



An Extended Guide · No. 1602

Sizing for a Sump Pump

Keeping the basement
dry when the storm hits

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! Read this first — size for safety, not just comfort

Getting the size right is not only about comfort — it is about safety, too. An undersized unit gets overloaded and pushed harder than it should be: it runs hot, it strains, and a motor that can't get the surge it needs can hum, overheat, and be damaged. So take the size seriously and always leave yourself a margin — a little extra room — rather than sizing right to the edge. And one safety rule never changes: any fuel-burning generator gives off carbon monoxide, an invisible, deadly gas, so it runs **OUTDOORS ONLY**, well away from the house (the safety agencies say at least 20 feet), never in a garage or on a porch even with the door open. A battery or power station makes no exhaust and is safe to use indoors. A sump pump is a motor too, so it takes a starting jolt to get going — and the storm that knocks out your power is often the very one filling your basement, so plan for it before the water rises.

Keeping the basement dry when the storm hits

A sump pump does a quiet, unglamorous job right up until the day it's the most important machine in the house. This guide helps you make sure it keeps running when the power doesn't.

I'm Bill. Here's the cruel part folks don't always think about: the same storm that knocks out your power is usually the one dumping water into your sump. So the moment you most need the pump is the moment the wall outlet goes dead. Planning ahead is what keeps that from becoming a flooded basement.

The good news is that a sump pump is a smaller, friendlier motor than a well pump — but it's still a motor, so it takes a starting jolt to get going. Our running-watts-versus-starting guide explains that two-number idea; this guide is the deep dive on sizing your backup to keep the sump alive.

★ You don't have to plan this alone

Tell me what your basement does in a hard rain and call or text me at (330) 200-8042. I'll help you plan a backup that keeps the pump running — free, with nothing to sell you.

The whole idea, on one page

If you remember only this page, you already have the shape of a solid plan.

- ❑ A sump pump is a motor, so it needs a brief starting jolt on top of its steady running watts.
- ❑ The storm that causes the outage is often the one filling your sump — so plan before the water rises.
- ❑ Size your backup so it can START the sump alongside your other essentials, not just run it.
- ❑ The sump runs only in bursts, so its surge shares the single-biggest-surge slot with the fridge or well pump.
- ❑ A battery-backup sump pump is a separate little system that can buy you hours on its own.
- ❑ Read the pump's nameplate for real numbers, and test everything before storm season.

✓ The one-sentence version

Make sure your backup can start the sump when it needs to run, and add a battery-backup pump underneath as a safety net — then test it all on a dry day.

The storm and the outage arrive together

This is the heart of why a sump pump deserves its own plan.

A sump pump sits in a pit at the low point of your basement and switches on when rising groundwater lifts its float. That water rises most during heavy rain and spring melt — which is exactly when the wind and lightning are knocking out the power.

So unlike a fridge, which can coast for hours with the door shut, a sump pump often needs to run hardest at the very moment the outlet goes dead. That timing is why a backup plan for the sump isn't a luxury — it's the difference between a dry basement and a wet one.

! A wet basement is costly and unsafe

Standing water ruins belongings, invites mold, and can reach outlets and furnaces.

Planning the sump's backup before storm season — not during a downpour — is time and money very well spent.

A sump pump has two numbers, just like any motor

It's smaller than a well pump, but the same two-number idea applies.

The **running watts** is the steady draw while it's pumping. The **starting surge** is the brief, bigger jolt it needs to get the motor and impeller spinning. That surge is usually smaller than a well pump's, but it's real, and your backup has to cover it.

Because the surge lasts only a second or two, it's easy to forget — and then the pump hums instead of starting just when the water's rising. Sizing to start it, not just run it, is the whole game.

✓ Smaller jolt, same rule

A sump pump won't dominate your sizing the way a well pump does, but you still plan for its surge. Our running-watts-versus-starting guide covers the two-number idea in full.

Reading the sump pump's nameplate

As always, the real numbers live on a little label, not in a guess.

Look for the nameplate on the pump body down in the pit, or on the paperwork that came with it. You're hunting for watts. If only volts and amps are listed, multiply them together for the running watts — the one bit of arithmetic this asks of you.

A motor's plate may also show a starting or locked-rotor figure, which is your clue to the surge. If the pump is old or the label is worn away, the maker's website or the model number can fill in the gaps. Our guide on reading a nameplate walks through every marking.

★ Photograph the label

Lifting the sump lid to read a worn label is exactly the kind of fiddly job I'm happy to help with. Snap a photo and text it to me at (330) 200-8042, or have me take a look on a visit.

