

SECTION C – FREQUENTLY ASKED QUESTIONS ABOUT POWER FLUSHING

To assist in locating an appropriate question they have been separated into the following categories:

1. General questions regarding power flushing.
2. Common concerns.
3. Types of systems that can be power flushed.
4. Preparing the system prior to power flushing.
5. During the power flush.
6. Completing the power flush.

1. General questions regarding power flushing.

Q. How long does it take to power flush a system thoroughly?

A. It will vary from house to house, but generally about four to five hours for a three bed house with a vented system, but less time for a sealed / combi system, because you don't have to cap off the cold feed and expansion pipe work.

Engineers can save more time by using a CP2 pump head adaptor to get connected quicker, and complete a flush faster by filtering the water as they go with a Kamco CombiMag power flushing filter.

Q. How large a heating system can you use a Clearflow pump on?

A. This largely depends on the individual system, how it is configured, the bore of the pipe work etc., but as a general rule we would say:

'CF40 Evolution' 20-25 radiators set over a single floor, and fewer if set over 2 or 3 floors.

'CF90 Quantum' 40 radiators set over a single floor, and fewer if set over 2 or 3 floors.

Tackle larger systems in sections, flushing each section in turn. For example when flushing a 20 radiator system with the CF40, close off 10 radiators totally, and flush the rest of the house. Once done, close the flushed radiators and repeat the procedure on the rest of the heating system.

Q. Can the Clearflow pump be set up and left unattended whilst I carry out another job elsewhere?

A. No, it is unwise to leave any powered equipment unsupervised in a domestic environment, with runs of hose and power cable, which could be in close proximity to householders, children, and pets.

Should there be an electricity power cut, the Clearflow would stop pumping, causing its tank to overflow.

You will be using powerful flushing chemicals, and as for all chemical products, they should be treated with respect and kept away from children.

Q. How can I reduce the time taken to power flush a heating system?

A. In order to clean a system effectively you must carry out the full procedure according to BS5793 : 2006, including putting the full flow through all radiators and sections of the heating system. However, you can reduce the overall procedure time if you use an inline magnetic power flushing filter.

This is installed between the heating system and the power flushing pump, and extracts magnetite (the major corrosion constituent) from the circulating water, which consequently clears much faster, reducing the time taken to obtain clear fresh water throughout the system. The volume of water required to power flush a system is also significantly reduced.

2. Common concerns.

Q. Will a Kamco pump over pressurise a system, and cause joints to leak?

A. No. The Clearflow is a centrifugal type pump. What it can't push through a system, it will simply re-circulate in the tank. Maximum pressure is less than two bars. It is the flow rate through a system that is important when power flushing. The higher the flow rate, the more debris will be removed from the system.

Q. Will power flushing cause damage to a heating system?

A. It is rare for a heating system to experience leaks after the power flushing process. However, experienced heating engineers will probably explain the following to householders:-

Sludge and debris are present as a result of corrosion over a long period of time.

The power flushing process will cure most circulation problems, but cannot undo the corrosion and gradual decay of heating system components that has led to the need to power flush the system.

Occasionally some systems may have radiators with localised deep corrosion pits, with only a scab of rust preventing the system water from leaking out. The vigorous flow rate required to mobilise sludge and deposits may dislodge such a scab, leading to a leak from the radiator during the flushing process.

The advanced stage of corrosion required for such a situation means that the leak would occur imminently even without a power flush. If it should be brought forward slightly by the flushing process, then it is better that it occurs whilst a heating engineer is present to remedy the problem, rather than for it to arise over a weekend or whilst the house is unoccupied.

Kamco power flushing chemicals are comprehensively inhibited, so that they do not affect the metals from which heating systems are constructed.

They are formulated so that they loosen and dissolve the corrosion products that cause boiler noise and circulation problems, enabling the power flushing process to power them out of the heating system.

