X1-Lab™

ExOne
DIGITAL PART MATERIALIZATION

The Research Workhorse

Designed especially for research and educational customers, the X1-Lab is an excellent tool for developing powdered metal and glass materials and processes, as well as training the next generation of manufacturing engineers and powdered metal scientists.

Simple, low cost solution
- Compact size ideal for laboratory use
- Simple to set-up, use and maintain

Breakthrough technology
- No support structures
- Proven printhead technology for precise dosing of binding agent

Industry-grade materials
- Print in stainless steel, bronze, tungsten or glass
- Produce small functional prototypes

High accuracy
Highly-accurate printing process guarantees highly-accurate parts

Suited for complex geometry
- Greater design freedom

TECHNICAL SPECIFICATIONS

Process cell including job box	
Build volume	l x w x h 40 x 60 x 35 mm (1.5 x 2.3 x 1.3 in.)
Build speed	1 minute/layer
Layer thickness	Variable with minimum of 0.05 mm
Print resolution	X/Y 0.0635mm, Z 0.100mm (set by layer thickness)
External dimensions	l x w x h 965 x 711 x 1066 mm (3.2 x 2.3 x 3.5 ft.)
Electrical requirements	120 VAC / 60 Hz / 4.1 A
Data interface	STL

CONSUMABLE MATERIALS

PM-R1-S4-30:	ExOne 420SS material for printing 0.10 mm layer thickness
PM-I-R1:	ExOne bronze material used for infiltrating stainless steel
PM-TSP-R116:	ExOne thermal support powder used during furnace cycle
PM-B-SR1-04:	ExOne binder, polymer based ink for use with ExOne materials
PM-C-R1-02:	ExOne cleaner, required for all automated and in-process maintenance routines, dissolves ExOne binder

All ExOne material systems are designed and engineered for the ExOne process and the ExOne X1-Lab System. Each material system comprises ExOne's patented binder and specially prepared formulated materials to ensure the highest quality.

Currently available metals include 420 & 316 stainless steel & bronze, bronze, tungsten and glass.

**We reserve the right to change or update the information on this datasheet at any time and without prior notice. Actual systems may differ from model shown.*

With decades of manufacturing experience and significant investment in research and product development, ExOne has pioneered the evolution of nontraditional manufacturing. This investment has yielded a new generation of rapid production technology in the field of additive manufacturing as well as advanced micromachining processes. ExOne is the optimal partner for any industrial manufacturer who is transitioning their manufacturing business to the digital age.

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