CIRCULA

Electronic pump

GALIO

Operating manual

TABLE OF CONTENTS

WARNINGS

Please read the following notes before starting the installation and use of the pump.

! Before starting the pump, always ensure that the installation is filled with water and prevent the pump from operating dry.
Do not tighten or loosen the pump fittings and pump head mounting screws under pressure.

! The pump should be installed by qualified personnel in accordance with this operation and installation manual and the principles of good installation practice. The manufacturer is not liable for damages caused by improper installation of the pump.

! During the operation of the pump with high temperatures of the heating medium, there is a risk of burns on contact with the pump body.

! In the event of leaks from the installation that could endanger the electronic systems of the pump, the power supply must be immediately disconnected.

! Exercise caution during the servicing of the electronic pump.

METHOD OF DISPOSAL OF USED EQUIPMENT

This pump is marked in accordance with the European Directive 2012/19/EU and the Polish Act of 11 September 2015 "On Waste Electrical and Electronic Equipment" (Official Gazette of 23 October 2015 item 11688) with the symbol of a crossed-out waste container. This marking indicates that after its period of use, this equipment cannot be disposed of together with other household waste. The user is required to hand it over to the entities conducting the collection of waste electrical and electronic equipment. Proper handling of waste electrical and electronic equipment helps to avoid harmful consequences for human health and the natural environment, resulting from the presence of hazardous components and improper storage and processing of such equipment.

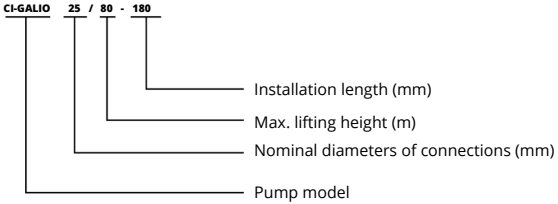
1. Introduction

In the electronic circulation pump, the motor's stator is completely enclosed, and the rotating parts are immersed in clean water, which plays an important role in cooling and lubrication during operation. The pump housing has a thin-walled structure to completely shield the motor stator from the water. The traditional mechanical seal construction is eliminated, and the problem of leakage from a conventional water pump is resolved. The rotating components are made of ceramic bearings and ceramic rotating shafts, which are wear-resistant and lubricated with clean water, capable of cooling the motor and reducing noise. The pump will not become overloaded while operating at full capacity. Essentially, the pump can be maintenance-free provided that it is used correctly.

2. Types and dimensions

2.1 Overview of models

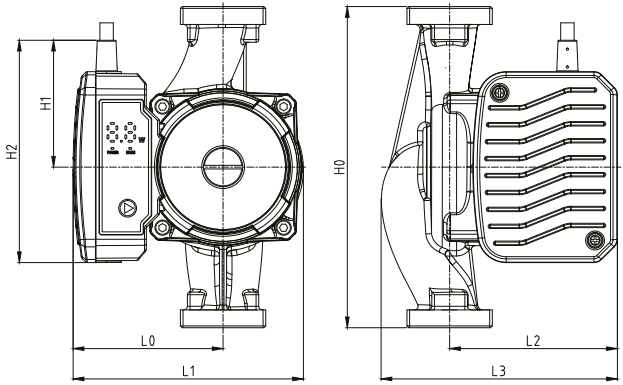
Model designation:



Model	Nominal average connection	Connection size	Flow max.	Lifting height	Voltage	Frequency	Power	Elec-tricity	EEI*
	mm		m^3/h	m	V	Hz	W	A	
CI-GALIO 25/80-130BS	25	G 1 1/2"	5	0.3 - 8	230	50	80	0.71	≤0.21
CI-GALIO 25/80-180	25	G 1 1/2"	5	0.3 - 8			80	0.71	≤0.21
CI-GALIO 32/80-180	32	G 2"	6	0.3 - 8			80	0.71	≤0.21

* The benchmark for the most energy-efficient circulation pumps is EEI ≤ 0.20.

