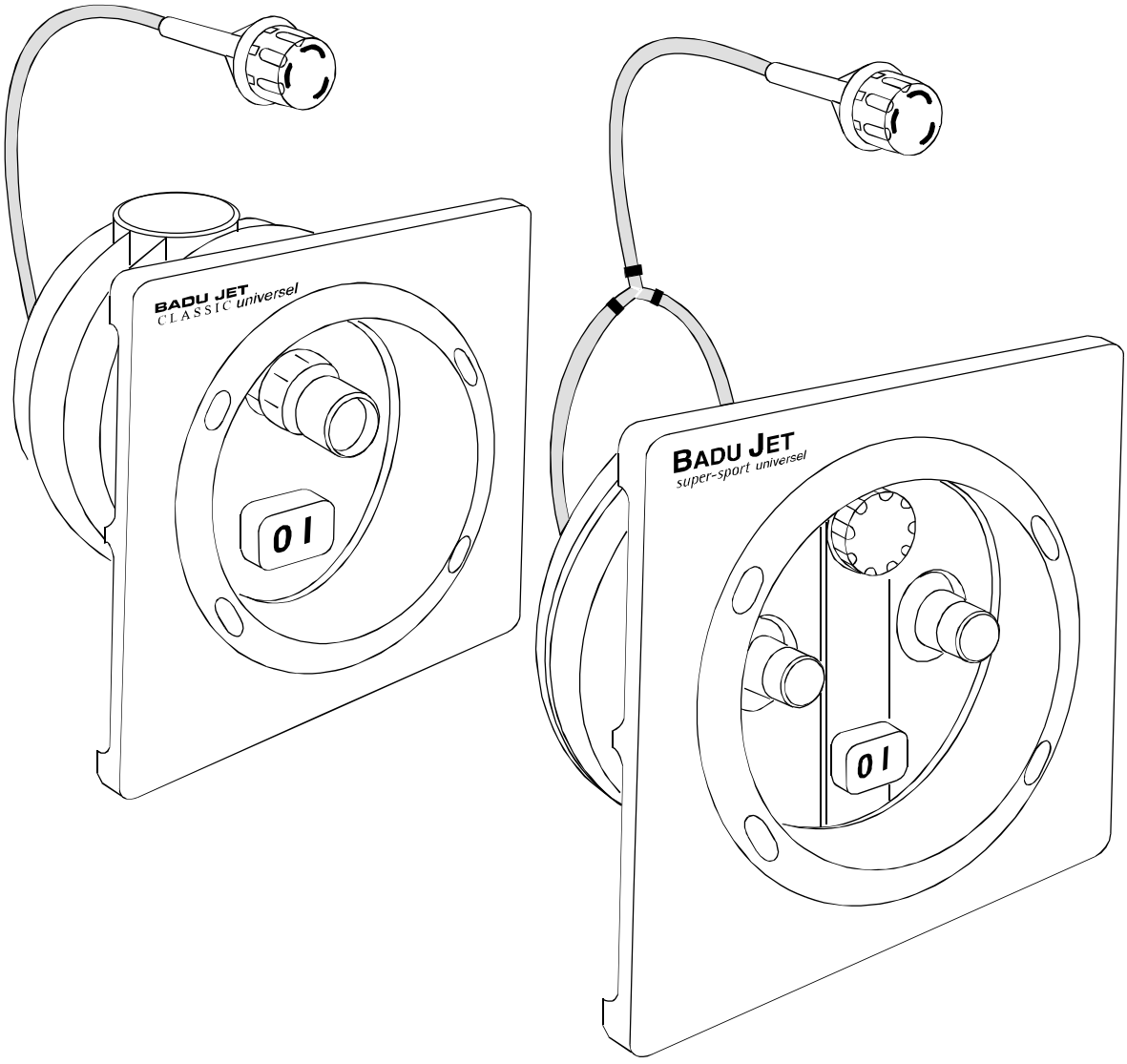
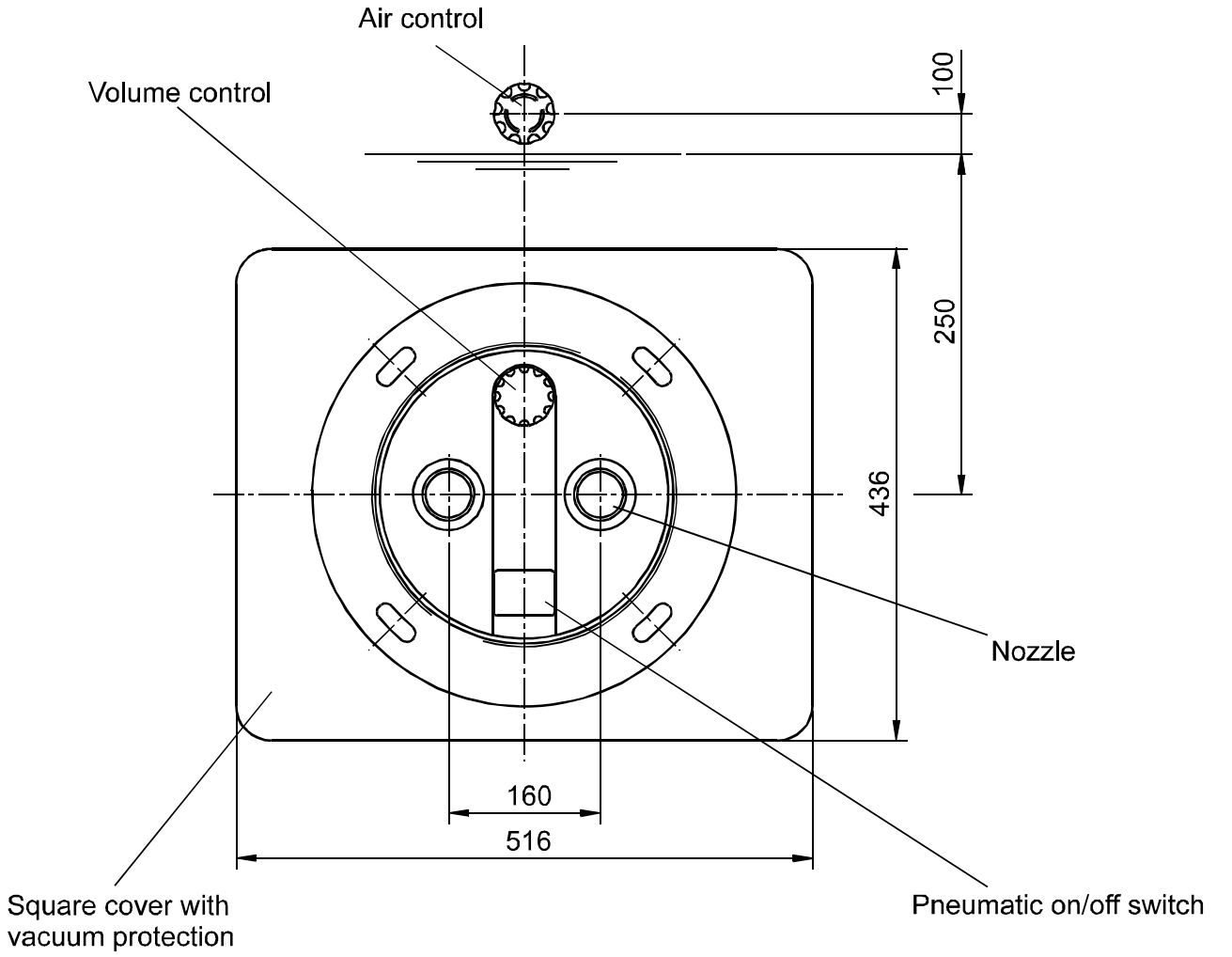
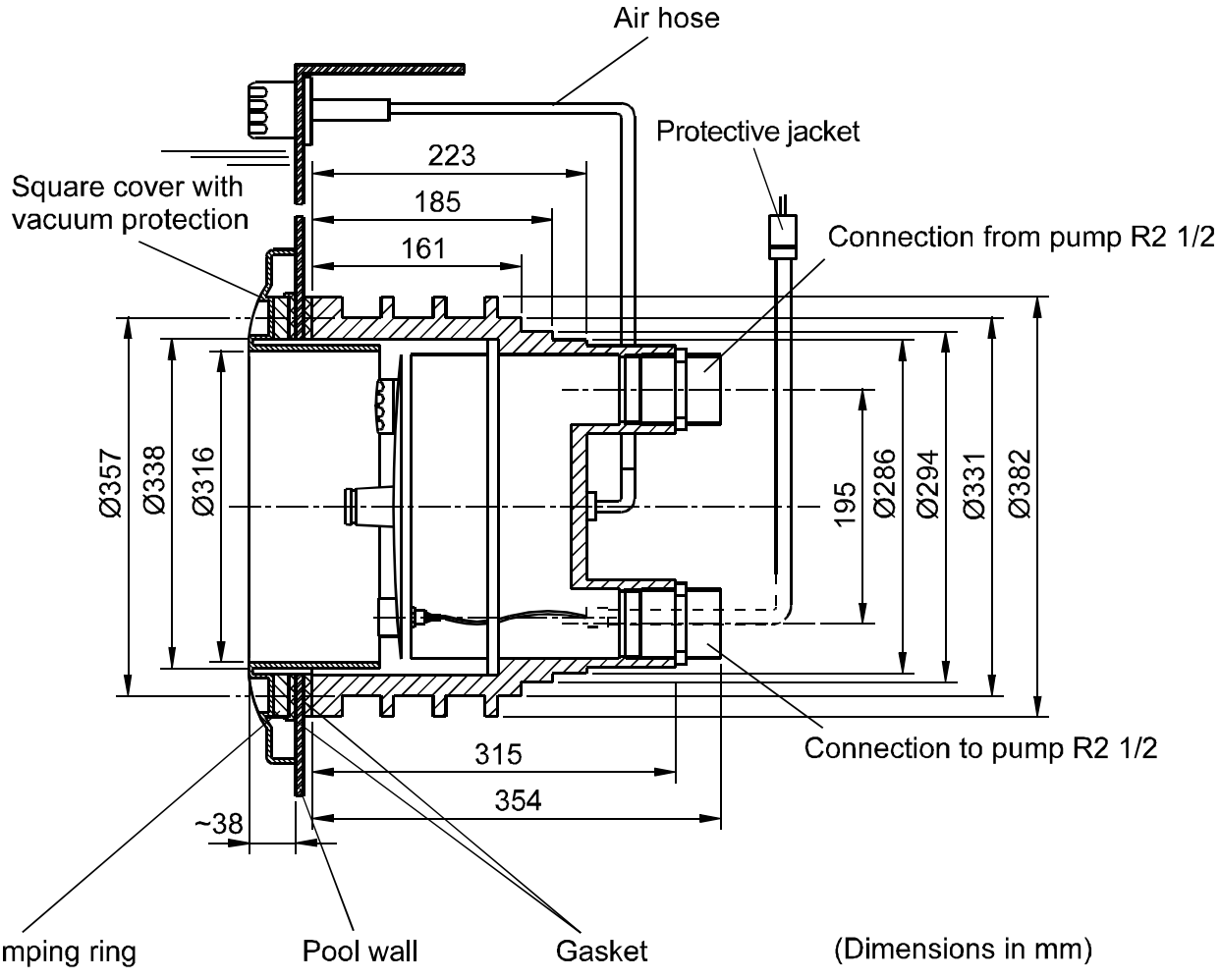
INSTALLATION AND OPERATING INSTRUCTIONS
BADU Jet super-sport, Universel design
Badu Jet classic, Universel design

