

What you need to know about

Airless Spraying

INSIDE OR OUT - BIG OR SMALL SPACES ROOF, WALLS, FENCES | TIME-SAVING SUPERB FINISHES

Get one now.

Paint sprayers are
a great tool for EVERYONE.

It used to be something you'd only expect professionals to use, but now they're easier and more accessible for all of us. Whether you're working as a painter, or doing some DIY, we've got the airless sprayer for you.

Inside or out, they're quick and easy to use and can give that really slick, professional looking finish.

Get the right tool for the job... read more here See inside.

FAST & EASY

TRUSTED PERFORMANCE

PRICED FOR YOUR BUDGET

COMPREHENSIVE RANGE OF NOZZLES



What is airless spraying?

And why use an airless sprayer?

Because it's fast

You can paint or coat anything more quickly. Added speed means you get done in less time, with less work. And that's really important if you've got limited time - outside for example with a short weather window.

It's been estimated airless spraying is up to ten times faster than using a standard paint brush!

Because it's better

If you want a really good, even coat of paint on a huge range

of surfaces, this is the way to go. In a word, QUALITY. It looks professional and yet it's so easy

Because it's versatile

Yes, paint is the obvious coating, either inside or out, but that's just the start. Some people use it for deep cleaning, or mould prevention, or... the list goes on. There's so much you can do with an airless sprayer.

If you've got a large space or a lot to paint, an airless sprayer can be quicker and easier - and give you a smoother, more consistent finish.

If it's tricky, like an intricate piece of furniture, or lattice, shutters or stippled ceilings, a mist of paint can get into corners and areas where a traditional paintbrush struggles.

And if you're outdoors, it's often faster and simpler to spray than spending hours with a brush.

You can, of course, use your air sprayer for much more - like anti-rust solutions, corrosion-proofing

products and much more. However paint remains the main reason people choose

So retire the paintbrush!

airless sprayers.

Don't be put off by what can seem like a lot of information. It's actually much easier than it looks at first glance. We're just trying to explain in detail, so you can get your head around what happens and how to get the best out of your sprayer, and the best result.

So how does an airless Paint Sprayer work?

Basically an airless sprayer does what it says and sprays paint at your chosen surface.

It uses reasonably high pressure to pump out paint through a small hole in the spray gun tip.

This nozzle then distributes the paint evenly to give you a very consistent, even finish.

You get a good sweep of really small droplets of paint across whatever surface you're working on, depending on which tip size you use and how much pressure you've set it at. This mist can produce flawless finishes.

Airless systems don't use compressed air - as the name suggests, but rather high pressure and a tip to regulate the flow.

When you use an airless sprayer, high pressure forces the fluid through a small hole (in the spray tip). The stream of liquid breaks into tiny droplets that form the spray pattern when it hits the surrounding air. The viscosity of what you're spraying and its natural surface tension are countered by the energy and pressure the sprayer creates.

In some ways you can think of it like a much more refined version of putting your finger over the end of a garden hose to produce a mist of water.

A simple concept refined brilliantly.

Which one should I choose?

Like everything, it starts with making sure you have the right equipment for the job.

Let's ask you a simple question back - What are you tying to do? Because that affects what you need.



Choose your airless sprayer wisely and go for a reputable brand with all the tips and accessories you'll need, readily available locally.

Tip size rating is probably the best way to work out what sprayer you need.

However, there are many different ways to compare Airless Sprayers and determine the one that's right for you.

Maximum Tip size

Work out what you're wanting to do and what tip you'll need for that, and then work backwards to see which units support those tips.

Flow rates

LPM or litres per minute. There's no standard for this, so choose carefully. It needs to be sufficient for your requirements.

Pressure

This is measured in PSI or pounds per square inch. It's performance based. Remember though, that just because your unit has a maximum working pressure, it doesn't mean that's what you'll necessarily be using. The length of your hose, type of tip, which sort of coating, and filters are all contributing factors affecting spray pressure.

