

### **A Beginners Guide to Water-Fed-Pole**

This guide is written for the sole purpose to help those individuals or company's contemplating or seeking to invest time and money, into the new water-fed-pole system, they are the author's views and the author's views only, they based on his own experience, unto which he accepts no responsibility to which ever method you employ or accidents caused to or by you, using the water-fed-pole method.

The Water-Fed-pole system is increasingly becoming more and more popular within the trade of window cleaning; it is a method that can not only have the potential to increase your turnover, but its has also been recognized by the Health and Safety Executive (HSE) as one of the safest methods of cleaning windows from the safety of the ground.

### **Where do we begin?**

The first thing I personally did was to join some of the many forums available to window cleaners on the internet. There are forums that dealt with all types of cleaning, some included window cleaning sections, weather it was using the Traditional methods or the water-fed-pole method, now increasingly the water-fed-pole method is creeping in more and more, as more individuals and companies alike realize, the way forward is by using the water-fed-pole method.

Before I changed over to the WFP method a very good friend and I, decided to create a forum dedicated solely to the water-fed-pole method and so the water-fed-pole-Training Academy was born (now extinct).

After nine years of window cleaning my body decided a change was in order, So I began by asking lots of questions on the forums, the vast knowledge and experience these guys have is over whelming, ask a question and you will get a string of truthful answers, based on there own experience's and findings, now you can't take everyone's views and advice, so you have to gather together all the information you feel is relevant to your own needs, at the end you should have enough information to help you decide the best way forward.

Each and every window cleaner or company have many different clients (customers) each of these clients have different needs and access issues, so we will have to address the issues as to which method will best suit us and to serve these clients needs.

Some of our clients won't even like the new method, now these are normally within the domestic market, our commercial clients aren't always to fussy how there windows get cleaned, but some are health and safety conscious, and insist we use the safest method available, and providing the building isn't above our reach, then the water-fed-pole method is the safest way.

Let's take a look at our needs for the Domestic market first? Will we need a van mount for these? Or will a simple backpack or trolley system serve our needs? Again the choice is going to have to be yours, based on your funds available, and also any access issues you may have.

### **Backpacks and Trolleys**

The backpack is by far the cheapest means of entering into the world of water-fed-pole.

If you have a lot of clients in rows of terraced houses, where you have access around the back or worse still you have to gain access to the back, by going through the client's house, then most certainly a backpack or trolley is by far your best means, you don't really want hose pipes trailing through your clients house, there are health and safety issues to take into account if you do, apart from the fear of a burst or leaking hose and an insurance claim being made against you.

A backpack system is also useful, as an additional item that is kept in your vehicle, for the odd and occasional awkward access problem you may encounter, if carrying the weight of a backpack on your back is not possible, you can always move your backpack around by putting it onto a small sack truck/trolley the 'shurflo' backpack has a capacity of 4 us gallons or 15.14L. When filling your backpack the level indication marks should be taken as a guide only as the volume of the tank can vary in the moulding process.

A purpose built trolley system is also the same, but has the added benefit of being able to operate as a van mount system; and can carry one or even two water containers, it can also be attached to a larger water tank in your vehicle and a longer hose attached to it, and when needed for the odd awkward property it can simply be detached and converted back to a trolley system.

The disadvantage of the backpacks and trolley mounts is the need to keep returning to your vehicle to refill with water, if you have quite a few clients in one road, you can drop water containers off at certain points along the way, to save the trouble of returning to your vehicle, again place the containers safely, so as not to cause a trip hazard to members of the public or clients.

The refilling of a backpack from a tank or containers from your vehicle can be achieved using different methods; the simplest and cheapest method is by siphoning the water from you main supply into the backpack, if you have smaller containers you can simply just pour from the container into your backpack, other methods employed are by transfer by an 12v electric pump that is connected to your auxiliary battery.

### **Trailer Mounts**

A trailer system is useful if you have only the use of the family car, or no call for purchasing a van mount system.

A Trailer mount system can be built professionally or by doing it yourself, I built my trailer and my complete system myself, the trailer its self has to be capable of carrying the weight of the water whether it be in a tank or containers, also the added weight of the hose reel and hose, also the 12v pump, pole/s, safety signs, and any traditional window cleaning equipment you may use.