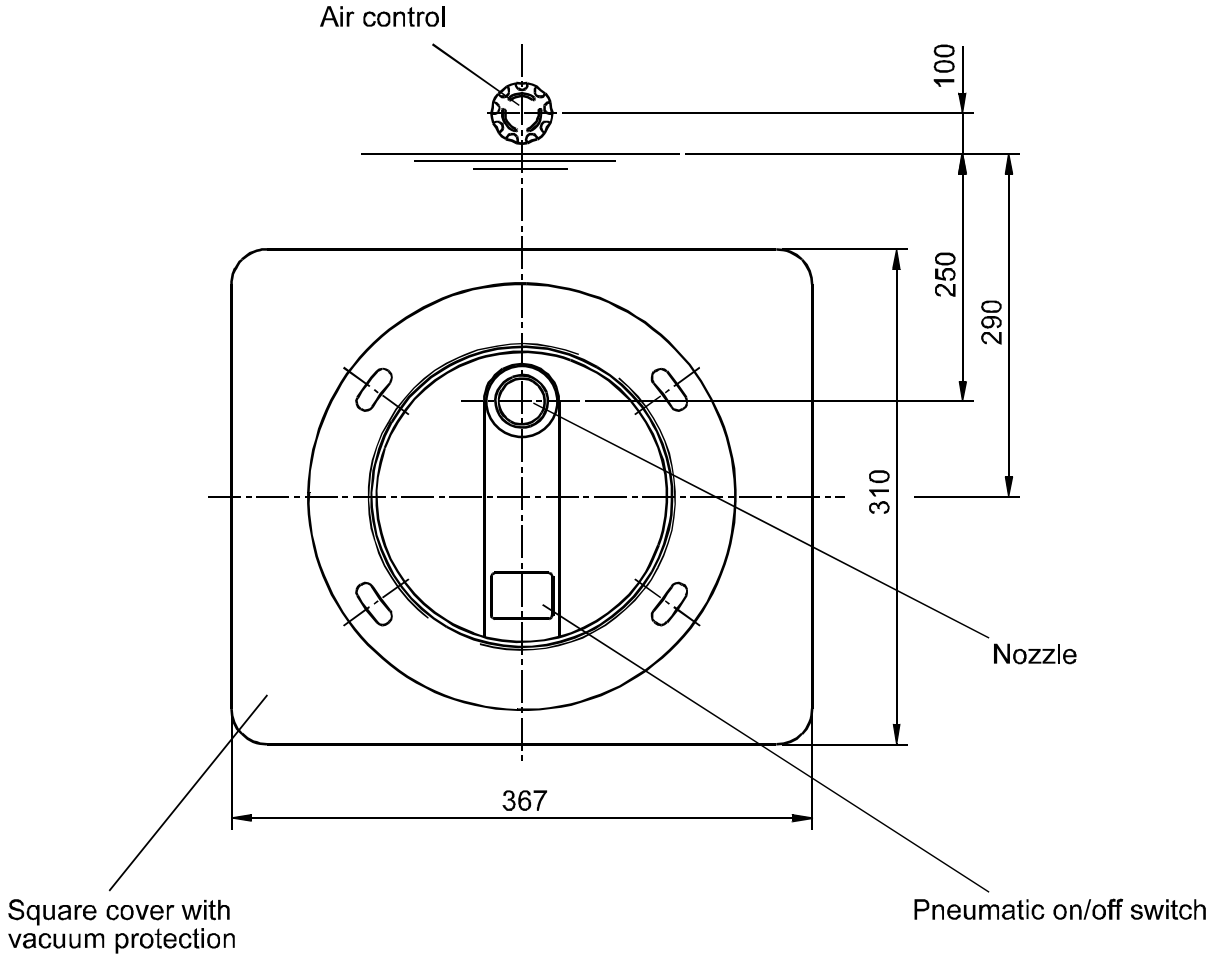
1. General

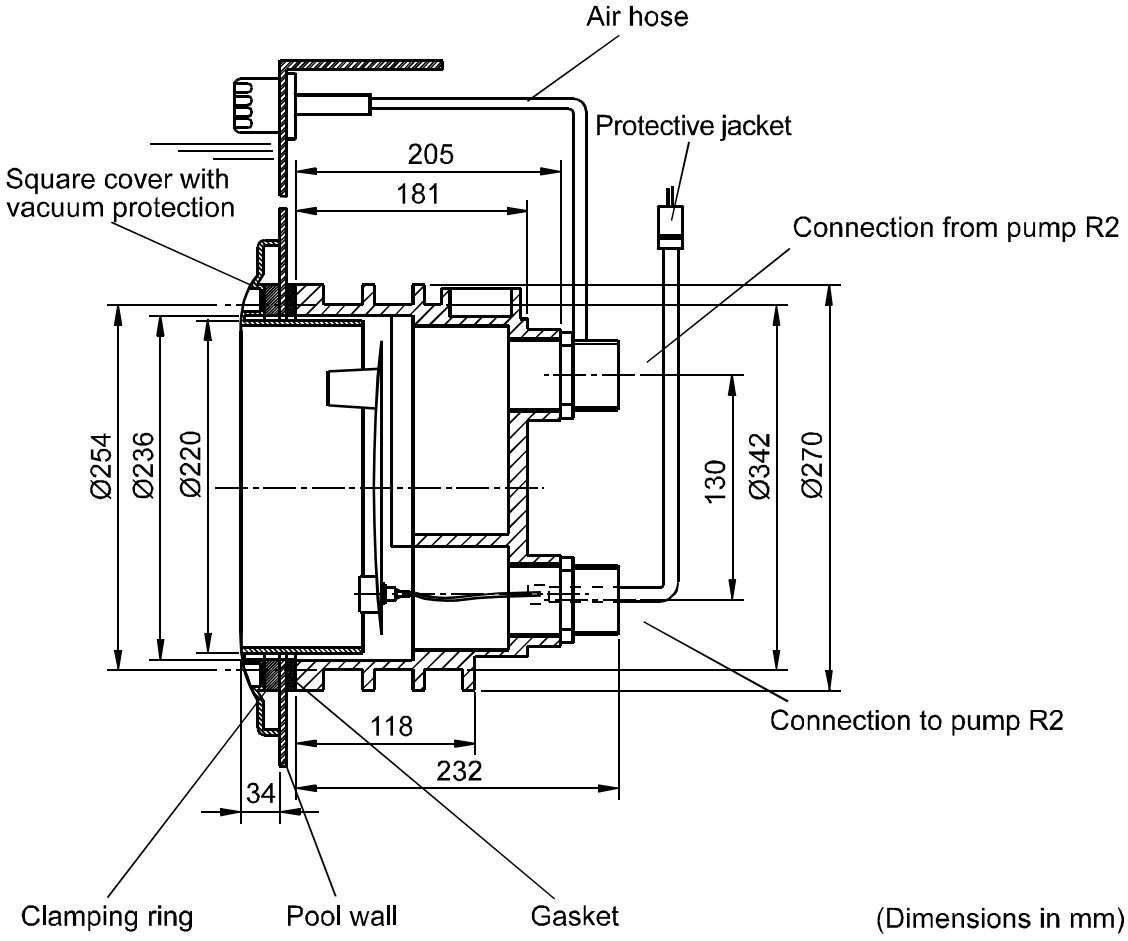
Speck-Pumpen Verkaufsgesellschaft Karl Speck GmbH & Co., Lauf
Country of origin: Federal Republic of Germany
Area of use:
For wall installation in all swimming-bath designs, as a fitness attraction, as a wave or air-bubble bath, for underwater massage (at doctor's recommendation), swimming without turning.




Air control
Volume control
100
250
436
Nozzle
160
516
Square cover with
vacuum protection
Pneumatic on/off switch


Air hose
Protective jacket
223
185
161
Square cover with
vacuum protection
Connection from pump R2 1/2
Ø357
Ø338
Ø316
195
Ø286
Ø294
Ø331
Ø382
315
354
~38
Connection to pump R2 1/2
Clamping ring
Pool wall
Gasket
(Dimensions in mm)


Air control
100
250
290
310
Nozzle
367
Square cover with
vacuum protection
Pneumatic on/off switch


Air hose
Protective jacket
205
181
Square cover with
vacuum protection
Connection from pump R2
Ø254
Ø236
Ø220
130
Ø342
Ø270
118
232
34
Connection to pump R2
Clamping ring
Pool wall
Gasket
(Dimensions in mm)

2. Safety

This operation manual gives basic instructions which are to be observed during installation, operation and maintenance of the pump. It is therefore imperative that this manual be read by the responsible personnel/operator prior to assembly and commissioning. It is always to be kept available at the installation site.

It is not only the general safety instructions contained under this main heading safety that are to be observed but also the specific information provided under the other main headings.

2.1 Identification of safety instructions in the operating manual