The motor

Because there are so many types of motor, this can change things. It's not always a case of bigger is better - it's getting the right motor (and sprayer) for the job.

Some standard pressure ratings for airless sprayers are:

2000 psi

2800 psi

3000 psi

3300 psi

4000 psi



A quick reference for the pressure needed for different coatings:

800-1100 psi for lacquers 1200 - 1800 psi for stains Over 2000 psi for latex

Setting up

It's important not to ignore or rush the prep work.

The actual painting is only part of the job, the rest is preparation and cleanup.

First off, it's like ordinary painting where you need to clean and dry the area you're wanting to paint. Getting it dust free is vital.

To prepare, tape off any areas that you don't want to paint.

If you're spraying indoors, remember there's likely to be overspray, so emptying what you can out of the room, or out of the way, is a good idea... or at least covering furniture and things you want to keep safe. Then tarp or drop sheet everything else. You don't want paint where you don't want it.

Be careful

Don't get sprayed paint in contact with your skin because the pressure at which the paint is delivered can force the dangerous toxins under your skin, so exercise care.

Simple precautions make all the difference.

When you're painting, consider wearing appropriate safety gear such as protective goggles, face masks or a respirator, and suitable clothing.

Good ventilation is essential. If you're inside, open windows and doors too, if you can. Wear a mask because you don't want to inhale the fumes, just like with any painting. It might seem like a bit of a pain, but the tiny bit of extra effort is well worth it. Things like rubber gloves and eye protection are inexpensive but essential. Long sleeve clothing and appropriate footwear are good choices as well. Just think about it and don't take risks.

It's always a sound idea to read any safety guidelines that come with your sprayer - and to apply some good old-fashioned common sense.

As they say, better safe than sorry.

Take the time to set things up and start slowly.

We recommend a couple of practice runs. Perhaps use some wood, or a sheet of cardboard to get a handle on the sprayer and how it operates.

You'll need to work out an approach to your work beforehand. Making it up as you go won't get the best result. A practical plan of application is a good idea. Think about what you want to paint, where you'll start and in which direction you'll spray the paint. Will you go side to side or up and down. It's generally not a good idea to mix directions on any one coat. Do you have edges or corners that you need to do first?

Use your practice to make sure you've got the right coverage and even application. It's useful to try out and perfect your technique before you start painting for real.



Before you first use your spray gun...

Check all the fittings and make sure all the connections in the pump system, hose and gun are tight.

Oil is used by the manufacturer for testing and protection, So flush the unit before spraying, Clean the pump with warm soapy water. Make sure the hydaulic oil in the pump is clean and sufficiently full.

Then...

Remove the spray tip from the gun.

Put the suction tube and priming tube into a bucket of soapy water.

Turn on the motor and put the prime/ spray switch to the prime position and the pressure adjustment knob to the prime position. In a few seconds water will start to flow up the suction tube and flow out from the priming tube, Put the prime/spray switch to the spray position then turn the pressure adjustment to spray.

When the pressure reaches around 3000psi check if there is any leakage on the outlet hose. If there are any leaks, check them but do not try to stop any leaks with your hand, body, glove or rag.

If you can't see any leaks, open the spray gun and test spray. Change the soapy water and use clean water when the spray is clean.

Turn off the power. Continue to spray until no water comes out.

Turn the prime/spray switch to the prime position until the water in the pump drains.

Now you're set to go...

Once you've set it up properly and primed it, using your new airless sprayer is a breeze. But, like almost anything, you've got to do the ground work first. A little extra effort at the beginning saves you time and money later and helps makes sure your unit will keep performing to its potential.

What to use to flush your unit:

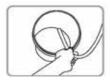
Oil based paint - flush with mineral spririts, followed by warm clean water. But to help counter static, first ground the gun by holding a metal part of the gun against a metal container while flushing,

Water-based paint - use warm, clean water.

Do this to prime and flush your airless sprayer when first using your unit, or after storing it for a while....



