Operating Manual

A1200 IPU

venotec GmbH

Am Nordkreuz 36
26180 Rastede
Deutschland

www.venotec.de

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Abyzz

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Preface

Thank you for purchasing an Abyzz pump. With this powerful product, you have acquired a highly efficient and fully adjustable pump, which is designed and manufactured with the highest standards of quality and performance in Germany. This manual is intended to help you get the product up and running and to make the necessary settings.

To ensure that you enjoy the product for a long time, we ask that you read this manual carefully and adhere to our recommendations.

If the quality of your product does not meet your expectations, please contact the dealer from whom you purchased this product or do not hesitate to contact us directly. We recommend that you register your product with us using the enclosed form so that we can offer you the best possible service. Please make sure that you keep the serial number seal attached to the products without damage and let us know these numbers if necessary.

Scope of delivery

1	Abyzz A1200 pump with 3m cord
1	Abyzz A1200 driver with fixed power cord
1	Documents for product registration

Functional Description

The heart of the Abyzz pumps is a sinusoidal three-phase synchronous motor. The efficiency of the engine is over 90%, making it one of the most efficient engines. The integrated bearing rinse offers optimum protection against calcification and ensures low-maintenance operation.

The processed materials are designed for a long service life and meet the highest requirements and quality standards. The products were developed and manufactured in Germany. That's our understanding of:

"Made in Germany"

The electronic control offers optimal operating characteristics. These include in particular:

- Finely adjustable speed range (0 ... 100.0%)
- Programmable controller
- Dry-running Warning
- Soft start
- Expansion slot
- Lockable plug contact
- temperature protection
- Overcurrent protection
- current limit
- Low noise operation
- Long life span
- Minimal power loss (especially low loss of heat loss to the water).

Warnings

- Always disconnect the mains plug before working on the pump!
- Attention high voltage: An opening of the electronics (Abyzz driver) is prohibited and only to be carried out by the manufacturer!
- Never disconnect the motor supply line from the driver during operation!
- Only connect clearly associated parts with each other!
- Keep the leads, connectors and drivers dry and protect the components from damage.
- Do not work with wet hands on the wiring or on the driver.
- Operate the product only when there are no persons in the water or persons in contact with the water.
- Inspect the product for possible damage and never use a visibly damaged product.
- Only connect Abyzz devices to suitable, standard-compliant sockets with earthing contact, which are protected by a residual current device (RCCB).

Intended use and general instructions

The product is suitable for pumping liquids (sea water, fresh water, brackish water, chlorinated water and other non-aggressive liquids) at a temperature of + 2 ° C to + 40 ° C. A list of the parts in contact with the medium to be pumped can be found in the appendix, for non o.a. Media please ensure the compatibility with the specified components before use.

The product can deliver both clear and polluted water up to a particle size of 1mm. When used in dirty water, regular cleaning and the use of a pre-filter to protect the pump are required. Especially the internal flushing channel has to be cleaned. Abrasive ingredients increase wear - damage resulting from this is excluded from the warranty.

The pump is not self-priming and must therefore always be mounted below the water level.

Please always observe the generally applicable national and international regulations during installation.

The maximum working pressure must not exceed 2.5 bar.

Prior to storage, the product must be thoroughly cleaned with fresh water and suitable cleaning agents (such as Abyzz Pump Cleaner), otherwise residues may accumulate in the pump.

When using, please make sure that the intake duct is adequately protected, otherwise animals or objects will get into the pump to avoid damage.

When laying piping, make sure there is sufficient compensation for temperature fluctuations in the pipe sections.

Use sufficient pipe diameter, we recommend minimum diameter of 90mm at the suction and 75mm at the pressure side.

Installation of driver

Mounting:

The product can be protected from direct weather conditions outdoors. The wall intended for fixing must be dry and protected from permanent weather, strong sunlight and moisture. A suitable power outlet should be located at an appropriate distance. From ceilings, a minimum distance of 50cm must be observed.

