DYZE DESIGN

DyzEND X

High performance hotend for 3D printers

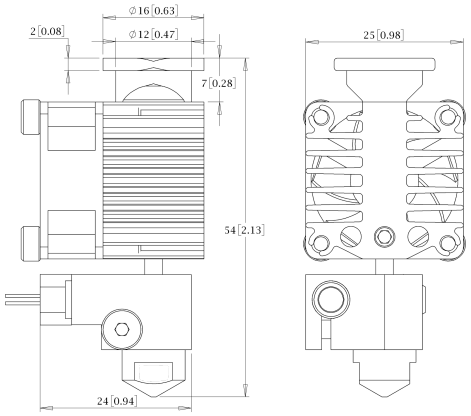
Features

- Small, compact and lightweight hotend
- Cold nozzle changing
- Leak-free high temperature mechanical sealing
- High temperature: Up to 500°C
- Fast extrusion speed: Over 35 mm^3 / s (1.2 mm Hard SS Nozzle and PLA @ 250°C)
- Wear resistant nozzle



Technical information

Parameter	Value	Units
Weight - Hotend	52	g
Operating Voltage	12, 24	V
Operating temperature (air cooled)	0 to +60	°C
Operating temperature (liquid cooled)	0 to +120	°C
Top thread	M8x1.25	mm
Thermistor resistance at 25°C (500°C)	4700	kΩ
Thermistor resistance at 200°C (500°C)	8	kΩ
Maximum temperature[1] - 40W	420	°C
Maximum temperature[2] - 60W	500	°C



[1] At room temperature (< 25°C), without active cooling except the 25mm fan on the heatsink.
[2] At room temperature (< 25°C), without active cooling except the 25mm fan on the heatsink.

Features



Fast Prints

The aluminum melt block transfer heat very quickly to the nozzle for an efficient and very fast printing speed. Furthermore, the long melt zone can handle very high filament feed without any trouble.

Titanium Transition Tube

A titanium alloy has been meticulously chosen to provide both stiffness and low thermal conductivity, limiting heat losses to the cold side.





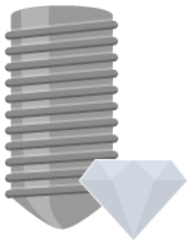
High Temperature

The high temperature sensor used inside the DyzEnd-X enable precise readings up to 500°C. Any thermoplastics can be used with the DyzEnd-X.

All Metal Melt Zone

The heated zone is made entirely from metals which can withstand very high temperature before losing mechanical properties. Even the sensors and heaters are protected by high temperature resistant sleeves.



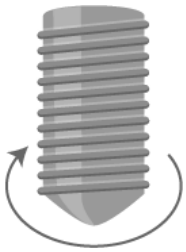


Wear resistant nozzle

The DyzEnd-X comes built in with high wear resistant nozzle. The performance have been measured and tested.

Cold Swappable Nozzles

By using a very special high temperature sealing washer, the DyzEnd-X is able to switch nozzles at room temperature. No leaks, no burning hazard.





Flexible Filament Ready

The filament is very well guided inside the DyzEnd-X, which allows very high speed with flexible filament.

Jam Free

The DyzEnd-X perform very well in retraction. The secret is its manufacturing process which enable very low friction inside the tube.





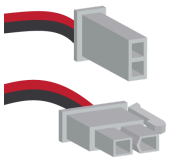
High Resolution Sensor

The unique high temperature sensor has a resolution of 0.16°C at 210°C which is better than a amplified RTD sensor and a thermocouple.

Assembled and Tested

The DyzEnd-X is a high-end product and comes preassembled and tested avoiding the user to have any trouble receiving substandard part that are hard to assemble or fit together.

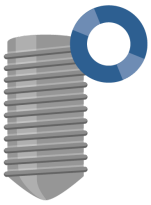




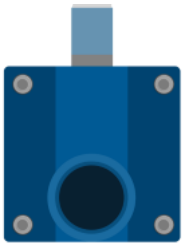
Connectors

The DyzEnd-X comes with connectors for each electrical component so you can easily maintain it.

Sealing washer



The sealing washer ensure a leak-free operation and makes it easier to switch nozzles.



Liquid Cooling Ready

The DyzEnd-X can be easily converted to a liquid cooled setup with Dyze Design's specialized cooling blocks.

Bowden Ready



The DyzEnd-X is compatible with a M8 push to connect fitting. The 4mm PTFE tube can be inserted through the connector and guides the filament as far as possible inside the hotend.

Groove Mount

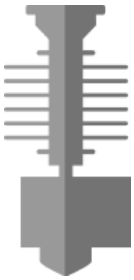


The hotend mounting mechanism is based on the form factor called "Groove Mount". The 12mm groove makes it very easy to switch and maintain your hotend and nozzle.

Easy to Mount Sensor



The sensor is installed with elegance using a brass housing. This ensure every hotend read the temperature properly without any variation caused by assembly.



Small Form Factor

By using a low conductivity transition tube, the DyzEnd-X is designed very small. This enables you to use your build volume more efficiently.

Fast heating



The DyzEnd-X can heat very quickly. In only 70 seconds, it reaches 210°C.



