HYREL 3D

High Reliability, High Versatility
3D Printers from Atlanta, Georgia
Hyrel3D@gmail.com 404-914-1748
See hyrel3d.com and hyrel3d.net

Introducing our Floor and Benchtop Gantry models:

hydra

Motion Control:
Precision Ball Screw in Z-axis
Precision Linear Bearing System; 3-Phase motors with Closed-Loop Feedback in X, Y, and Z Axes
Positional Resolution:
Less than 6 microns in the X and Y Axes
Less than 1 micron in the Z-axis (layer thickness)
Positional Accuracy:
+/- 60 microns in the X and Y Axes over X/Y build area
+/- 10 microns in the Z-axis over entire Z height

Includes Windows PC with Multitouch Screen
Separate 150+ MHz 32-bit ARM processor
Integrated Dual CAN-bus architecture
Integrated Camera for Calibration and Monitoring
Heated Build Chamber

Hydra 645, 640, 430

Hydra 340

Power: 750 W
Voltage: 115 / 230 V
Current: 16 / 8 A
Frequency: 60 / 50 Hz

TAKES EVERY MODULAR HEAD!

PICK AND PLACE COMPATIBLE!

Hydra Model	Build Volume in mm:			Max Heads	List Price	*40w CO2 Laser?*
	X Axis	Y Axis	Z Axis			
645	600	400	500	10	$15,000	*+ $1,500*
640	600	400	250	10	$11,000	*+ $1,500*
430	400	300	250	10	$10,000	*+ $1,500*
340	400	300	250	5	$7,500	*n/a*

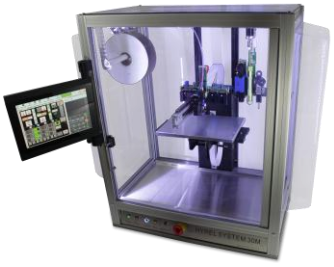
Our Affordable Desktop Models:

Motion Control:
Precision Ball Screw in Z-axis
Precision Linear Bearing System in X, Y, and Z Axes
** Precision Ball Screw in ALL AXES on Engine HR*
Positional Resolution:
Less than 5 microns in the X and Y Axes
Less than 1 micron in the Z-axis (layer thickness)
Positional Accuracy – System 30M, Engine SR
+/- 50 microns in the X and Y Axes over 200x200mm area
+/- 10 microns in the Z-axis over 200mm height
Positional Accuracy – Engine HR
+/- 10 microns in the X and Y Axes over 100x100mm area
+/- 10 microns in the Z-axis over 100mm height

Integrated WinBook with Multitouch Screen, Windows 8.1
Separate 150+ MHz 32-bit ARM processor
Integrated Dual CAN-bus architecture
Integrated Camera for Calibration and Monitoring
Enclosed Build Chamber *Heater optional

Power: 750 W
Voltage: 115 / 230 V
Current: 10 / 5 A
Frequency: 60 / 50 Hz

TAKES EVERY MODULAR HEAD!



System 30M
Standard Resolution

Engine SR
Standard Resolution

Engine HR
HIGH Resolution

Model Name	Build Volume in mm:			Max Heads	List Price
	X Axis	Y Axis	Z Axis		
30M	200	200	200	4	$5,000
ESR	200	200	200	4	$2,500
EHR	100	100	100	3	$8,000

Price List, May 2017

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Available Print Heads and Accessories:

COLD FLOW means printing at room temperature with low to medium viscosity materials, including Biologicals, Clays including PMC, Plasticine, Plah-Doh, Porcelain, RTV Silicone, Sugru (Rubber), Sculpey, and your own custom alloys, emulsions, and blends. Can take brass nozzles or luer tips.

EMO-25: Emulsion extruder with one 25cc tube and one set of 1.0, 1.5, 2.0mm tips, $350.00
SDS-5, -10, -30, -60: Extruders which accept standard 5, 10, 30, or 60cc luer compatible syringes, respectively, $400.00 each
DSD-50: DUAL dispensing from standard 1:1, **two-part** syringes. $500.00
SMH-2: Ratiometrically Controlled **two-part** dispensing through a blending nozzle. $1000.00* *requires two matching EMO or SDS feeder heads*
Photoinitiated Crosslinking attachments available for these COLD FLOW heads – see below.