Mount the driver over the side holes on the heat sink, the driver must be mounted vertically. When installing several devices, they should be placed next to each other with a distance of 30cm and not on top of each other.

Wiring:

When laying the cables, make sure that no dripping water can reach the electronics via the lines.

Please note that you should not switch several drivers on a fuse due to the inrush current of the driver at the same time. Do not use multiple socket strips and under no circumstances exceed the permissible connected load of your supply line.

Ambient temperature and cooling:

The product can be used at ambient temperatures of 2 ° C to + 40 ° C. Depending on the required performance, the temperature protection of the driver may give a warning, in which case better cooling is to be ensured. The driver automatically reduces power as the temperature continues to rise. Overheating will cause the driver to switch off.

To ensure adequate cooling, the driver should be at least 50cm away from objects (walls, ceilings, conduits, piping, etc.) to the top of the enclosure. The heat sink must not be covered. It is advisable not to expose the driver to any additional heat source (heating, lighting, sunlight) and to provide adequate ventilation for operation within cabinets, confined spaces or shelves.

Electrical connection:

The Abyzz driver requires a voltage of 100 ... 240V / 50 ... 60Hz.

The connection must be made to a suitable, properly installed earthed socket, which is protected by a circuit breaker in accordance with DIN VDE 0100T739 (residual current circuit breaker). We recommend that you do not connect more than one controller to a supply line (16A fuse).

The driver has a fuse for fire protection inside. This is to be exchanged exclusively by the service. Inside the device are no user-servicable elements.

Installation of pump

The Abyzz pump can be operated submerged to a depth of 2 meters or in a dry position.

Make sure there is a free, unobstructed water supply at the connection line of the suction side and protect the inlet with a suitable sieve to keep coarse particles (sand, threads from filter wadding or similar) away from the impeller. When piping you should make sure to install at least 50cm of straight piping on the suction side, so that the water can flow in straight. These measures optimize the efficiency and ensure a clear noise reduction. For the highest possible efficiency, please use sufficient pipe diameters for larger pipe systems (Recommended: suction side 90mm (4 "), pressure side 75mm (3")).

When using adhesive fittings, be sure to use an adhesive suitable for the material (PVC).

Installation outside a sump:

Look for a suitable place where only a few power losses occur due to angles or bends and cable routing. If possible, always use bends instead of angles and connect the pump as far as possible without mechanical stress in order to avoid vibrations on connection lines, which could lead to leaks in the course of time due to screw connections or adhesions.
With these measures you have made optimal arrangements for a trouble-free and quiet operation.

Installation inside a sump:

Place the pump in the filter sump and connect it to your piping system as mechanically as possible without tension to avoid noise and vibration.

Commissioning

After proper installation, the Abyzz pump can be put into operation. To do this, connect the motor connection cable to the driver. The plug is coded and can only be connected in one position. The plug used meets the highest requirements for tightness and safety. Screw the plug to ensure these characteristics. Connect the Abyzz power cable to the grounded receptacle.

The LED is flashing. You can start and stop the pump in any mode (except external controls) by pressing the Start / Stop button.

If the pump suddenly runs dry with more than one-third of your power, a dry-running warning is activated. This switches off the pump and reports an error ("DRYRUN!" And acoustic signal). After a few seconds, the pump starts up again automatically and, once the dry run has been completed, resumes operation. Several start attempts are started. If the dry run persists, the pump stops for self-protection and must be restarted manually.

Run in phase

Despite very high precision, minimal manufacturing tolerances can not be avoided in the manufacture of the bearings. This condition may generate noise during the start-up phase of the pump. However, this is normal and does not pose a long-term problem. During post-fabrication testing, all pumps are tested for performance, concentricity and noise. The start-up phase can take a few days, depending on the operating mode. The following figure clearly shows the difference between a brand new bearing (left) and a bearing after the break-in phase (right). After the break-in phase, these operating noises will almost disappear.

Description of control elements

Display:

The display informs you about the operating status of the pump. The display goes into a sleep mode after 3 minutes for maximum life and lowest power consumption. Pressing a button turns the display on again. The overview changes every 2 seconds as follows and displays the operating data such as energy use, mode of operation, speed setting etc.