2.2 Dimensions



Model	Dimension (mm)							weight net
	L0	L1	L2	L3	H0	H1	H2	kg
CI-GALIO 25/80-130BS	84	130	104	127	130	71	125	2.6
CI-GALIO 25/80-180	84	130	94	132	180	71	125	2.7
CI-GALIO 32/80-180								3.0

3. Safety rules

 **Warning!**	• Do not touch the pump casing while it is in operation. • Do not operate the pump without water.

1. The supply voltage of the electronic pump is single-phase 230V, and the frequency is 50 Hz.
2. Before installation, ensure that the pipe system is securely connected and check that contaminants, soldering residues, and debris have been removed from the pipes.
3. Ensure that the pump is in a dry and ventilated environment to avoid short circuits caused by moisture or splashes in the casing, and to guarantee its accessibility for servicing and replacement.
4. It is recommended to install shut-off valves on the inlet and outlet connections to facilitate future servicing and maintenance of the pump.
5. Do not touch the pump and/or other pipes to avoid burns.
6. To avoid an accident, power must be disconnected before commencing any servicing activities.
7. Regularly inspect the pump and replace it in the event of any damage.
8. The power cord may only be replaced with appropriate cables or dedicated components.
9. In winter, when the ambient temperature is below 0°C and the pump ceases to operate, to avoid the pump cracking due to frost, water must be thoroughly removed from the pipes.
10. Heat supply pipes must not be frequently replenished with unsoftened water to avoid the accumulation of calcium inside the pipe system and blockage of the rotor.

4. Purpose and installation

4.1 Pumped liquids

PN-C-04607:1993 (free from solid particles, fibres, and other contaminants) and a water solution with glycol at a concentration of up to 50%.

The pump is intended for the following systems:

- non-aggressive, non-explosive liquids, uncontaminated by particles
- permanent and fibre,
- liquids intended for heating installations.

4.2 Temperature of the liquid and ambient temperature

4.3 Installation

During assembly, the motor shaft must be set in the horizontal axis, and the direction of fluid flow in the pipe must be the same as the arrow marked on the pump casing.

Step 1

Step 2

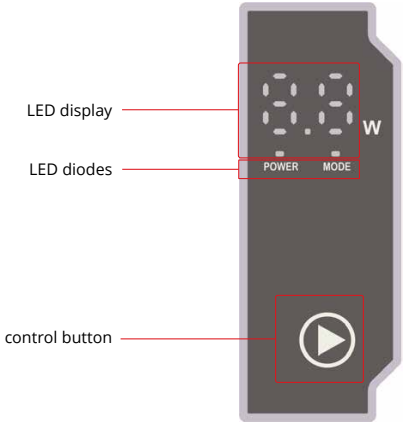
Step 3

Correct installation method of the pump

Warning!	Changes to the position of the control box and the motor casing may only be made by an authorised Circula pump service.

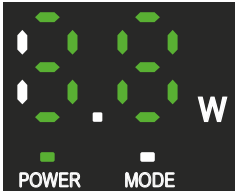
5. Characteristics and operation

5.1 Control panel - description

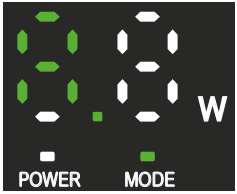


5.2 Pump Settings

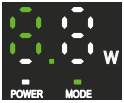
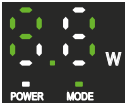
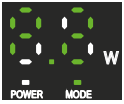
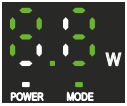
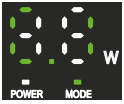
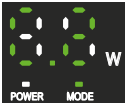
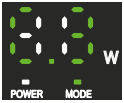
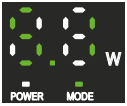
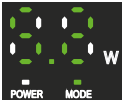
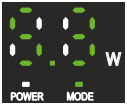
1. During the operation of the pump, the current power of the pump is visible on the display and the „**POWER**" diode is lit.



2. On pressing the button , the current operating mode of the pump will be displayed and the "MODE" diode will light up. To change the pump's operating mode, press the button again. After 3 seconds, the display will show the current pump power again.



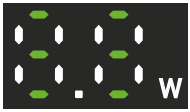
The relationship between the setting of the electronic pump and the display indications:

Auto	**PP I**
Adaptive mode	Proportional pressure curve, speed I
	
PP II	**PP III**
Proportional pressure curve, speed II	Proportional pressure curve, speed III
	
CP I	**CP II**
Constant pressure curve, speed I	Constant pressure curve, speed II
	
CP III	**CS I**
Constant pressure curve, speed III	Constant curve, speed I
	
CS II	**CS III**
Constant curve, speed II	Constant curve, speed III
	

5.3 Automatic pump venting function
The function is activated by holding the button for approximately 5 seconds until 3 LEDs light up (see figure below).

The pump will switch to venting mode for 5 minutes: it will operate alternately at different speeds. After the automatic venting is completed, the pump returns to the previously set mode of operation.

