




**aleph<sup>®</sup>**  
in printing, we care

# Digital Textile Printing Pigment Ink

MADE IN ITALY 

## aleph® In printing, we care

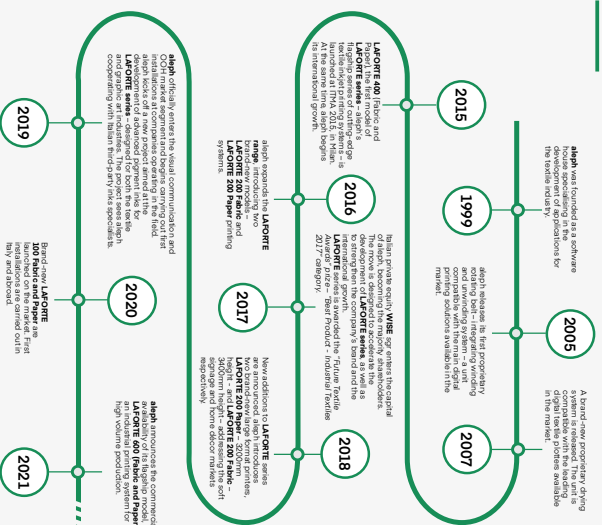
**aleph** specialises in developing and manufacturing sublimation and direct-to-fabric inkjet printers for the textile and visual communication industries.

Founded in 1999 and headquartered at the heart of the Italian textile district of Como, the company has grown to become one of the leading international players in the digital printing space. With a dedicated sales force and a widespread distribution network, aleph operates in key textile markets across the globe.

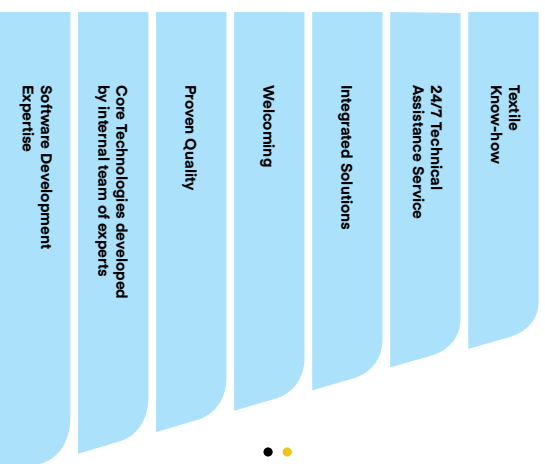
The company's extensive experience in the textile industry has enabled aleph to progressively expand the offer and boost the service, with the final goal to contribute to customers' success. aleph offers integrated printing solutions, featuring proprietary software, cutting-edge digital printers, as well as drying systems and consumables.

aleph's green policy focuses on environmental and social sustainability. The company is committed to develop and deliver environmentally-friendly solutions with a low environmental impact, centred around simple and sustainable processes, as well as reduced use of water, energy and other natural resources. With the company steadily focused on innovation, aleph's customers can benefit from cost-effective technologies with reduced environmental impact and designed to increase the users' green reputation.

## Company's Story



## Our Values



## Our Green Vision

aleph® is committed to saving water, energy and other natural resources consumption within the company's manufacturing processes, as well as throughout the supply chain, from procurement to distribution, actual use, and disposal operations.



In printing, we care

## Why aleph's Textile Pigment Print Technology is the Right Choice

aleph's digital pigment print technology is designed and developed to offer operational efficiency and green performances. In fact, **not only is the printing process userfriendly and extremely easy to handle, but it enables extreme application flexibility while also allowing significant reduction in water and energy consumptions.**

aleph's inkjet pigment print technology, combined with the company's brand-new advanced proprietary pigment inks, enables to significantly reduce the overall environmental impact of digital textile printing process.



### Applications



High-end fashion



Fast fashion



Fashion accessories



Sportswear & Underwear



Soft signage



Home textiles



Automotive

## About aleph M22™ Pigment Inks

### Distinctive Features

#### Advanced Chemical Formulation

aleph M22™ pigment inks are formulated with a newly developed blend of pigments and binders, designed to provide soft touch, superior colour vibrancy and high fastness.



