



FOUNTAIN SOLUTIONS ADDITIVES



The use of isopropyl alcohol (IPA) with Fountain solutions in offset printing has an adverse effect on a number of things:

- **Print Quality**
- **Health**
- **The Environment**
- **Costs**

To overcome these issues AtéCé has developed the '**Galaxy Greenline Fount Range**' which are perfect for IPA Elimination / Reduction.

Also available in this range are founts which do not contain Butyl Glycol, that from January 1, 2021 can no longer be used.

MANUFACTURER
SINCE 1977



- **Founts**
 - **Sheetfed**
 - **Alcohol Free**
 - **Alcohol Reduced**
 - **Heatset**
 - **Coldset**
 - **Narrow web**
 - **Alcohol Free**
 - **Alcohol Reduced**



AtéCé
GRAPHIC PRODUCTS

The challenges facing fountain solutions and fountain solution additives



Offset printing has become an industrialised, high-performance process. Today, highly productive modern printing presses produce standardised products in the highest quality. The materials they use also need to meet these demands: alongside substrates and printing inks, fountain solutions are the core elements of offset printing. Today, selecting the right fountain solution additive is the key to ensuring your printing process remains stable.

The challenges facing fountain solution additives have grown especially within recent years: we need them to help reduce the amount of isopropyl alcohol (IPA) or even to completely replace it, without opening up another set of problems. They should enable eco-friendly production and help minimise adverse health effects. They should help save costs by reducing the need for maintenance and service. But above all: they should reliably contribute to stable print production with consistently high quality and productivity.

The perfect modern fountain solution additive

- ✓ Maintains a constant pH value, in alignment with the situation on site
- ✓ Rapidly sets up a stable ink-water balance
- ✓ Ensures good wetting and fast printing plate clean-off
- ✓ Is well protected against bacterial contamination
- ✓ Is highly compatible with different water
- ✓ Works well with the most common printing inks
- ✓ Minimises attacks by the fountain solution on sensitive substrates
- ✓ Prevents deposits on rollers and in the fountain solution circulation system
- ✓ Reduces or replaces isopropyl alcohol (IPA)
- ✓ Is eco-friendly with a health-friendly formulation
- ✓ Contributes to low-migration printing
- ✓ Inhibits machine corrosion

We have developed our fountain solution additives with all these demands in mind, and for all areas of offset printing: commercial sheetfed, packaging, web offset and narrow web. Today, Galaxy fountain solution additives prove day by day in countless print shops that they are capable of ensuring the stability of the print process.

With its excellent and innovative products, its eminently reliable service and flexible, customer-oriented new product developments, AtéCé has become one of this millennium's leading manufacturers of dampening solutions.



Water



Water is more than just H₂O. It is an extremely good solvent for minerals, acids and alkaline solutions. Water has very different amounts of calcium carbonate compounds in it, depending on from which region it comes, and when used in printing can also dissolve calcium and other compounds from the inks and substrate. The hardness of the water has a very great impact on offset printing: water hardness for stable print production should be 9 – 13 degree dH. In addition it is essential to keep to the press manufacturer's limits for corrosive ions. If the local water supply does not reliably meet these criteria, it is worthwhile investing in a water treatment system (filtration or reverse osmosis). However, the water needs to be re-hardened afterwards. Untreated, natural water – or in specific cases re-hardened tap water – is, however, often the best.

Regular checks on the water hardness – either indirectly by measuring the conductivity or directly with chemical testing – can help save critical errors, especially when the water has been processed. This is why this is all part of standard service when you use our fountain solution additives.

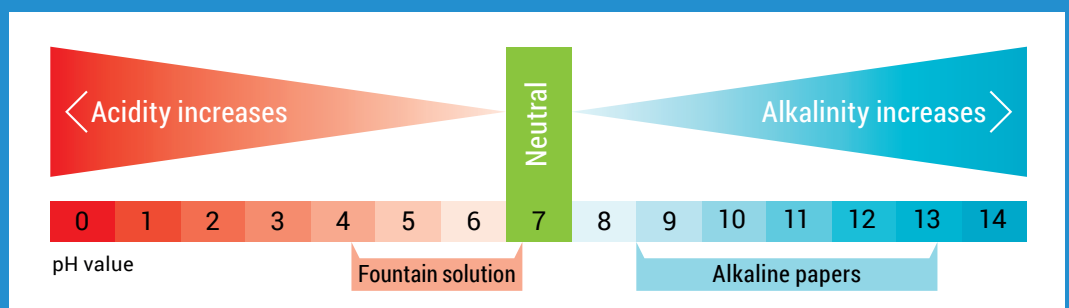
pH Value



These days a pH value setting of between 4.8 and 5.3 for the fountain solution is commonly used in offset printing. Sufficient buffer salts need to be added to keep the pH consistently stable, even when alkaline solids precipitate from the substrate. In recent years special pH-neutral fountain solution additives are being used more and more to enhance the drying process and reduce any attacks on the substrate surface. The pH value in the fountain solution should be regularly checked using an external measurement device. "Run-away" pH values can cause printing problems.

