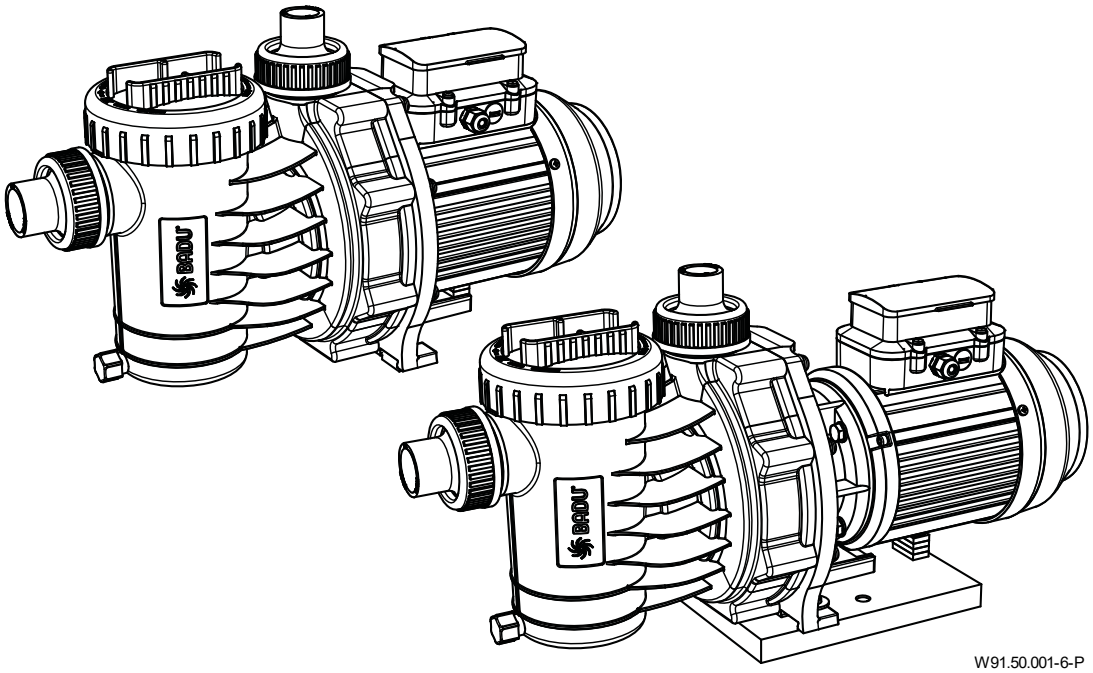
DE **Pumpendatenblatt**
EN **Pump data sheet**
FR **Fiche technique pompe**
NL **Pompgegevens**
IT **Documentazione pompa**
ES **Ficha técnica de la bomba**

BADU® M3 Eco Soft
BADU® M3 Eco Soft-AK



W91.50.001-6-P

04|2024

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SPECK Pumpen Verkaufsgesellschaft GmbH