It is important after the flushing process to add a good quality Buildcert approved inhibitor, such as SYSTEMSAFE-DM, to the heating system to prevent future decay. Part L ; 2006 regulations now make the addition of a chemical corrosion inhibitor mandatory.

3. Types of systems that can be power flushed.

Q. Can you power flush a single pipe system?

A. Water will always take the course of least resistance. If the radiators on a single pipe system have severe deposit build-ups, or cold panels, then the very low flow rate through the radiators is unlikely to mobilise any debris, and a power flush is not likely to be successful. BS7593 : 2006 advises against power flushing a single pipe system.

If you do take on such a system, improve the chances of success by pre-treating with two litres of HYPERFLUSH, and operate the flow reverser more often than usual whilst flushing individual radiators.

Q. Will thermostatic valves (TRVs) cause problems when power flushing a system?

A. Generally, no, even with older TRV's which can only be fitted on the water inlet side of a radiator. Set any thermostatic valves to 'MAX' position, and unscrew the valve head. Push down on the sprung pin a few times to ensure that it is not sticking and that the valve is fully open, and does not act as a non return valve.

Q. Can you power flush a microbore system?

A. Yes, but connection of the Clearflow should be onto the circulator pump fittings, and not on to a radiator, otherwise the small bore tubing will drastically reduce the flow rate, and the system power flush will be less successful than normal. We advise double dosing on chemical (i.e. using 5 litres of FX2 instead of the usual 2.5 litres, or 2 litres of Hyperflush rather than the usual 1 litre) to ensure the particles of debris are dispersed in as fine a form as possible.

If you can't clear a radiator on a microbore system, it may be that a plug of sludge is blocking the narrow diameter pipework leading back to the manifold. If you have a Kamco Systemsure injector, the following can be worth trying to restore flow to the radiator.

Switch off and isolate the Clearflow. Close both valves on the problem radiator. Attach the injector unit to the air bleed screw fitting, and pump up the pressure as high as possible.

Quickly open one radiator valve, and the air will often dislodge and move the semisolid sludge along the pipe. Close the radiator valve, pump up the injector again, and open the other radiator valve. Finally, direct the full flow of the Clearflow through the radiator, with both valves open.

Q. Can a microbore system with double entry radiator valves be power flushed?

A. Yes, but it is likely to give problems, we suggest double dosing on the chemicals.

When first inspecting the heating system before the power flush, fire the boiler and check all radiators for even heat coverage. If a radiator is warm only immediately around the twin entry radiator valves, and cool elsewhere, the distributor tube (which directs the incoming water towards the far side of the radiator) has fallen off or is missing. This means that the water inlet and outlet are effectively 1/2" apart, and any flush flushing effect on that radiator will be minimal.

Conversion to opposing inlet and outlet valves is a better long term proposition.

Q. Can double panel radiators be power flushed - won't the water take the course of least resistance and tend to just clear one panel?

A. Yes, it will. However, whilst carrying out the individual radiator flush, gently tap the front panel with a rubber mallet, where the brackets attach to the rear panel. There will always be at least four points of connection, at both ends, top and bottom. This vibrates debris loose with surprisingly good effect.

Many engineers tap every radiator along the lower edge with a mallet as they open it up for the individual radiator flush, to vibrate loose any compacted sludge trapped in the bottom seam.

An even better way to vibrate a radiator, is to use a Kamco Radhammer, a vibrating tool which clips into the chuck of an SDS drill.

Q. Can you power flush a system with plastic piping, such as Hep20?

A. Yes you can. FX2 liquid, and HYPER-FLUSH, can be used on plastic pipework systems, and will not damage either the pipework, or the 'O' ring materials.

Note : When flushing a system with older plastic pipe work, installed before 'barrier' plastic pipe was available, it is advisable to point out to the householder that it will probably be necessary to flush the system again within a few years. Non barrier plastic pipe without the integral foil allows air to diffuse through the plastic wall, so that the system is always aerated, and there will be significantly higher corrosion levels than in a system with copper or barrier plastic pipe.

