ENGINE SR
The Standard Resolution Platform for the Laboratory
Ideal for Standard prints, Multiple material prints, Exotic materials and Experimentation.
*not Recommended for Thermoplastics

SPECIFICATIONS

- **Motion Control:**
  - Precision Ball Screw in Z-axis
  - Precision Linear Bearing Systems in X, Y, and Z Axes
- **Positional Resolution (minimum movement):**
  - 5 microns in the X and Y Axes
  - 1 micron in the Z-axis (layer thickness)
- **Positional Accuracy (full travel and return):**
  - +/- 50 microns in the X and Y Axes
  - +/- 10 microns in the Z-axis
- **Integrated Windows Tablet PC**
  - Multitouch Screen
- **Integrated Dual CAN-bus architecture**
- **Hotbed to 80°C**
- **Power:** 750 W
- **Voltage:** 115/230 V
- **Current:** 16/8 A
- **Frequency:** 60/50 Hz

**ENGINESR WITH ONE MK1-250:** $2700
ENGINE HR
The High Resolution Platform for Biologicals and Micro-Scaffolds
Specifically engineered for microfluidics and bioplotting.
Configured for Wellplates & UV Photoinitiation

SPECIFICATIONS

- **Motion Control:**
  - Precision Ball Screws in ALL AXES
  - Precision Linear Bearing System in ALL AXES
- **Positional Resolution (minimum movement):**
  - 1.25 microns X/Y, 1.0 microns Z
- **Positional Accuracy (full travel and return):**
  - +/- 12 microns X/Y, +/-10 microns Z
- **Integrated Windows Tablet PC Multi-touch Screen**
- **Integrated Dual CAN-bus architecture**
- **Optional Chilled Cold bed**
- **Power:** 750 W
- **Voltage:** 115/230 V
- **Current:** 16/8 A
- **Frequency:** 60/50 Hz

**EHR WITH ONE MK1-250:** $8,000

404 914 1748  hy.rel  www.hyrel3d.com  sales@hyrel3d.com  hyrel_3d
2900 COLE COURT  NORCROSS, GA 30071
SYSTEM 30M

The Workhorse for Material Science
Ideal for Standard prints, Multiple material prints, Exotic materials and Experimentation.

SPECIFICATIONS

- **Motion Control:**
  - Precision Ball Screw in Z-axis
  - Precision Linear Bearing Systems in X, Y, and Z Axes
- **Positional Resolution (minimum movement):**
  - 5 microns in the X and Y Axes
  - 1 micron in the Z-axis (layer thickness)
- **Positional Accuracy (full travel and return):**
  - +/- 50 microns in the X and Y Axes
  - +/- 10 microns in the Z-axis
- **Integrated Windows Tablet PC Multitouch Screen**
- **Integrated Dual CAN-bus architecture**
- **Hotbed to 80°C**
- **Optional Enclosure heater to 55°C**
- **Power:** 750 W
- **Voltage:** 115/230 V
- **Current:** 16/8 A
- **Frequency:** 60/50 Hz

SYSTEM 30M WITH ONE MK1-250: $5400
HYDRA H21

The Rugged, Very Large Volume Printer for Serious Applications
with Dozens of Heads for Thousands of Materials and Multi-disciplinary Operations.

**SPECIFICATIONS**

- **Motion Control:**
  - Four Precision Ball Screws in Z-axis
  - Precision Linear Bearing Systems in X, Y, and Z Axes
- **Positional Resolution (minimum movement):**
  - 6 microns in the X and Y Axes
  - 1 micron in the Z-axis (layer thickness)
- **Positional Accuracy (full travel and return):**
  - +/- 60 microns in the X and Y Axes
  - +/- 10 microns in the Z-axis

- **Integrated Windows Tablet PC**
- **Multitouch Screen**
- **Integrated Dual CAN-bus architecture**
- **Enclosure can be heated to 55°C**
- **Power:** 750 W
- **Voltage:** 115/230 V
- **Current:** 16/8 A
- **Frequency:** 16/8 A

**Base Printer (required; includes one MK1-250)**

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>H21: Hydra H21 printer</td>
<td>7500</td>
</tr>
<tr>
<td>43W: Small, Warm (400x300mm, 120°C)</td>
<td>750</td>
</tr>
<tr>
<td>43H: Small, Hot (400x300mm, 200°C)</td>
<td>1500</td>
</tr>
<tr>
<td>54W: Large, Warm (500x400mm, 120°C)</td>
<td>1250</td>
</tr>
<tr>
<td>54H: Large, Hot (400x300mm, 200°C)</td>
<td>2000</td>
</tr>
</tbody>
</table>

*also Chilled and/or Vacuum Bed Options

<table>
<thead>
<tr>
<th>Accessory</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA6-450: 6W, 450nm</td>
<td>1000</td>
</tr>
<tr>
<td>LA5-808: 5W, 808nm</td>
<td>1000</td>
</tr>
<tr>
<td>ST1: 12VDC, 4A, 40W (5,000 rpm with no load)</td>
<td>525</td>
</tr>
<tr>
<td>ST3: 48VDC, 8.3A, 400W (12,000 rpm with no load)</td>
<td>750</td>
</tr>
<tr>
<td>AY: 5 Tool Positions</td>
<td>1000</td>
</tr>
<tr>
<td>4A: 4th Axis (lathe style)</td>
<td>1000</td>
</tr>
<tr>
<td>45A: 4th/5th Axis Combo (trunion style)</td>
<td>2000</td>
</tr>
<tr>
<td>PNP: includes head, camera, parts holder</td>
<td>2500</td>
</tr>
</tbody>
</table>
MODULAR HEADS FOR HYREL PRINTERS
FDM/FFF and Specialty Tools