In my own trailer I have a 250ltr tank along with all the other equipment I need, so there is a considerable weight issue, therefore my trailer is fitted with brakes, (not all trailers need brakes) so check the law on weight restrictions before taking this option, also on the rear sides of my trailer, I added a set of legs that I could drop down when the trailer was unhitched from the car, this stopped the trailer tipping up when taking it off the car.

Other considerations to take into account when thinking of the trailer option is the skill needed to reverse your car with a trailer on, take it to a car park and spend a few hours practicing your reversing skills, this still won't be enough to make you proficient, and this only comes with time and experience.

You may also have to consider the storage and parking of your trailer when not in use; you may also want to think about the security of your trailer, hundreds of pounds worth of equipment just sat there for the taking. My own trailer has a tow hitch lock on it, and an independent alarm system and a lockable metal lid. Other issues with trailers are insurance ones, you will have to insure your car for commercial use with a trailer, and the trailer itself should be insured separately, along with its contents.

### **Van Mounts**

This has to be the most popular route taken by window cleaners, it will be a mobile work station complete with Tank, pumps, hose's and in some cases its own water purifying equipment and just about everything else the individual needs to complete a days work. There are many issues to consider when thinking of a van mount system and most of them will be governed by finances.

There are purpose made vans systems by manufacturers, with lease options; there are options to lease just a van on its own, and you can add the water-fed-pole system yourself, or have one of the many suppliers fit a full and professional system for you. A list of some suppliers who fit these systems is listed at the end of this guide.

Different methods are employed by window cleaners in the way they set up there own van mount system. There are an increasingly number of window cleaners now installing there own system after purchasing all the parts from various suppliers, an excellent system can be built by the competent DIY'ers amongst us, there is a specific forum dedicated to DIY options.

There are 3 types of systems available, the first we will mention is the DI (de-ionised) system

the DI range is based around the same delivery structure as the RO systems but uses high capacity DI canisters to purify the water, this allows almost unlimited water production on the job, the cost of replacing the resin in the DI canisters all depends on the water softness in your area, soft water and the resin will last longer than it would in a hard water area.

RO-Systems, RO technology is capable of consistently producing millions of litres of pure water at minimal cost. These units will produce from 200-300 litres per hour, day after day, month after month, with only 20% waste water. These systems are Simple to maintain and operate. Finally we have the water transfer method were the pure water is produced at home or on other premises by any of the methods used above, only on a smaller scale, the water is then held in a storage tank on the premises, the water is then transferred from the holding tank, via a transfer pump directly into your vehicles tank so the size tank you choose for your vehicle should be large enough for water for a days work, unless you are close enough to the premises to enable you to return to refill your tank.

When choosing a tank for a van mount please be advised to check your vehicles hand book for the maximum gross weight and take into account things like a full tanks of fuel, driver and passenger weight, hose and reel/s ladders and other equipment you may carry, use a local weigh bridge if your unsure.

---

### **Fitting a tank into a Van or Trailer**

Most System fitting suppliers, fit there tanks into a cage; this is by far the best way to ensure safety if funds allow then take this route.

Flat and upright tanks are available in different sizes, from 250ltrs and above, tanks are fitted with baffles at the manufacturing stage, there are also custom made tanks available should you need one.

Your systems will comprise of a Water storage tank, this Tank must be bolted to the floor of your van, or trailer, making sure the bolts holding the tank go through the chassis of the van/trailer, and not just the floor, the floor of a van/trailer does not have enough strength to hold the tank in position in the event of a collision.

Also high tensile steel nuts and bolts should be used along with star washers, on installing these nuts and bolts, the bolt itself should be turned to tighten the system and not the nuts, this has the affect of pulling the star washer into the metal to give a good grip, if the nut is turned instead of the bolt, it will create a groove in the metal thus providing no or very little grip on the star washer.

Tanks should be fitted with straps made of metal bands or the strong webbing straps with a suitable breaking strain for the size tank you use, DIY luggage straps are unsuitable and will not hold in the advent of a collision, don't be tempted by this cheap and dangerous option. You will

put your own life and that of any passengers at risk of death or serious injury.

For safety reasons, 4 straps should be installed if you're not fitting your tank into a cage, 2 straps on each side of your tank this will help prevent movement of the tank, in the event of front, rear and side impacts.

### **What else do I need and how do I fit it?**

You will need to transfer your water from your tank to a hose pipe; microbore is now becoming the most popular type of hose, other types of hose are available, depending on your needs it is all supplied in several different lengths.