Size your backup to start the sump, not just run it

This is the sizing rule that keeps the basement dry.

Add the sump pump's surge to your plan so your generator or battery can deliver that brief jolt the instant the float lifts — with a little headroom on top. A backup that can only handle the steady running watts will leave the pump humming when it matters most.

Because the sump shares your backup with the fridge, the lights, and maybe a well pump, plan for the moment it kicks on while those are already running. Our guide on managing loads during a run covers taking turns so a smaller unit can still cover the surge.

✓ Leave room for the kick-on

The sump doesn't warn you before it starts. Sizing with headroom, and keeping a little capacity free during a storm, means it can jump to life without bogging down everything else.

It runs in bursts — and shares the biggest-surge slot

A sump pump doesn't run steadily; it cycles on and off as the water rises and falls.

That intermittent habit is helpful for sizing. Since the sump only surges when it happens to kick on, its jolt shares the single-biggest-surge slot with your other motors, like the fridge or the well pump. You size for the largest single surge, not every surge added together.

In a hard storm, though, the sump may run often, so don't count on long quiet gaps. Plan as if it could kick on at any moment, and keep enough surge headroom free for it to do so.

✓ One surge slot, shared

Remember the golden rule from our running-watts-versus-starting guide: add your steady running total plus the single biggest surge. The sump is one of the motors competing for that slot.

Battery-backup sump pumps — a system worth knowing

There's a whole separate little safety net made just for this job.

A battery-backup sump pump is a second pump with its own battery that kicks in automatically when the power fails or the main pump can't keep up. It needs no generator at all, and it can buy you hours of protection on its own while you get other backup running.

It's not a replacement for a well-sized generator during a long outage, but it's a wonderful first layer — and a battery makes no exhaust, so it's safe right there in the basement. Keep its battery charged and healthy so it's ready when the water rises.

★ A first layer I really like

For a basement that floods easily, a battery-backup pump plus a generator is a belt-and-suspenders plan. I'm glad to help you set one up and test it — call or text (330) 200-8042.

Water-powered backup pumps — a town-only option

There's a clever kind of backup that uses no electricity at all — but it comes with one big catch.

A water-powered backup sump pump uses the pressure of your municipal water supply to pull water out of the pit. Because it needs no power and no battery, it can run as long as the city water keeps flowing — a real advantage in a long outage.

The catch: it only works on city water pressure. If you're on a private well, your water pressure disappears the moment the power does — because it's the well pump that makes that pressure. So a water-powered backup is a town option, not a rural-well one.

✓ Match the backup to your water

On city water, a water-powered backup is worth a look. On a well, lean on a battery-backup pump and your generator instead, since there's no standing water pressure to draw on.

Layering so you're never down to one

The strongest sump plan doesn't rest its whole weight on a single machine.

- **The main pump** handles everyday water while the power is on.
- **A battery-backup pump** catches the first hours of an outage automatically, with no generator needed.
- **A generator**, sized to start the main pump, carries the longer stretch of a multi-day outage.
- **Stored capacity to spare** during a storm means the sump can kick on without bogging down the fridge or well pump.

✓ Layers cover for each other

If any one layer has an off day, the next one catches you. That's the whole point of a plan rather than a single gadget — and it's how a modest generator can still keep a wet basement dry.

Two kinds of homes, two sets of needs

How many motors your basement has to fight during a storm depends a great deal on where you live.

If you live in town or the suburbs

In town or a close-in suburb, the sump is often the main basement motor to worry about. City water keeps flowing, so there's no well pump on the list, and a water-powered backup is even on the table.

- Your storm must-run list may be as simple as the sump, the fridge, and a few lights.
- With city water, there's no well-pump surge competing for your backup's capacity.
- A water-powered backup pump is a real option here, since it runs on municipal pressure.
- Size your backup to start the sump alongside the fridge — those two share the biggest-surge slot.

If you are out in the country on a well

Out in the country, the sump has company. A private well means a 240-volt well pump on the list, and you may also have a septic effluent or grinder pump — several motors to plan around at once.

- The well pump is the biggest jolt of all; the sump's surge shares the single-biggest-surge slot with it.
- No power means no water pressure, so a water-powered backup won't work — lean on a battery-backup pump instead.
- Plan the sump's kick-on around the well pump's much larger surge, not on its own.
- Our guides on sizing for a well pump and on a well-and-septic property cover the fuller rural picture.

★ Let's map your basement's motors

Tell me what runs in your basement — sump, well pump, freezer, septic pump — and I'll help you size a backup that keeps them all covered through a storm. Call (330) 200-8042.