Separate smaller
 Priming Tube
 from Suction



2. Place Priming Tube in waste bucket



3. Submerge Suction Tube in water or flushing solvent



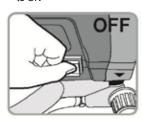
Turn Prime/Spray switch to
 Prime mode



5. Adjust Pressure Control Knob to Prime/Clean setting



6. Plug in Sprayer and turn power to ON



 Sprayer will start pumping and water or flushing solvent as well as air bubbles will be purged from system. Let fluids discharge from Priming Tube into waste bucket for 30 to 60 seconds then switch Power to OFF



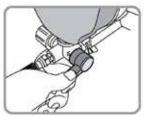
 Remove Suction Tube fom water or flushing solvent and submerge in paint pail



9. Switch Power to ON



 Paint should work itself from Suction Tube to Sprayer to Priming Tube until paint discharges from Return Tube. Point gun into waste bucket and pull trigger.



 Turn Prime/Spray switch to Spray mode and continue to spray into waste bucket



Stop spraying and activate Trigger Lock



 Remove Priming Tube from waste bucket and clip to Suction Tube and submerge in paint pail.

If the motor stops the pump and tubes are primed.

If it doesn't stop, REPEAT priming process again.

Now, you're ready to paint.

Here are a few tips...

Probably the most important part of your airless sprayer is the tip.

Airless Spray Tips are interchangeable.

By chosing different tips you can affect the finish because the tip determines the amount of paint (or other coating) that's applied and the width of the spray pattern.

So getting it right is vital.

The amount of spray that comes through towards whatever you're painting is determined by

1). the tip size

and 2). the pressure setting

The spray tip should match the tip rating of the sprayer (see our chart). Make sure your sprayer can support the tips you intend to use.

The paint you're using will also help you to determine which tip to use. That's how you get the best effect.

Standard paint, lacquers, stains and enamels are relatively light and can travel easily through small tips.

Heavier exterior paints, for example, need a larger spray tip.

Spray tips are rated by the size of the hole in them. This (along with the pressure setting) determines the amount of paint that can flow through the sprayer and onto your surface.

In short, consider two things:

Work out the right size of spray tip depending on what your're doing and the tip rating of your sprayer.

Consider what paint or other coating you're going to be using. Some are lighter (such as standard paints, lacquers and stains) while others are heavier (such as exterior latex paints). That affects which tip you use.

(Remember that often it's specified by the paint manufactuer which spray tip sizes are best. If you're not sure - ask the paint supplier.)

Maximum tip size is the largest tip size that your sprayer is capable of supporting with a good spray pattern. (Remember that factors such as what sort of coating you're using will affect this too.)

What you need to know about tip wear.

All spray tips will wear over time, just with normal use.

That's not unusual. However what does happen is the type of coating you're using can accelerate this.

All coatings contain abrasive solids but some are heavier than others. The amount of abrasiveness comes down to how the coating has been made.

It's all about how finely any solid element has been ground down. You can often see this yourself with some paints, for example, being 'lighter' and less dense than others.

Latex paint can, for example, be much more abrasive because of the way it's created and the materials used in its manufacture.

When a tip wears, the hole in it gets bigger. That means that the width of the spray produced actually decreases and will affect your finish.

This diagram shows the progression of the spray from a new tip (on the left) to a very worn tip (on the right). You can see the effect it has quite clearly.



If there's been a 25% reduction in your spray size, it's probably time to replace the spray tip. If you don't you'll be wasting time and effort on a substandard job.

If your tip has worn you'll be putting more paint onto a smaller area and overlapping for an even finish become much more difficult.

There are some ways you can extend the life of your spray tip.

Consider straining the coating you're using with a nylon strainer bag, prior to starting work. Obviously this will help to cut down any heavy abrasive material.

Choose the right size filter and clean it well after each use.

Use the lowest pressure you can. Enough to atomise your coating without damaging your spray tip unneccesarily. More pressure means more wear. (You'll also save paint by reducing overspray!)

Clean the tip when you're finished using a

soft bristle brush.



