

# CERAMIC PRINTING

***MICROPUMP®***





# CERAMIC PR

The speed and flexibility of today's digital printers have opened up new opportunities for printed ceramic tile applications. These tiles are used for flooring, counter tops, and a broad range of decorative applications.

Digital Printers are used to print patterns on ceramic tiles and other ceramic objects. The printing operation occurs before the ceramic is fired.

A gear pump is used to supply ink to the print heads of the printer. The ink is continuously circulated over the inlets of the print heads to keep pigmentation particles in suspension; thus preventing blockage of the inlets.

## MICROPUMP SOLUTION

Our pumps were developed specifically to handle abrasive, pigmented inks. We have life test results for abrasive white inks well in excess of 20,000 hours.

Precise flow and pressure requirements are driven by the design of the printheads. Micropump pumps deliver a pulseless flow which is key to preventing issues in print quality and drop placement accuracy.

Micropump pumps are used in digital ceramic tile printers to circulate pigmented ink over the inlets of the print heads. This circulation is important to keep the pigments in solution and prevent blockage of print head inputs.



# INTING

## Flow Rate

- 1 to 5L/min (16 to 78 USG/hr) flow rates
- Variable speed pumps for this application with gear pump flows from 0.158 to 3.52 L/min (2.5 to 56 USG/hr) and centrifugal pump flows from 4 to 24 L/min (68 to 374 USG/hr)

## Designed for Abrasive, Pigmented Inks

- Life test results for abrasive white inks well in excess of 20K hours.

## Leak Free Operation

- Magnetic drives eliminate dynamic shaft seals, keeping fluid securely inside the pump and potential contaminants out.

## Small Package Size

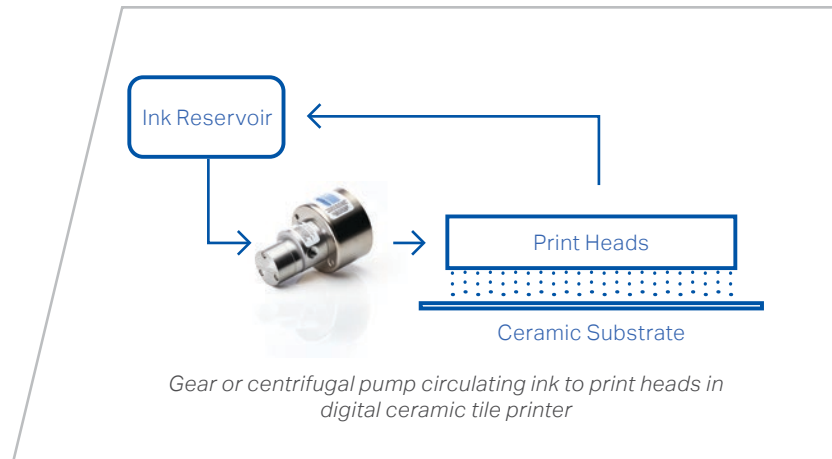
- Magnetic-drive gear pumps are small. When mounted to a Micropump electromagnetic EagleDrive™, we can offer a very compact pump and drive package.

## Low Power Requirements

- With no drag from dynamic seals in the mag-drive gear pump, and no moving parts in our EagleDrive, power requirements are very low.

## MICROPUMP PRODUCTS OPTIMIZED FOR THIS APPLICATION

Micropump CA Series centrifugal pump and GJR Series gear pumps are most commonly used in this application. They provide reliable, smooth flow for ink circulation.



## CA Specifications

- Recommended Max Speed: 6,000 RPM
- Flow Max: 1.13 GPM (4,300 mL/min)
- Flow Min: 7.79 GPM (29,500 mL/min)
- Max System Pressure: 200 psi (14 bar)
- Temperature Range: -50 - 250° F (-46° - 121° C)

## GJR Specifications

- Displacement: 0.316 ml/rev (N21) | 0.64 ml/rev (N23) | 1.23 ml/rev (N27) NEW
- Flow Max: 0.89 GPM (3,400 mL/min)
- Flow Min: 0.042 GPM (158 mL/min)
- Max Differential Pressure: 80 psi (5.5 bar)
- Max System Pressure: 300 psi (21 bar)
- Temperature Range: -50 - 270° F (-46° - 130° C)

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ACTUAL PERFORMANCE MAY VARY. Specifications are subject to change without notice.