On your main tank there will be a fitting to connect a hose; this hose will run up to an in-line filter from this filter, will run another short piece of hose, this will connect to the inlet side of your 12v supply pump, from the outlet side of the pump will run another length of hose, this one connects to your hose reel by means of a quick release coupling.

This completes the simple method of connecting a tank, pump and hose's, complete with filter, the filter its self is a very important part of your system, they can be purchased at a very reasonable cost, and gives your pump vital protection, they have a built in metal strainer, that is removable and washable.

If you use the above method without a way of diverting or controlling your water flow, this will result in high water usage, the flow can be helped by using a couple of different methods, one way is to divert water back into the tank, instructions for this method can be found on the DIY forum and the link is given in the list of forums at the end of this guide. The other method is by fitting an electronic controller, once wired in it's a simple case of turning the dial to the desired setting.

### **Wiring in your pump to a 12v supply**

The most simplest method is directly to a auxiliary battery via crocodile clips, Red wire goes to the positive terminal (+) and the black wire goes to the negative terminal (-) if you want you can then add a 12v electrical switch, these are available from most car spare suppliers, with a single pole switch its just a case of cutting the red wire and adding in the switch, on a double pole switch you cut the red and black wires and add these to both sets of terminals.

You can install it to the vehicles own electrics but I would advise against this.

### **Matching Pump to Hose to Jets**

This is a simple technique which means that you couple together the right specification products to match the output of the pump. Basically the following setups will be matched allowing you to

use just the pump with no form of electronic switching control or external bypass system.

Flojet 60psi pump, with 60 metres of Microbore, 6mm ID pole hose and twin 2mm jets.

Flojet 100psi pump, with 1 or 2x 100 meters or 2x 60 meters of Microbore, 6mm ID pole hose and twin 2mm jets.

Both of the above set-ups will provide a perfect flow rate for WFP work. By either using a control valve on the pole or the end-stop on the hose you will be able activate the pressure switch on the pump when you wish to stop the water flow.

Once you have set-up your system as above you will then be able to 'fine-tune' the pressure switch on your pump (this is not always needed). On the Flojet pump you will need to remove the square plastic cover from over the 2 orange leads, in between the connectors you will see another cross head screw. This screw controls the sensitivity of the pressure switch, tightening the screw increases the pressure at which the pump switches off,

Loosening the screw will lower the pressure at which the pump switches off. To see if you need to adjust this screw plug your hose reel in (both if using 2) and connect your pole (both if using 2) turn on the pole flow and the pump will start pumping. Turn off your pole flow and if the pump turns off within 1-5 seconds then you do not need to adjust it, if it takes longer then you will need to gradually loosen the screw so that it turns off within 1-5 seconds.

Turn on your pole flow again and the pump should start again, now you will need to check that you have not reduced the pressure switch by too much. Your pump should be running constantly with the pole flow on, if it cycles (turns on and off every so often) then the switch is set too low and will need tightening gradually. Using this method will ensure that your pump and switch are set to match your system. This will not need doing with all set-ups as some pumps/pressure switches will fit your system set-up as standard.

---

### **Wiring in a 'varistream' pump controller**

There are 2 different types of controllers currently available, the first was the varistream controller followed by the Echo controller, I personally have the varistream so the instructions are for this controller and not the Echo controller.

The varistream takes the place of the pressure switch that is fitted to most pumps, so pull and unplug the 2 wires going to the pressure switch and remove them. Take the red and black wires that are coming from the pump these 2 wires are wired to the varistream that say + to pump (red) – to pump (black) join the wires using suitable connectors.

The other 2 wires coming from the varistream are connected to your 12v supply, i.e. your

auxiliary battery, these 2 wires from the varistream are marked Supply + (red) and Supply – (black).

Check you have the connections connected to the correct wire or irreparable damage can be caused to the controller; if in any doubt consult a qualified auto electrician. Your varistream is now installed.

Connect your hose and pole and make sure any valves or taps are open to allow the water to flow. This allows the pump to start when the varistream is switched on.

Push the knob on the varistream once to ensure the green lamp is constantly on, and turn the dial around to its maximum position, initially wait for ten seconds for the pump to start working, if the pump has not started after ten seconds then push the knob again to switch it on and wait another ten seconds. The pump should now start working.

A bi-colour light is visible on the front of the varistream unit- this has the following functionality.

GREEN = Pump Running

GREEN Flashing = Battery Voltage Low

RED= Power is on but Pump has Stopped (for example when user disconnects hose)

OFF= Varistream Switched Off.