Easy Spray Tip Selection:

MAKE SURE YOUR SPRAYER CAN BE USED WITH THE TIP YOU WANT.

Material	Spray 4		8 inch	10 inch	12 inch	Sprayer Compatability
Stain & Sealer	211	311				R8626, R8622, R470, R520
Semi Transparent Stain	211	311 313	413			R8626, R8622, R470, R520 R8626, R8622, R470, R520
Solid Stain		311 313	413			R8626, R8622, R470, R520 R8626, R8622, R470, R520
Interior Paint & Primer		313 315	413 415 417	515 517		R8626, R8622, R470, R520 R8626, R8622, R470, R520 R8626, R8622, R470, R520
Exterior Paint & Primer		315 317	415 417	515 517 519 521	619 621 623	R8626, R8622, R470, R520 R8626, R8622, R470, R520 R470, R520 R470, R520 R520



A good tip gives you solid coverage and a quality finish.



A worn tip results in a heavier build up in the middle of your spray area.





One of our medium filters.

Do more, faster, more evenly and with a real, quality professional finish.

Nozzle size and filter are also important choices to make.

The width of the paint you spray is determined by the nozzle angle. Its bore diameter dictates the rate of paint flow.

Your choice of filter depends on the type of paint. Basically, you need a coarser filter the thicker and stickier the paint is.

The spray tip is elliptical, so getting the settings right can give you stunning results. However too little pressure and the paint won't get properly atomised. Too much and you're likely to get 'tails' in your painted surface. It's actually not hard to get it right and it's well worth it because once you do, things are a breeze. Once again, it's about setting things up first, in the right way. Different tips can give different effects, with paint thickness creating various coverage patterns.

Good filters are essential for a smooth finish because they take the dirt and debris out of your paint. They also help prevent clogging. That's how you get everything looking so smooth and professional.

Extra fine filters

The perfect choice for enamels and extremely low viscosity materials such as oils, and mould release agents.

Fine Filters

Good for low-viscosity emulsion and latex paints and materials such as fillers and rust-protection paints.

Medium filters

You can use these with latex and emulsion paints, flame retardants, roof coatings, corrosion-proofing products and many more.

Basic techniques

Once you've got the hang of it, using an airless sprayer is easy and so effective.

All you need to do is to get the pressure right, point it correctly and move the spray gun physically along (rather than just angling it from one static spot).

Both horizontally and vertically you should keep straight-on to the surface you're working on. Try not to tilt or fan the gun because this will give you an uneven finish.

As an overall rule you should be about 30cm (roughly 12 inches) away from the area you're working on.

If you're too far away the spray area widens and you can get patchiness and more overspray. If you're too close, the pressure could cause drips and too heavy a concentration of paint in places.

Keep the sprayer at a consistent right angle (about 90°) to whatever you're painting. Making sure this is parallel will help stop any of that patchiness.

It can be a smart idea to start with the corners and edges before moving on to the main areas.

Trigger the spray gun before each stroke and release it just before the end of the stroke, but keeping the gun moving all the time. This will help prevent blotches at the beginning and end of your strokes.

When you're spraying, give it a light coat right across the surface, and do it so that with every run across you get an overlap (of probably about a third or half) on the previous spray area each time you apply a coat.

Don't be too loose or 'free' with your spraying action.

It's good to keep a steady, even pace. Start the gun moving before you pull the trigger so you don't get a sudden rush of paint at the start. That way you're more likely to avoid any streaks. And, when you're applying multiple coats, try reversing the direction each time to try to get a flawless finish.

When you're spraying a corner, point the spray directly at the corner, rather than moving it back and forwards across the corner.

The right tip and pressure are important in getting the best result.

Consider the size and width of the spray you want for the task.

You need to set the pressure to suit your tip size and the different viscosities of different types of paint.

If you use too much pressure, you'll overspray the area and use much more paint than you need to. It's best to start with a low pressure setting and slowly increase it until you get an even coverage.

In field trials, airless sprayers have been shown to be up to



than using conventional paint brushes.

