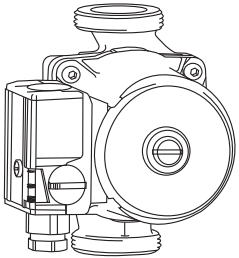
CirculatingPumps



SE Bronze range SE20B, SE60B
Circulator Pump

en Installation and operating instructions

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Fig. 1:

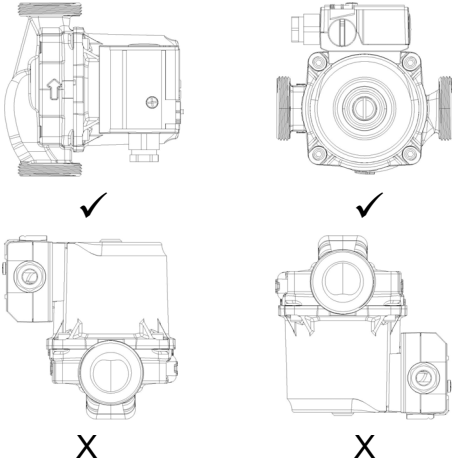


Fig. 2:

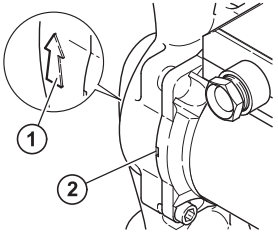


Fig. 3:

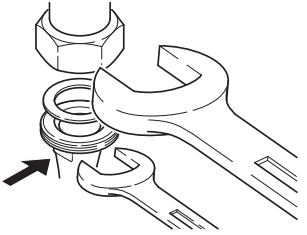


Fig. 4:

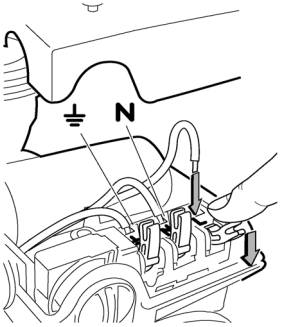


Fig. 5:

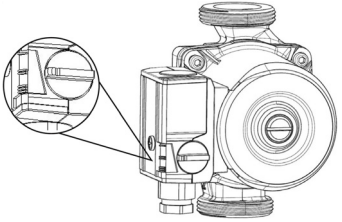
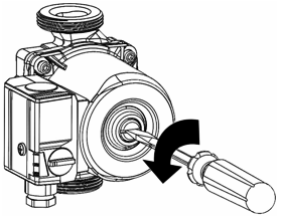


Fig. 6:



1 Safety

1.1 About these instructions

Read through these instructions completely before installation. Non-observance of these instructions can result in injury to persons and damage to the pump/unit.
Once installation work is complete, pass the instructions on to the end user.
Keep the instructions near the pump. They can be used as a reference if problems occur later.
We accept no liability for damages resulting from failure to follow these instructions.

1.2 Safety information

Important safety information is indicated as follows:

DANGER: Indicates a danger to life due to electrical current.

WARNING: Indicates a possible danger to life or injury.

CAUTION: Indicates possible risks to the pump or other items.

NOTE: Highlights tips and information.

1.3 Qualification

The pump may only be installed by qualified personnel. This product may not be commissioned or operated by persons with insufficient accountability (including children) or who do not possess the relevant specialist knowledge. Exceptions are only permitted on appropriate instruction from safety-responsible persons. The electrical connection may only be established by a qualified electrician.

1.4 Regulations

The current versions of the following regulations must be observed during installation:

- Accident prevention regulations
- VDE 0370/Part 1
- Other local regulations (e.g. IEC, VDE, etc.)

1.5 Conversion and spare parts

Unauthorised modification and manufacture of spare parts will impair the safety of the product/personnel and will make void the manufacturer's declarations regarding safety.
The pump must not be technically modified or converted.
It is not permitted to open the pump motor by removing the plastic lid. Only use original spare parts.

1.6 Transport/storage

Unpack and check the pump and all accessories upon receipt. Report any damage sustained in transit immediately. Ship the pump in the original packing only.
The pump is to be protected against moisture and mechanical damage and must not be exposed to temperatures outside the range –10°C to +50°C.

1.7 Electric current

There is a danger of an electric shock when working with electrical current. Therefore:

- Switch off the power before beginning work on the pump and make sure that it cannot be switched on again.
- Do not kink or jam the power cable or allow it to come into contact with heat sources.
- The pump is protected against drips in accordance with IP protection class (see rating plate). Protect the pump against water spray. Do not immerse in water or other fluids.