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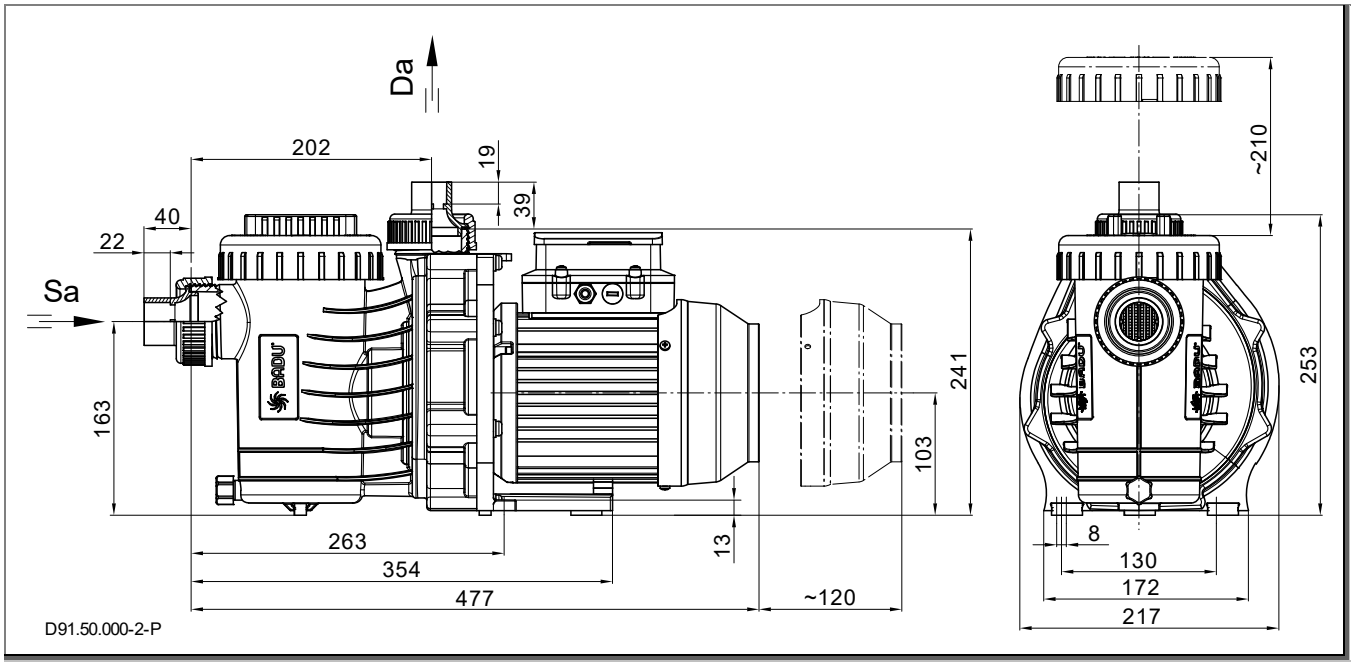
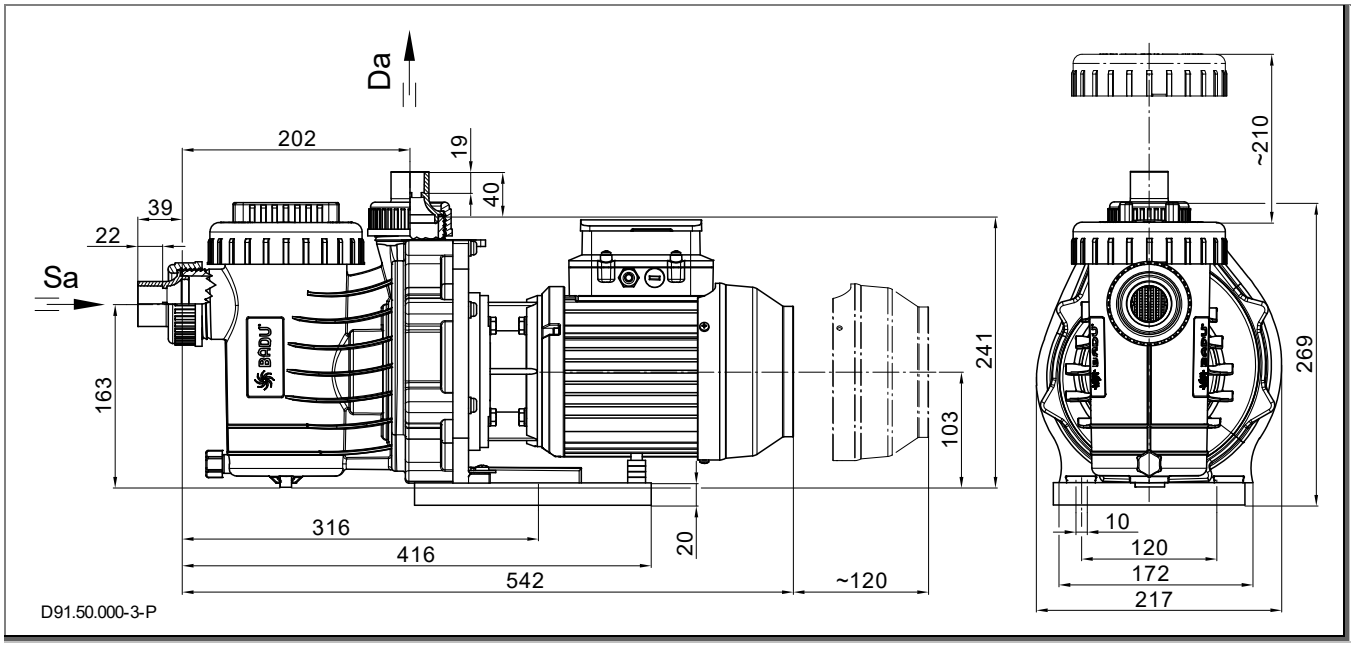
UKCA: Comply Express Ltd, Unit C2 Coalport House, Stafford Park 1, Telford, TF3 3BD, UK