How wet is your basement, really?

The right backup depends on how hard your sump actually works.

- **Occasional seepage:** the pump runs now and then in a hard rain. A battery-backup pump may be plenty on its own.
- **Frequent pumping:** the sump cycles often through wet seasons. Size your generator to start it, and add a battery backup too.
- **Severe or storm-driven:** the pit fills fast and the pump runs hard. Layer a generator and a battery backup, and keep capacity free.

If you're not sure which describes you, watch the pump through a couple of good rains, or ask a neighbor with a similar basement. The harder it works, the more layers of backup are worth having.

✓ Match the plan to the water

There's no need to over-plan a basement that barely seeps — or to under-plan one that floods. Honest observation now saves a soggy surprise later.

Test the whole thing before storm season

A backup you've never tested is a hope, not a plan.

Pick a calm, dry day and try it for real. Pour a bucket of water into the pit and watch the float lift and the pump kick on. Then start your generator and confirm it can start the sump while the fridge and lights are already running. If you have a battery-backup pump, test that it takes over when you unplug the main one.

Small problems — a stuck float, a tired battery, a surge the unit can't quite cover — show up in a quiet test, not in the middle of a midnight storm. Better to find them now.

★ Let's test it together

I'm glad to run through this with you on a visit — pour the water, start the generator, check the battery backup, and fix anything that's not quite right before it matters. Call or text (330) 200-8042.

Signs the sump is straining your backup

Even with careful planning, a storm can ask more of a unit than expected. Here's what to watch for.

- ❑ Lights dim or flicker the moment the sump kicks on.
- ❑ The pump hums or growls but won't quite start.
- ❑ A generator's engine bogs down when the float lifts.
- ❑ A breaker trips, or a power station flashes an overload and cuts the outlet.

! Lighten the load, don't force it

If the sump won't start, turn something else off to free up surge headroom, then let it try again — rather than forcing it over and over. Repeated stalls are hard on the pump motor and the unit both, and they waste the seconds you need to stay ahead of the water.

Connecting the sump to your backup

How the sump gets its backup power depends on how it's wired today.

Many sump pumps simply plug into a basement outlet, so a battery backup or a cord from a portable unit can reach them directly. If your sump is on a dedicated circuit you want covered automatically, that's a job for a transfer switch or interlock installed by a licensed electrician — our guide on your transfer switch's circuit count covers choosing which circuits to back up.

One happy note: a battery or power station makes no exhaust, so it can sit right in the basement by the pit. A fuel-burning generator, by contrast, always runs outdoors, well away from the house, with a cord run in to the pump.

! The battery stays in; the generator stays out

A battery-backup pump is safe indoors because it makes no carbon monoxide. Any fuel-burning generator runs outside only — never in the basement, the garage, or a walkout, even with a door open.

Common sump-pump backup mistakes

A few avoidable slip-ups account for most soggy surprises. Now you'll know them in advance.

- **Sizing to run it but not start it** — forgetting the brief surge, so the pump hums when the water rises.
- **Counting on a water-powered backup while on a well**, where there's no water pressure once the power's out.
- **Letting a backup battery sit unchecked** for months, so it's dead the day you finally need it.
- **Never testing the plan**, so a stuck float or a short surge only turns up mid-storm.
- **Forgetting the sump competes** with the fridge and well pump for your backup's surge capacity.

! The costliest mistake is finding out mid-storm

A sump backup you've tested on a dry day is worth far more than a bigger one you've never tried. When in doubt, test it, and keep the battery layer charged.

Questions worth asking

Whether you're talking to a plumber, an electrician, or me, these get you to a plan you can trust.

Q: What are my sump pump's running and starting watts?

Read the nameplate on the pump, or check the maker's site with the model number. Those two numbers tell your backup what it has to cover.

Q: Should I add a battery-backup sump pump?

For most basements that flood, yes — it's an automatic first layer that needs no generator and buys you hours. It pairs beautifully with a generator for longer outages.

Q: Will a water-powered backup work at my house?

Only on city water, where municipal pressure stays up during an outage. On a private well there's no pressure without power, so it won't work.

Q: Can my generator start the sump and the fridge at once?

It needs to cover your steady running total plus the single biggest surge, with headroom. If the math sits near a line, size up or plan to take turns.

✓ There's no silly question

If any of this feels murky, that's completely normal — call or text me at (330) 200-8042 and we'll sort out your basement's plan together.

A quick self-check at your kitchen table

You can pressure-test your sump plan in about a minute with these questions.