Q. Can the Clearflow be used on a system which has a Primatic single feed cylinder?

A. It is necessary to disconnect or loop out the Primatic cylinder otherwise the high flow rate of the Clearflow pump will dislodge the air bubble in the cylinder, leading to mixing of radiator and tap water.

The Primatic cylinder is gravity fed, with separate pumped flow and return piping to the radiators. Consequently, connecting your Clearflow onto the flow and return piping will not enable you to power flush the radiator circuit. The water will simply 'bypass' through the boiler.

This would have to be power flushed separately, ideally by connecting across the system circulator pump connections, or using a CP2 pump head adaptor.

N.B. Water Bye-laws prohibit the use of corrosion inhibitors (other than potable ones!) in systems with a Primatic cylinder, because of the risk of contaminating the domestic water supply.

Q. How can you recognise that a heating system has a Primatic cylinder?

A. The layout of the system itself gives a clue. There is no feed and expansion tank in the loft, nor an expansion vessel anywhere else. Check the cylinder pipe connections closely. Conventional cylinders have male BSP connections on the cylinder for pipe work to be connected to, whilst a Primatic have female BSP connections going into the cylinder. In the case of Range Primatic cylinders, the word 'Primatic' is stamped into the cylinder near the top.

Q. Can you flush a very old system which has passivated steel or stainless steel piping, such as Truweld or Gecol?

A. Yes, you can, but we advise extreme caution, and you should always point out to the householder that you cannot guarantee that there will not be any leaks. These were 'stop-gap' materials used during a period (late sixties/early seventies) when there was a copper shortage, and were not expected to have a very long life.

Continued on next page.

Continued from previous page.

The passivated steel tube (similar dimensions to 15mm copper tube) was fabricated from sheet steel, folded over, seam welded and galvanised. Thirty years later it has generally corroded internally such that it is on borrowed time. Some engineers refer to this steel pipe work as 'Birmingham' tube, as one source was the GKN company in the West Midlands. Look for tube with an aluminium / silver colour, and connected with soft soldered copper joints - and avoid it. Another clue is that it is magnetic - copper and stainless steel aren't. The stainless steel tube also supplied at that time was of a low quality and is prone to pitting corrosion, and again is on borrowed time.

If in doubt, do not power flush the system. If you accept the job, use HYPER-FLUSH instead of FX2 – and always ask the householder to sign a disclaimer!

Q. Are there any other systems I should treat with caution?

Look out for low quality 15mm and 22mm copper tubing of continental origin, also supplied at the time of copper shortages. It was prone to pitting, was very brittle, and had a very thin wall thickness, such that it could not be bent. You can recognise it because the manufacturers kindly printed a red line along it!

Q. Can you power flush a combi boiler system? What's different from flushing a vented system?

A. Yes you can power flush a combi system. Combi systems are always sealed systems, and so you don't have a cold feed and vent to cap off, saving time. Traditionally a combi system was power flushed by gaining access for the power flushing pump by removing a small radiator, leaving the valve bodies on the radiator tails, and connecting the flow and return hoses onto the valve bodies. If the radiator tails are in 15mm pipe work, a reasonable job can be done.

Once you open the radiator valves ready to start the flush, the normal pressure in a sealed system will be released, so at the end of the power flush you'll have to re-pressurise the system.

Using this method, you'll need to flush the one removed radiator separately with a hose pipe, or after you have flushed the rest of the system as normal, you could fasten your power flushing pump hoses each side of the radiator and flush it individually.

A better method of flushing combi systems is to use the Kamco CP2 pump head adaptor, which gives a better flow rate overall, saves you having to remove one radiator, cleans the pump body during a flush, and enables you to also flush the primary water side of the plate heat exchanger.

If you use the CP2 adaptor, once you have fresh clear water in the rest of the radiator circuit system, put the boiler on to hot water demand and open a hot water tap. The boiler diverter valve will divert the high flow of the power flushing pump through the primary water side of the plate heat exchanger, and within a few minutes it will be flushed clear.