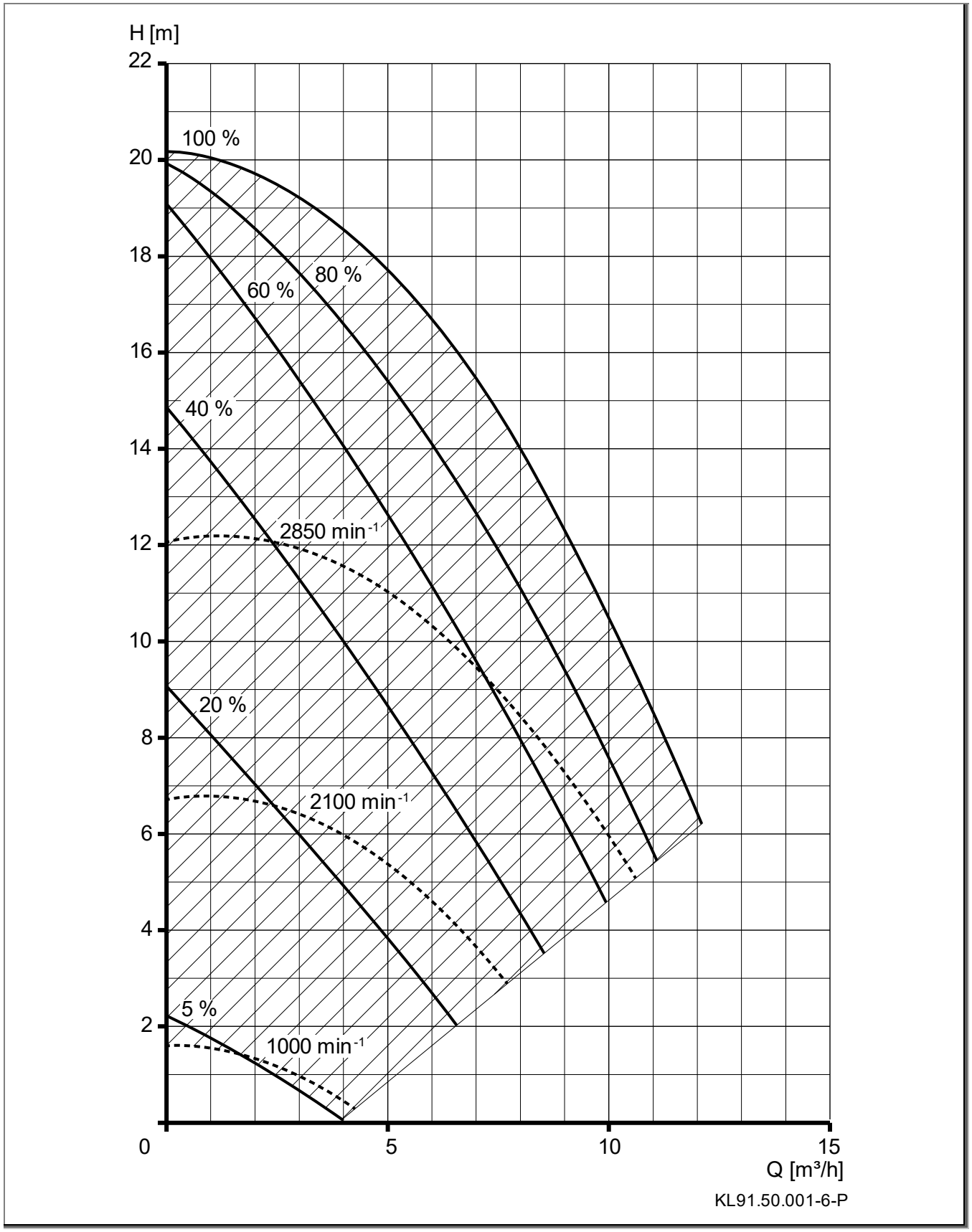
BADU M3 Eco Soft



BADU M3 Eco Soft-AK



BADU M3 Eco Soft
BADU M3 Eco Soft-AK



TD 50 Hz	Sa [mm]	Da [mm]	d-Saug [mm]	d-Druck [mm]	max. L [mm]	max. L-AK [mm]
BADU M3 Eco Soft	32	25	50	50	517	542

1~ 230 V

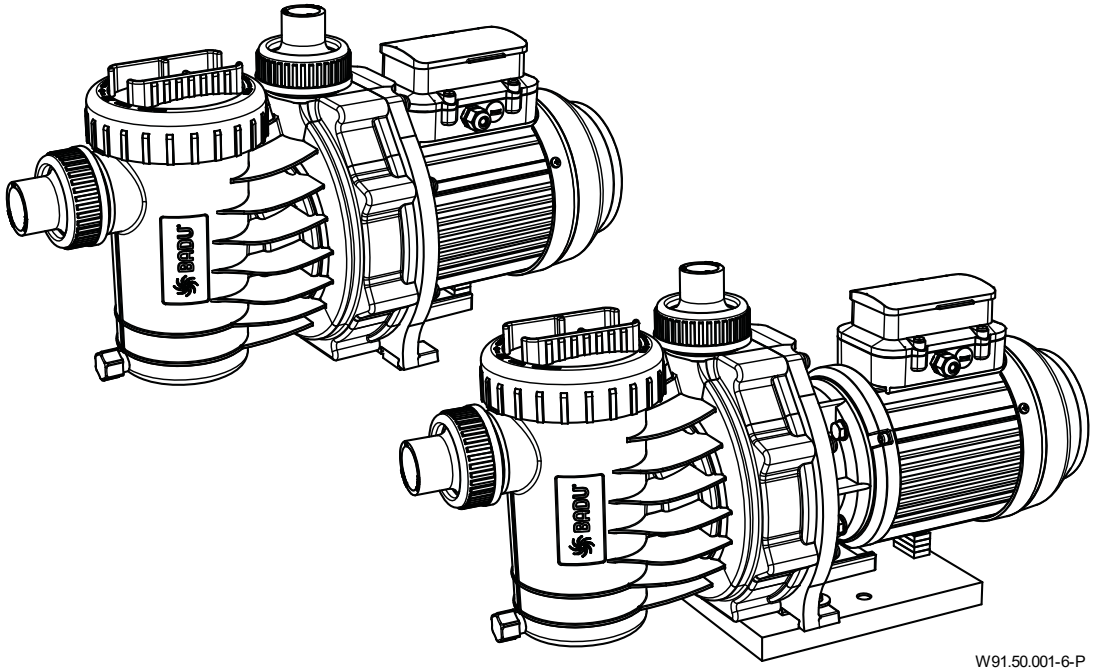
TD 50 Hz	n [min^{-1}]	P_1 [kW]	P_2 [kW]	I [A]	Lpa (1m) [dB(A)]	Lwa [dB(A)]	m [kg]	m-AK [kg]	WSK/PTC
BADU M3 Eco Soft	800	0,04	0,02	0,30	36,7	45	7,5	8,8	●/○
BADU M3 Eco Soft	2850	0,75	0,50	3,20	64,1	72	7,5	8,8	●/○
BADU M3 Eco Soft	3700*	0,75	0,50	3,20	64,1	72	7,5	8,8	●/○