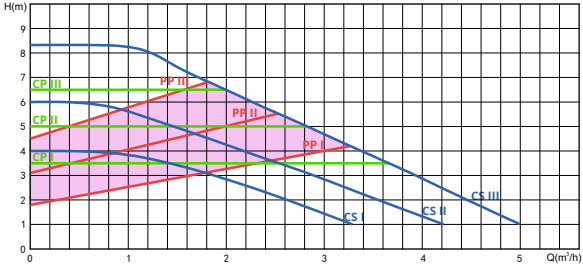
5.4 Pump start-up function
In the event of rotor blockage, e.g., after a prolonged pump downtime, it is possible to activate the pump start-up function. The function is activated by holding the button for approximately 8 seconds until 6 LEDs light up (see figure below).



The pump goes into rotor start-up mode for 5 minutes, which means cyclic start-up attempts at maximum speed. In the event of a successful rotor start-up, the pump returns to the previously set operating mode. However, in the event of a failed rotor start-up, an error code indicating rotor blockage protection will appear on the pump display (see figure below).

5.5 Hydraulic characteristics of pumps

CI-GALIO 25/80-180, CI-GALIO 25/80-130BS



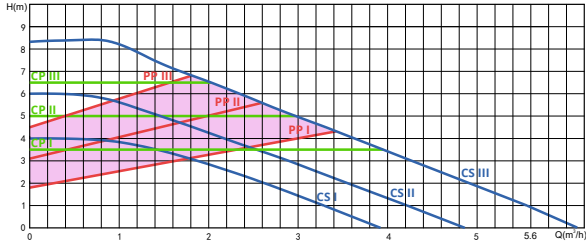
PP (Proportional pressure curve)

CP (Constant pressure curve)

CS (Constant pressure)

AUTO

CI-GALIO 32/80-180



PP (Proportional pressure curve)

CP (Constant pressure curve)

CS (Constant pressure)

AUTO

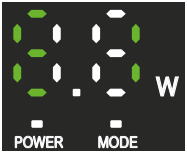
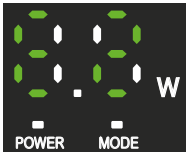
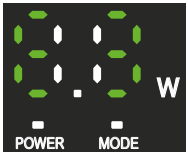
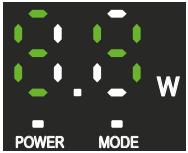
6. Technical data

<table>
<tr><td>Voltage for power supply</td><td colspan="4">230 V, 50 Hz</td></tr>
<tr><td>Protection class</td><td colspan="4">IP44</td></tr>
<tr><td>Insulation class</td><td colspan="4">E</td></tr>
<tr><td>Relative ambient humidity</td><td colspan="4">Max. 95%</td></tr>
<tr><td>Installation pressure</td><td colspan="4">Max. 1.0 MPa, 10 bar</td></tr>
<tr><td rowspan="3">Inlet pressure</td><td rowspan="3">Liquid temperature</td><td>≤ +75 °C</td><td rowspan="3">Min. inlet pressure</td><td>0.05 bar , 0.005 MPa</td></tr>
<tr><td>+90 °C</td><td>0.28 bar , 0.028 MPa</td></tr>
<tr><td>+110 °C</td><td>1.08 bar , 0.108 MPa</td></tr>
<tr><td>Liquid temperature</td><td colspan="4">2°C~110°C</td></tr>
</table>

7. Troubleshooting

Problem	Probable cause	Termination
The pump is not working.	Incorrect connection of the power cord	Ensure that the power cable is connected correctly.
	Blown fuse	Replace the fuse
Noise in the installation or pump casing	Contaminations inside the pump, blocked impeller	Dismantle the pump and remove contaminants.
	The set flow is too high.	Switch to a lower speed
	Air in the pump system or casing	Remove air/ bleed the pump
The pump is operating, but it is not generating any pressure.	The inlet valve is closed.	Open the valve.
	Airlocked installation	Vent the installation and the pump

In the event of a failure, the pump's electronics will respond to some of the faults and secure the pump. The following table presents the security codes on the display panel:

Displayed message	Cause of error	Problem resolution
	Rotor blocked	Clean the rotor and the installation from contaminants.
	Phase discontinuation	Check the supply voltage.
	The supply voltage is too low or too high.	Check the supply voltage. In case of further problems, contact an authorised service.
	Short circuit in the pump	Contact an authorised service centre

8. Warranty card

Pump model	Vendor's stamp	Date of Sale/ vendor's signature

ARKA Company provides a 24-month warranty on the product, starting from the date of its sale, on the condition that the Buyer adheres to the installation, usage, and maintenance instructions. The warranty covers only manufacturing defects in material and workmanship arising from the production process.