## **Batteries**

If you're using just a backpack as your main system, you would be well advised to purchase at least one spare battery, two if funds allow, this way you can always have one on charge whilst carrying a spare with you.

If your using a trolley system, manufacturers are now adding a reasonable size battery that should see you through a normal days work, if you find the battery failing you during the day, then a wise choice would be to buy a spare as adding larger batteries to a trolley mount only serve to increase the weight you have to pull around all day.

For the Van and trailer mount a decent size battery would be a 100amph, Leisure battery, but again it depends on the hours your system is in use, and a smaller one can be used for less use, these can be charged at home via a battery charger. I would recommend the intelligent one, as this can be left switched on for days on end, with no fear of overcharging your battery, available from places like Halfords, and places alike, or they can be charged directly from your vehicles electrics, via a split charge relay.

This will require a small amount of vehicle electric knowledge, follow the manufactures installation instructions, if you don't have the confidence or necessary skills to under take this task yourself, leave it to an auto electrician as a vehicle fire can result with incorrect wiring.

## **Poles**

The amount of pole choice available to the window cleaner is so comprehensive it cannot be covered by this guide but a brief outline is included.

Poles are available in so many different lengths ranging from 12' to 60' and made of different materials such as Glass fibre, carbon fibre and the new Hybrid and carbon fibre X-Tel range, your choice of pole is governed by a couple of different things, the first as usual is finances available to you, and the second is the type of accounts you have, if you have mainly domestic accounts then universal range of glass fibre is going to be your cheapest option, an 18'- 24' pole will cover most domestic accounts, if you have accounts with 3rd floor windows a 24' can reach some of them, any higher and you have to start looking for bigger poles.

Bear in mind and buy the right size pole for the type of work you are doing, working with the wrong size pole all day long can lead to muscle strain and possible injury. If finance allows then go for the lightest poles possible, all the suppliers will give you good sound advice as most of them are themselves, window cleaners.

For continued or high level commercial work then the carbon fibre pole is by far the best option, to save fatigue and injury.

## **What do I need for home Based Water Production?**

This is a guide for the smaller scale production of pure water, but there is nothing stopping you from buying the systems that are fitted to vans/trailers for high water production.

If you live in a soft water area, you may just get away with the use of a DI system only, where DI canisters are filled with a product called mixed bed resin; the resin is used to turn ordinary tap water into pure water and the higher your tap TDS (Totally dissolved Solids) the shorter your resin will last, the lower your tap TDS the longer your resin will last.

It is highly recommended you purchase a TDS meter to enable you to find the TDS reading of your tap water and pure water.

RO-Systems are another different method and best used for the harder water areas. They are very compact and easy to install, the more water you require the higher GPD (gallons per Day) will be required, they range from 50gpd up to 300gpd, the water pressure in your area plays a part in water production as does the temperature, if you have low water pressure then it is more than likely you will need a booster pump, this has the affect of boosting your water pressure into the RO-System and increasing your water production.

My own system was operating on low pressure (35psi) for some time and it took nearly 24hrs to produce just 210ltrs into a water butt, once a booster pump was added it boosted my pressure to 75psi and increased my water production to 210ltrs in just 8hrs.



My mains water feeds my 5 stage RO-System boosted and is boosted by the pump, out of the RO it then feeds into a resin cartridge to give the water a final polish, this takes my TDS reading down to 000 tds.

If you start as you mean to go on and keep your water reading at 000tds then any problems you may encounter with clients, you can quickly eliminate your water as a fault. Change the three pre-filters as the manufactures suggests and also change your membranes (the little white canisters on top of your RO-System) there may be 1, 2, or 3 depending on the system you have.

At the manufacturers recommended suggestions, the membranes also need to be reversed flushed by a little control valve (tap) that is fitted to the system, again read and follow the instructions that come with your system, look after it and it will serve you well, as with any other system you may buy, look after them and don't neglect them.

Water storage at home can be into rain water butts available from most DIY department stores; these are good if space is minimal in a shed or garage, there are also available larger tanks like the 1,000ltr IBC Tank. Shop around, places like trading estates for companies that use them. Most will be happy for you to take them away or some may charge you a minimum fee, other outlets for them are silage farms, and ebay.

Be careful of delivery charges if purchasing from ebay. Unless you purchase a brand new one, then assume it has been used and try to find out what for, they will certainly need a very good clean out, with copious amounts of tap water, and then a short rinse with puree water should see it good for pure water storage.