TD 50 Hz	n [min^{-1}]	$H_{max.}$ [m]	SP	Hs [m]	Hz [m]	IP	W-Kl	T [°C]	P-GHI [bar max.]
BADU M3 Eco Soft	800	2,0	○	3	3	55	F	40(60)	2,5
BADU M3 Eco Soft	2850	12,0	●	3	3	55	F	40(60)	2,5
BADU M3 Eco Soft	3700*	19,5	●	3	3	55	F	40(60)	2,5

EN Pump data sheet

Related Documentation
The additional information compiled in this data sheet must be kept together with the original operation manual for "Non-self-priming and self-priming pumps with/without plastic lanterns" and must be accessible to the relevant personnel at all times.

BADU® M3 Eco Soft
BADU® M3 Eco Soft-AK



W91.50.001-6-P

Glossary	
TD	Technical data
Sa	Inlet connection
Da	Outlet connection
d-Saug	Recommended diameter of the suction line up to 5 m
d-Druck	Recommended diameter of the pressure line up to 5 m
max. L	Maximum length of the pump
D	Density
P_1	Power input
P_2	Power output
I	Rated current
Lpa (1 m)	Sound pressure level at 1 m measured in accordance with DIN 45635
Lwa	Acoustic capacity
m	Weight
WSK	Built-in or external overload switch
PTC	PTC resistor
$H_{max.}$	Total dynamic head
SP	Self-priming
Hs; Hz	Geodetic head between water level and pump
Hs	Total suction head
Hz	Total dynamic head with flooded suction
IP	Type of motor enclosure
W-Kl	Class of insulation
n	Motor speed
P-GHI	2.5 bar max. casing pressure/system pressure
T	Water temperature
●	Yes
○	No
T/°C	Clarification of the max. water temperature 40 °C (60 °C): 40 °C = the max. water temperature allowed according to the GS approval. (60 °C) = the pump is designed to withstand a max. water temperature of 60 °C.
1~/3~	Suitable for continuous operation at 1~ 220 - 240 V ± 5% 3~ Y/Δ 380 - 420 V/220 - 240 V ± 5% 3~ Y/Δ 660 - 725 V/380 - 420 V ± 5% For standard voltage in accordance with DIN IEC 60038; DIN EN 60034

Installation site

Eco Soft series pumps should not be installed in spaces with an aggressive ambient atmosphere (ambient air).

Checklist for initial commissioning

- ➔ All 3 stages should be programmed on site in the same manner (15%).
- ➔ A suction mode (100 %) is programmed in the pump. This is also necessary in suction mode. This suction mode should be deactivated (Off) in intake or pre-pressure mode.
- ➔ The speed or pump delivery rate depends on the diameter of the sample water pipe and the distance between the sampling point and measuring cell. 30 seconds should not be exceeded for sample water conveyance.
- ➔ Following configuration of the pump delivery rate, a hair catching test should be conducted on the suctioning point.
- ➔ In the event of suctioning from the pool, protection against suctioning should be installed. A suction guard is optionally available.

The pump has a permanent magnetic motor and is electronically protected against overload.

Connecting external switch contacts

The pump has a 5-wire cable with open ends for external control. This cable has a plug inside the terminal box which must be re-plugged for the respective control (digital potential-free or analogue signal). The plug contacts are located on the board in the top section of the motor's terminal box. The four screws on the control unit must be undone to open the terminal box.