A couple of hints:

If you're coating is too thick, don't adjust the pressure. That should always be set to the lowest pressure with a good spray pattern.

Instead:

Move the spray gun faster.

Try a tip with a smaller hole or a wider fan.

Check that you're about **30cm away** from your surface.

If you're not getting a good cover on the surface:

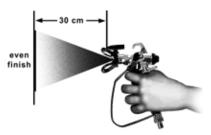
Try slowing down

A larger tip might help

Choose a tip with a

narrower fan width

Check that you're about **30cm away** from your surface.





Point the gun straight at the surface, not up, down or tilted sideways.

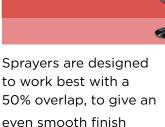
How to spray

Start your stroke by moving in the direction you're spraying. Activate the trigger to release spray

Keep a consistent speed and distance from your surface

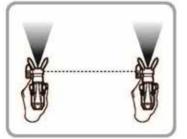
Release the trigger to stop spray

Continue moving until the spray stops



without edges.





Keep the gun straight and move your arm across the area at a steady pace, staying about 30cm away from the surface.



If you don't move with the gun but just adjust it's angle, fanning the spray will create an uneven effect.

Common mistakes

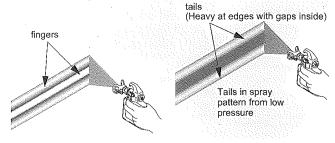
Don't get too trigger happy.

You need to learn to 'drive' your spray gun, not just spray it indiscriminately. Like anything, be careful. If you keep holding the trigger down too long and just keep going and going, up and down, side to side, the result's not going to be great.

For one thing, you'll end up with thicker spots (perhaps double the amount of paint in some areas) and a potentially sloppy finish.

Instead, trigger the gun on each stroke (in each direction) and ease into and out of these movements. That way, you've got every chance the end finish will look great.

Read all this first, and you shouldn't have any problems. It's actually very easy to spray paint.



You can get what are called fingers or tails if your maximum pressure is not sufficient. In these cases you might need a smaller hole in the tip.

Don't set your pressure too high.

There's always the temptation to crank things up to get it done faster. Don't. And there are a lot of reasons why.

- 1. Your finish won't look great. It won't be as professional as you want.
- 2. You'll waste more paint (and that'll cost you more) because you'll be overspraying.
- 3. Consistency of finish comes from just enough, but not too much, pressure to do the job.
- 4. You'll wear your spray tip out faster and have to get a new one sooner.

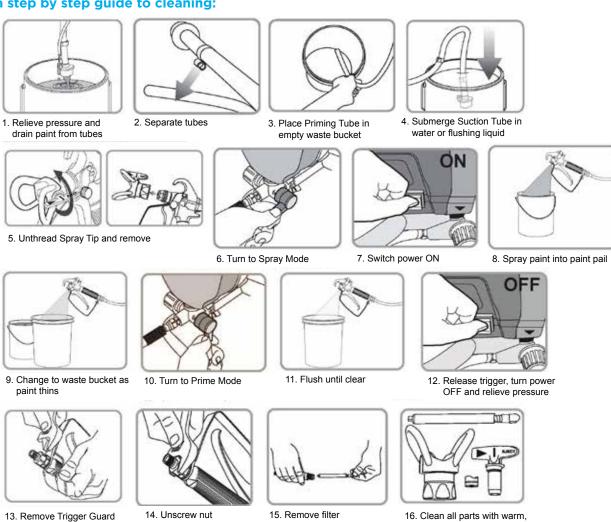
Cleaning up

The job's not over until you've cleaned up.

When you've finished spraying, sorry, but you're not done.

Remember you need to take your paint sprayer apart and clean it after every use. If you don't it could clog up and a clogged filter or tip can also create messy splatter. You don't want to be replacing things when a few minutes of cleaning up after yourself means you'll be ready to go the next time you want to use your sprayer.

Here's a step by step guide to cleaning:



It's easy to keep your airless sprayer in top condition and after the first time, it's so easy to do to ensure your unit will be ready for its next job...

