

### Produktinformation



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#### SZABO-SCANDIC HandelsgmbH

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## **AP-1 Semi-Automated Tube Printer**

#### Revolutionising tube labelling as we know it.

The AP-1 Semi-Automated Tube Printer is the ultimate solution for direct printing onto plastic and glass tubes & vials. Featuring a cutting-edge dual-colour UV ink printing system, that prints durable, abrasion and chemical resistant labels, perfect for long-term storage. Designed for wide labware compatibility and seamless integration into automated workflows, maximising productivity and minimising downtime.

#### With AP-1, adhesive labelling is a thing of the past.



UV ink technology High-contrast dual-colour print system



Versatile

**Ultra-durable labels** Smudge, abrasion and chemical-resistant labels

Use standalone or part of automated workflow



**Built for integration** Seamless automation compatibility



Agnostic design Prints onto plastic and glass tubes & vials



Intuitive software

Full hardware control and custom label design



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## Tube labelling. Directly.

The **dual-head UV** ink printing system allows the user to create high-contrast labels for **barcoding applications**. Offering unparalleled and superior performance to existing tube labellers and markers already present on the market.

The AP-1's **background printhead** applies a base layer directly onto the tube surface, while the **content printhead** applies clear and legible **text**, **barcodes**, **and graphics** on top; perfectly simulating a paper-based adhesive label. This unique design



eliminates the need for expensive pre-barcoded tubes, providing the user flexibility to print text and barcodes personal to them and their application. For situations where a background is already present on the tube or simply not required, the content printhead can be used independently, offering even greater versatility.

AP-1 printed labels are designed to **endure mechanical abrasion**, remaining intact even with frequent handling or friction. These labels can withstand exposure to common **lab solvents** such as **isopropyl alcohol**, **ethanol**, **and DMSO\*** without fading or smearing. Compatible with **cold chain transportation** and **long-term storage**, remaining **legible** at extreme temperatures as low as -196°C.

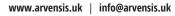
\*resistance may vary depending on % of solvent used.

### Cost per print

The AP-1 is a highly economical solution, with the ability to print in excess of 100,000 dual-colour labels without changing cartridges. Depending on label design and content, printing costs are as little as 1 cent per label, making it an accessible alternative to sticky label printers or laser markers.

When printing in single-color mode, the AP-1 increases efficiency by 34%. This is particularly beneficial for tubes that already feature a white patch. This efficiency boost translates to more labels per cartridge, lower operational costs, and faster printing speeds—perfect for high-throughput environments where cost-effectiveness and reliability are key. The table below outlines the number of printed labels and cost per print when using the AP-1 to print onto popular tube types.

	96-format sample tube		Sarstedt screw cap		48-format sample tube		15ml conical tube		50ml conical tube		
Diameter	8		10		12		15		30		
Label width	25.13		31.42		37.70		47.12		94.25		
Label height	12.7		12.7		12.7		12.7		12.7		AP-1 prints on glass
	No. of p Single colour	orints Dual colour	No. of Single colour	prints Dual colour							
	68772	45390	57310	37825	44426	29321	32937	21738	21148	13957	
Cost per print	\$ 0.007	\$ 0.010	\$ 0.008	\$ 0.012	\$ 0.010	\$ 0.015	\$ 0.014	\$ 0.021	\$ 0.021	\$ 0.032	



# **Built for integration**

AP-1 is designed with integrators in mind. Offering robust and flexible tools to streamline the development of mid to high-throughput applications.

To ensure effortless integration into your automated workflows, we provide:



Each solution is accompanied by comprehensive documentation and ready-to-use example projects, ensuring you can hit the ground running with your development. Whether you're building benchtop applications or integrating into complex automated systems, the AP-1 is the printer to achieve this with.

## **Technology comparison**

	AP-1 Direct UV lnk Printer	Sticky Label Printer	Laser Marker
Label durability	UV-cured,abrasion & chemical resistant, -196°C stable	Can peel off, expensive specialised labels needed for cold chain storage	Permanent, but only on laser compatible tubes
Automation compatibility	Seamless robotic & LIMS integration, no label jams. Small footprint	Labels may fall off & jam automated systems. Increases diameter of tube, restricting fit in rack	Standalone automation, typically cannot be integrated within automated systems
Tube compatibility	Prints on plastic & glass tubes & vials from 0.5 - 50ml, even those with raised graduations	Limited by label adhesion to certain tube surfaces	Limited to tubes manufactured with laser additives
Customisation & flexibility	Full control via software: fonts, barcodes, graphics, dual-color	Restricted to label dimensions & material compatibility	Limited contrast without colour background
Cost per label	As little as 1 cent per print, efficient over 100k prints	Requires label and ink ribbon consumables starting at ~\$0.12 per label, with frequent changes	High upfront cost + tube type constraints which are costly
Maintenance	Automated printhead cleaning, simple consumable change	Manual label & ribbon loading, adhesive residue issues	Requires specialized maintenance

# **Technical specifications**

Dimensions (W x L x H): 450mm(W) X 645mm(D) X 470mm(H)

Weight: 13kg

Printhead resolution: 300dpi

Power supply: V in: 100~240VAC , 50/60Hz V out: DC24V/5.0A

Power consumption: 120W

Working temperature range: 15 ~ 30°C

**Operating humidity (RH):** 20 ~ 80%

**Connection:** USB port: USB 2.0 for Computer Connection; USB B-type for I/O

Communication: C++, C# & Web API

Arvensis AP-1 Semi-Automated Tube Printer				
AP-1001	AP-1 Semi-Automated Tube Printer, supplied with power supply, USB 2.0 cable, 5 x tube adapters (#1-#5) & AP-1001-CR			
AP-1001-UVB	AP-1 UV Curable Ink Cartridge, Black			
AP-1001-UVW	AP-1 UV Curable Ink Cartridge, White			
AP-1001-SOB	AP-1 Solvent Ink Cartridge, Black			
AP-1001-SOW	AP-1 Solvent Ink Cartridge, White			
AP-1001-CR	AP-1 Printhead Cleaning Rolls, 2 rolls per pack			



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