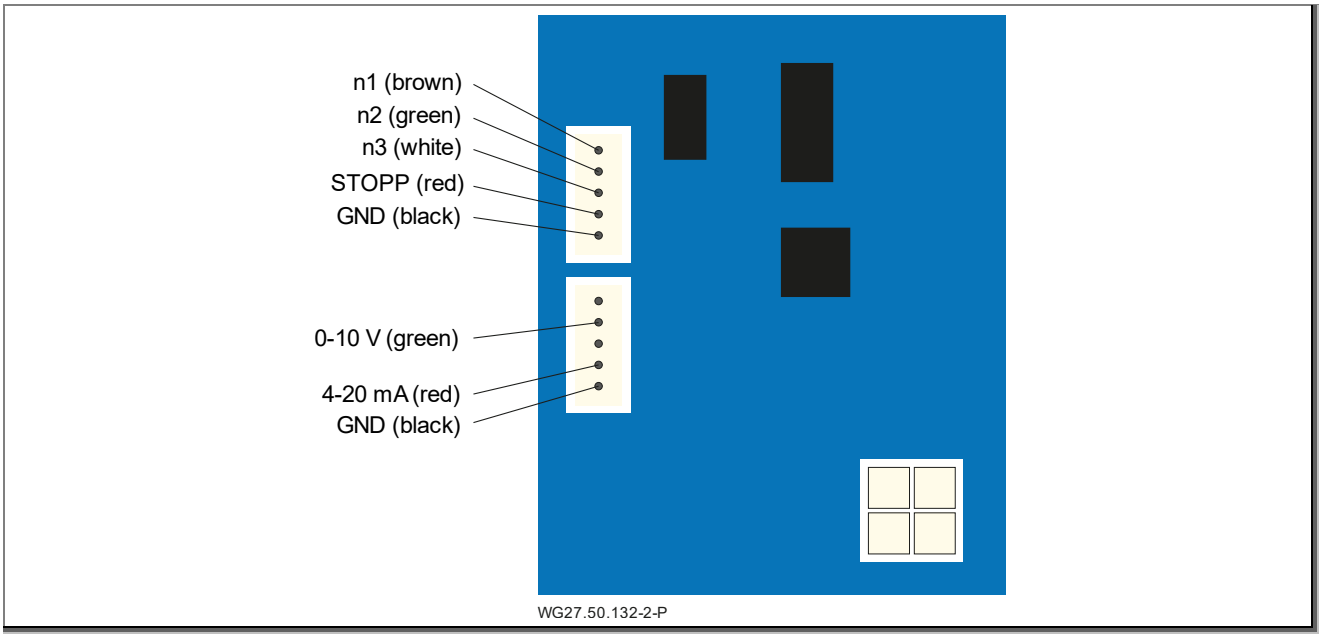
⚠ CAUTION

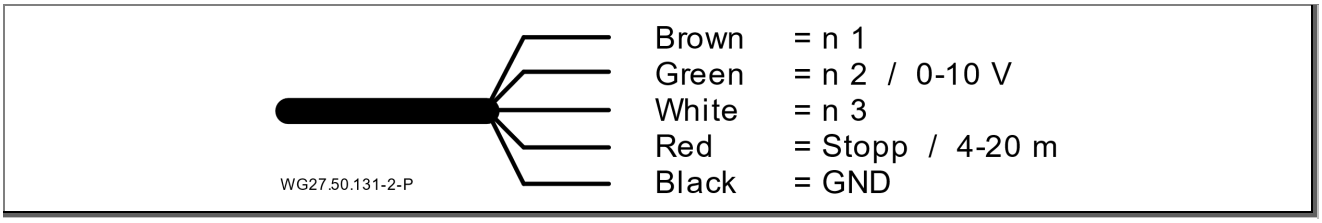
Intermediate circuit capacitors remain charged for a long time after switching off the main voltage.

➔ Observe the electrical safety regulations.

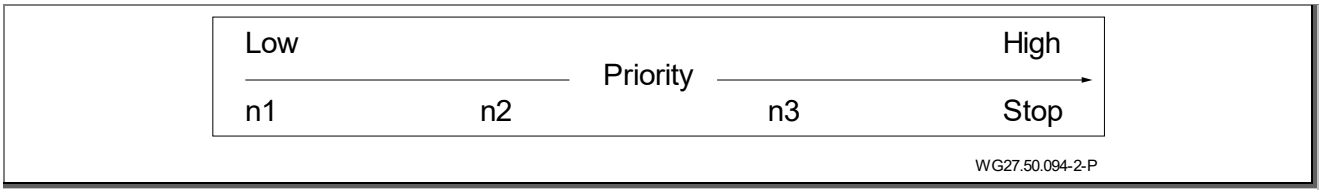
➔ Wait at least 5 minutes after disconnecting the voltage supply before opening the motor's terminal box.