Soft Touch



Superior colour vibrancy



High fastness



### Straightforward Printing Process

In order to carry out the drying process for aleph M22™ pigment inks, IR, NIR or hot air oven can be used. To achieve complete cross-linking of the binder with the pigment, a temperature of 170°C for a period of approximately 2 minutes is required.



Pre-treated fabric



Digital printing with pigment ink



Drying process 170° 2 min



Green printed textiles

\*The above mentioned printing process does not require washing and steaming

### Cutting-edge Technology

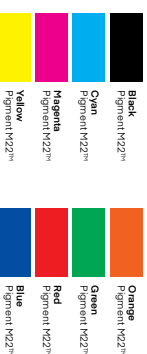
aleph's pigment inks are developed with the use of nanotechnologies which ensure optimal matching with the company's proprietary LAFORTE® technology



Nano technology

## aleph M22™ Colour Range

8 colours (2xCMYKORGB)




Coming soon | new colour-index




# aleph M22™ Pigment Inks

## Adding-Value Features

	<b>Sustainability</b>
✓	Extremely low consumption of ink
✓	Extremely low consumption of water
✓	Reduced energy consumption
✓	Virtuous environmental impact achieved

	<b>Excellent Colour Rendering</b>
✓	Wide colour gamut: 8 colours - CMYK plus Red, Blue, Green, Orange
✓	Excellent colour vibrancy
✓	High optical density to achieve a wide colour gamut with deep and neutral blacks

	<b>Stability of the Printing Process</b>
✓	aleph M22™ pigment ink features an advanced binder designed to ensure smooth operation for the printheads. Crucially, this resin activates at high temperatures only, therefore it does not clog the printheads while enabling to achieve excellent printing operability, as well as increased lifespan of the printheads (over 24 months)

## Superior Application Flexibility








aleph M22™ pigment ink envisages a mechanical bonding with the fibre – versus a more common chemical bonding – enabling direct-to-fabric printing onto a wide range of substrates. Those include:

✓	Natural fabrics (cotton, silk, linen, hemp, wool)
✓	Artificial fabrics (viscose)
✓	Synthetic fabrics (polyester, nylon, polyurethane)
✓	Blend fabrics (poly-cotton, polyester)
✓	Laminated fabrics
✓	Sustainable and recycled fabrics
✓	Leather

## Top Performances

✓	Designed for Kyocera's 300dpi and 600dpi, water-based printheads, implemented for aleph's technology
✓	Excellent jetting and drying time
✓	High wet and dry colour fastness for all colours
✓	High fastness to light
✓	Excellent soft touch feeling, achieved through an advanced chemical treatment
✓	To further improve colour rendering, print definition and print fastness, auxiliary pre- and post-treatment products by aleph can be used.

## Comparing Textile Print Processes

Traditional Printing (all types of inks)		VS	Digital Printing with Reactive Acid Disperse Inks	Digital Printing with Pigment Inks
 Fabric Pre-Treatment	 Colour management		Pre-Treatment	Green Pre-Treatment* (optional)
			Colour separation for screen and cylinder engraving	Colour and printing variant management using SmartColor™ and SmartPrinter™ proprietary software
			Screens and colour preparation before rotary and screen printing	SmartColor™ and SmartPrinter™ proprietary software
			Preparing colour paste	▶
			Printing Process	▶
 Printing Process			Washing and storage of screen and cylinders	Inkjet Printing with aleph LUX-ORTE®
			Disposal of paste/water	▶
			The steaming process is not required for printing process with pigment	▶
 Process for fixing the colour to the fabrics			Steaming	Colour curing**
Washing			The washing process is required for printing processes with pigment inks	▶
Post Treatment and Finishing			Finishing	Green post treatment and finishing (optional)
High Water Consumption 			Medium Water Consumption 	Low Water Consumption 

\* aleph's digital pigment printing process does not require the pre and post treatment of the fabric. However, to achieve specific performance pre and/or post treatment is recommended for excellent results.  
\*\* After the printing process, the only step required is the penetration of the colour, which can be performed with drying oven or with steamer.



# Our Environmental Engagement

aleph M22™ water-based pigment inks are designed and developed with environmental sustainability in mind. Featuring extremely reduced water and energy consumptions, the printing process enables a significant reduction of the overall environmental impact. Adding to this, the process certifications achieved by aleph are yet another evidence of the company's commitment to the environment, as well as of the green value featured by Aleph's proprietary technologies and solutions.

