

THALLOSJET

A PRINTER FOR RESEARCH AND ADDITIVE MANUFACTURING APPLICATIONS

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Thallosjet is located in the Aosta Valley and works in the field of digital inkjet printing.

It is one of the few companies in the world authorised to use Hewlett Packard thermal ink jet technology, with which it has developed a printer mounting 4 printheads able to move with extraordinary precision on three $x - y - z$ axes.

One of the versions of the printer was built specifically for scientific research and additive manufacturing. Ink jet, by its very nature, permits extremely well controlled dosage of deposition. Suffice it to say that the drops have a volume in the order of a few picolitres and can be controlled singly, while every printhead has 300 actuators, each of which is able to eject up to 12,000 drops/sec.

The use of thermal ink jet technology makes the printer particularly suitable for research purposes given that thermal heads cost much less than piezo ink jet heads and are easier to handle. In fact, the fluids used are contained inside the printheads themselves, which cost just a few dozen Euros. It is very simple to replace the heads on the printer, without needing to disconnect tubes or carry out complex filling procedures. In addition, the fact of having 4 heads makes it possible to work with 4 different fluids, or to increase the deposition capacity, as required.

Thallosjet also formulates inks/fluids based on conductive materials, oxides, insulators or biological materials such as cells, DNA chains, markers.... etc. In line with its business model the company can supply fluids formulated according to the customer's specifications or collaborate with the customer in developing the fluids. It is, in fact, essential for the liquids to have physical/fluidic characteristics compatible with the printheads, as well as being suited to each particular need.