Safety instructions given in this manual non-compliance with which would affect safety are identified by the following symbol:

see DIN 4844-W9

or where electrical safety is involved, with

see DIN 4844-W 8.

For safety warnings which, when ignored, may constitute a hazard for the machine and ist functions, the word

CAUTION

is added.

It is imperative that signs affixed to the machine, e.g.

- arrow indicating the direction of rotation
- symbols indicating fluid connections

be observed and kept legible.

2.2 Qualification and training of operating personnel

The personnel responsible for operation, maintenance, inspection and assembly must be adequately qualified. Scope of responsibility and supervision of the personnel must be exactly defined by the plant operator. If the staff does not have the necessary knowledge, they must be trained and instructed, which may be performed by the machine manufacturer or supplier on behalf of the plant operator, moreover, the plant operator is to make sure that the contents of the operation manual are fully understood by the personnel.

2.3 Hazards in the event of non-compliance with the safety instructions

Non-compliance with the safety instructions may produce a risk to the personnel as well as to the environment and the machine and results in a loss of any right to claim damages.

For example, non-compliance may involve the following hazards:

-Failure of important functions of the machines/plant
-Failure of specified procedures of maintenance and repair
-Exposure of people to electrical, mechanical and chemical hazards
-Endangering the environment owing to hazardous substances being released.

