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› Speroni CTX 330/2.2 SP 3 PH 220 60HZ Single Impeller Centrifugal Pump User Manual

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Model: CTX 330/2.2 SP 3 PH 220 60HZ

1. INTRODUCTION

This manual provides essential information for the safe and efficient installation, operation, and maintenance of your Speroni CTX 330/2.2 SP 3 PH 220 60HZ Single Impeller Centrifugal Pump. Please read these instructions carefully before installing or operating the pump to ensure proper function and to prevent injury or damage.

The Speroni CTX series single impeller centrifugal pumps are designed for various applications including domestic, agricultural, and industrial water distribution, irrigation systems, and pressure boosting in aqueducts. This model features a three-phase motor with 3HP/2.2kW nominal power.

2. SAFETY INSTRUCTIONS

WARNING: Failure to follow these safety instructions may result in serious injury, death, or property damage.

- **Electrical Safety:** Ensure all electrical connections are made by a qualified electrician and comply with local codes. Disconnect power before performing any maintenance or service. The pump operates on 230/400V-60Hz three-phase power.
- **Water Safety:** Do not operate the pump dry. Ensure the pump is always primed with water before starting to prevent damage.
- **Installation:** Install the pump on a stable, level surface in a well-ventilated area, protected from direct weather exposure.
- **Temperature:** The pump is designed for pumping clear water with a liquid temperature up to 35°C (for domestic use) or up to 40°C (for other uses).
- **Maintenance:** Only perform maintenance tasks described in this manual. For complex repairs, contact authorized service personnel.
- **Children and Unauthorized Personnel:** Keep children and unauthorized personnel away from the

pump during operation.

3. PRODUCT OVERVIEW

The Speroni CTX 330/2.2 SP 3 PH 220 60HZ is a robust single impeller centrifugal pump designed for reliable performance. Its construction features high-quality materials for durability and efficiency.



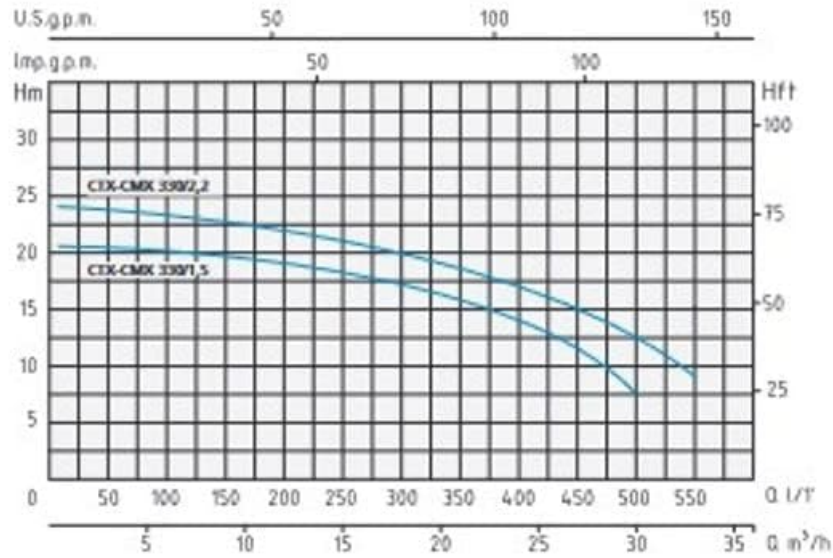
Figure 1: Speroni CTX 330/2.2 SP 3 PH 220 60HZ Single Impeller Centrifugal Pump. This image shows the complete pump unit with its blue motor housing and stainless steel pump body.

Key Features:

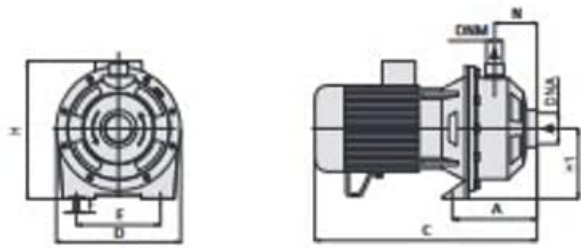
- Three-phase 230/400V-60Hz power supply.
- Two-Pole induction motor ($n = 2850 \text{ min}^{-1}$).
- Total suction lift up to 7 meters.
- Insulation Class F and Protection IP 55.
- Minimum Efficiency Index (MEI) ≥ 0.4 .
- Nominal Power: 3HP / 2.2kW.
- Absorbed Power: 3kW.
- Inlet (aspiration) mouth: 2 inches.
- Outlet (mandate) mouth: 1 1/4 inches.

4. TECHNICAL SPECIFICATIONS

Component/Parameter	Specification
Pump Body	Stainless Steel AISI 304
Motor Support	Aluminium
Impeller	Stainless Steel AISI 304
Shaft with Rotor	Stainless Steel AISI 304
Mechanical Seal	Silicon/Graphite/EPDM
Phase	Three-phase
Nominal Power	3HP / 2.2kW
Absorbed Power	3kW
Voltage	230/400V-60Hz
Current (Amp)	5 Amp (at 230V)
Inlet Mouth	2 inches
Outlet Mouth	1 1/4 inches
Dimensions (L x W x H)	19.17 x 8.93 x 10.78 inches (approx.)
Weight	50.7 pounds (approx.)
Max. Liquid Temperature	35°C (domestic), 40°C (other)
Max. Suction Lift	7 meters