FILAMENT PRINTING

STANDARD FILAMENTS (ABS, PETG, PLA...):
- MK1-250 – standard head 150-250°C $350
- HT – high torque 150-250°C
  - HT1-250 (1.75mm filament) $550
  - HT3-250 (2.85mm filament) $550

FLEXIBLE FILAMENTS (TPE, TPU, PP...):
- MK2-250 – dual-drive head 150-250°C $450

HIGH-TEM FILAMENTS (PEEK, PPSU, PEI...):
- HT – high torque 300-450°C
  - HT1-450 (1.75mm filament) $650
  - HT3-450 (2.85mm filament) $650

EXTRA COOLING:
- QS – Quiet Storm additional fan $175

CHAMBER HEATING (standard on Hydras):
- HTC-110 – 110VAC Heater $500
- HTC-220 – 220VAC Heater $500

LASER ACCESSORIES

MODULAR DIODE LASERS FOR ALL MODELS:
- LA6-450 – 6W, 450nm $1,000
- LA3-450 – 3W, 450nm $500

SPINDLE TOOLS, EXTRA AXES

ST1: DC, 50W $525
ST3: Three Phase, 400W $750
4A - 4th Axis (lathe style) $1,000
4SA - 4th/5th Axis Combo (trunnion style) $2,000

CUSTOM DEVELOPMENT OPTIONS

YOU EXPERIMENT AND MAKE YOUR OWN HEADS:
SDK1 - Special Development Kit includes source code, firmware programming environment, and hardware components to make your own head – and assistance from our engineers. $500

WE EXPERIMENT AND MAKE HEADS FOR YOU:
Do you have an idea for a new head, but lack the time or expertise to create it? Reach out to us. Collaboration work is available, either on a head we sell publicly or on NDA work exclusively for you.

Pricing varies, contact us for details

404 914 1748
Hy Rel
www.hyreel3d.com
sales@hyrel3d.com
2900 COLE COURT
NORCROSS, GA 30071
MODULAR HEADS FOR HYREL PRINTERS
Direct-Ink and Robocasting of liquids, gels and pastes
Single-part or Multi-part (active or passive blending)

**AMBIENT TEMPERATURE**

<table>
<thead>
<tr>
<th>ONE MATERIAL, UP TO 100,000 cp</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDS-001 - 1cc BD disposable syringes</td>
</tr>
<tr>
<td>SDS-005 - 5cc BD disposable syringes</td>
</tr>
<tr>
<td>SDS-010 - 10cc BD disposable syringes</td>
</tr>
<tr>
<td>SDS-030 - 30cc BD disposable syringes</td>
</tr>
<tr>
<td>SDS-060 – 60cc BD disposable syringes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MULTI-MATERIAL, UP TO 100,000 cp</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSD-50 – 1:1, twin 25cc disposable syringes</td>
</tr>
<tr>
<td>SMH-2 – programmed ratios from two SDS heads through a (static) blending nozzle</td>
</tr>
<tr>
<td>DMH-2 - programmed ratios from two SDS heads with dynamic (active) blending blades</td>
</tr>
</tbody>
</table>

**UV PHOTOINITIATION**

<table>
<thead>
<tr>
<th>HIGH-POWER UV LIGHT PENS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>UVP-365 – 356nm light pen</td>
</tr>
<tr>
<td>UVP-405 – 405nm light pen</td>
</tr>
<tr>
<td>UVP-450 – 450nm light pen</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LOW-POWER UV LED ARRAYS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCA-280 – 280nm uv array</td>
</tr>
<tr>
<td>PCA-310 – 310nm uv array</td>
</tr>
<tr>
<td>PCA-365 – 365nm uv array</td>
</tr>
<tr>
<td>PCA-405 – 405nm uv array</td>
</tr>
<tr>
<td>PCA-450 – 450nm uv array</td>
</tr>
</tbody>
</table>

**TEMPERATURE CONTROLLED**

<table>
<thead>
<tr>
<th>ONE MATERIAL, UP TO 300,000 cp</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMO-25 – 25cc aluminum reservoir</td>
</tr>
<tr>
<td>SDS-030XT – 30cc disposable syringes</td>
</tr>
<tr>
<td>SDS-060XT – 60cc disposable syringes</td>
</tr>
<tr>
<td>SDS-150XT – 150cc disposable syringes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ONE MATERIAL, UP TO 1,000,000 cp</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMO-XT – 15cc stainless reservoir</td>
</tr>
<tr>
<td>ONE MATERIAL, UP TO 5,000,000 cp</td>
</tr>
<tr>
<td>EMO_ST - 15cc stainless reservoir</td>
</tr>
</tbody>
</table>

**HIGHER TORQUE, SMALLER VOLUME**

Our EMOXT, KR2, and TAM head can also accept special HTK stainless steel reservoirs, with 1.5cc volume for thicker materials:

<table>
<thead>
<tr>
<th>HTK-90 - 1.5cc up to 90C</th>
<th>$400</th>
</tr>
</thead>
<tbody>
<tr>
<td>HTK-180 - 1.5cc up to 180C</td>
<td>$500</td>
</tr>
<tr>
<td>HTK-270 - 1.5cc up to 270C</td>
<td>$600</td>
</tr>
</tbody>
</table>

Note, these reservoirs require a head (EMOXT, KR2, or TAM) to provide the heat and perform the dispensing.

**ADVANCED FLOW CONTROL**

<table>
<thead>
<tr>
<th>CLENCH VALVE for instant flow start/stop:</th>
</tr>
</thead>
<tbody>
<tr>
<td>CV – clench valve for most heads on this page</td>
</tr>
</tbody>
</table>

All heads can take luer fittings. Other wavelengths for UV Photoinitiation is available upon request. If you need a custom solution or special needs, feel free to contact us.

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