There are so many systems available, it would be impossible for me to include them all, suppliers that have web sites, with all the systems and equipment you will ever need. Take time before you purchase to study these sites and the equipment available to you. As mentioned previously many of the suppliers also do a full fitting service into your own vehicle. Some also include a pre-coating service, this is a special paint applied to the interior of a van/trailer to help prevent rust.

---

If you are an existing window cleaner that uses the Traditional method and are now thinking of changing to the water-fed-pole method, Study all the forums and ask lots of questions, you will get all the answers you need from the professionals. This is how I went about changing when I decided I wanted to change from Traditional to water fed.

The first thing I did was to study my own client base to see if it was reasonably practical for my clients and myself to convert my whole business over to water fed pole. I didn't do this over night it took weeks to study all the property's, to see what type of windows they had, some windows are just not suitable for water-fed pole. I was lucky and all but the odd couple were

suitable and access issues were checked out, this enabled me to choose the system that I thought would suit myself and my business best.

During all the above and in the evenings, I studied all the websites that sold the equipment, I checked and studied prices, until I was happy. I emailed six suppliers, but I was very disappointed to the amount of replies I received, considering I was going to spend a fair amount of money with them I received replies back from just half of them.

I then visited window cleaning forums and asked question after question, there will be such a variation on replies you will receive, it will be impossible to take all there advice, but with the studying you should have already completed, you should know the correct questions to ask, you can then put all the answers that suit you're needs into practice.

After I had all the information to hand I decided not to jump straight into water fed pole work until I was 100% sure it suited myself my company and my clients, I then began to explain to my clients the importance of changing from Traditional to WFP.

I must admit I mostly blamed the European laws that were brought in to restrict the use of ladders, I found that by mentioning the European law it tended to divert there attentions into Europe and not onto the conversion of waterfed. But I never told any lies to my clients, they all knew I was changing my methods and quite often asked me when I was making the change.

But by asking questions on the forums I knew it would be easier on my self to prepare the frames especially the top of the frames while I was still using my ladders, I cleaned these frames thoroughly, this did make my life so much easier when the final change came.

When I built my system and was ready to try it out, I first cleaned my own property waited for it to dry and began to clean the insides, this way I was able to see any errors in my cleaning using the new system, I then offered my friends and family a free clean on the out side only, I had a cup of tea with them all and waited for the windows to dry, once dry, they were checked, any errors were logged and rectified to enable me to do a reasonable Job for my clients.

When I unleashed myself and new methods on to my clients, I handed each and every one of them a letter of explanation about the new method I was using, this letter helped explain it better than you could verbally, as the client has time to sit down and read what the new method is about, this letter can be obtained from most of the window cleaning forums. I should also point out that my chosen method does not mean you have to do it, Its just my own prepared method that worked best for me.

By changing over the way I did, I prepared not only myself but my whole client base and as a result, I never lost one customer, this included all of my commercial work. There was only one commercial I found unsuitable for WFP work. And since the change over, I have gained several more commercial jobs due to the fact more and more commercials are looking for water fed pole operators, at least in my own area they are.

I have now been operating my own water fed pole system for nine months using a trailer mount complete with a backpack system for the awkward ones.

My own domestic round took me 6 weeks to complete; I can now complete it in four weeks and earn the same money, giving me room to either expand my client base, so as to increase my takings, or I have the option to have two weeks holiday in every six, I personally chose to add another weeks work to my round with a mixture of domestic and commercial work. This still gives me one week off in every six, to spend with my family, with a very good increase in earnings.

This guide was written by a window cleaner for and on behalf of the water fed pole training academy and in no way excepts responsibility for loss or damaged what so ever, caused by incorrect use or installation of any equipment mentioned in this guide. It is simply a guide to help any new comer to the world of water fed pole work and to give a guide on what is available this list is not exhaustive, and where to look for more comprehensive information and help.

Copyright: Jeff Brown. Regards Jeff ;)



**Disclaimer:** The contents of this document are provided "as is." This information could contain technical inaccuracies, typographical errors & out of date information. This document may be updated or changed without notice at any time. Use of the information contained within is therefore at your own risk.

In no event shall the WCA be liable for special, indirect, incidental or consequential damage resulting or related to the use or the applied use of this document.

This document is provided to help WCA members & professional window cleaners & related trades to help & grow their businesses. We ask you as members of character to not share this document with non-members or post any part of the content contained within the document freely or without permission.