

# Carmel™

## Long Throw Bulk Solvent Cartridge

### Key Specifications

- ½" (12mm) throw distance
- Bulk use
- Single color
- Heavy solvent compatible
- ½" (13.5mm) print swath
- 300 DPI
- Drop mass: 40-45pl\*
- Up to 1L yield\*
- 6 kHz per nozzle\*

### Key Applications

- Canning
- Bottling
- Round/curved surfaces
- Recessed surfaces
- Areas of poor product control
- Variable/uneven product thickness
- Non-porous substrates
- Large production runs

### Contact Us

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\* Fluid Dependent

### About Carmel

With an industry leading ½" print gap, Carmel nearly doubles the throw distance of the competition. This bulk monochrome solvent cartridge contains 320 nozzles for a ½" print swath capable of printing high resolution text, barcodes, and graphics on non-porous and semi-porous substrates while reducing the cost-per-mark when paired with a bulk ink delivery system.

The long throw distance makes Carmel perfect for applications where uneven, recessed, or round surfaces are part of the product packaging. In the case of poor product control, the longer throw distance ensures crisp marks when substrate positioning can vary significantly.

On chip READ/WRITE memory ensures that only approved inks are utilized in OEM partner machines.

### Target Customer

The ideal customer:

- Runs medium-to-large production batches or multiple shifts (24/7)
- Utilizes semi and non-porous substrates
- Relies on heavy solvents in the printing process

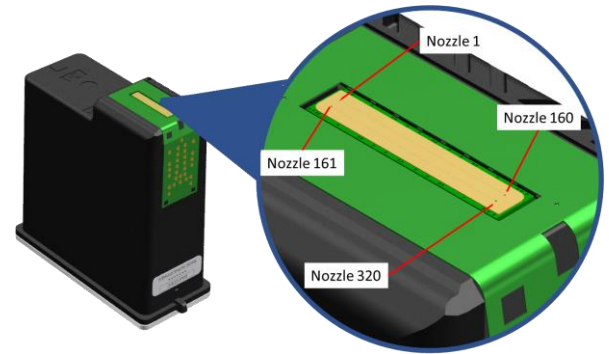
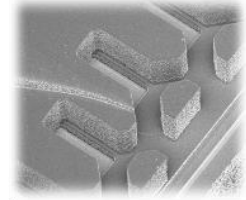
### Print Speed Table

6 kHz Print Speed Translation			
Horizontal DPI	Max. Line Speed* (Single Channel)	Max. Line Speed* (Dual Channel)	Sample Print Image (Simulated)
300	100 ft/min (~31 m/min)	150 ft/min (~45 m/min)	 1 234567 890128 Funai 300 DPI Printing
150	200 ft/min (~61 m/min)	300 ft/min (~91 m/min)	 1 234567 890128 Funai 150 DPI Printing
75	400 ft/min (~122 m/min)	600 ft/min (~183 m/min)	 1 234567 890128 Funai 75 DPI Printing

### Powered by Funai

Funai focuses on research and development of thermal inkjet microfluidics for specialty printing, life sciences, and consumer applications. With more than 450 printing related patents, Funai is recognized as a top tier microfluidic designer and manufacturer with scaling capabilities to partner with global industries.

Digital Microfluidics



About

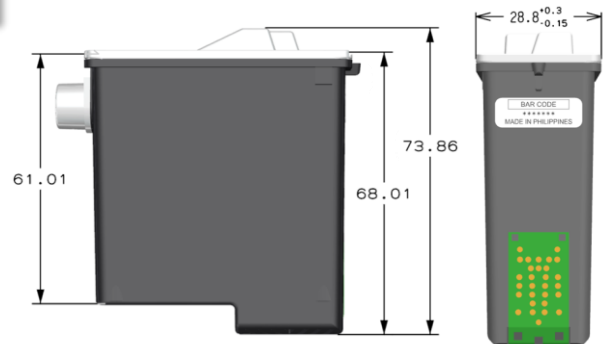
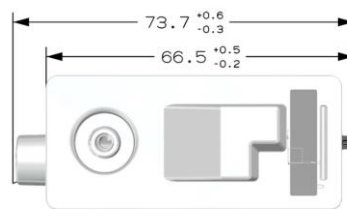
Model	Funai Model No: F4****	
Environmental Protection	RoHS / REACH	
Printable Images	Text Barcodes Graphics	
Ink Capacity	Ink fill (avg)	17ml
	Deliverable ink (avg)	Up to 1L*
Nozzles	320 (two rows of 160)	
Heater Pitch	300 DPI	
Print Swath	0.53" (13.5mm)	
Firing Frequency	6 kHz per nozzle*	
Pen Stall	Shetland	
Nozzle Sealing Method	Nozzle Clip	
Reservoir Type	Bladder	
Tubing Connector Size	1/8" (~3.2mm) ID	

Usage

Working Location	Indoor	
Working Temperature	15C~35C (~60F-95F)	
Working Humidity	8%-80% (non-condensing)	
Compatible Solvents	MEK Acetone <20% Methanol/Ethanol	
Ink Properties	PH	7-8
	Surface Tension (dynes/cm)	24-45
	Viscosity (cP)	2-10
	Particle Size (nm)	111.00
Filling Method	Vacuum filler (LOBOZAR TECHNIK)	
Drop Size	40-45pl*	

Dimensions and Storage

Size(mm)	28.8(W) x 73.9(H) x 73.7(D)
Weight	40.6g
Storage Temperature (empty)	15C~50C (~60F-120F)
Storage Temperature (filled)	15C~35C (~60F-95F)
Storage Humidity	5%-80% (non-condensing)
ATM Pressure	<1609m (~5280ft)



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