Die Anzeige der ersten Zeile ändert sich von „Stopped“ zu „Running“, wenn Sie die Drehzahl erhöhen und die Pumpe einschalten:

LED:

The LED indicates a correct function via a flashing signal.

Keyboard:

The keyboard allows direct operation and in the menu the programming of the pump.

In the operating mode "Permanent" (delivery state) you can start or stop the motor with the "Start / Stop" button and change the speed with the "up" and "down" buttons. If you want to store the new speed permanently, press the "M" key and the last value set will be retained. The "Start / Stop" setting is automatically saved, so that the pump automatically returns to its original operating mode after a loss of operating voltage. If you want to enter the menu to display operating data or to program the pump, press the "M" key.

You get to the menu and the current operating mode is displayed. Press the "up" and "down" keys to navigate in the menu. The current software status, operating hours and operating mode are displayed consecutively.

The contrast of the display can be adjusted in the corresponding overview by holding down the "Start / Stop" button and pressing the "up" or "down" buttons.

If you would like to change the operating mode, press the "Start / Stop" key when the operating mode is displayed. You can now set the operating mode with the "up" and "down" keys. The different operating modes are:

- Permanent: The pump runs permanently at a fixed speed.

- Wave: The pump changes in adjustable times between two fixed speeds.

- Random: The pump changes the speed within an adjustable time within a set minimum and maximum value

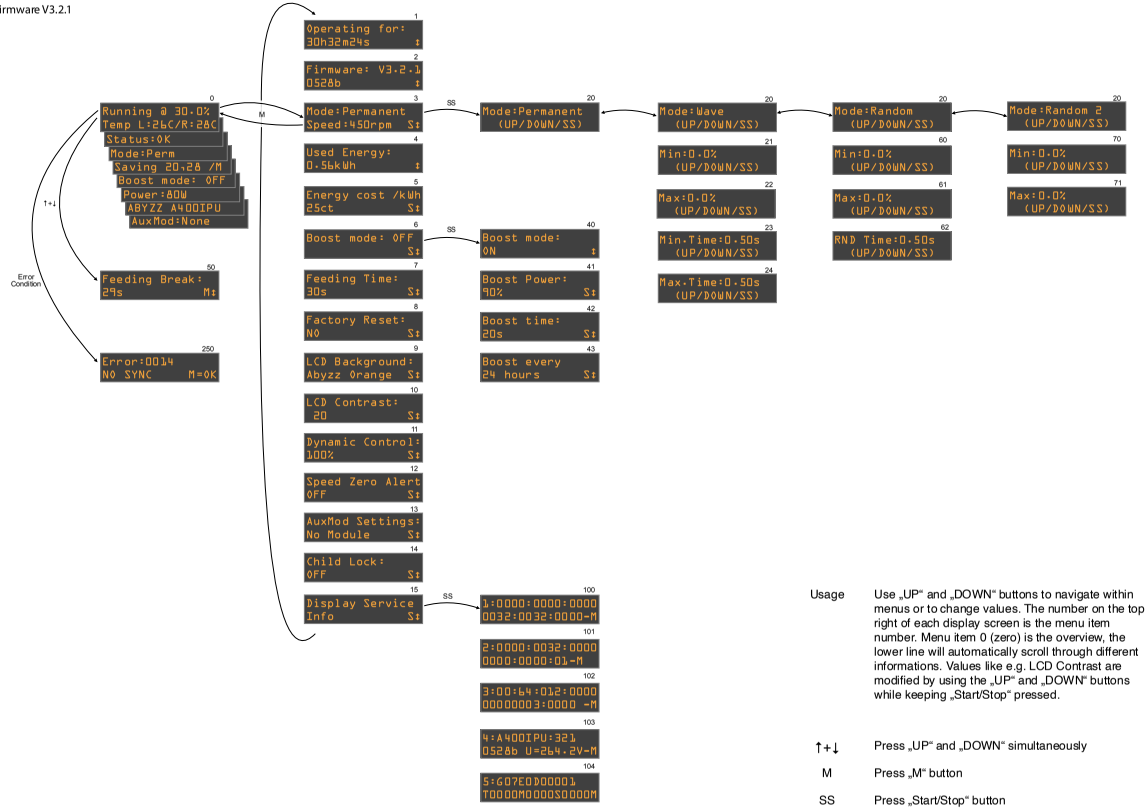
- Random 2: Same as Random mode, but also the time between changes is chosen randomly.