Q. Can you fire a combi boiler during a power flush because you've lost the system pressure when connecting the power flushing pump, and a combi needs at least half a bar pressure to operate?

A. A Clearflow pump generates up to 1.6 bar pressure at the point where water from the pump enters the system. At the far end of its journey through the system, pressure is back down to zero.

Ensure that the flow reverser lever of your Clearflow pump, (which indicates the flow direction and therefore the hose with the highest pressure in it) is pointed in the direction such that water is entering the boiler in the same direction as it does in normal boiler operation. This should ensure that the boiler has sufficient pressure on it to fire.

If you're using a CP2 adaptor, the power flushing water entry point into the boiler is within the boiler itself, and so you should have more than adequate pressure to allow the boiler to fire.

Some combi boiler systems will not allow flow in the opposite direction to normal operation, in which case you'll have to leave the flow reverser lever in the one direction whilst firing the boiler.

N.B. It's not very common, but some sealed systems have an automatic pressurisation unit (sometimes known as an auto filler) connected, to maintain the required pressure. Switch it off, or it will be continually introducing more water into the system to try to top up the pressure, and as a side effect forcing water against the direction of flow you need for a successful power flush.

4. Preparing the system prior to power flushing.

Q. Do you need to drain down the system before you start?

A. No. The less water run out of a system before power flushing, the better. With a vented system it is necessary to run some water out to lower the water level in the feed and expansion tank, so that the cold feed can be capped off. Kamco can supply a battery operated syphon pump to make it easier to empty the F&E tank.

Q. Can I use a rubber bung kit, for use when changing radiators, to make the system a closed circuit?

A. No, these bungs do not make a secure enough seal. The tapered bung inserted in the cold feed pipe will be forced out, and the expansion tank will fill up and overflow.

Q. Can I use plastic or metal push fit caps, such as "Speedfit" fittings, to make the system a closed circuit?

A. Yes, push fit fittings are tested to work at pressures up to 10 bar. However check the push fit cap 'O' ring for wear regularly, and replace it if in doubt.

Q. What if the expansion pipe on an old system is imperial size copper piping?

A. Extend the pipe slightly, using a compression fitting with a special imperial size olive, enabling you to add a short length of metric piping? Then use a push fit end cap as usual.

Q. If a Clearflow pump is connected into the system across the radiator tails of a radiator after removing it, what happens to that radiator? How should it be cleaned?

A. It is necessary to flush this separately with a hose pipe outside the house, so choose a small radiator to make it easier to carry. Bathroom or kitchen radiators are often a good choice as there will be a convenient water supply for the Kamco power flushing pump.

Alternatively, some engineers will adapt the outer end of their dump hose to fit onto one side of the removed radiator, with another adapted tube leading from the other side of the radiator to the drain. This way, every time you dump, you're putting a good flow of water through the radiator. By the time you've finished the power flush, the radiator should be very clean.

Connecting a power flushing pump across radiator tails is often carried out on combination boiler systems, but a better way to flush such systems is to use the CP2 pump head adaptor, avoiding the need to take a radiator off.

Q. What if there is a by-pass in the heating system?

A. Check if there is a by-pass present, and if so, it should be closed completely, otherwise the full flow of the power flushing pump will not reach the radiators, and the heating system will not be effectively power flushed. If the system has an automatic by-pass valve, close it down to the maximum.

Q. What do I do if I arrive at a house where the heating has been working, and the water temperature is above 75°C? Do I have to wait for the water to cool down?

A. No. Once you have connected the Clearflow into the system, and connected all hoses, immediately set the valves into the dump mode (dump valve open), and then switch on. Run and dump for a couple of minutes, allowing cold water in to the system, before reverting to the normal flushing procedure.