- ☐ I know my sump pump's running watts and its starting surge.
- ☐ My backup can START the sump, not just run it, with headroom.
- ☐ I have a battery-backup pump, or a plan to add one, as a first layer.
- ☐ I know whether a water-powered backup fits my water (city yes, well no).
- ☐ I've tested the whole thing on a dry day, before storm season.

✓ If any answer is 'not sure', that's fine

That's exactly what a friendly phone call is for. Reach me at (330) 200-8042 and we'll fill in the blanks before the next big rain.

Common Questions

The sump-pump questions I hear most often, answered plainly.

Q: Why does my sump pump matter so much during an outage?

Because the storm that cuts your power is usually the one filling your sump. The pump often needs to run hardest at the very moment the outlet goes dead.

Q: Is a battery-backup sump pump enough on its own?

It's a great first layer that buys you hours automatically, but for a long outage pair it with a generator sized to start the main pump. Layers cover for each other.

Q: Do I have to add the sump's surge to everything else's?

No — you add your steady running total plus the single biggest surge. The sump competes for that one surge slot with the fridge or well pump; you don't stack them all.

Q: My backup pump has sat for a year — is it ready?

Test it. A battery that's sat unused can quietly lose its charge or its health. Check it before storm season, not during the storm.

★ Still weighing your options?

Send me a note about your basement at (330) 200-8042 and we'll figure out the right mix of battery backup and generator for how wet it really gets.

Where the sump fits in the whole picture

The sump is one motor among several in most homes — and especially out in the country.

In town, the sump usually shares your backup with just the fridge and a few lights. On a rural property, it lines up behind the well pump and maybe a septic pump too, all competing for the same surge capacity. Sizing the whole set together keeps any one of them from getting shortchanged.

Our guide on sizing for a well pump covers the biggest rural jolt, our guide on a well-and-septic property pulls the whole country picture together, and our guide on managing loads during a run explains taking turns so a modest unit can cover them all.

✓ Size the set, not just the sump

Plan for the biggest surge among all your motors, keep some headroom free during a storm, and the sump will have room to kick on when the water rises.

Bringing it all together

A sump pump is a small motor with big consequences — but the plan is simple once you take it in order.

Read its nameplate, size your backup to start it with headroom, add a battery-backup pump as an automatic first layer, and remember its surge shares the single-biggest-surge slot with your other motors. Then test the whole thing on a dry day.

Our running-watts-versus-starting guide explains the two-number idea, our guide on managing loads during a run covers taking turns, and our guides on the well pump and a well-and-septic property cover the fuller rural picture.

★ Let's keep your basement dry, together

If you'd rather talk it through than puzzle it out on paper, that's what I'm here for. Call or text me at (330) 200-8042 and we'll build a sump plan you can trust — free, with nothing to sell you.

You don't have to do this alone

You just have to remember that a friendly, patient person is one call away.

I hope this guide made sizing backup power for your sump pump feel a little less daunting and a lot more doable. Keep it in a drawer with your other home papers, come back to a page whenever you need it, and don't worry about memorizing anything.

When you'd rather have a hand, that's exactly what I do. I come to your home, work at your pace, and never make you feel rushed or silly for asking. A first visit is a flat \$99, and for the parts that don't need me on-site I can often help right on your screen for \$49. Every visit comes with a 30-day, come-back-free guarantee. I don't do the licensed electrical or gas work myself — for that I'll help you line up a trustworthy local pro.

★ Bill's Home Tech — real help, close to home

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Your Sump Pump's Two Numbers

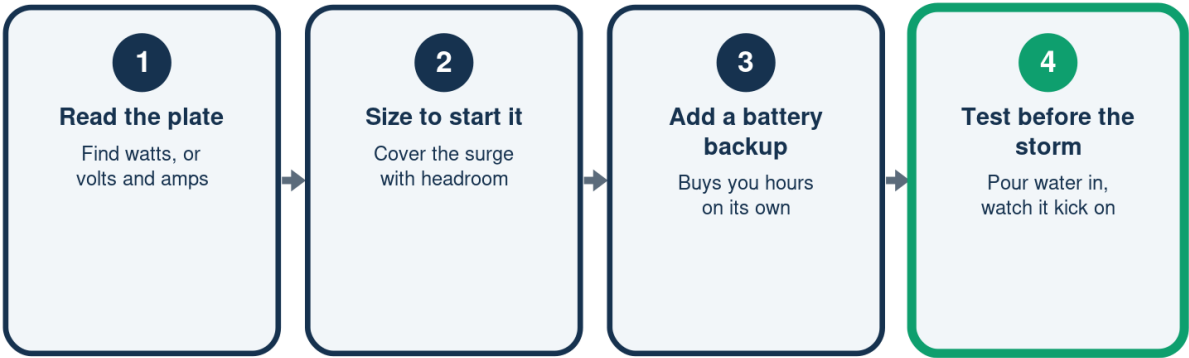
A smaller motor, but a motor all the same

	What it is	What to note
Running watts	Steady while pumping	Modest for its size
Starting surge	A brief motor jolt	Smaller than a well
How often	Only when wet	In bursts in a storm
On the list	A storm must-run	Size to start it

Size your backup to start the sump, not just run it.