2.4 Compliance with regulations pertaining to safety at work

When operating the pump, the safety instructions contained in this manual, the relevant national accident prevention regulations and any other service and safety instructions issued by the plant operator are to be observed.

2.5 Safety instructions relevant for operation

-If hot or cold machine components involve hazards, they must be guarded against accidental contact.
-Guards for moving parts (e. g. coupling) must not be removed from the machine while in operation.
-Any leakage of hazardous (e. g. explosive, toxic, hot) fluids (e. g. from the shaft seal) must be drained away so as to prevent any risk to persons or the environment. Statutory regulations are to be complied with.
-Hazards resulting from electricity are to be prevented (see for example, the VDE Specifications and the bye-laws of the local power supply utilities).

2.6 Safety instructions relevant for maintenance, inspection and assembly work

It shall be the plant operator’s responsibility to ensure that all maintenance, inspection and assembly work is performed by authorized and qualified personnel who have adequately familiarized themselves with the subject matter by studying this manual in detail.

Any work on the machine shall only be performed when it is at a standstill, it being imperative that the procedure for shutting down the machine described in this manual be followed.

Pumps and pump units which convey hazardous media must be decontaminated.
On completion of work all safety and protective facilities must be re-installed and made operative again.

Prior to restarting the machine, the instructions listed under „Initial Commissioning“ are to be observed.

2.7 Unauthorized alterations and production of spare parts

Any modification may be made to the machine only after consultation with the manufacturer. Using spare parts and accessories authorised by the manufacturer is in the interest of safety. Use of other parts may exempt the manufacturer from any liability.

2.8 Unauthorized modes of operation

The reliability of the machine delivered will be only guaranteed if it is used in the manner intended, in accordance with clause 1 - General of this manual. The limit values specified in the data sheet must under no circumstances be exceeded.

Cited Standards/Norms and other Documentation

DIN 4844 Part 1 Supplement 13	Safety marking; Safety symbol W 8
DIN 4844 Part 1 Supplement 14	Safety marking; Safety symbol W 9

3. Transport and intermediate storage

In order to avoid damage to and the loss of individual parts, the original packing must not be opened until immediately before installation.

4. Description

The BADU Jet super-sport universel and Badu Jet classic universel are counter-current swimming systems which can be installed in any pool.

In the Universel-systems, the suction and pressure lines do not form part of the scope of supply. The have to be set up on site in accordance with the installation conditions.

A powerful jet pump is connected via suction and pressure lines to the plastic installation housing, which is inserted flush into the wall of the pool (no risk of injury, since no parts project into the pool).

Via the circulating ring channel in the housing, the water is sucked in by the jet pump at low flow and delivered back into the swimming pool at high pressure via the two nozzles or one nozzle.

The jet pump is switched on and off via a pneumatic push-button which is incorporated in the nozzle housing.

The delivery flow and therefore the action of the counter-current system can be adjusted individually via a volume flow control system or controllable nozzle. By using an air control system, air can optionally be added to the nozzle flow.

The options in the available range include a plug-on massage nozzle, a massage hose, a massage hose with pulsator and a plug-on pulsator.

5. Erection, Fitting, Installation (Planning)

The location at which the pump is erected should be as close as possible to the installation housing. If this is not possible for constructional reasons, the pump may be installed at a distance of up to 10 m from the pool. If this installation is selected, it is absolutely necessary to take care that the pipelines are dimensioned in accordance with the following table, in order to keep the resistance and the friction losses as low as possible.

The pump should be installed below the water level. If this is not possible, a self-priming pump (BADU 21-80/33 SG or 21-80/32 SG) can be installed. However, this must not be higher than 1 m above the water level. If this is not possible either, or if a normal intake pump (BADU 43/32 or 21-50/43) is used, a non-return valve must be installed in the suction line below the water level and, on the pressure side, the pressure line must be led appropriately high, that is to say at least 30 cm above the pressure connection, in order to prevent the water being thrown out when starting up.

The pipeline should be laid below water level until just before the pump and then led vertically upwards to the pump.

Only bends must be used in the pipeline, not elbows, in order to keep the flow losses as low as possible.

The pipelines used should be PVC plastic lines PN 10 or other plastic lines PN 10.

The switch cabinet and pump must be installed in a dry room. The distance between the pool and the switch cabinet must be 10 m at most, in order to ensure the satisfactory functioning of the pneumatic push-button.

The pneumatic hose should be laid in a protective hose in order that it can subsequently be replaced easily.

The electrical connection must be made only by a trained electrician!

Care must be taken that a disconnection device is provided in the electrical installation which provides disconnection from the mains with at least 3 mm contact spacing for each pole. The BADU Jet universel counter-current swimming system is constructed in accordance with Protection Class 1. The ambient temperature must not exceed 40°. The 3-phase AC motors incorporated in the counter-current swimming systems are protected by an appropriate motor protective switch in the original switch cabinet. Before commissioning, the adjusted value must be compared with the value specified on the type label. The electrical system must be fused in accordance with the relevant standard using a residual current circuit breaker IFN ? 30 mA.

6. Commissioning

If the pump is mounted below the water level, the ball-cocks installed in the suction and pressure lines must be opened and the pump vented. The direction of rotation must be checked by switching on briefly. It must be in accordance with the arrow which is stuck onto the fan housing.

This check on the direction of rotation is particularly important in induction motors, since here there is the possibility that the pump can also run in the reverse direction of rotation. In this case, 2 phases must then be interchanged in order to repeat this check.