TIPO TYPE		POTENZA NOMINALE NOMINAL POWER		POTENZA ASSORBITA INPUT POWER	AMPERE		Q - PORTATA - CAPACITY										
Monofase Single phase	Trifase Three phase	P2		P1	Monofase Single phase	Trifase Three phase	0,6	2,4	4,8	7,2	9,6	12	18	24	30	33	
230V-50/60	230/400V-50/60	HP	kW	kW	1 x 230V	3 x 400V	10	40	80	120	160	200	300	400	500	550	
CMX 330/1,5	CTX 330/1,5	2	1,5	2,35	10,8	4,6	Prevalenza manometrica totale in m.c.a. - total head in meters w.c.										
CMX 330/2,2	CTX 330/2,2	3	2,2	3	13,2	5	H (m)	20,9	20,5	20,2	19,8	19,4	18,5	16	12	7,5	



TIPO TYPE		DIMENSIONI mm - DIMENSIONS mm										DIMENSIONI DIMENSIONS mm			PESO WEIGHT
Monofase Single phase	Trifase Three phase	A	C	D	E	F	H	HT	N	DN1	DN2	P	L	H	Kg
CMX 330/1,5	CTX 330/1,5	143	371	216	173	11	238	111	54	2"	1" 1/4	227	487	274	20
CMX 330/2,2	CTX 330/2,2	143	418	216	173	11	245	111	54	2"	1" 1/4	227	487	274	23

Figure 2: Performance curve and dimensional drawing for Speroni CTX series pumps, including model CTX 330/2.2. This diagram illustrates the pump's head (Hft) versus flow rate (Q L/min or Q m³/h) and provides key dimensions for installation planning.

5. INSTALLATION

5.1 Location and Mounting

- Choose a dry, well-ventilated location, protected from frost and direct sunlight.
- Mount the pump on a solid, level foundation to minimize vibration. Use appropriate bolts to secure the pump through its base plate.

- Ensure sufficient space around the pump for ventilation, maintenance, and access.

5.2 Plumbing Connections

- Connect the suction pipe (2 inches) to the pump's inlet and the discharge pipe (1 1/4 inches) to the outlet.
- Use flexible connectors to reduce vibration transmission to the piping system.
- Ensure all connections are airtight to prevent air leaks, especially on the suction side.
- Install a foot valve with a strainer at the end of the suction pipe if drawing water from a well or tank.
- Install a check valve on the discharge side to prevent backflow.

5.3 Electrical Connection

CAUTION: Electrical work must be performed by a qualified electrician.

- Verify that the power supply voltage (230/400V-60Hz three-phase) matches the pump's requirements.
- Connect the pump to a dedicated circuit protected by a circuit breaker and residual current device (RCD) of appropriate rating.
- Ensure proper grounding of the pump.
- Check motor rotation direction upon first startup. If incorrect, reverse two of the three phase wires.

6. OPERATION

6.1 Priming the Pump

IMPORTANT: Never operate the pump dry. Dry running will cause severe damage.

1. Ensure all valves on the suction and discharge lines are open.
2. Remove the priming plug (usually located on top of the pump casing).
3. Fill the pump casing completely with clean water until it overflows from the priming hole.
4. Replace and tighten the priming plug.

6.2 Starting the Pump

1. After priming, switch on the power supply to the pump.
2. The pump should start and begin to deliver water. Listen for any unusual noises or vibrations.
3. If the pump does not deliver water within a few minutes, switch it off immediately and re-prime. Check for air leaks in the suction line.

6.3 Stopping the Pump

Simply switch off the power supply to the pump. If the pump is part of an automated system, it will stop according to the system's controls.

7. MAINTENANCE

Regular maintenance ensures the longevity and efficient operation of your pump.

7.1 Routine Checks

- **Daily:** Check for any visible leaks, unusual noises, or excessive vibrations.

- **Weekly:** Inspect the suction strainer (if installed) for blockages and clean if necessary.
- **Monthly:** Check electrical connections for tightness and signs of corrosion.

7.2 Winterization (if applicable)

If the pump is installed in an area subject to freezing temperatures and will not be used, it must be drained to prevent damage.

1. Disconnect power to the pump.
2. Open the drain plug (if present) and remove the priming plug to allow all water to drain from the pump casing and pipes.
3. Store the pump in a dry, frost-free location if possible.

7.3 Mechanical Seal Replacement

The mechanical seal is a wear part. If persistent leaks occur from the shaft area, the mechanical seal may need replacement. This procedure should ideally be performed by qualified service personnel.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
Pump does not start	No power supply Motor overload Faulty wiring	Check power switch, circuit breaker, and RCD. Reset thermal overload protector. If it trips repeatedly, investigate cause. Consult a qualified electrician to check wiring.
Pump runs but delivers no water	Pump not primed Air leak in suction line Suction line blocked Foot valve stuck closed Impeller damaged	Re-prime the pump. Check all suction connections for tightness. Inspect and clear suction line and strainer. Inspect and repair/replace foot valve. Contact service personnel for inspection/replacement.
Low flow or pressure	Partial blockage in suction/discharge Air in system Worn impeller/pump components Incorrect motor rotation	Inspect and clear pipes/strainers. Check for air leaks and re-prime. Contact service personnel. Check electrical connections and reverse two phase wires if necessary.
Excessive noise or vibration	Cavitation (air in pump) Loose mounting bolts Bearing wear Foreign object in pump	Check for air leaks, ensure adequate water supply. Tighten mounting bolts. Contact service personnel. Disconnect power and inspect pump casing (if safe and accessible).

9. WARRANTY AND SUPPORT

Speroni products are manufactured to high-quality standards and are covered by a manufacturer's warranty against defects in materials and workmanship. The specific terms and duration of the warranty may vary by

region and purchase date. Please refer to your purchase documentation or contact your authorized dealer for detailed warranty information.

For technical assistance, spare parts, or warranty claims, please contact your local Speroni dealer or the point of purchase. When contacting support, please have your pump model number (CTX 330/2.2 SP 3 PH 220 60HZ) and serial number (if available) ready.