Q. Is it possible to tell if the cold feed on a vented system is blocked, without cutting into the pipework?

A. Not conclusively, but if you cap off the expansion pipe before attempting to drain down the contents of the expansion tank into the Clearflow tank via the cold feed pipe (see the instructions). If water doesn't run down into the Clearflow tank, there's a very strong possibility of a blockage in the cold feed pipe.

Engineer's tip:-

Run a small magnet over the pipe work around the cold feed entry point. If there is a blockage containing much black iron oxide (known as magnetite), the magnet will be pulled to the pipe as it attracted to the magnetite through the wall of the copper pipe.

Q. When flushing a system with a combi boiler fitted with a filling loop, do I need to connect a water supply hose to the Clearflow inlet valve? Can't I just run water in through the filling loop during dumping?

A. No. It is important that fresh water is fed into the system via the Clearflow tank. Introducing the water through a filling loop elsewhere will destroy the high velocity mono-directional flow and hence the efficiency of the whole power flushing process.

Q. How much chemical is needed, and what chemical should be used?

A1. A rule of thumb guide is to count the number of radiators, and use 1 ltr of HYPERFLUSH, or 2.5 ltrs of POWERFLUSH FX2 per 10 radiators. Count a double radiator as two radiators.

A2. If the system is a micro bore pipe system, double the amount of POWERFLUSH FX2 to 5 ltrs, as it is important to break up the debris as much as possible.

A3. If the system looks to be in very poor condition, or uses passivated steel pipe work, old stainless steel or imperial size pipe work, then it is prudent to use HYPER-FLUSH instead of POWERFLUSH FX2 - and to ask the householder to sign a disclaimer.

Q. What if the system has aluminium radiators, or an aluminium heat exchanger. Can Powerflush FX2 liquid still be used?

A. No. We recommend that systems which include aluminium are treated with HYPER-FLUSH, ideally several days beforehand. You could then power flush the system with water alone, but for the best result we recommend that you use another litre of Hyper-Flush as you carry out the power flush.

5. During the power flush.

Q. Is it OK to fire the boiler whilst carrying out a power flush?

A. By all means fire the boiler if possible – most chemical reactions will proceed faster with some heat, and also, when you come to put the full flow through each radiator in turn, it's useful to be able to feel whether the radiators are heating up across the whole area, or whether they still have cold areas / panels. If they do, then you can give that radiator extra attention.

A Kamco pumps will handle water temperatures up to 75°C. We suggest firing the boiler for up to 15 minutes, but there's no need to leave the boiler firing continuously.

If the boiler is fired, remember that when it is switched off, the heat exchanger is still very hot, and continues transferring heat to the water circulating through it, and to the Clearflow pump.

If you can't keep your hand on the Clearflow tank, switch the boiler off.

If the boiler is non functional, or being replaced, then it can not be fired anyway. When using a powerful chemical such as Powerflush FX2, engineers can still get a good result even if the boiler can't be fired.

The alternative is to use a Kamco CombiHeat power flush heater, a 3kw electric heater which fits in-line between the flushing pump and the heating system.

Q. Is it OK to use a Clearflow pump with scalding hot water?

A. A Clearflow pump is built to handle very strong chemicals, even strong hydrochloric acid, as engineers need to use this for industrial and commercial descaling. To enable this resistance to aggressive chemicals, all wetted parts are either plastic, or are sleeved in plastic, and this imposes a temperature limitation.

At high temperatures the clear plastic flow and return hoses will become very flexible and may kink, so don't put scalding water through them. High temperature resistant hoses can be fitted to a pump – but this type of plastic is not transparent, and you'd lose the advantage of being able to monitor water cleanliness by viewing the water as it travels through the pipes.

And last, but not least, working with scalding water above 65°C poses risks to anyone using the pump. There is no need to exceed the pump rating of 75°C.

Q. On some systems, when dumping the water from the system, after the boiler has been used to heat the water during the power flush, the radiators are cold at the bottom, and warm at the top. What's happening?