Take care that the counter-current system is never operated with the shut-off valves in the suction and pressure lines closed.

If self-priming pumps, type 21-80/..SG are installed, the pump housing has to be filled via the red filling plug, the plug must then be screwed in again and care must be taken that it is tightened hand-tight. The check on the direction of rotation can then be carried out. If the direction of rotation is in order, the pump can continue to be operated and the priming time will be up to a maximum of 2 minutes, depending on the suction height.

If a BADU 43/32 or BADU 21-50/60 is installed above the water level as the jet pump, a non-return valve absolutely must be mounted below the water level in the vertical suction line.

The pump and the suction line must be filled up to the non-return valve via an appropriate filling device in the pressure line, the filling device must then be closed again and, after the check on the direction of rotation, the pump can be operated.

7. Maintenance/overhaul

If there is a risk of frost during the winter, the water level in the swimming pool must be lowered as far as the lower edge of the installation housing, in order that the suction and pressure lines empty.

It is expedient to remove the pump during the winter and to overwinter it in a dry room.

8. Fault

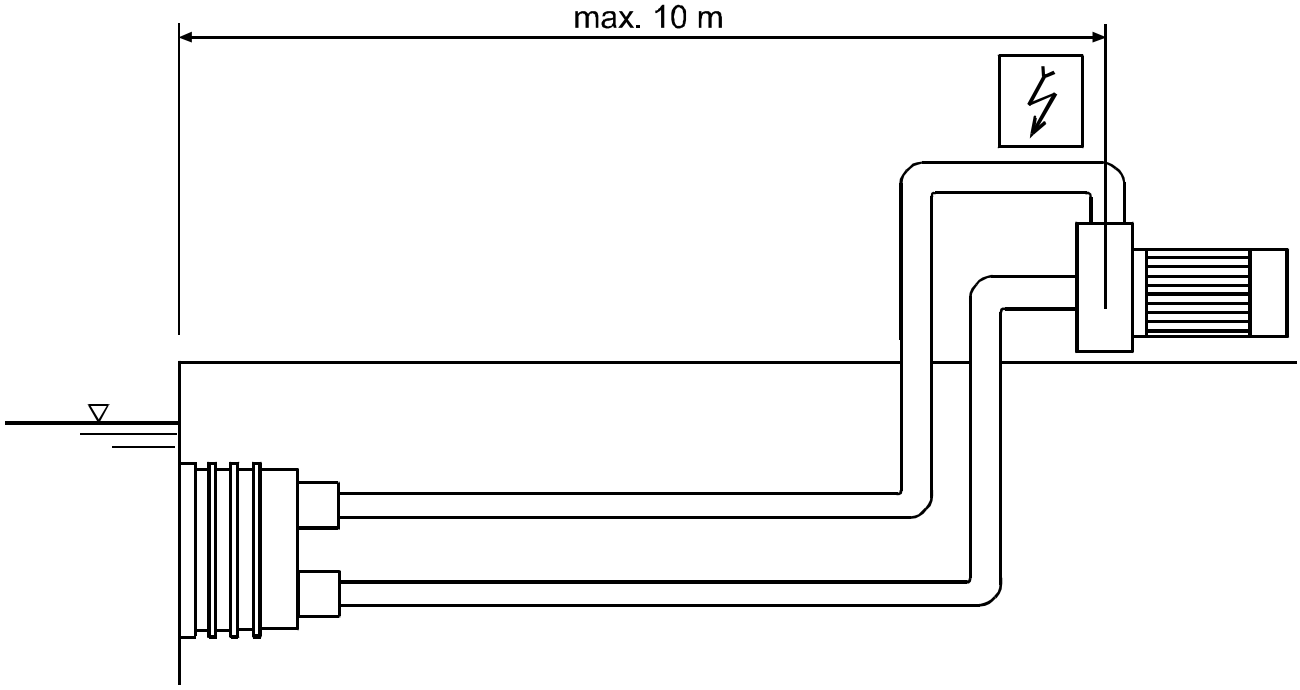
The Jet Pump has a sliding-ring seal to seal the shaft. If water emerges continuously below the pump, the sliding-ring seal must be replaced.

When dismantling the pump, the procedure should be as follows:
The pump must be switched off and disconnected reliably from the mains. The replacement should in principle be performed only by a specialist. The pump, which is connected to the suction and pressure lines via two screw fittings, is to be removed from the pipelines and the pump is to be dismantled in accordance with the separate installation instructions, the sliding-ring seal is to be replaced and the pump is to be installed again in the reverse sequence.

9. Associated documents

(Exploded drawing for air-control system, installation drawings, etc.)

