

# SPRINKLER SYSTEMS



I recommend 20,000 litres; our sprinkler system was made of one-inch copper pipe with solid metal (butterfly) irrigation style sprinklers (brass) that distributed water in a 360° pattern. The circle water spray from each individual sprinkler overlaps each other by positioning the sprinklers at appropriate spaces, our sprinklers were spaced approximately 2 metres apart creating serious water spray overlap.

When the hard decisions had to be made we went for more sprinklers rather than less and we worked out that we needed 6 sprinklers facing down on the eastern side of house but ended up with 8 because they looked better being spaced in the middle of the veranda post gaps and created rainstorm/flood conditions in 5 minutes. You don't want to go overboard though, because too many sprinklers will lower the overall water pressure and reduce the sprinkler's water foot print.

The ½ inch butterfly sprinklers pumped out around 18 litres of water per minute, we ended up with approximately 20 to 25 sprinklers using around 450 litres per minute and we used perhaps 9000 litres in 20 minutes. These numbers are approximates as all sprinkler system plans, photos, calculations and notes were lost to the fire. We are operating on visual memory.

If you are going to do something you may as well do it properly the first time, plastic pipe is not an option, as at low temperature it starts to lose structural integrity and with water pressure it will blow out and FAIL. I know that it's cheap but how much is your home and possibly your life worth? The copper pipe on the roof ridge line was held in place by galvanised brackets with a squirt of silicon between the bracket and roof, so it was not touching the tin roof and creating corrosion problems. The 2 inch manifold from pump to the house again made of copper and had

On Black Saturday three houses in our street had sprinkler systems that were activated. Out of those three houses, two burnt to the ground and the only house that survived in our street was the third with an activated sprinkler system. Some of you may think that this was not a very good result but the fact of the matter is that the people in the two houses that burnt down all survived. There were twelve other people in houses without sprinkler systems and they all died on that dreadful day. Six lives were saved by sprinkler systems, that we know about.

I believe strongly that sprinkler systems are a good idea. Our sprinkler system gave us the one critical thing needed whilst under attack from a serious fire front - time. Without the sprinkler system we would have been incinerated in our home in minutes and would not have had the opportunity to retreat to the bunker. If we can get decent sprinkler systems on all homes in risky locations I surmise that approximately 70 to 80% of homes would be saved and thus save many families and that approximately 20 to 30% of homes could still be lost.

This is the new reality learned from Black Saturday, that in some fire situations your home is not defensible.

If your house is affected by fire, the sprinklers will at least slow the burn rate. Before Black Saturday I assumed that our home covered in running water could not burn, I was seriously wrong. When the fire front hit our home we felt it, in fact the whole house shook however, the sprinkler system absorbed the impact and held its structure together. That was when we started to pray.

The best aspect of a sprinkler system is the fact that you can direct exactly where the water goes and when, simply by pushing a button or pulling the start cord. We used less than 10,000 Litres of water on Black Saturday to try and save our home and ourselves. You don't need a lot of water you just need to use it to your advantage, but the more water you have the better off you are and you can soak your home and create a wet zone around your home, depending on the time frame that is available to you.

three 1 inch pipes coming out of it. One did the roof, another did the west side and one did the east side. The north and south sides were protected by the overlap of water from the end sprinklers of all three pipes.

The 2 inch manifold gave us boosted water pressure where we needed it, at the house. The three, 1 inch pipes all had their own individual elbow style lever so you could control the flow rate on the roof or the West/East side. Once the system had been turned on and had created full soak conditions you could then turn down the flow rate or could turn the West/East side's off as full soak conditions had been established. I left the roof line on as the water ran back into the tank, it was as simple as possible and very easy to use, the simpler the better.

When we had to leave the house because it was on fire the sprinkler system gave us safe passage for 90% of the way to the bunker, even though a third of the house was under full flame the sprinkler system was still going. I cannot emphasize strongly enough the proven performance of copper piping, it kept working under enormous pressure from a tidal wave of fire that just kept coming.

Water was pumped through the sprinkler system by a Honda 6.5 hp petrol powered fire fighting pump, we worked out that we needed 5 hp to gain a 3 m diameter water spray out of the sprinklers, we ended up with 4 metre diameter wet footprint. The pump was positioned right next to the concrete water tank with two brick walls and a colourbond steel roof, it was protected and it also had its own ventilation as one elevation was open.

