

The MagnaJet LCLFR is a development of MagnaJet's highly successful integrator series controller (MISC) for use with low flow print heads requiring vacuum recirculation by negative differential such as the Dimatix SG1024 and also most gravity print heads when used with pigmented fluids to reduce drop out of pigment (such as whites).

A smaller and lower cost alternative to the HV range, it is ideal for use in cost sensitive or less demanding applications, including fluid testing rigs and single head printers. The cost effective LCLFR offers OEMs and integrators the ability to add low flow recirculation to their system designs with reliable industrialised fluid control functionality, without losing the precision and advanced level of control seen in the HV range, making this an ideal choice for production and rapid development projects.



The LCLFR unit features:

- Built in brushless air pump- no need for external air sources or vacuum pumps.
- Media isolated diaphragm recirculation pump.
- Integrated head shut off valves for head maintenance and instant isolation in power loss situations.
- Integrated head lock off valves give customers the ability to hard purge heads up to 950mbar as standard, making head maintenance simple and controllable.
- Integrated hydraulic meniscus measurement system automatically compensates the meniscus pressure within the head as fluid levels inside the integrated fluid reservoir change during usage.
- Options available to ensure fluid compatibility for all jettable fluid types including high viscosity fluids.
- Integrated failsafe chamber with automatic shutdown and alarm to protect hardware from damage.
- Integrated closed loop heater support for external inline heater up to 65°C ±1°C on standard systems
- Requires single low voltage 24vdc 1 amp input.
- Galvanically isolated communications interface and fully opto isolated PLC compatible I/O interfacing.
- Setup is possible from any RS422 enabled device capable of generating ascii strings such as PC, PLC, HMI or other embedded system via the integrated galvanic isolated RS422 communications adapter.
- All parameters are stored on the device allowing for hostless operation,
- Devices may be operated singularly or in a network mode up to 15 devices from standard interface.
- Simple open source ASCII interface (for PLC and motion controller interfacing) and .Net client/server DLLs (with example code) available to allow OEMs simple and seamless integration into their end user applications.

Technical specification

Physical	
Weight	1.7kg
Tank volume	60ml
Physical dimensions	212mm x 233mm x 100mm
Fluid connections	8mm OD 6mm ID standard 6mm OD and 4mm ID options

Compliance	
CE compliant	
RoHS compliant	
WEEE compliant	

Electrical	
Supply voltage	24 V
Supply power	1 A
Rating	(dependent on options supplied)
Communication interface	4 wire RS 422 / 485 interface (supports multi dropping of devices; maximum of 15 nodes) Optional USB to RS 422 communication gateway adapter. Supplied with Megnajet communications pack.

Software integration interface	
Open source Ascii interface.	
Optional .Net DLL SDK available on request.	

Operating conditions	
Operating temperature	5-65°C (40-149°F)
Storage temperature	5-100°C
IP rating	IP50

Connectivity to print heads	
Head type	Any low flow or gravity feed print head requiring low flow recirculation
Number of print heads supported	1 2 with factory fitted 2 way stainless steel head splitter (allows 2 heads off 1 unit)
Maximum flow rate	60ml/min
Maximum recirc pressure	-200mbar
Maximum meniscus pressure	-200 mbar
Suggested distance from print head to CIMS II unit	Greater than 200mm
Suggested distance from bulk fluid tank to unit	Up to 2m for integrated fill pump. No limit if optional remote fill pump is fitted.

Megnajet user interface	
Supported OS versions	Win XP, Win 7, Win 8, Win 10 (Requires .Net 4 or higher)

Additional standard options

Degas vacuum source, head flush modules, external inline heater.

Developer interface cable kits (including comms adapter and external medical grade power supply).

Customisation

Units can be customised to suit fluid type and application, including (but not limited to) the use of alternate body materials (eg FDA approved food grade acetal, aluminium, 316 stainless and PEEK); choice of gasket material (eg FKM, EPDM, Nitrile and FFKM); weld ring sensor for low cross contamination; and customisations to user software.

For further details, please contact us via our website or the email address below.

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