Pedrollo CP 650

Pedrollo CP 650 Centrifugal Pump User Manual

Model: CP 650 V.220-440/60HZ 1.5 HP

1. Introduction

This manual provides essential information for the safe and efficient installation, operation, and maintenance of your Pedrollo CP 650 Centrifugal Pump. Please read this manual thoroughly before installing or operating the pump to ensure proper function and longevity.

The Pedrollo CP 650 is a centrifugal pump designed for use with clean water and liquids that are not chemically aggressive towards the pump's materials. Its reliability and ease of use make it suitable for a wide range of domestic and civil applications, including water distribution with pressure sets, liquid transfer, and irrigation of gardens and allotments.

2. Safety Information

WARNING: Failure to follow these safety instructions could result in electric shock, fire, serious injury, or death.

- Always disconnect power before performing any installation, maintenance, or repair work on the pump.
- Ensure the electrical supply matches the pump's voltage and frequency requirements.
- All electrical connections must be performed by a qualified electrician and comply with local codes and regulations.
- The pump must be properly grounded to prevent electric shock.
- Do not operate the pump dry (without water), as this can cause severe damage.
- Install the pump in an enclosed environment or at least sheltered from inclement weather to protect it from environmental elements.
- Keep hands and loose clothing away from moving parts.
- Do not use the pump for flammable, corrosive, or explosive liquids.

3. Product Overview

The Pedrollo CP 650 is a robust centrifugal pump designed for reliable performance in various water transfer applications. It features a durable construction suitable for continuous duty.



Figure 3.1: Pedrollo CP 650 Centrifugal Pump. This image shows the main body of the pump, including the motor housing, pump casing, and inlet/outlet ports.

Key features include:

- **Liquid Type:** Clean Water
- **Applications:** Water supply systems, air conditioning systems, pressure systems, cooling systems, irrigation, liquid transfer.
- **Typology:** Surface pump
- **Temperature Range:** Liquid from -10 °C to +90 °C; Ambient up to +40 °C.

4. Setup and Installation

Proper installation is crucial for the pump's performance and longevity. Ensure the installation site is stable, level, and provides adequate ventilation.

4.1. Location

The pump should be installed in an enclosed environment or at least sheltered from inclement weather to protect it from rain, direct sunlight, and extreme temperatures.

4.2. Plumbing Connections

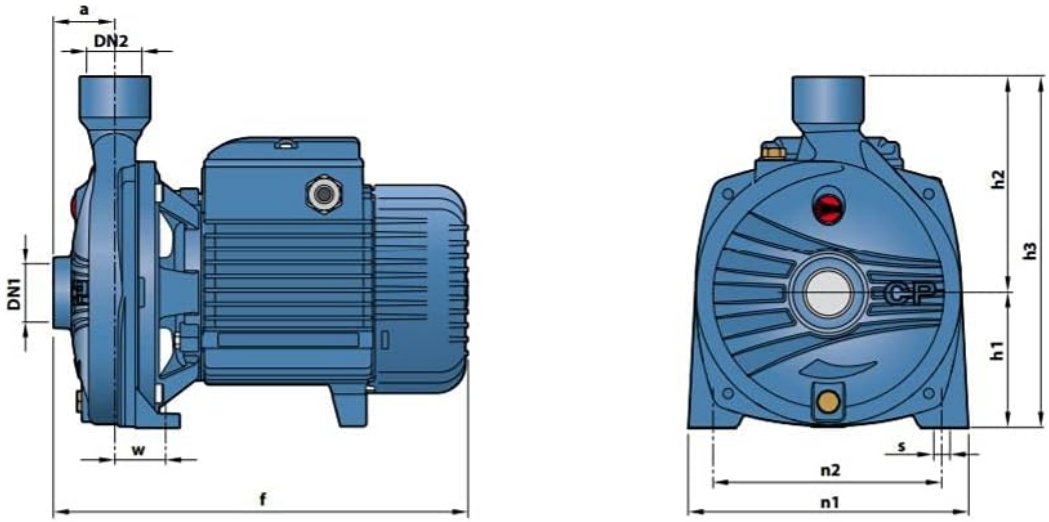
- Use appropriate pipe sizes for the inlet and outlet ports (refer to dimensions table for DN1 and DN2).
- Ensure all connections are airtight to prevent air leaks, especially on the suction side.

- Install a foot valve with a strainer on the end of the suction pipe if drawing water from a well or tank.
- Install shut-off valves on both suction and discharge lines for ease of maintenance.

4.3. Electrical Connections

- Verify the power supply voltage and frequency match the pump's specifications (V.220-440/60HZ).
- Connect the pump to a dedicated circuit with appropriate overcurrent protection.
- Ensure proper grounding according to local electrical codes.

DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm									kg	
Single-phase	Three-phase	DN1	DN2	a	f	h3	h1	h2	n1	n2	w	s	1~	3~
CPm 600	CP 600	1"	1"	42	257	205	82	123	165	135	38	11	7.0	7.7
CPm 610	CP 610												8.5	7.8
CPm 620	CP 620				286	240	92	148	190	160	37		11.0	10.9
CPm 650 - 650M	CP 650 - 650M	1¼"	1"	51	367	260	110	150	206	165	44.5	11	17.8	17.6
CPm 660 - 660M	CP 660 - 660M												18.9	17.9
CPm 670 - 670M	CP 670 - 670M				367/387								20.9	22.5

Figure 4.1: Dimensions and Weight of Pedrollo CP Pumps. This diagram provides detailed measurements (in mm) and weight (in kg) for various CP pump models, including the CP 650, which is crucial for planning installation space and pipe connections.

5. Operating Instructions

5.1. Priming the Pump

Before initial startup or after the pump has been drained, it must be primed. This involves filling the pump casing and suction line with water to remove all air.

1. Close the discharge valve.
2. Remove the priming plug (usually located on top of the pump casing).
3. Slowly fill the pump casing with clean water until it overflows.
4. Replace the priming plug securely.
5. Open the discharge valve partially before starting the pump.

5.2. Starting and Stopping

- **Starting:** Ensure the pump is primed and all valves are correctly positioned. Turn on the power supply. The pump

should start immediately.

- **Stopping:** Turn off the power supply. If the pump is part of a pressure system, it will stop automatically when the desired pressure is reached.

5.3. Performance Monitoring

Regularly monitor the pump's performance, including flow rate and pressure, to ensure it operates within its optimal range. Refer to the characteristic curves for expected performance.