The impact of the pH value on the print process

- ✓ Cleaning of the plates improves with lower pH values
- ✓ Lower pH values can help in preventing framing
- ✓ Higher pH values improve ink drying and rub resistance
- ✓ Corrosion is reduced with rising pH values
- ✓ Negative interactions with specific printing stocks decrease with higher pH values
- ✓ Higher pH values run the risk of over-emulsification of the ink



Conductivity



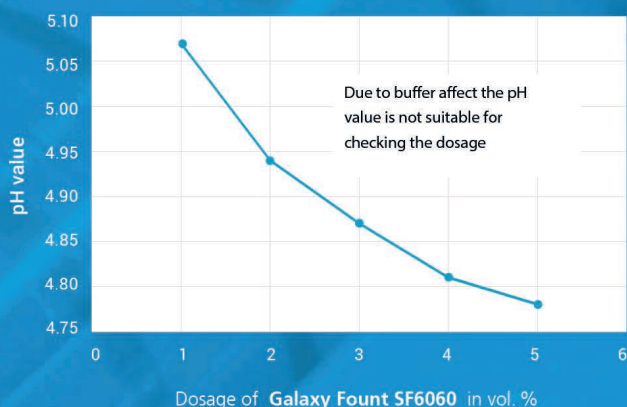
Measurement device for measuring conductivity, pH values and the temperature of the fountain solution

In contrast to the pH value, the electrical conductivity has no direct effect on the printing behaviour of the fountain solution. It is, however, a good indication when dosing the additive: Fountain solution additives contain a specific salt load that decomposes into ions when dissolved in water. The higher the amount of fountain solution additive, the more ions and better electrical flow and, therefore, the higher the conductivity. There is no ideal number for conductivity, it depends very much on the formulation of the fountain solution. Not only that, but conductivity is also influenced by the concentration of IPA, which lowers conductivity. However, after refilling the dampening system, conductivity should deviate only slightly from a previous batch mixed by hand.

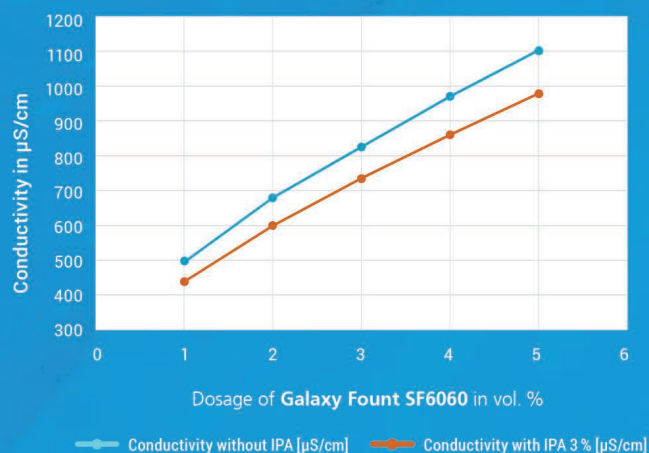
Conductivity rises as the fountain solution becomes more and more contaminated during production. An upper limit can help to define the cleaning interval for the fountain solution. Measuring conductivity can also help to check the hardness of the incoming water.

Documenting conductivity measurements – in newer central dampening systems also available as an integrated option – can help to track down any printing anomalies.

pH value in relation to the fountain solution additive dosage
(Reverse osmosis water conditioned 11° dH)



Conductivity in relation to the fountain solution additive dosage and percentage of IPA
(Reverse osmosis water conditioned 11° dH)



Dosing Fountain Solution Additives



One of the most frequent causes of printing problems is when the fountain solution additive has been incorrectly dosed.

Underdosing usually results in an unstable pH value, also often in machine standstill oxidation and poor clean-off behaviour of printing plates. High overdosing can lead to blinding, the instability of the emulsion in the inking unit, or delays in oxidative drying. Precise dosing is especially important in IPA-free printing, and the latest generation of (digitally driven) dosing systems are especially designed for this.

The conductivity of the freshly mixed fountain solution in comparison to the hand-mixed solution can be used to check the dosage. There are also chemical tests available (e.g. F-test) that react to the amount of buffer salts present.