## aleph M22™- Environmental Features

Eco water-based inks

Eco-friendly pre and post-treatment auxiliary products

Reduced energy consumption through printing process

Reduced water consumption through printing process

Capability to print onto recycled and sustainable fabrics

## Water consumption – Processes compared

REACTIVE - ACID - DISPERSED			PIGMENT INKS	
Working water for direct printing with reactive and acid inks (kg/qm)			Washing water for direct printing with pigment inks	
Basic Weight of Fabric (g/qm)	25	1.250.000 / 99	0,0	
	35	1.750.000 / 99	0,0	
	65	3.250.000 / 99	0,0	
	1/eqm		1/eqm	
	1/eqm		1/eqm	
	1/eqm		1/eqm	

Fonte: data processed by Aleph

## Environmental Certifications

aleph's inks and pre- and post-treatment products are certified by GOTS (Global Organic Textile Standard) and comply with ZDHC (Zero Discharge of Hazardous Chemicals) and with OEKO-TEX® standard 100 standard 100.

GLOBAL ORGANIC TEXTILE STANDARD

OEKO-TEX® STANDARD 100

ALEPH WATER REDUCTION

## LAFORTE FABRIC®

DPI

Printing resolution

300 / 600 / 900 / 1200

Anti mist System

Printing technology

Variable drop inkjet from 4pl to 72pl (2.556 nozzles - 2 colors)

Ink tank capacity

5.110/20 kg/l

Media feeding system

Rotary sticky belt system

Advancement accuracy 40 microns

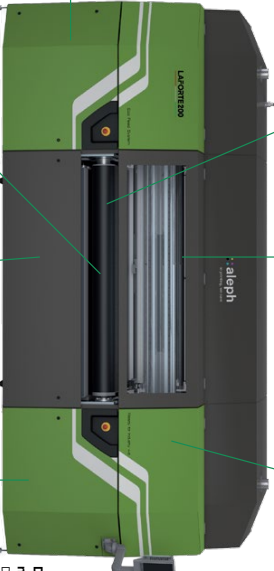
Water consumption

25-50 L/h

Interface

Ethernet 10 GB

DST - aleph® HQ multi-pass printing technology



## LAFORTE FABRIC® Series

### Range Models

#### LAFORTE 100

1800 mm



**Speed**

2x4 colors  
Up to 170 sqm/h

2x8 | 1x6 colors  
Up to 100 sqm/h

#### LAFORTE 200

1800 / 3400 mm



**Speed**

2x4 colors  
Up to 240 sqm/h

1x8 | 1x6 colors  
Up to 180 sqm/h

#### LAFORTE 400

1800 / 2200 mm



**Speed**

2x4 colors  
Up to 500 sqm/h

1x8 | 1x6 colors  
Up to 360 sqm/h

#### LAFORTE 600

1800 mm



**Speed**

2x4 colors  
Up to 800 sqm/h

2x8 | 1x6 colors  
Up to 600 sqm/h

## Proprietary software

Designing and developing proprietary software is part of aleph's expertise and one of the company's strengths. The company's software range addresses the different processes involved in the textile production cycle – ranging from colour profiling, colourways, image cloud storage up to the printing process and remote assistance on printing machines – enabling easy and accurate management.

All aleph's software products are tailored to the needs of textile printers, whose feedback is collected and used by the company to continuously implement its software portfolio.



### LAFORTE CLOUD™

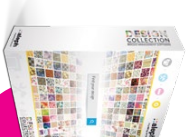
A software designed for enabling remote assistance, ink consumption management and individual job monitoring/analysis.



Laforte™ InCloud

### SMARTPRINT™ TEXTILE

A RIP software designed for large format digital printing in the textile industry.



3D Module

### DESIGN COLLECTION™

A software application designed for enabling images storage and management on the web.



3D Module

### SMARTCOLOR™

A software designed for creating colourways using colour charts.