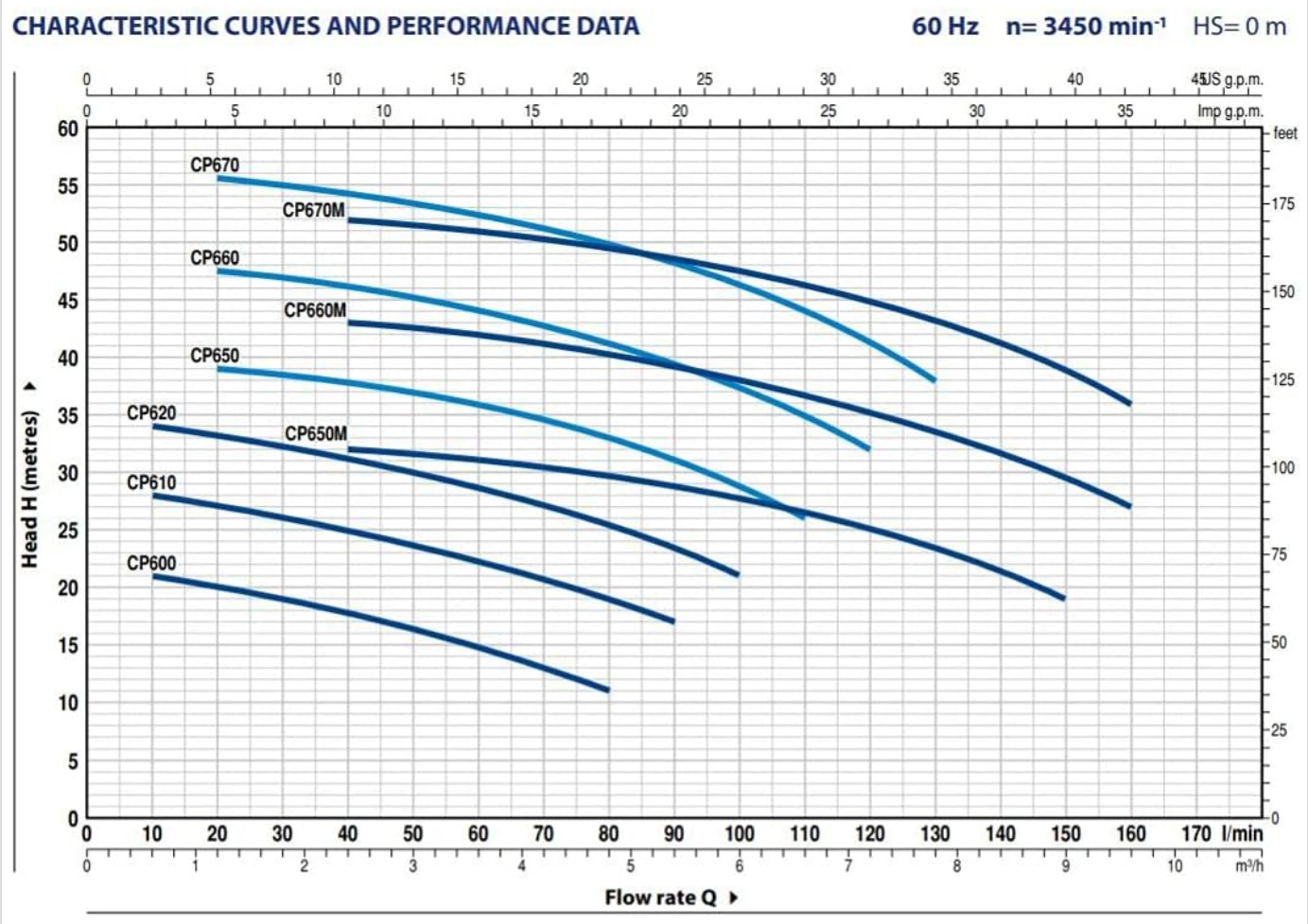


Figure 5.1: Characteristic Curves and Performance Data for Pedrollo CP Pumps (60 Hz). This graph illustrates the relationship between head (pressure) and flow rate for various CP pump models, allowing users to understand the pump's operational capabilities.

6. Maintenance

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

6.1. Routine Checks

- **Daily:** Check for unusual noises, vibrations, or leaks.
- **Weekly:** Inspect the suction strainer (if installed) for blockages and clean if necessary.
- **Monthly:** Verify electrical connections are secure and free from corrosion.

6.2. 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 from freezing water.

1. Disconnect power to the pump.
2. Open the drain plugs on the pump casing and piping to allow all water to escape.

3. Store the pump in a dry, frost-free environment if possible.

7. Troubleshooting

This section provides solutions to common operational issues. For problems not listed here, contact qualified service personnel.

Problem	Possible Cause	Solution
Pump does not start	No power; Motor overload; Seized impeller	Check power supply/breaker; Reset overload; Contact service
Pump runs but no water	Pump not primed; Air leak in suction line; Suction lift too high; Clogged impeller/pipe	Prime pump; Check/seal connections; Reduce lift; Clear blockages
Low flow or pressure	Partial blockage; Air in system; Worn impeller; Incorrect pipe size	Clear blockages; Bleed air; Contact service; Verify pipe sizing
Excessive noise/vibration	Cavitation (air in water); Misalignment; Worn bearings	Check priming/suction; Check mounting; Contact service

8. Specifications

Detailed technical specifications for the Pedrollo CP 650 Centrifugal Pump.

Attribute	Value
Brand	Pedrollo
Model	CP 650
Power	1.5 HP (1.1 kW)
Voltage/Frequency	220-440V / 60HZ
Liquid Type	Clean Water
Liquid Temperature Range	-10 °C to +90 °C
Ambient Temperature	Up to +40 °C
Manometric Suction Lift	Up to 7 m
Max. Working Pressure	10 bar (for CP 170-190-200, typically similar for CP 650 series)
Item Weight	25 pounds (approx. 11.3 kg)
Package Dimensions	12.25 x 10 x 8 inches
UPC	722777873556
ASIN	B09BZZDQXJ

MODEL		POWER (P2)			Q	m³/h	0	0.6	1.2	2.4	3.6	4.8	5.4	6.0	6.6	7.2	7.8	9.0	9.6
Single-phase	Three-phase	kW	HP	▲		l/min	0	10	20	40	60	80	90	100	110	120	130	150	160
CPm 600	CP 600	0.37	0.50	IE2			22	21	20	18	15	11							
CPm 610	CP 610	0.60	0.85				28.5	28	27	25	22	19	17						
CPm 620	CP 620	0.75	1				35	34	33	31	28.5	25.5	23.5	21					
CPm 650	CP 650	1.1	1.5				40	–	39	38	36	33.1	31.2	28.8	26				
CPm 660	CP 660	1.5	2		H	metres	48	–	47.5	46	44	41	39.5	37.5	35	32			
CPm 670	CP 670	2.2	3	IE3			56	–	55.5	54.5	52.5	50	48.5	46.5	44	41.5	38		
CPm 650M	CP 650M	1.1	1.5				33	–	–	32	31	30	29	28	26.5	25	23	19	
CPm 660M	CP 660M	1.5	2				44	–	–	43	42	40	39	38	37	35.5	34	29.5	27
CPm 670M	CP 670M	2.2	3				53	–	–	52	51	49.5	48.5	47.5	46.5	45	43.5	39	36

Q = Flow rate **H** = Total manometric head **HS** = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

Figure 8.1: Model, Power, and Flow Rate Data for Pedrollo CP Pumps. This table provides specific power ratings (P2 in kW and HP) and corresponding flow rates (m³/h and l/min) at various head levels (H in meters) for different CP pump models, including the CP 650.

9. Warranty and Support

Pedrollo products are manufactured to high standards and are typically covered by a manufacturer's warranty against defects in materials and workmanship. For specific warranty terms and duration, please refer to the warranty card included with your product or contact the authorized Pedrollo distributor or seller.

For technical support, spare parts, or service inquiries, please contact your original point of purchase or an authorized Pedrollo service center. When contacting support, please have your pump's model number (CP 650) and serial number (if available) ready.

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Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question