BADU JET universel
Ø pipeline PVC

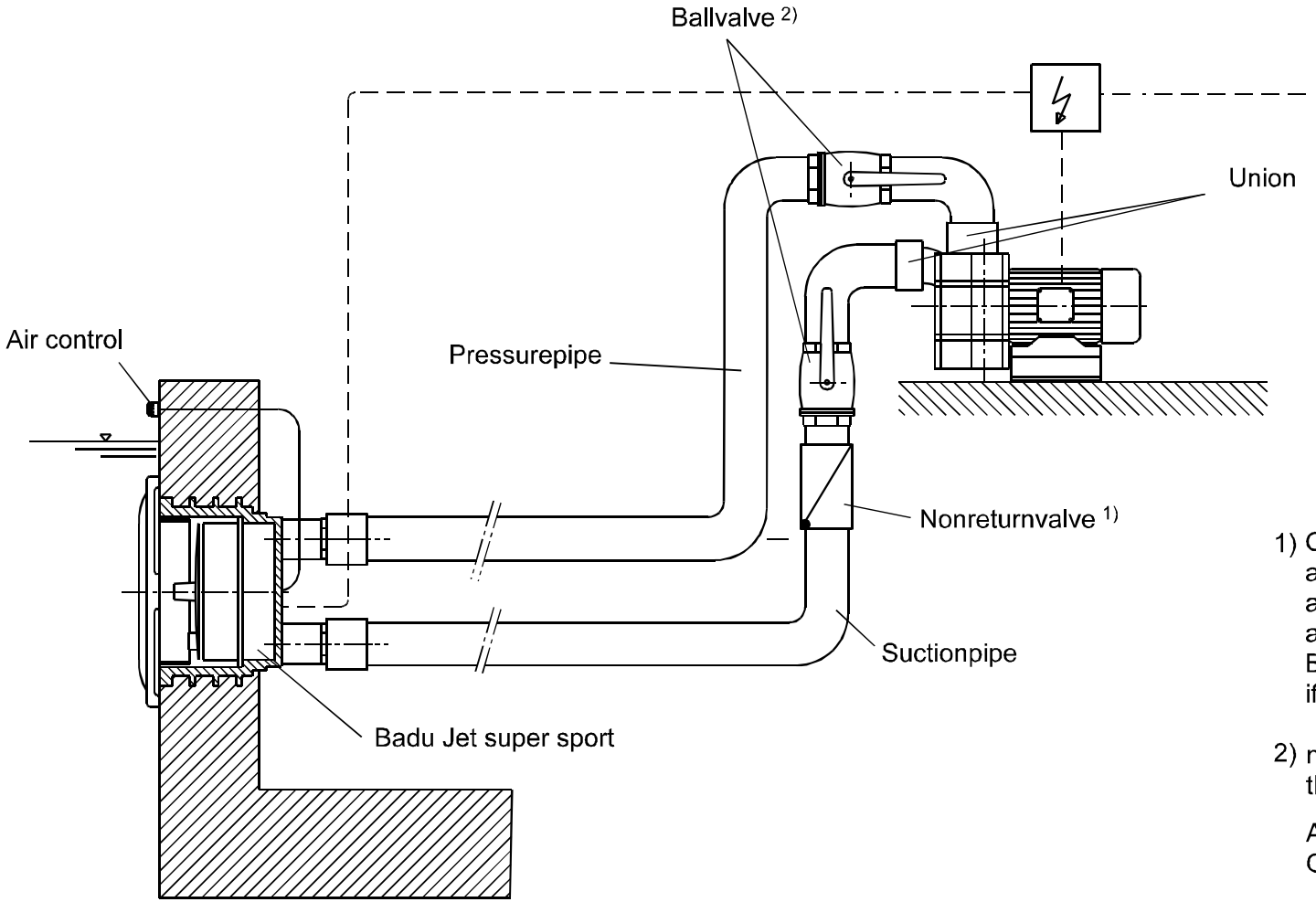


Suctionpipe with 2 bends
Pressurepipe with 3 bends

Distance in m

Q (m^3/h)		5 m	7,5 m	10 m
30	S	d 90	d 90	d 110
	P	d 90	d 90	d 90
40	S	d 110	d 110	d 125
	P	d 110	d 110	d 110
55	S	d 140	d 140	d 160
	P	d 140	d 140	d 140
75	S	d 160	d 160	d 160
	P	d 140	d 140	d 140