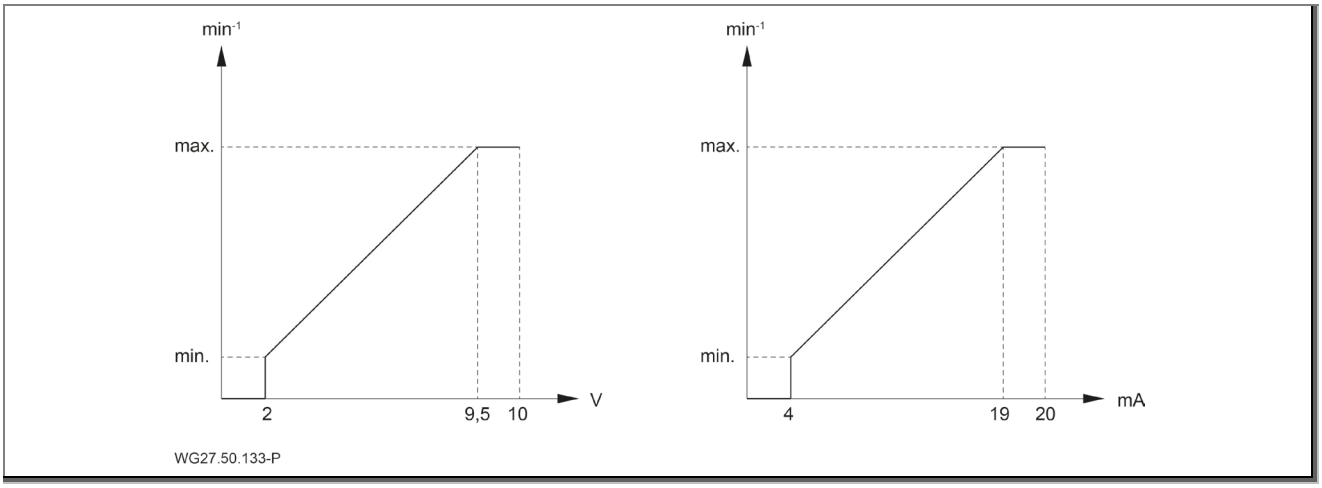
The upper plug contact on the board is for control with a digital signal (potential-free) and the lower plug contact for control with an analogue signal.





The cables must be connected potential free. Only switch the contacts individually (observe priority of the contacts). Otherwise the desired speed is not activated. The digital inputs must be activated accordingly in the Setup menu for external activation.





NOTICE

The motor performance level/fixed speed is switched on using the manual button or external switch contacts. The switch contacts and the assigned performance/speed are activated.

If the pump starts from a standstill, it starts up in priming mode and subsequently with the selected performance level/fixed speed.

During running operation the pump is started up directly at the performance level/fixed speed, without priming time.

If external control is not necessary, the cable ends need to be insulated.

NOTICE

For easy interaction with peripheral devices such as electric heat exchangers or dosing systems, installing a flow monitor with the appropriate evaluation unit is recommended. This can also output a fault message.

Selecting the operating mode

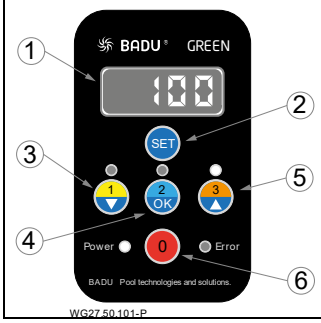
This motor has two different operating modes (functions). The motor can be controlled either by the speed or by the performance.

In the “constant speed” mode, the desired speed is set on the motor and this speed is kept constant over the characteristic.

In the “constant performance” mode, the desired performance in % is set on the motor and is kept constant over the whole characteristic. The motor controls the speed independently here according to the set performance.

Function	Constant performance*	Constant speed
Default settings: Performance/speed:	 1 = 60 % 2 = 80 % 3 = 100 %	 1 = 2000 min^{-1} 2 = 2400 min^{-1} 3 = 2850 min^{-1}
Priming capacity/speed: Priming time:	= 100 % = 5 minutes	= 2850 min^{-1} = 5 minutes
Performance/speed which can be set:	5 - 100 % *(in 1 % steps)*	1000 - 2850 min^{-1} *(in 50 min^{-1} steps)*
Priming time which can be set:	0 - 10 minutes *(in 1 min steps)*	0 - 10 minutes *(in 1 min steps)*

* Constant performance is the default setting



User interface:

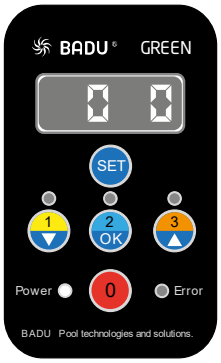
(1) LED display: displays the current motor performance level/speed

(2) SET **:** used to enter the programming mode or to reset the control.

(3/5) 1 3 **:** used to select the performance level/speed: to change in the programming mode.

(4) 2 OK **:** used to select the performance level/speed; to save in the programming mode.

(6) 0 **:** to stop the motor.