Reducing Isopropyl Alcohol (IPA)

The use of IPA in offset printing has an adverse effect on **print quality**, the **environment** and **health** whilst also impacting on **costs**.

Improved productivity can also be achieved with the elimination/reduction of IPA due to a more stable printing process. Consequently, many print shops have been producing for some time now with less or even no IPA.

The fundamentals of lower or IPA-free printing

- **Maintaining the fountain solution circulation system**

Substances are washed out from the inks and substrates during the print production run. Components from the additives can also accumulate in the circulation system and on the rollers. Fountain solution that is too highly contaminated will lead to problems sooner or later, and reducing IPA increases this risk. Regularly changing the fountain solution and periodically cleaning out the system prevent this.

- **Selecting suitable rollers**

These days all manufacturers market materials that are suitable for printing with low or no IPA. Specifically the materials and the geometrics of the rollers distributing the water (pan rollers) need to be exactly matched to the process. Maintenance and adjustment of the rollers require greater vigilance, which can also help prevent any other unwelcome surprises.

- **Dosing IPA precisely**

A measuring spindle or float gauge for conventional measurement of the IPA dosage can no longer be used when printing with reduced IPA. Such dosage methods are based on measuring the specific gravity, which is highly distorted by temperature and the degree of contamination in the fountain solution.

In the meantime there are reliable optoelectronic measurement and dosage devices available, such as from Technotrans or Unisensor. Testing can also be performed using mobile IPA measurement devices.

- **Adjusting the pan roller rotation speed**

Reducing the IPA content also reduces the viscosity of the fountain solution, which means that less fountain solution is distributed. This can be offset by a higher rotation speed of the pan rollers, ***without increasing the amount of fountain solution.***

In modern printing presses, this is achieved by adjusting the dampening characteristic curve in the control system.

- **And last but not least: selecting the right fountain solution additive!**

There are clear differences especially among fountain solution additives available on the market for IPA reduction. A fountain solution additive must ensure stable production without any yo-yo effects and most certainly should not cause any additional problems. The fountain solution additives from AtéCé have been market leaders for years: our highly developed products ensure stable production. A further cornerstone to this success is also the support provided by highly professional experts.

All-round service with Galaxy fountain solutions

Good customer service includes regular checks of the fountain solution on site.

- Our partners and experts check your process water and the fountain solution in your presses and provide you with documentation of the results afterwards.
- They help you locate where the errors are coming from and eliminate print problems.
- They advise you on choosing the right fountain solution additive, while making recommendations that match your printing materials from other vendors, such as substrates, inks and printing plates.

Galaxy Fount SF6025

- Suitable for IPA-free printing
- Protected against bacterial contamination
- Very high protection of printing plates
- Dosage: 2-4 %



Galaxy Fount SF6060

- Suitable for IPA-free printing in highspeed sheetfed offset
- Protected against bacterial contamination
- Dosage: 4 %
- Also suitable for printing with HR / LE / LED UV inks



Galaxy Fount SF6070

- Latest generation fount for conventional inks, and works also with all New Generations UV and Hybrid inks
- It's a universal fountain additive for sheetfed applications and alcohol dampening systems with reduced levels of isopropanol and is excellent compatible with **Kodak Sonora X**, **Nova Protinus EU** and other Process Free printing plates



Galaxy Fount SF6080 / SF6085

- Suitable for IPA-free printing in highspeed sheetfed offset
- Protected against bacterial contamination
- Dosage: 4 / 3 %
- The best fount for printing with LED UV, HUV, HUV-L, HR and UV LE inks



Galaxy Fount SF6090

- Ideal for printing without isopropyl alcohol
- Ideal for printing with critical spot colours and metallic tones
- Free from hazardous IPA-substitutes such as butyl glycol
- Dosage: 4 %



Galaxy Fount SF5010

- Suitable for printing with isopropyl alcohol reduction/free
- Suitable for both CtP and conventional plates
- Free from hazardous IPA-substitutes such as butyl glycol
- Dosage: 2-4 %



Galaxy Fount SF5030

- Suitable for printing with isopropyl alcohol reduction/free
- Suitable for sheetfed and narrow web presses
- Free from hazardous IPA-substitutes such as butyl glycol
- Dosage: 2-4 %



