PX-C1150

Industrial Pellet Printing in Series Production

LIQTRA

PX-Series:
Redefining 3D Printing Performance

Valve nozzle technology enables precise and dynamic material discharge, allowing new applications to be implemented for Fused Granulate Fabrication.

The PX-Series extends LIQTRA's capabilities in application-oriented and customized FGF. The patented valve nozzle technology integrated into these 3D printing systems enables new degrees of freedom in part design and aims to bring FGF closer to the flexibility of Fused Filament Fabrication (FFF). The LIQTRA print head VPX-1 is designed for high throughputs of fiber-reinforced pellets and the requirements of customer applications. The print head can easily be adapted to other boundary conditions with respect to nozzle diameter and material discharge.

Advantages:

- **Precise material extrusion due to valve nozzle technology**
- **Dynamic material discharge using a metering pump**
- **Modular design of the 3D printing system facilitates customization**
- **Customizable 3D printing systems for a wide range of applications**

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The print head VPX-1 enables degrees of freedom for Fused Granulate Fabrication similar to Fused Filament Fabrication.

The LIQTRA PX-C1150 is designed for fast 3D printing with high production rates. In the cartesian 3-axis system, the print head is separated from the heavy plasticizing unit. Therefore, the lightweight print head can be positioned precisely at high printing speeds with high acceleration via linear direct drives using precision absolute encoders. In addition to the heated print bed, the entire build chamber can be actively heated to minimize warping due to thermal stresses in the printed part. The print volume is 1200 × 800 × 1200 mm. The plasticizing unit features a material drying system with a large storage container, preventing any loss of quality due to moist pellets.

1

Print head VPX-1
The VPX-1 print head is designed for high-speed 3D printing and includes a metering pump and a valve nozzle. The nozzle diameter can be adjusted for individual applications, although the standard diameter is 2 mm.

2

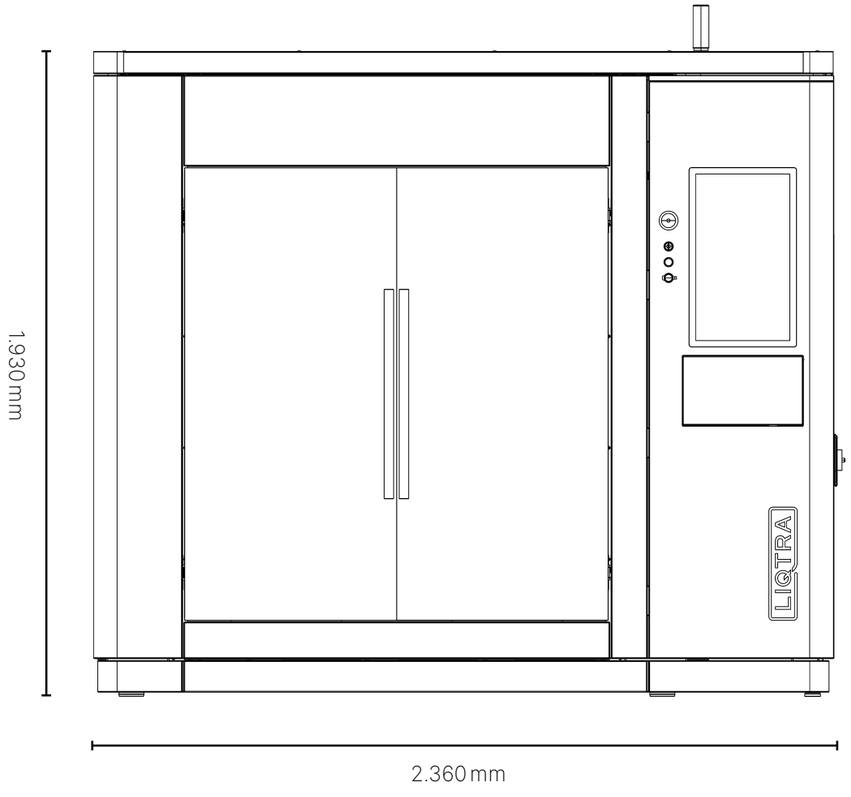
Linear direct drive
The minimized moving masses allow very high acceleretions and process speeds to be achieved during the 3D printing process. As a result, deviations from the target speed are minimal, which ensures a high accuracy.

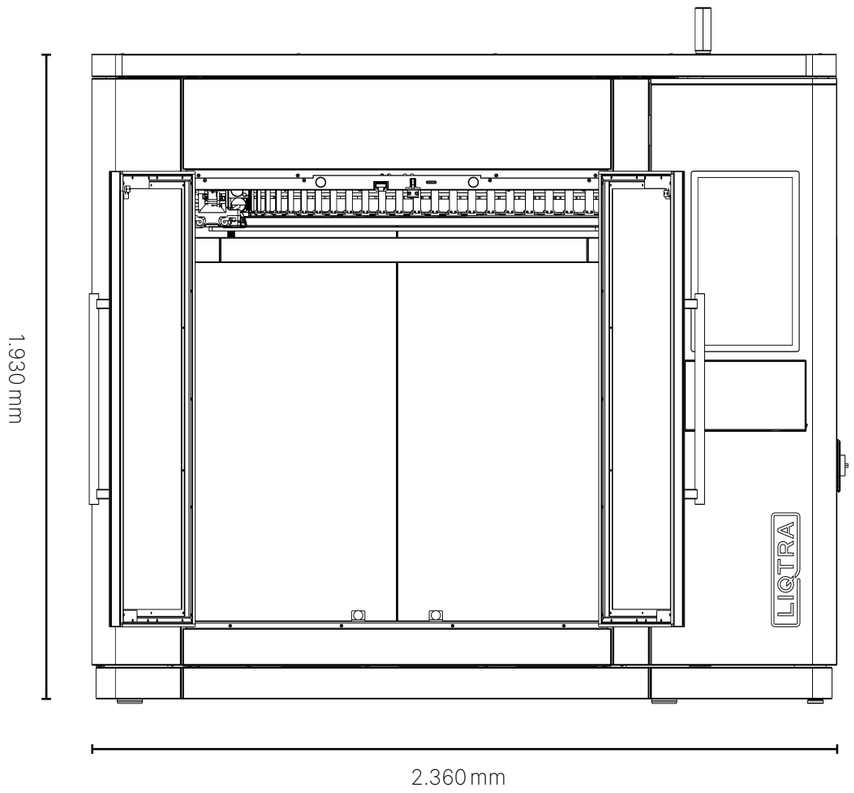
3

Material line
The material line decouples the heavy plasticizing unit from the moving print head to enable high process speeds. The melted polymers are fed to the print head through a heated hose.

4

Heated build chamber
The machine has a heated build chamber to reduce thermal distortion and increase part strength. In addition to the large print bed, the chamber offers extra space to implement further installations.





Technical Facts

Printer	
Printing volume	1.200 × 800 × 1.200 mm
Print bed temperature	max. 120 °C
Drive	Linear direct
Printer size	2.360 × 1.930 × 2.040 mm
Weight	2.050 kg
HMI	24“ Touchscreen, Physical keypad

Printing System	
Print head	VPX-1
Nozzle size	> 1,5 mm
Nozzle temperature	max. 300 °C
Melt line temperature	max. 260 °C
Cooling unit	Water-based

Materials	
Pellets	PA11 CF20, PA11 CF40, PP CF20, PP CF25, PA12

Further Information	
Power supply	400 V, 32 A
Interfaces	Ethernet
Certification	CE

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