A. A Clearflow pump circulates the water through a system much faster than the standard system pump, and it is the cool fresh incoming water moving rapidly across the base of the radiator that can be felt.

Eventually the warmer water will be swept from the radiator, but you can speed it up by introducing some air into the top of the radiator to force the water level down, using a Kamco Systemsure injector. (see page F.4)

Q. What can be done when working on a radiator with such a severe build-up of corrosion debris that it is difficult to clear ?

A. Difficult radiators such as this will often respond to use of the Radhammer vibrator device, also supplied by Kamco. This device clicks into the chuck of an SDS drill (on a hammer only setting) and is applied firmly to problem areas of the radiator. The high frequency vibration will loosen debris that will not respond to any other cleansing method.

Q. What happens if there is no apparent flow through the Clearflow unit when the flow reverser handle is in one direction when working on the upstairs radiators ?

A. If the system is a gravity hot water system, there is probably an anti gravity / non return valve in the radiator circuit. If the non return valve is accessible, either loop it out, or remove the plunger so that it doesn't prevent the flow of water in one direction. If the non return valve cannot be found (which is very probable), the flow reverser lever must be left in the one direction that does give flow.

Q. If the system has a gravity hot water circuit, won't that reduce the flow rate of water through the radiators when carrying out the individual radiator flush ?

A. If you use the circulator pump adaptor leads, or the CP2 adaptor, to connect across the circulator pump connections, or connect onto radiator tails, you shouldn't lose much of the flow, if any, through the large diameter pipework of the gravity hot water circuit. The boiler heat exchanger will act as a large diameter by-pass for the fast circulating water, and the water will pass through the boiler rather than into the gravity hot water circuit.

The gravity hot water pipe work does need to be flushed separately. It may be possible to re-locate the Clearflow pump and connect it across the cold feed and expansion piping to force water through the gravity hot water circuit.

If there is one radiator on the gravity hot water circuit or a towel rail, as is sometimes the case, you may be able to connect your Clearflow across the radiator tails.

In an ideal world, you would disconnect the gravity hot water pipework at the boiler, and then powerflush the hot water circuit separately – but this is not practicable in most back boiler fired gravity hot water system.

Q. Is it really necessary to put the full output of the pump through each individual radiator in turn?

A. Yes This can be shown by flushing a system with all radiator and lock shield valves open, and without putting the full flow through each radiator in turn. Dump until the waste water is clear. Now stop dumping and put the full flow through each radiator in turn, and watch the water discolour again as more debris is brought into suspension.

Q. Is it necessary to carry out a separate dumping procedure on each radiator?

A. Yes. It is important to keep the flow rate as high as possible at all times in order to move the maximum amount of debris from the system.

Q. Once I have added the chemical and put the full flow through a radiator, why not dump immediately on that radiator?

A. This will dump most of the flushing chemical straight down the drain, requiring more to be added as the engineer works his way around the house. Whilst we think that this is an excellent idea from a chemical suppliers' point of view, it isn't necessary to dump immediately after putting the full flow through each radiator, as loosened debris takes many hours to settle or compact, and will have been purged from the system long before this could happen.

Put the full flow, with chemical treatment, through each individual radiator in turn. Only then commence dumping, working round the house in the opposite direction to previously, ensuring full flow through each radiator individually whilst dumping, by closing off all other radiators.

Q. The Clearflow pump has been connected into a heating system. Cold feed and expansion pipes have been capped off. The engineer opens the Clearflow isolating valves, and switches on. The pump appears to be working, but the water level in the tank is overflowing. What's happening?

A1. There may be a non return / check valve in the system, and it is preventing the Clearflow from pumping the water from its tank out into the heating system, i.e. no water is actually leaving the tank. However, some water will drain back into the tank through the 'return' hose, and so the water level starts to rise. Point the flow reverser lever in the opposite direction, and leave it there, unless you can find, and remove / bridge out the check valve.