- BOOST MODE: When the BOOST MODE is activated, the pump generates a separate interval regardless of the programmed operating state, e.g. to stir up dirt.

If you have selected the operating mode, press "Start / Stop". You will then be asked to enter the corresponding data (minimum and maximum power, time interval). Finally confirm each setting with "Start / Stop". Finally, the settings are saved automatically and you get back to the overview.

Abyzz IPU Driver Programming Reference Guide

Firmware V3.2.1



Usage	Use „UP“ and „DOWN“ buttons to navigate within menus or to change values. The number on the top right of each display screen is the menu item number. Menu item 0 (zero) is the overview, the lower line will automatically scroll through different informations. Values like e.g. LCD Contrast are modified by using the „UP“ and „DOWN“ buttons while keeping „Start/Stop“ pressed.
↑+↓	Press „UP“ and „DOWN“ simultaneously
M	Press „M“ button
SS	Press „Start/Stop“ button

Maintenance

Danger - strong magnetic field !

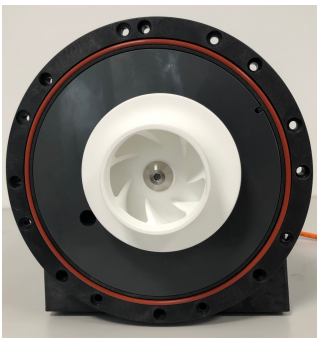
- Danger to life for people with pacemakers!
- Do not bring runners near pacemakers, credit cards, data carriers or similar items that are sensitive to magnetic fields!
- Danger of injury due to clamping!
- Do not place metal parts near the runner!

Abyzz pumps are virtually maintenance-free when used properly.

If the flow rate decreases, dirt particles may have caught in the impeller and must be removed. Even slight vibrations can be an indication of contamination of the impeller.

For cleaning, disconnect the pump head from the motor (screws on the front, see illustration) and clean the impeller.

If disassembly of the impeller is necessary, loosen the retaining screw with a suitable Allen key and pull the impeller off the shaft. This screw is made of titanium and must not be replaced by another screw!



If further disassembly is necessary, please contact the service.

O-rings and rubber parts are subject to unavoidable aging and should be replaced if necessary. These parts can be obtained by mentioning the part number as spare parts.

Carefully place the rotor in the engine block and push the assembly into the bearing seat until the bearing shield is flush with the flange.

Screw the pump head back to the engine block, tightening the screws crosswise to apply even pressure to the O-ring seal and ensure tightness!

The pump should be decalcified at regular intervals in installations that are constantly and intensively limed (eg stone coral pools). We recommend this process at least once a year.

Tip: We recommend the Abyzz Magic Powder for cleaning, so you can rest assured that you will not damage your pump.

Warranty

Accompanying the legal warranty, we grant you a 12 month warranty.

We offer you the opportunity to extend the product warranty from 12 months to 10 years free of charge after registering your product within 4 weeks of the date of purchase (it is the date of the invoice). The warranty is valid in the country where the device was purchased - a refund of shipping costs can only be made in the country of purchase.

In the event of a complaint, please contact us directly and, if necessary, send the device in its original packaging, accompanied by proof of purchase, directly to your dealer, or contact us at service@abyzz.de for an RMA number and return address.

We ask for your understanding that deliveries sent to us are not accepted. These shipments go back to the sender unprocessed.

The warranty covers material, functional and production defects that may occur during normal use. It does not apply to damage caused by transport, claims for compensation beyond the product, improper handling, negligence, incorrect installation or after interventions and alterations made by unauthorized persons. We expressly exclude all liability for these cases.