When the sprinkler system was activated, water was falling on top of the roof of the protective enclosure protecting the pump. It only had to pump water as the water body in the concrete tank was gravity feeding into the pump, it did not have to waste power to suck water up hill.

The closer your body of water and pump are positioned to your house the better off you are. The bigger the distance away from your home the water/pump are, the greater potential for problems to manifest. If you already have fire fighting pump make sure that you protect it with its own enclosure, preferably with a sprinkler on top.

The new late model petrol & diesel powered fire fighting pumps can even have a remote control start similar to garage door opener, a remote SMS message start or turnkey electronic start which can be started by your wife and even children, Anybody buying a new pump, I urge you to consider these options. I tried to teach my wife how to start the "pull start/recoil" petrol powered fire fighting pump at the start of each summer season but she never got it, she tried but she's not very good with machines. Had she been home alone with our son she would not have got the pump started.

There are a whole lot of new sprinkler systems now in the market, some of them have plastic pipes inside the roof cavity or walls and have metal pipe sticking out with a sprinkler attached. What happens when the plastic pipe lets go inside a wall or roof? I would still specify copper pipe through the whole system and in fact prefer exterior pipe work as it is easier to visually check and also to maintain in the long term. Just seeing it in the summer time helped us have "peace of mind".

The most basic sprinkler system that I recommend to people is 25mm minimum copper pipe running across the top of your roof ridge line so you can block off your gutters and flood the roof, the gutters will fill with water very quickly and then flood over the gutter edge creating a basic wet zone around the exterior of your home or you can have the water running back into your tank. This basic sprinkler system may make an improvement to your home survival rate; if you are dealing with a soft fire front (embers only). If many people

did this, we'd have adjoining houses with sprinkler systems and the house survival success rate improves again for that group of houses, exponentially.

The adjoining houses sprinkler strategy is designed for streets dominated with ¼ acre properties and the houses are in close proximity to each other. The perfect examples in Victoria are Warrandyte, Eltham and Rye. The many houses situated within the Teatree forest of Rye are in a risky spot, even though the Teatree's are only around 20 to 30 foot high. When one house burns it can ignite the others on both sides. This is a major problem facing outer



suburbs and the metro/bush interface areas.

You can purchase downpipe blockers from numerous sources. I urge you however to go the whole hog and have additional pipes under eaves or on fascia board of veranda with sprinklers. A good sprinkler system is quite basic really, independent water supply, independently powered pump, protected motor/pump, copper pipes with full metal sprinklers throwing a 360 degree water spray. I'm not a fan of impact sprinklers for bushfire defence of houses.



If you are fitting a new water tank, go concrete or steel, if you already have a plastic water tank, protect it with your sprinklers on top. The first hot day of summer we would service/start the pump and run the whole system, there was also a purge/exit pipe so we could empty out the water in autumn. This is relevant to all people living in or anywhere near the cusp of the snow line as the pipes can split open in winter due to freezing conditions. Every Total fire ban day the whole system was ready to go, all you had to do was start the pump. The problem is fire; the solution is water the exact opposite element.

Numerous houses survived fires on Black Saturday and previous fires in other states, this is fact and that's why we're promoting sprinkler systems to you, they've proven themselves to work, the hard part for most of us, is coming up with the money to have them fitted. In the future we hope to see all homes in high risk locations with sprinklers over the house exterior and that is our aim.

We figure the more homes saved the more lives are saved. That's why we've produced this magazine as we know they work or we would not be alive today. The sprinkler system we designed and installed was okay, but the sprinkler systems on the following pages are the next level up, these are the best systems in Australia. All this information is provided to you so you can decide which system is best for you. This is your decision and you take full responsibility for your own decision, own it!

In today's market you can have systems that start automatically via heat sensors, you can have an on switch internally in your home, you can start your system remotely from your mobile phone via sms because you're down the beach or you can have key start with back up manual recoil. Unfortunately after Black Saturday we now have people claiming to be sprinkler system

experts who are trying to make a quick buck, some even use exposed plastic pipes. Ask them how long have you been fitting sprinkler systems for? Bushfire Pro, Blaze Control and Cribb Bushfire Protection Systems were fitting sprinklers years BEFORE Black Saturday and are long term operators who actually care about what they do. Do it once, do it properly.

**A decent external sprinkler system is the only bushfire defence system I can recommend. Without a sprinkler system you're relying on the grace of god and luck.**