Founts	Sheetfed	Coldset	Heatset	Narrow Web	Dosage	IPA-free	IPA-reduced	With IPA	Fogra approved	Isega approved	Key features
Galaxy Fount SF6060	✓				4	✓	✓		✓	✓	Positive contributions: IPA-reduction even at high speeds, very good drying, very clean circulation water, counteract "Kordingstreifen".
Galaxy Fount SF6070	✓		✓	✓	4	✓	✓		✓	✓	The newest fountain solution improved clearing of printing plates and "keep open" fine screens. Very good suitable for DOP printing plates (like Kodak Sonora X, Nova Protinus EU), helps to avoid picture-framing.
Galaxy Fount SF6085	✓			✓	3	✓	✓		P		Newest fount for the new generation (LED, HUV, HUV-L, HR and LE) UV inks counteract "framing", low foam.
Galaxy Fount SF6090	✓				4	✓	✓		✓	✓	Ideal for printing without isopropyl alcohol. Suitable for all printing presses, reduces picture-framing. Free from hazardous IPA-substitutes and butyl glycol.
Galaxy Fount SF6025	✓				2-4	✓	✓		P		Is a latest generation fount additive for sheetfed applications when strongly reduced levels, or total elimination of isopropanol is required.
Galaxy Fount SF5030	✓			✓	2-4	✓	✓				Suitable for Sheetfed and Narrowweb presses. Free from hazardous IPA-substitutes and butyl glycol.
Galaxy Fount SF5010	✓			✓	2-3	✓	✓				Allround fount suitable for IPA reduced/free. Also suitable for narrow web.
Galaxy Fount SF5000	✓				2-3			✓			Allround fount with very stable ink water balance. Against calcium deposit.
Galaxy Fount CS3030		✓			2-3						Specially suitable for printing uncoated and newspapers.
Galaxy Fount CS3050		✓			2-3						Universal fast cleanup Coldset fount for spray and turbo dampening systems (pH 5).
Galaxy Fount CS3070		✓			2-3						Neutral pH fount, better brilliance and cleaner blankets (pH7) Less paper linting.
Galaxy Fount HS4250			✓		3-4				P		Is a universal fountain additive for fast running heatset applications. It is applicable on all direct and indirect film dampening systems. Developed to decrease blanket piling and so increase wash intervals. Cost effective and very effective against piling.
Galaxy Fount HS4255			✓		2				✓		Suited for all heatset presses and paper stock. Good wetting for both CtP and conventional plates. This allows low water settings with a stable ink water balance and fast clean up properties, also after longer stops. Fully corrosion protected.
Galaxy Fount HS4260			✓		4				✓		Universal fountain additive for heat set applications. It is applicable on all direct and indirect film dampening systems. Suitable for alcohol free printing.
Galaxy Fount HS4270			✓		4				✓		Universal fountain additive for fast running heat set applications. It is applicable on all direct and indirect film dampening systems. Suitable for alcohol free printing.
Galaxy Fount HS4280			✓		4						Is a fountain additive for fast running heat set applications. Specially developed for Goss and M600 Heatset presses. It is applicable on all direct and indirect film dampening systems. Suitable for alcohol free printing.
Galaxy Fount CH7100		✓	✓		2				✓		Universal fountain additive for both Heatset and Coldset web offset applications. It is applicable on all dampening systems.



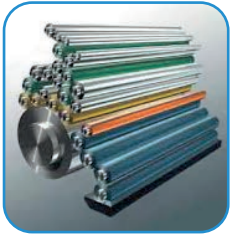
**Ask
AtéCé**

AtéCé has a full range of Pressroom Chemicals.

Please look at www.atece.com/index.php/en/products-supplies/pressroom-chemicals

MSDS and TDS are available on request, sent a mail to msds@atece.nl

Set-up a new fount solution



To make the start-up with your new fount solution a success, please follow the following steps:

1. Empty the system

Including the intermediate tray.

2. Remove all filters

3. Fill the system with Galaxy System Cleaner C

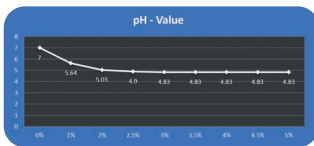
- a. Dilute the Galaxy System Cleaner C with water (1 + 5)
- b. Circulate for at least 3 hours to remove dirt and elimination of all micro-organisms
- c. Empty the system (do not forget the intermediate tray)
- d. Fill the system with plain water and rinse the system again for 15 minutes
- e. Empty the system again
- f. Fill the system with water and fount solution. The Galaxy System Cleaner is an alkaline (pH > 10) product, so it will have a negative influence on the pH value of the fount
- g. Empty the system again and fill the system with water and fount solution

4. Replace all filters

5. Make a hand mix of water and fount

To make sure the dosing is adding the amount of fount solution as it is set up.