Consequential damages, such as Loss of coral, fish or water damage caused by e.g. A pump failure or lack of intake protection, are expressly excluded from warranty and warranty claims.

Calcification inside the pump and resulting damage and / or engine damage, damage due to improper use and cable damage (such as frayed cables) are excluded from the warranty.

Immediate loss of warranty shall apply to: Disconnected original plugs, installation of non-original spare parts, impeller damage due to intake, engine damage due to intake manifold tapering or when operating with fully or partially closed ball valve in the intake area, engine damage due to permanent dry running, descaling damage due to improperly used or unsuitable Chemicals, engine damage due to external upstream electronics, damage due to moisture in the driver.

Technical Changes

Due to continuous development and innovation, which in particular serve the quality, safety and progress, the manufacturer reserves the right to technical modification.

Troubleshooting

If errors occur despite the high quality standards, use the following checklist to fix or limit them. Various errors are already detected and displayed by the electronics.

Fault	Cause	Solution
LED blinking, no display	a) Screensaver active	a) Press any key
LED not blinking, no display	a) Power loss b) Blown fuses	a) Check power supply b) Contact Service *If the error can not be remedied by a) there is an error in the driver. In this case, please contact the service.*
Status: COMM FU !	a) Communication loss with inverter	a) Cycle mains supply with a break of 1 minute
Status: Imax!	a) High current	a) Check if motor stuck or tough to turn
Status: MOTOR ?	a) No motor	a) Check connection to pump, check plug
Status: TEMP !	a) Driver overheating	a) Let device cool down, reduce ambient temperature
Status: DRYRUN !	a) Pump running dry or sucking in air	a) Check water level
Status: LOW VOLT !	a) Mains voltage too low b) Too many devices on one line c) Power line too long	a) Check mains voltage b) Reduce the number of devices c) Reduce cable length, remove multiple plug Device still works but does not reach maximum performance

If the fault can not be corrected by checking the cables (faulty connection), the mains voltage and the pump (smooth running, blockage), please contact your specialist dealer. In such a case, please have the serial numbers of the driver and motor ready. You will find them on the serial number label (blue sticker) or on your packaging.

Disposal

The product must not be disposed of with normal household waste in accordance with Regulation RL2002 / 96 / EC.

We offer our customers to return used equipment within Germany free of charge and to take over the professional recycling or disposal. The corresponding WEEE number at the EAR is:

DE 16546900

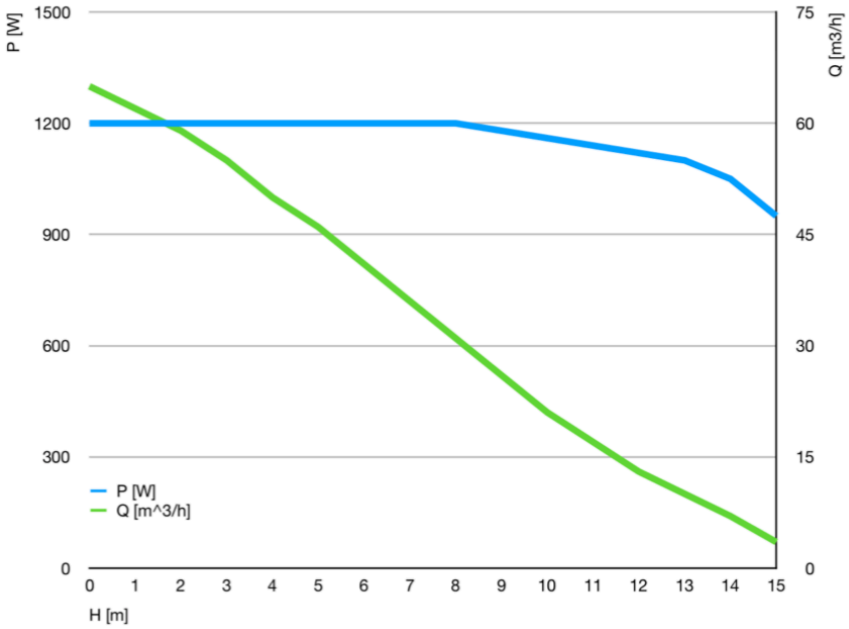
If you do not have the product disposed of by us, you are liable to dispose of it at its own expense in accordance with the statutory provisions and release us from the obligation pursuant to §10 Abs. 2 ElektroG and related claims from third parties.