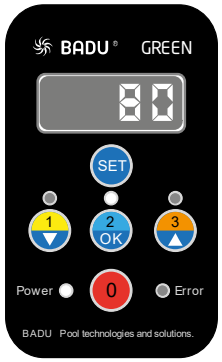
WG27.50.134-P

Setting control mode/operating mode:
When switching on the power supply (plugging in the plug) and simultaneously pressing the SET button, the display shows two numbers "# #". The number on the left stands for the control mode and the number on the right for the operating mode.
The control mode can be changed with the 1 button and the operating mode with the 3 button. Press 2 OK to save.

Operating mode:
0: constant performance (factory setting)
1: constant speed

Control mode:
0: Control with the buttons 1 2 OK 3
1: Control with the buttons 1 2 OK 3 + external control by potential-free contacts n1, n2, n3, Stop, GND (factory setting)
2: 4-20 mA
3: 0-10 V

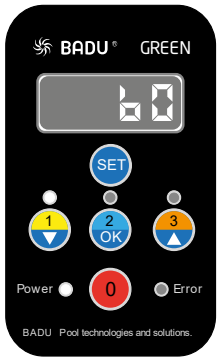
Note: Observe the wiring for control mode 4-20 mA and 0-10 V.



WG27.50.102-P

Operation:
Press button 1, 2 OK or 3 to select the preset performance level/speed.
If the pump starts from a standstill, it starts up in priming mode and subsequently with the selected performance level/speed.
As long as the pump is in the priming phase, the LED of the selected performance range/speed range flashes.
During operation the pump is started up to the fixed performance level/speed directly, without priming time.
The motor is stopped by pressing the button 0. The "Power" LED flashes and the display shows "OFF".

Notice: When the pump is used with an external control, the connection to the external control has to be interrupted or the external control has to be disconnected from the mains voltage when programming the performance level/speed and the priming time!



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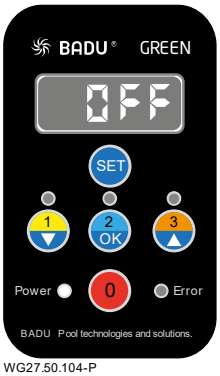
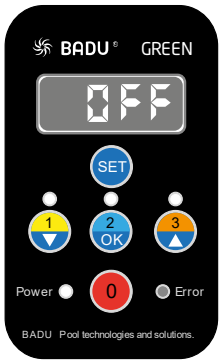
Setting the performances/speeds:
Press the button of the performance level/ fixed speed which is to be changed and then keep the SET button pressed for at least 3 seconds until the the display begins to flash. Now the performance/ speed can be changed with the buttons 1 3. To save confirm with 2 OK. To cancel and retain the original performance press the SET button.

Notice: During the suction phase it is not possible to change the performance level/speed.



WG27.50.104-P

Setting the priming parameters:
The motor has to be stopped (0) to programme the priming time. Press the SET button for at least 3 seconds until the display begins to flash. Now the performance/ speed with which the motor is to start up during the priming time can be set. The performance/ speed can be changed with the buttons 1 3 and saved with 2 OK. After the priming capacity has been set, the length of the priming time can be specified. The priming time can be set between 0 (=Off) and 10 minutes.



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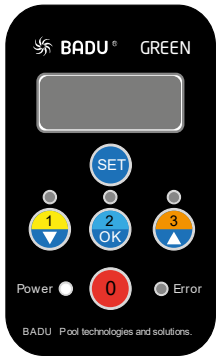
Resetting:
The motor can be reset to the state of delivery by pressing the SET button for at least 15 seconds. The motor stops and the three LEDs of the performance levels/ speeds light up.



WG27.50.106-P

The display of the control unit switched off after 3 minutes without action, except if an external control unit for example emits a signal to the pump every minute.

After a voltage drop the pump automatically starts up again with the performance/speed last set, or remains stopped if it had been stopped beforehand.

The pump can be turned on and off using the control cable (potential-free contact) intended for this purpose. This can be via a BADU Logic control, BADU OmniTronic or via a small coupling relay. This puts less stress on the electronics.

Overview of possible operating and error messages

If a error occurs, the motor switches off permanently. Exception error: "Undervoltage". The motor automatically switches back on as soon as the voltage is over 209 V for at least 6 seconds.

If an defect occurs, the system must be disconnected from the power supply. See chapter 2.2 of the original operating manual "non self-priming and self-priming pumps with/without plastic lanterns (AK version)".