WARM FLOW means printing at elevated temperatuers with low to high viscosity materials, including Waxes, Polyurethane, Polycaprolactone, and your own custom alloys, emulsions, and blends. Can take brass nozzles or luer tips.

VOL-25: Heated metal extruder (up to 100°C) with one 25cc tube and one set of 1.5mm, 2.0mm, and Luer Adapter tips, $600.00
KRA-15: Heated metal extruder (up to 200°C) with one 15cc stainless tube and one set of 1.5mm, 2.0mm, and Luer Adapter tips, $750.00
KR2-15: Heated metal extruder (up to 200°C) with one *improved* 15cc stainless tube and one set of 1.5mm, 2.0mm, and Luer Adapter tips, $850.00
HSD-10: Heated syringe extruder (up to 130°C) with ten luer-lock compatible 10cc polyamide syringes. $1200.00
HSD-30: Heated syringe extruder (up to 75°C) with two luer-lock compatible 30cc plastic BD syringes. $650.00
Photoinitiated Crosslinking attachments available for these WARM FLOW heads – see below.

HOT FLOW means printing 1.75mm filaments at up to 450°C with materials including ABS, BendLay, Flex45, HIPS, LayWood, Ninjaflex, Nylon (including Taulman 618, 645, 910), PC, PEEK, PEI, PET, PETG, PLA, Plastlnk Rubber, PP, PVA, T-Glase *and your own custom filaments.*

MK1-250: 1.75mm Filament Single-Drive extruder (***typical*** filaments up to 250°C) with 0.5mm nozzle, $325.00
MK2-250: 1.75mm Filament ***Dual-Drive*** extruder (***flexible*** filaments up to 250°C) with 0.5mm nozzle, $450.00
MK1-450: 1.75mm Filament Single-Drive extruder (***high temperature*** filaments, 275°C to 450°C) with one 0.5mm nozzle, $450.00
- Blank nozzles at 0.35, 0.50, 0.75 and 1.0 mm are available for MK1- and MK2-250 heads for $25 each.
- Blank nozzles at 0.30, 0.40 and 0.50mm are available for the MK1-450 heads for $25 each.

Crosslink On Demand means photoinitiating crosslinking of your material with specific wavelengths; this is compatible with all of our COLD and WARM flow heads. Please inquire if you have a specific wavelength need not shown.

PCA-450: 450nm assembly for cold and warm flow heads, $150.00
PCA-400: 450nm assembly for cold and warm flow heads, $150.00
PCA-365: 450nm assembly for cold and warm flow heads, $150.00
PCA-310: 450nm assembly for cold and warm flow heads, $500.00
PCA-280: 450nm assembly for cold and warm flow heads, $500.00

Additional Tools include the following, some of which will take up one or more tool position(s) on a printer.

USB Microscope: For close inspection of work and automated capture, $200.00
Quiet Storm: Additional cooling for bridging and lower temperature materials (like PLA), $175.00
Feed Chamber Cooling Fan: Additional cooling of the feed chamber for lower temperature (including PLA) filaments. $25.00
Spindle Tool: For drilling mounting holes in circuit boards; also **light** engraving, routing and milling operations, $525.00
Drill Bit Kit: A variety of drilling and milling bits for the Spindle Tool, $150.00
Print Head Software Developer's Kit: *Create your own head*, with full RealTime Kernel Source Code in C and full Controller Board, $500.00
Luer Tip Kit: With a variety of sizes, connectors and plastic syringes, $200.00
LA6-450: 6w laser at 450nm *(protective glasses included)*, $1000.00
LA5-808: 5w laser at 808nm *(protective glasses included)*, $1000.00
Clench Valve: Instantly stops emulsion flow ***while maintainting reservoir pressure.*** $500.00

HYDRA

HYDRA-Only options include the following... *contact us for more details!*

PNP: The Pick-and-Place set, including the head, positioning optics, component reel mounting and dispensing fixture, and more. $1500.00

40w CO2 Laser: Available on the Hydra 645, 640 and 430; not available on the 340. $1500.00

ST3: A Three-Phase Spindle Tool is available on all Hydra models. $650.00

Price List, May 2017