2 Intended use

This circulator is suitable for drinking water only.
The SE Bronze circulators are suitable of handling liquids in the fields of service/drinking water and food-related liquids.

3 Technical data

3.1 Data

	SE20B, SE60B
Connection voltage	1 ~ 230 V, 50 Hz
Input power P_1	See rating plate
Protection class IP	See rating plate
Max. motor speed	See rating plate
Pipe connection size (BSPM)	1½" (screwed end pump)
Water temperatures at max. ambient temperature of +40 °C	Service water systems +2 °C to +65 °C
Max. ambient temperature	+40 °C
Max. operating pressure	10 bar (1000 kPa)
Minimum inlet pressure[1)] at +40 °C/+65 °C	0.5 bar / 0.2 bar (50 kPa / 20 kPa)

1) The values apply up to 300 m above sea level; Addition for higher altitudes: 0.01 bar/100 m increase in height. To prevent cavitation noises, be sure to maintain the minimum inlet pressure at the suction port of the pump.

3.2 Scope of delivery

- Complete circulation pump
- 2 flat gaskets
- Installation and operating instructions

4 Description and function

4.1 Description of the product

The SE Bronze circulator has been specially designed for use in conjunction with domestic/ drinking water service systems. They are, by material selection and design, corrosion proofed against any residual parts in domestic/drinking water.
The pump consists of a hydraulic system, a glandless pump motor with terminal box. All the rotating parts in the glandless pump are in contact with the fluid, this is also true for the motor rotor. A shaft sealing, which is subject to wear, is not necessary. The fluid lubricates the slide bearings and cools the bearing and the rotor. Motor protection is not necessary. Even the maximum overload current cannot damage the motor. The motor is blocking-current proof.

4.2 Function of the product

Variable speed control (Fig. 3)
The pumps are equipped with a rotary switch (exept SE20B as single speed pump) in the terminal box to enable manual; 3-speed control [1 – 2 – 3)].
At minimum speed the maximum speed is reduced to approx. 40 ... 50%. The power input is reduced to approximately 50%.

5 Installation and electrical connection

5.1 Installation

DANGER: Before starting work, make sure that the pump has been disconnected from the power supply.

- Only install the pump after all welding and soldering work has been completed.

CAUTION: Dirt can cause pump failure. Flush the pipe system before installation.

- Install the pump in a readily accessible place for easy inspection and dismantling.

NOTE: •Install gate valves upstream and downstream of the pump to facilitate a possible pump replacement. Perform installation so that any leaking water cannot drip onto the control module. To do this, align the upper gate valve laterally.

- Install with the power switched off and the pump motor always in a horizontal position.
  See Fig. 1 for installation positions of the pump.
- Direction arrows on the pump housing indicate the direction of flow (Fig. 2, item 1).
- In thermal insulation work, make sure that the pump motor and the module are not insulated. The condensate-drain openings must remain uncovered (Fig. 2, item 2).
- Use a open-end wrench to prevent the pump from twisting (Fig. 3).

5.2 Electrical connection

DANGER: Work on the electrical connection may only be performed by a qualified electrician in accordance with national and local regulations.
Before establishing the connection, make sure that the connecting cable is voltage-free.

- The current type and voltage must correspond to the details on the rating plate.
- The electrical connection must be made via a fixed connected load. The latter is provided with a plug device or an all-pole switch with a contact opening width of at least 3 mm.

- To ensure drip protection and strain relief at the PG screwed connection, a connected load with an adequate outer diameter is necessary (e.g. H05VV-F3G1.5 or AVMH-3x1.5).
- The connected load is to be installed in such a way that it can under no circumstances come into contact with the piping and/or the pump and motor housing.
- Make the mains connection corresponding to the terminals of the circulator: Live (L), Neutral (N), and Earth (⏚) to (Fig. 4).
- The connection cable can be taken through the cable feed-in right or left. Exchange dummy plugs and cable feed-in as necessary. When the terminal box is positioned laterally, always arrange the cable feed-in from below.
- Earth the pump/system according to regulations.

6 Commissioning

WARNING: Depending on the pump or system operating conditions (fluid temperature), the entire pump can become very hot. Touching the pump can cause burns! Commissioning by qualified personnel only!