The warranty does not cover:

- mechanical damage,
- damage resulting from the installation of the pump contrary to the installation instructions or unauthorised interference,
- damage resulting from improper use or handling of the pump,
- damage caused by the ingress of solid contaminants into the interior of the pump,
- damage resulting from freezing, lightning strikes or defects in the electrical installation, in particular the moisture of electrical connections,
- damage resulting from the pump operating in dry running conditions.

The basis for considering a warranty claim by the company ARKA is the possession of proof of purchase and this warranty card.

Complaint submissions are accepted:

- through the point of sale where the product was purchased - in such a case, the above documents must be provided along with the defective goods,
- by electronic means: form on the website, fax /94/ 346-27-68,
- helpline 889-808-808 (on business days from 8:00 to 16:00).

This warranty does not exclude, limit, or diminish the buyer's rights arising from the non-conformity of the goods with the contract.

The warranty is valid only within the territory of the Republic of Poland.

9. Declaration of conformity

ARKA

EU Declaration of Conformity

No. **I/circula/2021**

1. Product model

CIRCULA GALIO - ELECTRONIC CENTRAL HEATING PUMP
Product code (index): CI-GALIO 25/80-180; CI-GALIO 32/80-180; CI-GALIO 25/80-130BS

2. Name and address of the manufacturer or its authorised representative:

Arka Sp. z.o.o.
ul. Ogrodowa 5
76-004 Sianów

3. This declaration of conformity is issued under the sole responsibility of the manufacturer.

4. The conformity of the subject of the declaration is confirmed by the certificate:

Certificate No.: CE-532-02-141021 issued by: CGSTEST HIZMETLERI
Certificate No: D6101057 0067 issued by: TÜV SÜD Product Service GmbH

5. The above subject of this EU Declaration of Conformity complies with the relevant requirements of EU harmonisation legislation:

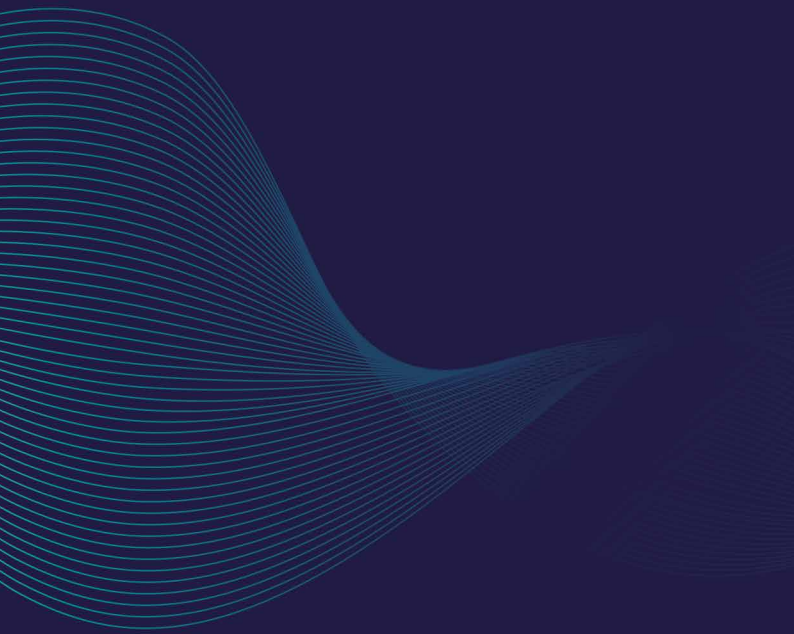
Directive 2014/35/EU (LVD)
Directive 2014/30/Ufc (EMC)
Directive 2006/42/EC (MD)
Directive 2009/125/EC (Ecodesign)

6. Reference to the referenced harmonised standards that have been applied or to other technical specifications with which conformity is declared:

EN 16297-1:2012
EN 16297-2:2012
EN 16297-3:2012
EN ISO 12100:2010
EN 809:1998+A1:2009+AC:2010
EN 60204-1:2018
EN 61000-3-3:2013+AI:2019
EN 60335-1.-2012+A11:2014+A13:2017+A1:2019+A14:2019+A2:2019
EN 60335-2-51:2003+A2:2012
EN 62233:2008+AC:2008
EN 55014-1:2017+A11:2020
EN 55014-2:2015
EN IEC 61000-3-2:2019

Sianów, 1 December 2023
.....
(place and date of issue)

ARKA
Arka Sp. z o.o.
Tomasz Bamburak
Dyrektor ds. Wdrożeń i Rozwoju B+R
.....
(podpis osoby upoważnionej)



Manufacturer:
Arka Sp. z o.o.,
ul. Ogrodowa 5, 76-004 Sianów,
Poland
arka-instalacje.pl