Planning Your Sump Backup

Four steps to a dry basement



Test on a dry day -- not in the middle of a downpour.

Three Ways to Back Up a Sump

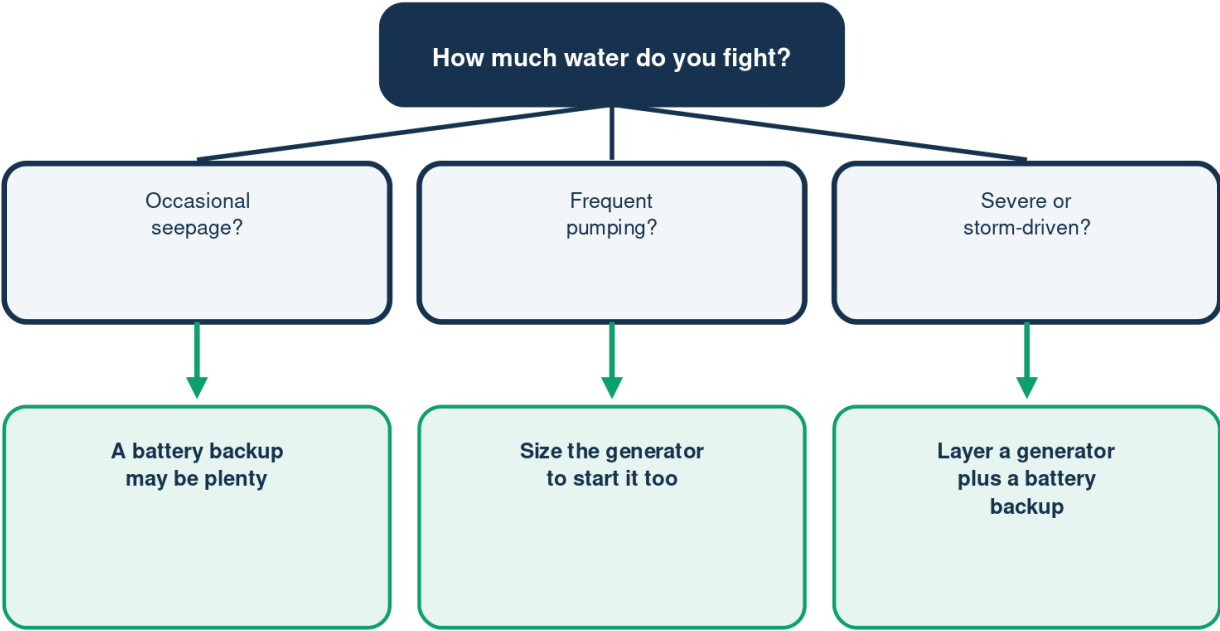
Each has its place -- and its catch

	Generator	Battery backup	Water-powered
Needs power?	Yes, from the gen	Its own battery	No -- water only
Runs how long?	As long as fuel	A number of hours	While water flows
Best for	The long outage	An auto first layer	City water only

On a private well, skip the water-powered pump -- no pressure without power.

How Wet Is Your Basement?

Let the water level pick your backup



A flooded basement is costly and unsafe -- plan the backup before storm season, not during it.

Illustration - a schematic, not to scale. Your setup may differ.



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A Note From Bill

A quick note from Bill.

I write these guides to make home tech a little less frustrating, and I do my best to keep every step accurate and up to date. Still, every home, device, and setup is a bit different, so I can't promise a guide will match yours exactly or fix your particular problem. These guides are for general information only — they're not professional, legal, or financial advice, and they don't replace your device's own manual or the manufacturer's instructions. Please go slow, use your own good judgment, and use everything here at your own risk. If a step involves electrical wiring, a gas appliance, a water heater, plumbing, or climbing a ladder — or if anything just doesn't feel safe — please stop and call a licensed professional (or give me a call at 330-200-8042). Bill's Home Tech and Bill Davis can't be responsible for any damage, data loss, or injury that comes from using these guides. Thanks for reading, and stay safe out there.

— *Bill*



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