6.1 Filling and venting

Fill and vent the system correctly.
The pump does not pump any water if there is air in the pump room. The pump rotor compartment is vented automatically after a short operating period.
Dry running for short periods will not harm the pump.
Please proceed as follows if it is necessary to vent the rotor room:

- Switch off the pump.
- Close the gate valve on the pressure side piping.

WARNING! Depending on the temperature of the fluid and system pressure, when the venting screw is opened, hot liquid or gaseous fluid may escape or shoot out at high pressure. Escaping fluid can cause scalding!

- Undo the venting screw carefully a few turns (Fig. 6).
- Protect electrical parts from any escaping water.
- Switch on the pump.

Note: The pump may jam if the venting screw is undone, depending on the operating pressure level.

- Screw the venting screw back in again after 15 to 30 seconds.
- Open the gate valve again.

6.2 Variable speed control

The circulator flowrate is adjusted by changing the speed of rotation of the motor using the selector switch (see Fig. 7).

7 Maintenance/faults

DANGER: Before starting any maintenance and repair work, disconnect the pump from the power supply, and make sure it cannot be switched back on by unauthorised persons. Damage to the connection cable should always be repaired by a qualified electrician. Have faults remedied by qualified skilled personnel only!

WARNING: Depending on the pump or system operating conditions (fluid temperature), the entire pump can become very hot. Touching the pump can cause burns! When removing the motor head or pump, hot fluid may spurt out under high pressure. Allow the pump to cool down beforehand.
Close the stop valves before removing the pump.

After successful maintenance and repair work, install and connect the pump according to the “Installation and electrical connection” chapter. Switch on the pump according to the “Commissioning” chapter.

Fault	Cause	Remedy
Pump is not running although the power supply is switched on.	Electrical fuse defective.	Check fuses.
	Pump has no voltage.	Check the voltage on the pump. (Observe the rating plate) Restore power after interruption.
	Capacitor defective	Check capacitor (Observe rating plate) Replace capacitor
	Motor is blocked, e.g. by incrustations	Unscrew the venting screw completely and check the ease of movement of the pump rotor or make it easy to move by turning the slotted end of the shaft with a screwdriver (Fig. 6). ATTENTION! Close the gate valves upstream and downstream to the pump at high water temperatures and system pressures. Allow the pump to cool down beforehand.
Pump is making noises.	Cavitation due to insufficient suction pressure.	Increase the system suction pressure within the permissible range.
		Check the speed setting and switch to a lower speed as necessary.

If the fault cannot be remedied, please consult the specialist technician.

8 Spare Parts

No non-approved replacement parts may be used.

9 Disposal

Damage to the environment and risks to personal health are avoided by the proper disposal and appropriate recycling of this product.

1. Use public or private disposal organisations when disposing of the entire product or part of the product.
2. For more information on proper disposal, please contact your local council or waste disposal office or the supplier from whom you obtained the product.

Subject to change without prior notice!

EN **EC - Declaration of conformity**
DE **EG – Konformitätserklärung**
FR **Déclaration de conformité CE**

Herewith, we declare that these products: **SE20B & SE60B**
Hiermit erklären wir, dass die Bauarten der Baureihe:
Par le présent, nous déclarons que le type de pompes de la série :

in their delivered state comply with the following relevant provisions:
in der gelieferten Ausführung folgenden einschlägigen Bestimmungen entspricht:
est conforme aux dispositions suivants dont il relève :

Electromagnetic compatibility – directive **2004/108/EC**
Elektromagnetische Verträglichkeit – Richtlinie
Directive compatibilité électromagnétique

Low voltage – directive **2006/95/EC**
Niederspannungsrichtlinie
Directive basse-tension

and with the relevant national legislation.
und entsprechender nationaler Gesetzgebung.
et aux législations nationales les transposant.

applied as well as following harmonised standards: **EN 60335-1**
angewendete harmonisierte Normen, insbesondere: **EN 60335-2-51**
ainsi qu´aux normes (européennes) harmonisées suivantes: **EN 61000-6-1**
EN 61000-6-2
EN 61000-6-3
EN 61000-6-4
EN 55014-1
EN 55014-2

If the above mentioned series are technically modified without our approval, this declaration shall no longer be applicable.
Bei einer mit uns nicht abgestimmten technischen Änderung der oben genannten Bauarten, verliert diese Erklärung ihre Gültigkeit.
Si les gammes mentionnées ci-dessus sont modifiées sans notre approbation, cette déclaration perdra sa validité.

Kings Lynn 23.10.2012

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