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› Century USQ1102 Pool Motor Instruction Manual

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Century USQ1102 Pool Motor Instruction Manual

Model: USQ1102 | Brand: Century

1. PRODUCT OVERVIEW

This manual provides essential information for the safe and efficient installation, operation, and maintenance of the Century USQ1102 1 HP Square Flange Pool Motor. This motor is designed as an up-rated replacement for swimming pool pumps, featuring a threaded shaft and compatibility with various pump models.

The USQ1102 operates on both 115 and 230 Volts and is compatible with specific models from Sta-Rite (Dura-Glas, Dura-Glas II, Max-E-Glas, Max-E-Glas II, Dyna-Glas, Max-E-Pro), Hayward (Max-Flow II), and Pentair (Whisper-Flo, Challenger, Ultra-Flow) pumps.



Figure 1: Century USQ1102 1 HP Square Flange Pool Motor. This image displays the motor's main body, cooling fins, and electrical connection box.

2. SAFETY INFORMATION

WARNING: Electrical shock hazard. Always disconnect power at the circuit breaker before attempting any installation, service, or maintenance. Failure to do so can result in serious injury or death.

- Installation and servicing must be performed by a qualified electrician or certified pool technician in accordance with all local and national electrical codes.
- Ensure the motor is properly grounded to prevent electrical shock.
- Do not operate the motor if it is damaged or if any electrical components are exposed to water.
- Keep hands, hair, and loose clothing away from moving parts.
- Always wear appropriate personal protective equipment (PPE) during installation and maintenance.

3. SPECIFICATIONS

Feature	Specification
Brand	Century
Model Name	USQ1102
Horsepower (HP)	1 HP

Feature	Specification
Speed	3450 RPM
Voltage	115/230 Volts
Service Factor	1.25
Frame Type	48Y Frame
Motor Type	Capacitor Start/Capacitor Run
Enclosure Type	ODP (Open Drip Proof)
Flange Type	Square Flange
Material	Stainless Steel (shaft)
Item Weight	Approximately 10 Pounds
Product Dimensions	Approximately 19.5 x 9 x 9 inches
Manufacturer	A.O. Smith

4. INSTALLATION AND SETUP

Proper installation is crucial for the safe and efficient operation of your pool motor. It is highly recommended that installation be performed by a qualified professional.

4.1 Pre-Installation Checks

- Verify that the new motor's specifications (HP, RPM, Voltage, Frame, Flange) match the requirements of your existing pump and electrical supply.
- Ensure all necessary tools and replacement parts (e.g., shaft seals, gaskets) are available.
- Confirm the electrical supply is disconnected at the main breaker.

4.2 Mounting the Motor

1. Carefully remove the old motor from the pump housing. Note the orientation of all components.
2. Inspect the pump housing for any damage or wear. Replace worn gaskets and shaft seals as needed.
3. Mount the Century USQ1102 motor to the pump housing, ensuring a secure and level fit. The square flange design ensures proper alignment with compatible pumps.
4. Tighten all mounting bolts evenly to prevent stress on the motor or pump.

4.3 Electrical Connections

CAUTION: Incorrect wiring can damage the motor and pose a fire hazard. Refer to the wiring diagram located on the motor's nameplate or inside the terminal box cover.

- Connect the electrical supply wires to the motor's terminal board according to the voltage (115V or 230V) and wiring diagram.
- Ensure all connections are tight and secure.
- Properly ground the motor using the designated grounding terminal.
- Replace the terminal box cover securely to protect electrical connections from moisture and debris.

5. OPERATION

Once installed and wired correctly, the Century USQ1102 motor is ready for operation as part of your pool pump system.

5.1 Initial Start-Up

1. Before restoring power, ensure the pump is primed according to the pump manufacturer's instructions. Running a pump dry can cause severe damage.
2. Restore power to the circuit breaker.
3. Turn on the pump. Observe the motor for smooth operation, unusual noises, or vibrations.
4. Check for any leaks around the pump housing and plumbing connections.

5.2 Normal Operation

- The motor is designed for continuous duty within its specified operating parameters.
- Monitor the pump's performance regularly. Consistent water flow and pressure indicate proper operation.
- Avoid frequent on/off cycling, which can reduce motor lifespan.

6. MAINTENANCE

Regular maintenance helps ensure the longevity and optimal performance of your Century USQ1102 pool motor.

- **Keep Vents Clear:** Ensure the motor's ventilation openings are free from debris, leaves, and dirt to allow for proper cooling. Blocked vents can lead to overheating.
- **Inspect Wiring:** Periodically check electrical connections for tightness and signs of corrosion or damage.
- **Listen for Unusual Noises:** A change in motor sound (e.g., grinding, squealing, humming) can indicate a problem with bearings or other internal components.
- **Protect from Elements:** If the motor is installed outdoors, consider using a motor cover to protect it from direct sun, rain, and extreme weather, which can extend its lifespan.
- **Shaft Seal Replacement:** The motor itself is generally maintenance-free regarding lubrication. However, the pump's shaft seal should be inspected and replaced periodically to prevent water from reaching the motor bearings.

7. TROUBLESHOOTING

This section addresses common issues you might encounter with your pool motor. For complex problems, consult a qualified technician.

7.1 Motor Does Not Start

- **No Power:** Check the circuit breaker for the pump. Reset if tripped.
- **Incorrect Wiring:** Verify electrical connections against the wiring diagram.
- **Capacitor Failure:** A faulty start or run capacitor can prevent the motor from starting. This requires professional diagnosis and replacement.
- **Seized Impeller/Shaft:** Debris in the pump or a damaged shaft seal can cause the impeller to seize, preventing the motor from turning. Disconnect power and manually check if the motor shaft can be rotated.

7.2 Motor Overheats and Shuts Off

- **Blocked Ventilation:** Ensure motor vents are clear of obstructions.

- **Low Voltage:** Insufficient voltage supply can cause the motor to draw excessive current and overheat.
- **Excessive Load:** A clogged pump impeller or filter can put undue strain on the motor.
- **High Ambient Temperature:** Operating in extremely hot environments without adequate airflow can lead to overheating.

7.3 Unusual Noise or Vibration

- **Bearing Wear:** Grinding or squealing noises often indicate worn motor bearings. This typically requires motor replacement or professional repair.
- **Loose Mounting:** Check that the motor is securely mounted to the pump and the pump to its base.
- **Debris in Pump:** Objects caught in the pump impeller can cause noise and vibration.
- **Cavitation:** Insufficient water flow to the pump (e.g., clogged skimmer, low water level) can cause cavitation, leading to noise.

8. WARRANTY AND SUPPORT

For warranty information or technical support regarding your Century USQ1102 pool motor, please contact Century customer service or the authorized dealer from whom the product was purchased. Keep your purchase receipt and product model number readily available when seeking support.

It is recommended to register your product with the manufacturer, if applicable, to facilitate warranty claims and receive important product updates.