

# 3P Technik

## CBV Compact Booster Set

### Installation and Operation Manual



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## Product Description

CBV Compact Booster Pump Sets deliver water under constant pressure variable speed controller and 24L pressure vessel to reduce run-time and increase efficiency.

This Pump Set uses monitors the pressure at the pump outlet and varies the speed of the pump to maintain pressure.

The pump used in this set is water cooled, with very low noise and vibration.

Variable speed systems and best suited to applications where water is pumped against a variable outlet such as float valves or pipework containing several outlets.

## Installation

### Safety

Mains Voltage – There are exposed electrical conductors inside the pump. This product must be installed and serviced by a competent electrical technician to the current requirements of BS7671 and IEEE recommendations. Before servicing this appliance, normal safe isolation procedures should be implemented.

Do not touch any connection terminals while energised.

Do not attempt to service electrical objects when wet, or in a wet or high humidity environment.

If the product itself or any cabling becomes damaged, you must shut down and securely isolate immediately.

You must connect this appliance to a grounded 3 wire supply, protected by suitable overload protection.

If the power cable is damaged, shut down and isolate this appliance.

Before servicing the pump, refer to the Manufacturer for advice.

## **Electrical Wiring**

The product must be safely isolated from the power supply before servicing. Only qualified staff should be present during servicing.

All locally applicable safety procedures and regulations must be complied with. IF IN ANY DOUBT CONSULT A QUALIFIED PROFESSIONAL.

The electrical supply is recommended to be on a dedicated circuit, with appropriate electrical protection.

Before activating the pump, please verify:

- Supply voltage and frequency
- Voltage drop/Line impedance are suitable for the current (amps) of the pump. Voltage at the pump during operation should be within 4% of the pumps stated operating voltage.
- Earth (cpc) has continuity and sufficient capacity for safe operation.
- The presence and correct operation of appropriate over-current and residual current circuit protective devices.

The pump may be temporarily halted by built-in thermal protection or protective software features, and is liable to restart without warning. Do not attempt maintenance without first proving the pump is safely isolated from the electrical supply.

## **Installation Constraints**

Do not install this product in a location where it is likely to freeze. Freezing will damage the pump and pressure vessel. The minimum operating temperature is 2°C.

Avoid installing this product where it will be in direct sunlight or temperatures above 37°C.

Only install this product for the purpose of pumping clean cold water with very few suspended solids (if any). Mains water and filtered rainwater, springwater and borehole water are suitable.

Do not pump salt water, seawater, heavy chlorinated water such as pool water, or anything other than water.

Oil, petrol, diesel, kerosene, paraffin, etc will destroy the pump very quickly. You cannot use this as a fuel pump.

Install the product on its base, as close as possible to the source of the water, checking that inlet and outlet are clear of debris.

Incoming and out-going pipework must be appropriately supported. Vibrations or loading should be avoided.

Check that all suction pipes are clean of debris, and of a pipe or hose diameter at least that of the pump inlet. Double check that there are no leaks, and ensure that the non-return valve supplied is fitted directly to the inlet of the pump.

## **Testing/Commissioning**

Using a pressure gauge verify the correct pre-charge pressure is present in the pressure vessel. This step is more important if the product has been in storage or has been installed for a long time before commissioning.

Fill the pump completely with water via the priming plug (the uppermost removable plug). For CBV9031B, CBV9031PRO, CBV9052B and CBV9052B/PRO models wait 1 minute after filling for the water to settle and top-up again.

Ensure that the inlet pipework is correctly connected.

Check that the discharge pipe rises 50cm or more vertically to allow proper flow from the pump outlet.

Automatic pumping systems may initially stop due to dry run protection, particularly where water is being drawn by suction from a lower level. In this case it may be necessary to restart the pump several times until all residual air is cleared.

Any check valve or tap in the discharge pipe must be at least 2.5 metres from the pump outlet.

Do not allow the pump to run for more than 3 minutes without flow. If the pump becomes overheated (noticeably hot) switch off the electrical supply to the pump and allow to cool to room temperature before restarting.

Once operating correctly, the automatic function should be checked for correct shut-off operation by closing all outlets at the point of use (taps closed, other appliances, cisterns and header tanks full). The pump should now stop within 1 minute and remain off. If it does not then check for leaks in pipework and joints, and also faulty float valves (ball cocks) and other isolating valves. Note that if the pump continues to run without delivering water, overheating and damage may eventually occur.

If pumping water to a storage tank use a high flow diaphragm type float valve. This will help ensure the pump is moving enough water to cool itself.

## **Operation**

For correct operation and setting up of this unit, please refer to the accompanying instructions for the variable speed inverter (exact model may vary).

## **Maintenance**

Do not undertake maintenance on the pump without first safely isolating it from the electrical supply. During periods of prolonged inactivity, isolate the electrical supply to the pump and drain the pump body of via the drain plugs.

The pre-charge pressure in the pressure vessel as supplied is 1.5 bar and should be checked periodically. We recommend checking this every 6 months. Isolate the electrical supply, release pressure in the discharge line, and test at the valve underneath the black plastic end cap on the pressure vessel. This should be recharged with nitrogen. For optimum efficiency ensure the pre-charge pressure is no higher than the start pressure you have set on the control panel.

Single phase pumps contain a capacitor which may eventually need replacement. Testing and replacement of the capacitor should be undertaken by a SteelPumps Approved Technician.

All SteelPumps are fully repairable. Contact your retailer or local stockist, or [www.steelpumps.co.uk](http://www.steelpumps.co.uk) for assistance.

## Technical Specifications

Model	Pump	Performance		Power		
		Max Pressure bar	Max Flow L/min	Voltage	Current Amps	Frequency Hz
CBV5041P	X-JE80P	4.1	50	~1 230	5	50Hz
CBV5051P	X-JE120P	5.1			7	
CBV5041B	X-JE80B	4.1			5	
CBV5051B	X-JE120B	5.1			7	
CBV5041PRO	X-JE80PRO	4.1			5	
CBV5051PRO	X-JE120PRO	5.1			7	
CBV9031B	X-MO80B	3.1	90		5.6	
CBV9052B	X-MO120B	5.2			8.3	
CBV9031PRO	X-MO80PRO	3.1			5.6	
CBV9052PRO	X-MO120PRO	5.2			8.3	
CBV10021B	X-2CP	2.1	100		5.3	

Dimensions 1000H x 520W x 280D