Clear your tips with some short burst of water with the tip set to 'reverse"

soapy water or flushing liquid with a bristled brush

Clean tips with a soft brush. If you're storing them for a while, do so in a sealed container of water or solvent.

Clean and check your filters. If it's more than 20% clogged, replace the filter.

Do multiple rinses to clean your airless

Start with a dirty rinse and a clean rinse, then another rinse with clean water.

If you're storing your sprayer overnight, water is Ok, but thinner is better. Remember not to store the unit under pressure.

It's all about your paint

Which sort of paint or stain or coating are you using?.

Many sprayers use undiluted paint but some work best with a lighter mix. Technically, this is called less viscosity.

Often paints at their normal consistency can be too thick for a standard paint sprayer and can clog up your gear.

In these instances, be sure to dilute your solution according to the specifications, either that come with your sprayer or that are detailed on the paint can or the manufacturer's website. Your paint will go further and you're likely to get a smoother, more consistent coverage.

Ideal temperatures for spraying depends on what type of paint you're using:

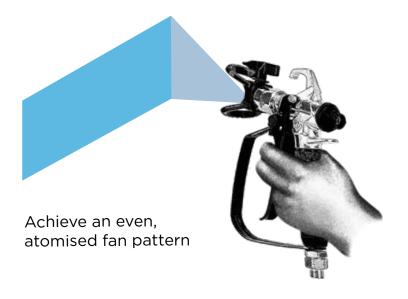
For **Oil-Based Paints**, it's commonly between 4°C and 32°C.

For **Water or Latex-Based Paints** it's a bit higher at between 10°C and 30°C because these paints don't handle well at lower temperatures.

The most commonly agreed temperature range for the best and easiest painting is between 18°C and 25°C

Many paint suppliers have helpful information about their products, which tips are best used with which formulation and other important details.

Don't be afraid to ask. It'll help you to get the best possible result.



All coatings contain solids, but some are heavier than others

...and not just about the colour





Surface consistency cross-section.

Every coating contains four basic things:

A binding element

this holds the coating together.

Pigments

Usually colours or corrosion resistance.

Solvent

A substance to either dissolve one of the other elements, or dilute or thin the overall formulation.

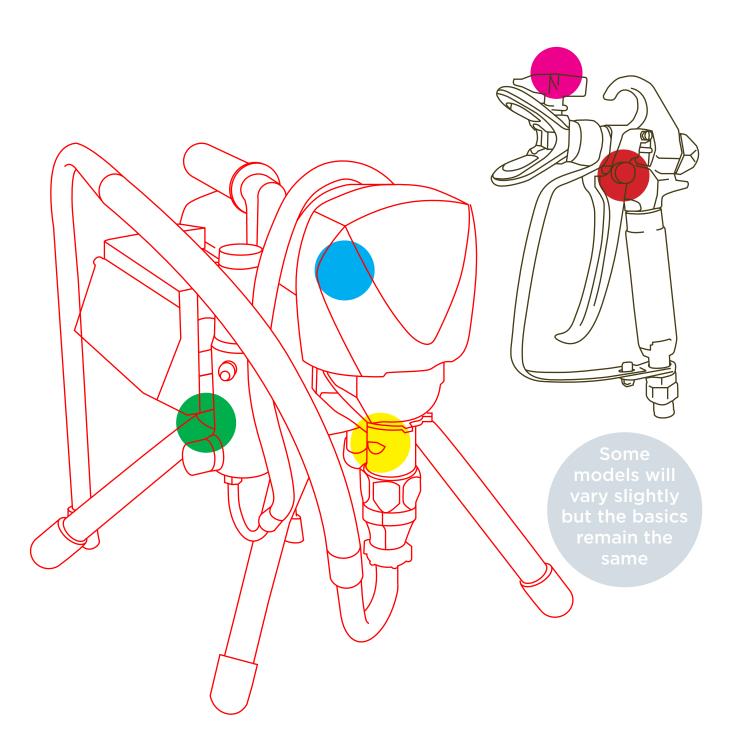
Additives.