(This occurs most often in a gravity hot water system, or one that has at some time been converted from such a system.)

A2. It's less likely, but if it is a sealed system, there may be an automatic pressurisation unit (sometimes known as an auto filler) connected to the system, to maintain the required pressure. Switch it off during the powerflush, or it will be continually introducing more water into the system to try to top up the pressure, and as a side effect forcing water against the direction of flow you need for a successful power flush.

Q. What can be done if the mains water supply is very poor, and can't replenish the Clearflow tank fast enough whilst dumping? Should the dump valve be partially closed to slow down the rate of dumping?

A. Don't partially close the dump valve if the water level in the tank keeps falling. Wait until the water level is about 10 cm from the bottom, and proceed as follows according to whether you are carrying out the initial dump or the final dump.

Initial dump: rotate the dump valve to re-establish circulation through the system, leave the water inlet tap OPEN, and allow the tank to fill until the level is close to maximum, before returning to dump mode.

Final dump: to prevent dirty water going back around the system, rotate the dump valve by 90° into the closed (horizontal) position, leaving the water inlet tap OPEN. The water in the system will cease to circulate whilst the water in the tank will be replenished, allow the tank to fill until the level is close to maximum, before returning to dump mode.

Q. Is it OK to dump dirty water into a toilet pan?

A. Yes. However it is necessary to secure the dump hose in place to stop it sliding out of the toilet pan when dumping starts. Trap the hose in place with the toilet seat before starting, better still, use a piece of cord to tie the dump hose to the seat hinge. Also, consider whether the porcelain might be stained by the discoloured dump water.

Q. Is it OK to dump very hot water from a heating system down a drain or sewer?

A. There is a Public Health Act regulation of 1936, which states that water should not be discharged down a public sewer at a temperature greater than 43°C, but in reality this is unlikely to be a problem when power flushing. However, do consider the risk of cracking a toilet pan if you discharge very hot water into it when power flushing.

6. Completing the power flush.

Q. Is there a more accurate method than a simple visual inspection to ensure that the system water is really clean?

A1. A better way to check clarity of water is to use a turbidity tube, which gives a reading of suspended particulate matter in the dumping water. The turbidity tube is a long clear tube, with a marker on the base. Turbidity (= clarity) of the system sample water is determined by the degree of obscuration of the marker when looking along the length of the tube containing system water.

A2. A visual test alone will not indicate whether all chemicals have been cleared from the system, and that the water approximates the mains tap water used to flush the system. A simple way to check the water is to take a sample both of the tap water, and of the water exiting from the dump hose, and to take measurements with a Total Dissolved Solids (TDS) electronic meter. The dump water reading should be as close to the mains water reading as possible, and ideally within 5-10% of the reading obtained for the tap water.

A3. If a powerful acidic system cleaning chemical has been used, the pH (= acidity) of the system water should be checked with either pH paper or an electronic pH meter, to check that it is pH neutral (7) before addition of corrosion inhibitor.

Q. Can you use the pump to add corrosion inhibitor to a system?

A. Yes, it's a good way to get corrosion inhibitor rapidly into a system and thoroughly dispersed. Before disconnecting the Clearflow pump, lower the water level in the tank to just above the minimum level, close the dump valve, and add the inhibitor into the tank. Allow circulation through the system for ten minutes before finally disconnecting.

Part L: 2006 of the Building Regulations now requires you to treat a system with corrosion inhibitor. Benchmark members specify the use of a corrosion inhibitor that has passed the Buildcert DWTA (Domestic Water Treatment Association) performance Standard. Suitable inhibitors, including Kamco Systemsafe-DM, will display the Buildcert / DWTA logo on the pack, so check for this to ensure that you use an inhibitor that has been performance tested.

Q. Is it necessary to bleed radiators after a power flush?

A. Yes. However, the amount of air in the radiators is usually small. If you keep the water level in the Clearflow tank at least 10 cm above the minimum, you'll minimise the air to be bled from radiators.