Error no.	Description
E-01	Overvoltage DC intermediate circuit
E-02	Overvoltage DC intermediate circuit (signal only, motor doesn’t stop)
E-03	Low DC intermediate circuit voltage (motor stops)
E-04	Power module overcurrent – software level
E-05	Power module overcurrent – hardware level
E-07	AC Voltage input is too high
E-08	AC Voltage input is too low
E-10	Motor protection switch (electric heat protection)
E-11	Motor speed protection
E-13	Power module overheating
E-16	Motor speed not synchronous to control
E-17	PFC output DC low voltage
E-20	Earth fault
E-21	Phase short circuit
E-22	Output phase open circuit
E-31	Communication error – master board
E-41	Circuit error – current sensing
E-42	Starting current/relay error
E-43	Voltage sampling error, AC voltage and DC voltage is not suitable
E-51	Power module heat sensor error
E-60	Motor blocked
E-61	Digital process signal On-Chip ROM error
E-62	Digital process signal On-Chip RAM error
E-63	Digital process signal, error, programme not regulated
E-66	Communication error – terminal box

UKCA Declaration of Conformity

Herewith we declare that the pump unit

BADU M3 Eco Soft

Applied standard in particular:

BS EN 60335-1:2012 + A11:2014 + A13:2017 + A1:2019 + A2:2019 + A14:2019
Household and similar electrical appliances

BS EN 60335-2-41:2003 +A1:2004+A2:2010
Household and similar electrical appliances: Pumps

BS EN 61800-3:2012
Adjustable speed electrical power drive systems

BS EN 61000-3-2:2015-03
EMC: Limits for harmonic current emissions

BS EN 61000-4-2 /3/5/6/11/13/28 EMV / EMC

BS EN ISO 12100
Safety of machinery

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i.V. Sebastian Watolla
Technical director

Armin Herger
Managing Director

91233 Neunkirchen am Sand, 30.04.2024

SPECK Pumpen Verkaufsgesellschaft GmbH
Hauptstraße 3, 91233 Neunkirchen am Sand, Germany

EG-Konformitätserklärung

EC declaration of conformity | Déclaration CE de conformité | EG-verklaring van overeenstemming | Dichiarazione CE di conformità | Declaración de conformidad

Hiermit erklären wir, dass das Pumpenaggregat/Maschine

Hereby we declare that the pump unit | Par la présente, nous déclarons que l'agrégat moteur-pompe | Hiermee verklaren wij, dat het pompaggregat | Con la presente si dichiara, che la il gruppo pompa/la macchina | Por la presente declaramos que la unidad de bomba

Baureihe

Series | Série | Serie | Serie | Serie

BADU M3 Eco Soft

folgenden einschlägigen Bestimmungen entspricht:

is in accordance with the following standards: | correspond aux dispositions pertinentes suivantes: | in de door ons geleverde uitvoering voldoet aan de eisen van de in het vervolg genoemde bepalingen: | è conforme alle sequenti disposizioni pertinenti: | cumple las siguientes disposiciones pertinentes:

EG-Maschinenrichtlinie 2006/42/EG

EC-Machine directive 2006/42/EC | CE-Directives européennes 2006/42/CE | EG-Machinerichtlijn 2006/42/EG | CE-Direttiva Macchine 2006/42/CE | directiva europea de maquinaria 2006/42/CE

EMV-Richtlinie 2014/30/EU

EMC-Machine directive 2014/30/EU | Directives CE sur la compatibilité électromagnétique 2014/30/UE | Richtlijn 2014/30/EU | Direttiva di compatibilità elettromagnetica 2014/30/EU | directiva 2014/30/UE

EG-Richtlinie 2012/19/EG (WEEE)

Directive 2012/19/EC (WEEE) | Directive CE 2012/19 (DEEE) | EG-Richtlijn 2012/19/EG (WEEE) | Direttiva 2012/19/CE (WEEE) | CE-Directiva 2012/19/EG (tratamiento de residuos de componentes de aparatos elétricos y eléctricos y electrónicos en desuso)

EG-Richtlinie 2011/65/EG (RoHS)

Directive 2011/65/EC (RoHS) | Directive CE 2011/65 (RoHS) | EG-Richtlijn 2011/65/EG (RoHS) | Direttiva 2011/65/CE (RoHS) | CE-Directiva 2011/65/EG (limitación de utilización de determinados productos peligrosos en aparatos elétricos y eléctricos y electrónicos)

Ökodesign-Richtlinie 2009/125/EG

Ecodesign Directive 2009/125/EC | Directive d'écoconception 2009/125/CE | Ecodesign-richtlijn 2009/ 125/EG | Direttiva sulla progettazione ecocompatibile 2009/125/CE | Directiva 2009/125/CE Ecodiseño

Angewendete harmonisierte Normen, insbesondere

According to the provisions of the harmonized standard for pumps in particular | Normes hermonisées appliquées, notamment | Gebruikte geharmoniseerde normen, in het bijzonder | Norme armonizzate applicate in particolare | Normas armonizadas aplicadas, especialmente

EN 60335-1:2012	EN 60335-2-41:2012	EN 61800-3:2012
EN 61000-4-2/3/5/6/11/13/28	EN 61000-3-2:2015	EN ISO 12100

i.V. Sebastian Watolla
Techn. Leiter | Technical director | Directeur technique | Technisch directeur | Direttotore tecnico | Director técnico

Armin Herger
Geschäftsführer | Managing Director | Gérant | Bedrijfsleider | Amministratore | Gerente

91233 Neunkirchen am Sand, 30.04.2024

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