There are a lot of reasons additives incorporated into coatings, sometimes to help applications, enhance the end result, or to help with manufacture.

Not all paints
(or other coatings)
are the same. So
adapt what you're
doing to suit what
you're working with.

LOW Amount of solids **HIGH**

A guide to your sprayer:



Spray Hoses come in different lengths, diameters and pressure ratings. The right hose is important. Make sure your hose is durable and flexible. Remember that a longer hose will also mean a subsequent drop in pressure so make sure your unit can cope with what you're wanting to do.

Nozzle extensions make working with airless paint sprayers more efficient, by increasing the working radius. The nozzle extensions are also useful for accessing hard-to-reach areas. This means that coating radiators, ceilings, door and window frames is so much easier. Depending on what your project is, there are various extensions available. Using one means you don't have to use ladders or scaffolding as much, making things safer and more convenient.

Ask yourself these questions



Determines the amount of coating sprayed with your choice of tip. The shape of the hole in the tip decides the spray pattern.

Many can be used in a reverse setting to get rid of any clogs.



Motor & Drive system

The heart of the system that drives everything.



Pressure Control

Use this to regulate pressure



Pump

Delivers the stream of coating at high pressure through the spray gun



Your tool for spraying, which lets you turn the spray on/off.

What type of coatings are you going to be spraying?

What you're painting is really the crux of the matter because that determines your tip size and which units support that. If you're planning on doing a lot of spraying (different coatings and different jobs) you'll need a more versatile sprayer. But don't just think about the immediate future, consider the medium term. You don't want to have to upgrade later if you haven't thought ahead.

What are you going to be spraying?

This has an impact on your tip size and the quality of finish you're looking for. An interior plaster board wall is different to an exterior concrete surface.

Are you working inside or out and where's the power coming from?

Is there an easy, available power source? That will help you work out whether you need battery power or another alternative.

How much will you be spraying over what lengths of time?

Don't underestimate how much you'll be using your sprayer. If you get a basic unit and try to do serious professional work with it, week after week, chances are you'll be headed for disappointment. Again, it's about matching your airless sprayer to the task. Make sure you choose a unit that's adequate for what you want to do.

How long is your hose going to be?

Put simply, if you've got a longer hose, you'll need a motor that can cope with that. If you're working at close quarters, it's not as much of an issue.

And finally...

How much do you want to spend?

Probably the biggest question of all. But seriously, you don't want to go bigger than you'll ever need, or try to make do with something that's not quite up to the scope of your plans. Be realistic.

Ask us. We have the answers







RONGPENG R520

Solid Heavy Duty metal construction and includes heavy duty all metal 818C spray gun and 517 tip with 0.45m extension

Max tip size: .023" Max pressure: 3300PSI Max flow rate: 3.2 I/ min

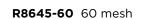
Hose: 15m Motor: 2200W Weight: 24kg

... and everything else you need

Buy from a local supplier so you can get what you need, when you need it.

SPRAY GUN FILTERS







SPRAY GUNS





EXTENSIONS

The original spraying distance of the spray gun can be extended using these extensions, for use on ceilings or in high places, without the need for ladders...

RP8641-4 1.0m RP8641-2 0.6m RP8641-1 0.45m





TIP GUARD

TIP GUARD fits most airless guns with standard 7/8" gun thread. Stainless steel housing with plastic guard. R8647-1



INLET SCREEN FILTERS

R8656-2 For R8626, R8622



R8656 For R470, R520



Looking for something else?

For a full (and ever growing) list of accessories, visit

tooline.co.nz





HIGH PRESSURE HOSE

R8648-7.6

7.6 METRES

R8648-15

15 METRES

Learn more about airless sprayers and we're confident you'll be sold!



IMAGINE IF YOU COULD GET

THE FINISH YOU WANT,
UP TO 10 X FASTER,
AND COST EFFECTIVELY.
YOU CAN.



Available from: