

Booster sets and common faults

What is a booster set?

Usually a booster set will pump cold water, although they can pump hot water, softened water, processed water or even grey water in the case of a rainwater harvesting system.

The main purpose of a cold water booster set is to supply water to a building, commonly where water storage is required or mains water pressure is not sufficient to reach the top of the building or to meet the demand.

For example, in the case of a tower block the mains will only provide one bar of pressure, which amounts to roughly ten metres of height when pumped. In this case, the booster set is used to provide enough pressure for the liquid to reach all water points.

Some buildings require water storage, so that there is enough water to meet demand, and some can store up to a day's worth of water. The same type of water storage is also used as a break in a water system, as some processes can cause contamination, so this helps alleviate any risk.

Problems

Pump provides no water due to not cutting in

If the pump is not cutting in, then the pump will not function at all.

Possible causes of this are:

- No mains power
- Water in the break tank
- Pumps have tripped out
- Pumps are air locked
- Pressure sensor failure
- Pressure switch failure
- Inverter failure
- Control panel faults
- Contactor failure, electronic module or timer failure
- Motor failure
- Cavitation pump

Solutions

A full inspection and service visit from a member of the highly qualified Dura Pump team will enable you to diagnose the cause of the failure.

This diagnosis will normally happen within half an hour.

After that, a replacement or upgrade can be installed to rectify the problem.



Problems

Lack of pressure

- Unit not cutting in (as with the previous problem)
- Pumps air locked
- Non-return valve failure
- Incorrect pressure settings
- Failed pressure reducing valve
- Pumps running backwards

Solutions

Check to make sure the pumps are running correctly, and then run a full-service check to discover and rectify the issue.

Problems

Noise/Vibration

- Bearing failure
- Foreign bodies in the pump
- Non-return valves closing
- Poorly supported and installed pipework

Solutions

For an older pump, an engineer is needed to replace the bearing. For a new bearing that has not lasted very long, Dura Pump would recommend further investigation to find the cause.

In the case of contamination, the foreign body needs to be removed and the tank cleaned. If the contaminant has caused further damage to the pump, this could need further work.

Noisy non-return valves can be replaced with a quieter type of valve, however this is not always possible.

All of the above issues are checked in regular maintenance and servicing appointments by Dura Pump.

Problems

Leaks

- Wear and tear
- Age
- Contamination



Solutions

For a torn or worn mechanical seal or a deteriorated O-Ring due to age, the best solution would be to have a service engineer fit a replacement.

The pump might also have some corrosion, which can be remedied but it may need a replacement. The pump would need to be taken back to the workshop for the engineers to look at the problem and find the most economical and cost-effective solution.

In the case of contamination, the tank and water source needs to be checked for any containments. If the debris has caused a tear in the seal, causing the leak, this will need to be replaced.

Something small in the pump like a piece of grit can scratch the surface of the pump and cause a tear or break in the seal.

Problems

Warm water coming from cold taps

- Non-return valve failure
- Failure or lack of non-return valve between the hot and cold water system
- Lack of lagging on pipework
- Pumps not cutting out which is a control panel fault
- Hydraulic accumulator failure

Solutions

A full-service visit will troubleshoot the problem.

With a non-return valve failure, there will be a need for further investigation and a replacement or installation carried out.

The Dura Pump engineer will check if the correct pipe insulation is in place and update or replace.

Control panel faults, sensor faults and hydraulic accumulator failures will all need full service visits to correctly diagnose the problem and find the solution. Commonly, this will be for the parts to be replaced and regular maintenance carried out.

Problems

Legionnaires / contamination

- The pumps are not stopping
- Poor maintenance or treatment of break tank and the water in it
- Water in the tank might have bacteria in it
- Foreign bodies in the tank

Solutions

The problem of Legionnaires and contamination in pump systems comes down to the management and cleaning of assets.

The main solution is regular maintenance and there are several legal requirements for the maintenance of break tanks.

A full service call will discover if the hydraulic accumulator has failed. To correct any possible contamination, the tank and system should be drained, chlorinated and tested by qualified and certified engineers.

Problems

Inconsistent pressure

- Hydraulic accumulator failure
- Pressure-reducing valve failure
- Non-return valve failure
- Loose wiring and faulty sensors

Solutions

With inconsistent pressure, the best way to troubleshoot is to have a full service call which will diagnose the system error properly. The solution will probably involve replacements or servicing.

Non-return valves, accumulators, pressures switches or sensors can all be susceptible to natural wear and tear and age.

Proactive maintenance

Booster sets, like any pump, can experience issues. If you need help managing system failures, contacting Dura Pump for a service call will help you to diagnose your issues to get you up and running as soon as possible.

Talk to us about avoiding emergency call outs and controlling ongoing costs using Proserv Gold

<http://www.durapump.co.uk/proserv/#proserv-gold>