- a. Take 1 litre of water
- b. Add two percent of fount solution and measure pH and conductivity
- c. Add 1 percent fount solution more and measure
- d. Add 0.5 percent fount solution more and measure
- e. Add 0.5 percent fount solution more and measure
- f. Add 0.5 percent fount solution more and measure
- g. Add 0.5 percent fount solution more and measure



6. Measure the mix of water and fount solution in the circulation system

To see if the values are the same as in the hand mix.

If not please adjust the dosage of the fount solution.

7. Set the temperature of the fount between 8 - 10 degrees

Maintenance:

Maintenance is very important to keep a stable printing process.

AtéCé is advising the following products:

- **Galaxy Degreaser**
For degreasing the chrome dampening rollers.
- **Galaxy Calcium Cleaning Gel**
To clean the ink rollers from persistent lime surfaces.
- **Galaxy Wash UV MRC-X**
A dampening roller cleaner for EPDM rollers, cleans quick and thorough dampening roller of any UV application.
- **Galaxy System Cleaner C**
To clean dampening circulating systems from dirt and ink residue.
- **Galaxy System Cleaner Green**
New: world's first system cleaner **without biocides!**

	Sheetfed	Coldset	Heatset	Washing efficiency	VBF class	CFC Free	Flash point	Fogra approved	Key features
Cleaning Agents									
Galaxy Degreaser	✓	✓	✓	•••••			-9		Especially designed for cleaning alcohol dampening rollers.
Galaxy Ökocleaner	✓			•••••	AIII	✓	>55		Biological hand washing agent for rubber and rollers. Especially for removing paper fibres. Not suitable for cleaning plates.
Galaxy Wash UV MRC-X	✓	✓	✓	•••••			35		A dampening roller cleaner for EPDM rollers, cleans quick and thorough dampening roller of any UV application.
Others									
Galaxy Systemcleaner C	Very strong cleaning concentrate for fountain solution systems. With anti corrosion properties. Dosage 1:5.								
Galaxy Roller Shampoo	Galaxy Roller Shampoo removes persistent deposits (e.g. ink residues, UV ink residues, paper dust) from ink rollers and rubber blankets.								
Galaxy Roller Cleaning Paste	Cleaning paste that cleans ink rollers thoroughly. Roller Cleaning Paste makes it possible to change from dark to light colours quickly. Used by printing works throughout the world. (Please note this is 950 gram)								
Galaxy Roller Cleaning Paste UV	Cleaning paste that cleans UV ink rollers thoroughly. Roller Cleaning Paste UV makes it possible to change from dark to light colours quickly. Used by printing works throughout the world. (Please note this is 650 gram)								
Water Hardeners									
Galaxy Watercontitioner C	Hardening concentrate (re-hardener) for use in reverse osmosis systems or for soft tap water with strong micro-biological preservation. Dosage 0,5 - 1 %.								
Galaxy Watercontitioner H	Hardening concentrate (re-hardener) for use in reverse osmosis systems or for soft tap water with strong micro-biological preservation. Dosage 2 - 4 %.								
Decalcifiers									
Galaxy Calcium Cleaner Gel	Gel for removing persistent lime surfaces.								
20.08									



Location Alkmaar, the Netherlands



Knowledge and experience

At AtéCé, we never stop working on further development and improvement of pressroom chemicals for use in practice. We have been doing this since 1977 and, therefore, we have a lot of knowledge to share for the benefit of our customers. Our motto: "Our knowledge, your strength".

Fogra and Isega Certified

Several Galaxy chemicals have achieved Isega and Fogra certification. For product development, we work closely with the following, independent testing institutes.



Registered trademarks

PrintCare blankets & stripping plates **Galaxy** coatings **PressClean** washcloths **Galaxy** chemicals

Galaxy flexo solutions **Deutsche Druckfarben** PRINT-TECHNOLOGY **Galaxy** supplies **Nova** offsetplates

www.atece.com

info@atece.com • T +31 (0)251 31 91 09

Location Uitgeest, the Netherlands



AtéCé Graphic Products

Based in the Netherlands, AtéCé Graphic Products is a leading manufacturer of a wide range of graphics consumables. AtéCé exports to more than 80 countries around the world via an extensive network of distributors.

Producer

Since 1977, AtéCé has been a producer of, among other things, pressroom chemicals, dispersion and UV coatings and printing inks. AtéCé makes up rubber blankets, stripping plates and washcloth rolls in-house. The production sites are located in the Netherlands, in Uitgeest and Alkmaar. The various products are brought to market under its own brand names, as well as under private labels or as an OEM product.

Distributors

AtéCé has a strong global network of distributors. Quality is an important trademark. As one of the few independent players in the market, AtéCé has a large degree of autonomy. AtéCé is a family business, this guarantees total engagement, accessibility and continuity.

MANUFACTURER
SINCE 1977