Installation BADU JET super sport universel

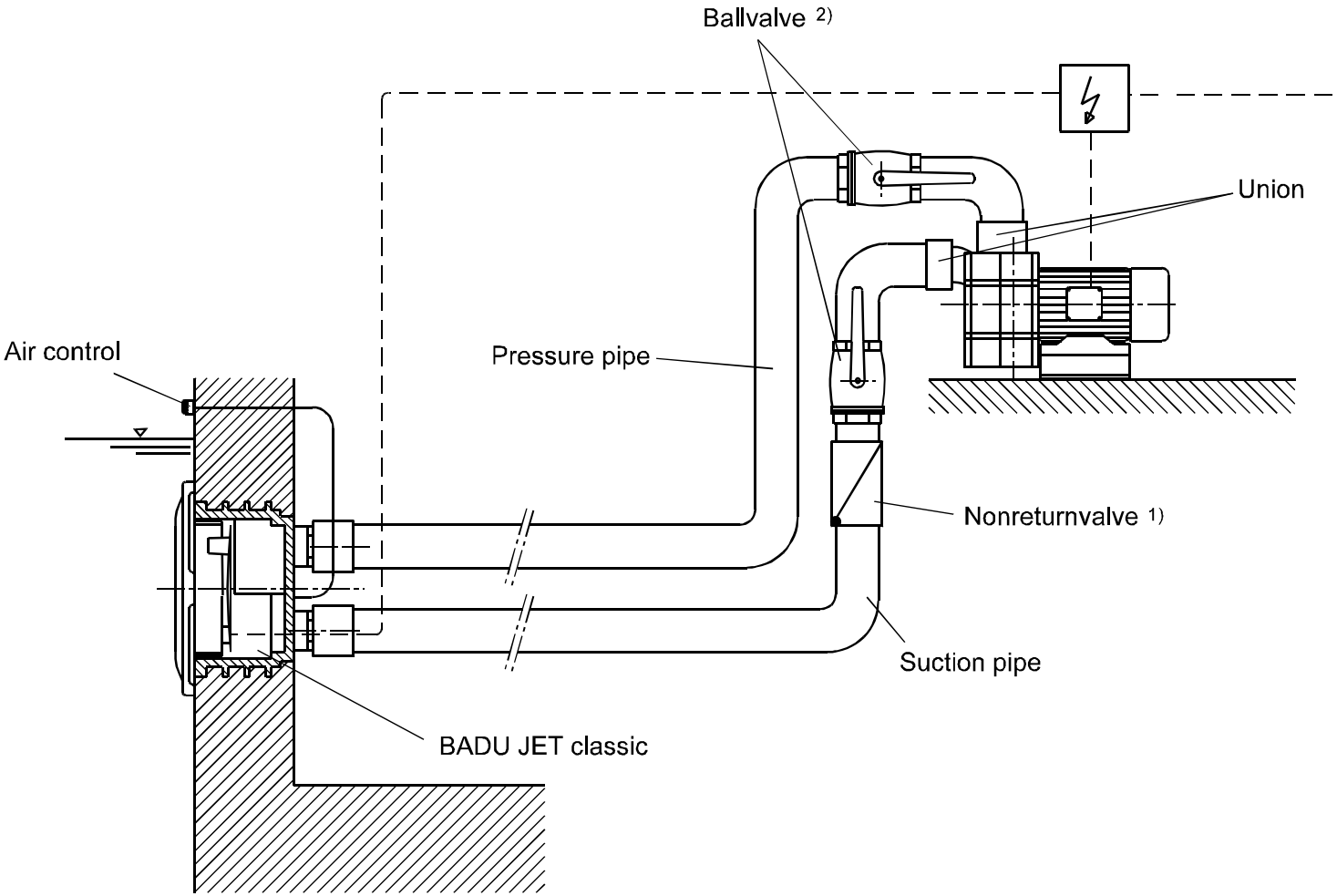


1) Off 1m nonreturnvalve is necessary
at Badu 21-80/32 SG
at Badu 21-80/33 SG
an generally at
Badu 43/22 and Badu 21-50/43
if they are installed over the waterlevel

2) necessary if the pump is insttalled under the waterlevel

Attention!
Only use bend in the pipe

Installation BADU JET classic universel



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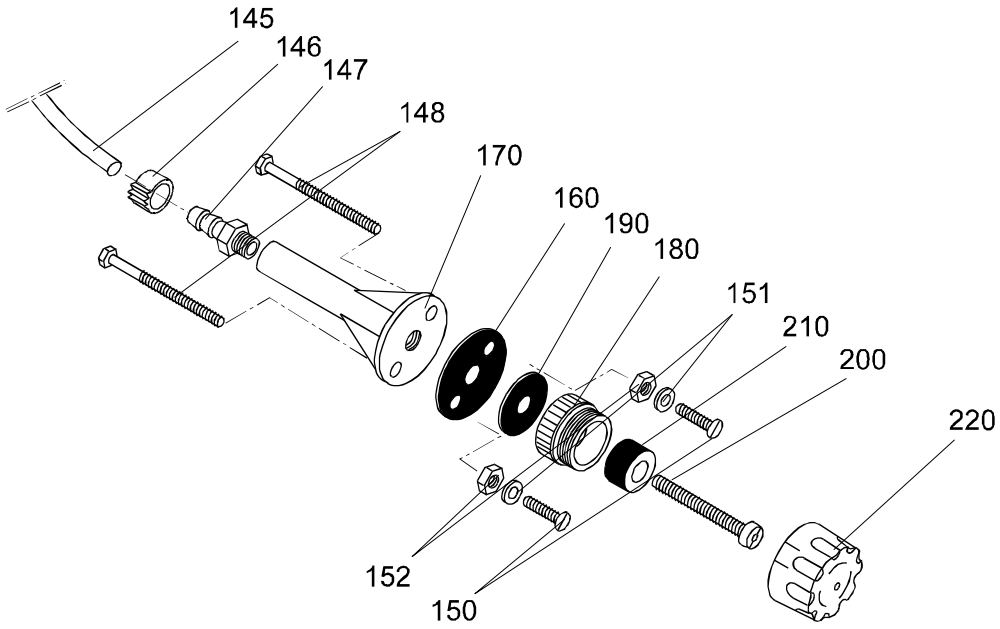
Only use bend in the pipe

Parts diagram for air control



Air control

Air control

Part No.	Order No.	Pcs.	Description
145	2301001007	1	PVC-hose, 8 x 3 mm, 800 mm
146	2301004001	1	Hose clamp 13/8, A 2
147	2301001005	1	Hose socket, GES 8, R ¼", plastic
148	5869330880	2	Hexagon head cap screw M 8 x 80 mm, plastic
150	5879630830	2	Countersunk head cap screw M 8 x 30 mm, A 2
151	5871250800	2	Flat washer, 8,4 mm, A 4
152	5879340800	2	Nut M 8, A 2
160	2301001013	1	Gasket 60 x 11 x 2 mm with 3 holes
170	2301001009	1	Mounting support for air control
180	2301002022	1	Bottom part for air control, white
190	2301002025	1	Gasket for air control 42 x 11 x 2 mm, white
200	2307007008	1	Cylinder head bolt M 10 x 25 with hole, Ms
210	2301002024	1	Rubber insert for air control, 16 x 30 x 18 mm
220	2301002026	1	Top part for air control, white

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