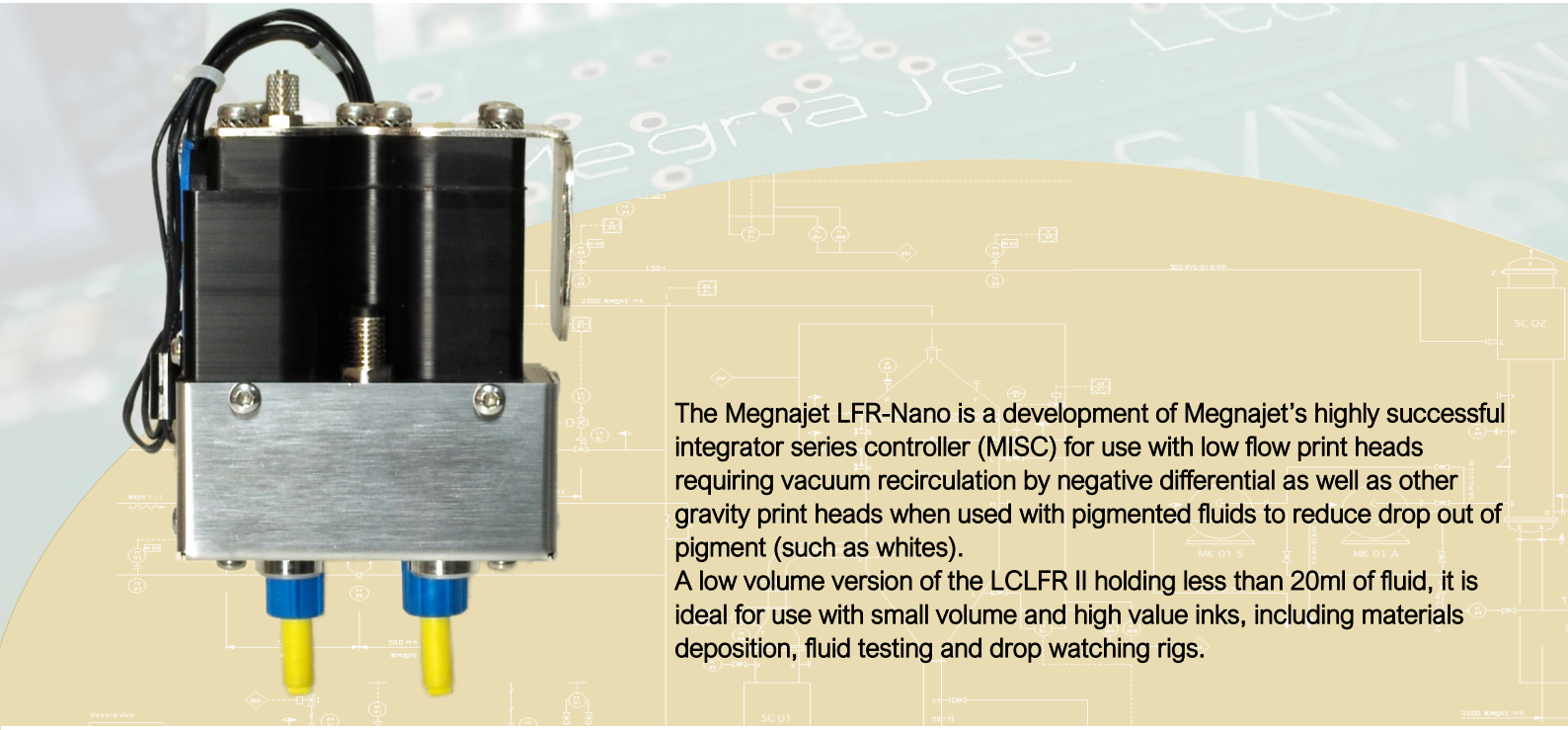
megnajet
Controlling fluids in a digital world

Nano Fluid Delivery Systems

Product Datasheet



The Megnajet LFR-Nano is a development of Megnajet's highly successful integrator series controller (MISC) for use with low flow print heads requiring vacuum recirculation by negative differential as well as other gravity print heads when used with pigmented fluids to reduce drop out of pigment (such as whites).
A low volume version of the LCLFR II holding less than 20ml of fluid, it is ideal for use with small volume and high value inks, including materials deposition, fluid testing and drop watching rigs.

The LFR-Nano unit features:

- Robust industrialised self monitoring design for long term field reliability, including configurable auto shutdown protection which monitors for unexpected conditions and intelligently protects the system.
- Uses media isolated high compatibility diaphragm pumps and valves for extended service life.
- Built in brushless air pump- no need for external air sources or vacuum pumps.
- Integrated head shut off valves for head maintenance and instant isolation in power loss situations.
- Hard purge capability configurable up to 950 mbar as standard, making head maintenance simple and controllable.
- Integrated hydraulic meniscus measurement system automatically compensates the meniscus pressure as fluid levels inside the fluid reservoir change during usage.
- Options available to ensure fluid compatibility for all jettable fluid types including high viscosity fluids.
- Integrated failsafe chamber automatically shuts down the system on tank overfill due to setup or pipework failure.
- Integrated closed loop heater support for optional external inline heater up to 65°C ±1°C on standard systems.
- Low voltage 24V dc at as low as 1 amp (depending on attached accessories).
- Industrial grade galvanically isolated RS422 communications interface allowing setup and monitoring from any RS422 enabled device capable of generating ASCII strings such as PC, PLC, HMI or other embedded systems.
- Fully opto-isolated PLC compatible I/O interfacing for traditional systems monitoring.
- All parameters are stored on the device allowing for hostless operation.
- Simple open source ASCII interface (for PLC and motion controller interfacing) and .NET DLLs (with example code) available to allow OEMs simple and seamless integration into their end user applications.
- Fluid manager software with a feature rich GUI, which can be self branded.

Available in Standard and Customised versions

Technical specifications

Physical	
Weight	1kg (valved version)
Tank volume	20ml
Physical dimensions	75mm x 120mm x 40mm
Fluid connections	8mm OD 6mm ID standard 6mm OD and 4mm ID option

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

Compliance
CE compliant RoHS compliant WEEE compliant

Electrical	
Supply voltage	24 V
Supply power Rating	1A (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.

Connectivity to print heads	
Head type	Any low flow or gravity feed print head requiring low flow recirculation
Number of print heads supported	1
Maximum flow rate	30ml/min
Maximum recirculation pressure	-300
Maximum meniscus pressure	-300 mbar (+300mbar PV version)
Suggested distance from print head to unit	Greater than 200mm
Max purge pressure	800mbar

Software integration interface
Open source ASCII interface. Optional .NET DLL SDK available on request.

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

Standard kit

This includes MISC controller, fill and recirculation pumps, power supply and communication lead,

Additional standard options

Degas vacuum source, external heater and remote sensor manifold units.

Customisation

Units can be customised to suit fluid type and application, including (but not limited to) the use of alternate body materials (e.g. FDA approved food grade acetal and aluminium); choice of gasket material (e.g. FKM, peroxide cured EPDM and FFKM); and customisations to user software.

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

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