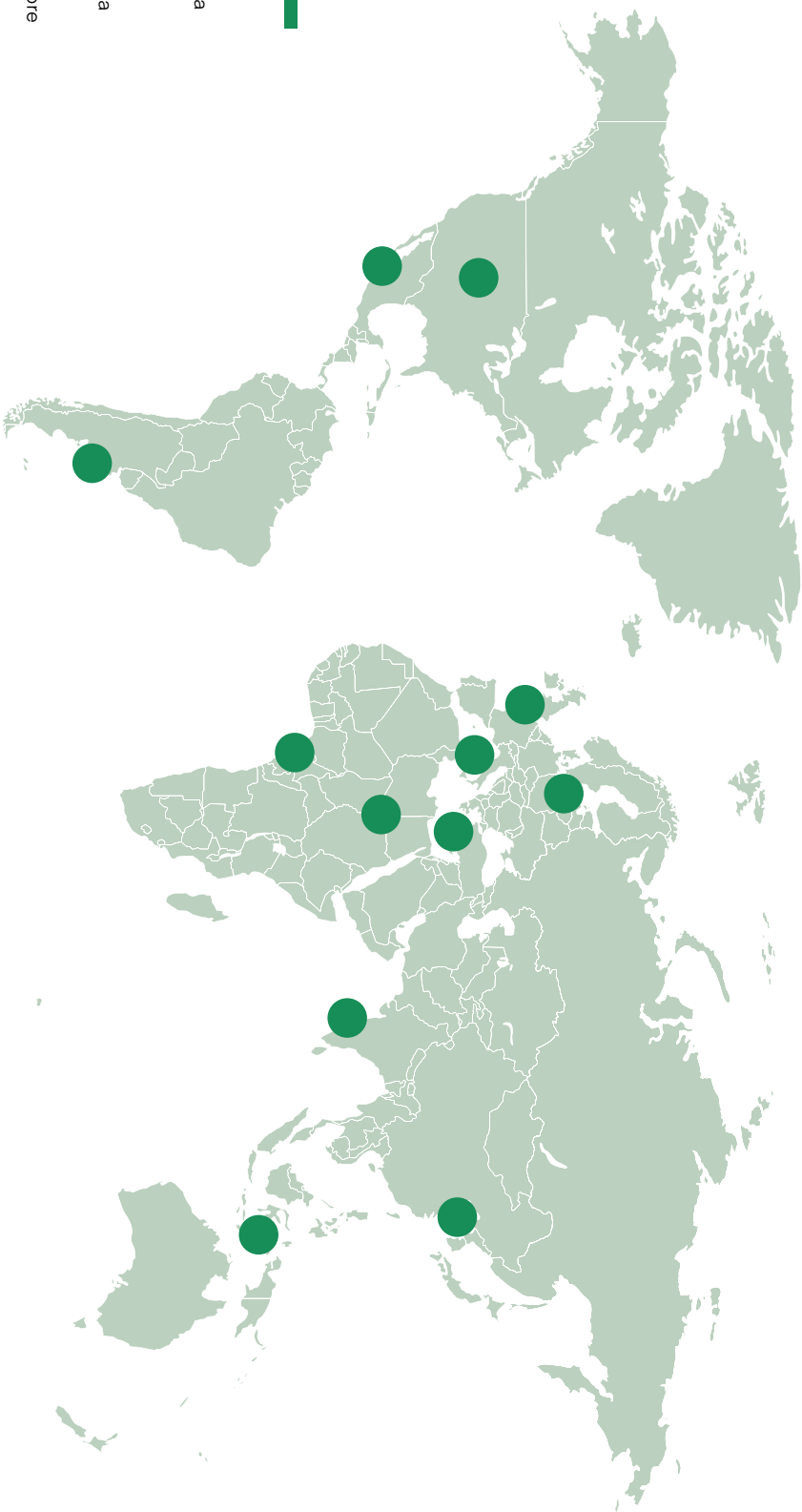


Find a 10 color

### NEWTON™

A professional programme designed for producing colour profiles and colour measurement.

Italy  
Africa  
Argentina  
Egypt  
France  
India  
Indonesia  
Mexico  
Poland  
South Korea  
Turkey  
USA



# Our headquarters

**aleph Srl**

Via Giotto, 26

22075 Lurate Caccivio (CO) - Italy

T. +39 031 575902

[www.alephteam.com](http://www.alephteam.com)  
[info@alephteam.com](mailto:info@alephteam.com)



05/2021

MADE IN ITALY 