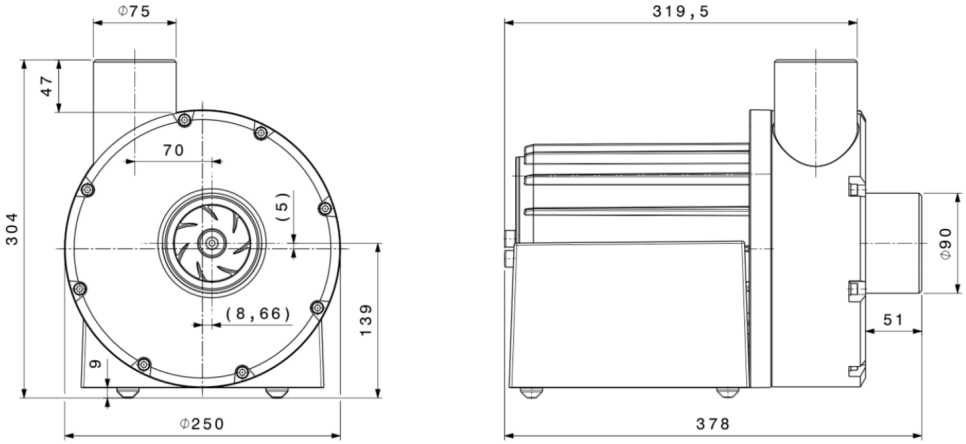
Technical Data

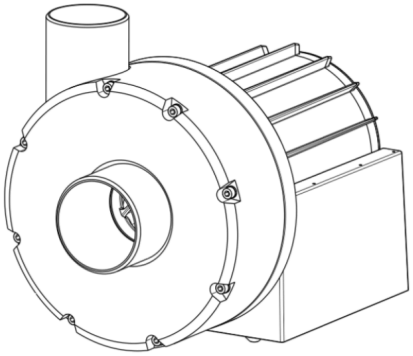
Flow rate maximal	:	68.000 l/h
Flow rate nominal	:	65.000 l/h
Delivery height maximal	:	15 m
Power consumption	:	4...1200 W
Operating voltage	:	100…240V~, 50…60Hz

For details, please refer to the curves in the data sheet. The measured values were determined with the test system of the manufacturer and checked after production. The following calibrated devices were used in the measurement:

Power meter	:	Zimmer LMG 310
Flow measuring	:	Krohne Optiflux 2100C
Pressure measuring	:	Kobold 220X1K9 Cl. 0,25







All dimensions in Millimeter (mm)!

Material information

In connection with the medium to be conveyed, the following substances occur:

Case	:	ABS GF20
Pump volute	:	PVC
Bypass	:	PVC
Impeller wheel	:	PA
Shaft	:	WCNi
Rotor	:	Titan Gd. 2
Screws	:	Titan Gd. 2
Bearing	:	SSIC
O-Rings, Rubber stands	:	NBR, CR, EPDM
Motor wire	:	PU
Potting compound	:	PU

Declaration of conformity

venotec GmbH
Am Nordkreuz 36
26180 Rastede

Hereby we declare that the design of the pump system

Abyzz A1200IPU

is following relevant provisions:

EG guideline 2014/35/EU

Applied harmonized standards:

DIN EN 61000-6-1
DIN EN 61000-6-2
DIN EN 61000-6-4
DIN EN 61000-3-2

These devices are Class A devices. In a residential environment, these devices may cause radio interference. In this case, it is up to the user to take appropriate measures.

Alexander Grah
CEO

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