Unique Serial Number

The unique serial engraved on each hotend protects the product against clones. Also, it assures a tracking of suppliers, assembly and quality reports.

Any Plastics

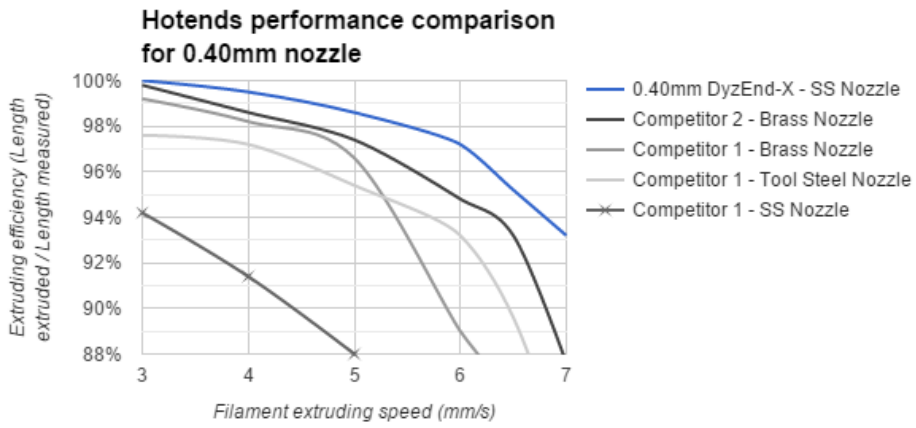


The DyzEND-X prints all types of plastics:

- Standard: PLA, ABS
- Flexible: TPE, TPU
- Support: PVA, HIPS
- Advanced: PC, PET, PETE, PETG, NYLON
- Engineering: PEEK, PEI
- Metal powder filled
- Wood filled

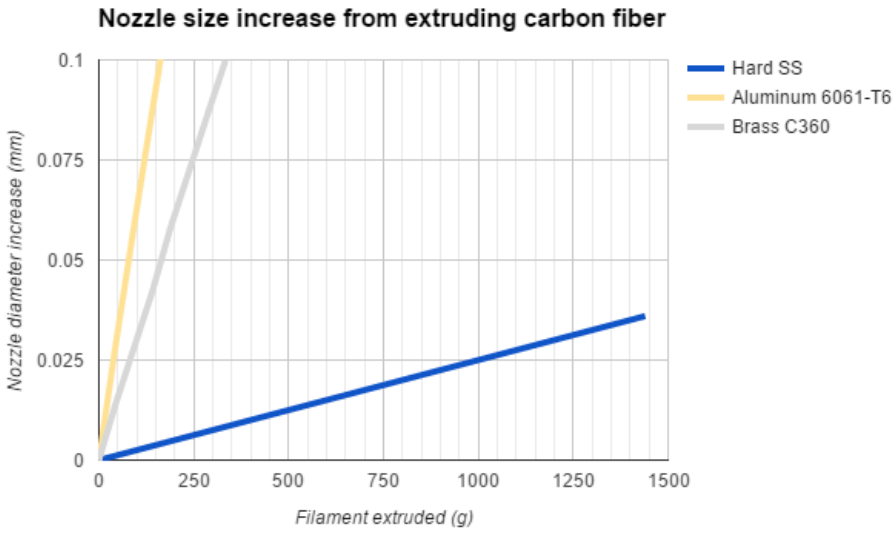
- Carbon fiber filled

Typical performance characteristics



Tests parameters;

- 210°C
- White PLA - MG Chemicals
- Reference extruder
- DRV8825 @ 0.87V (Vref)

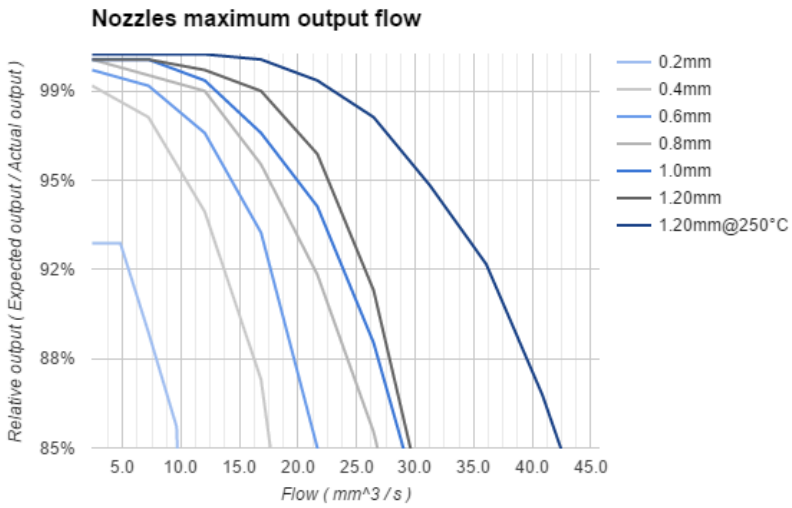


Tests parameters;

- ColorFabb XT-CF20
- 51x51x16 (mm), 50g block

The DYZE DESIGN nozzle is:

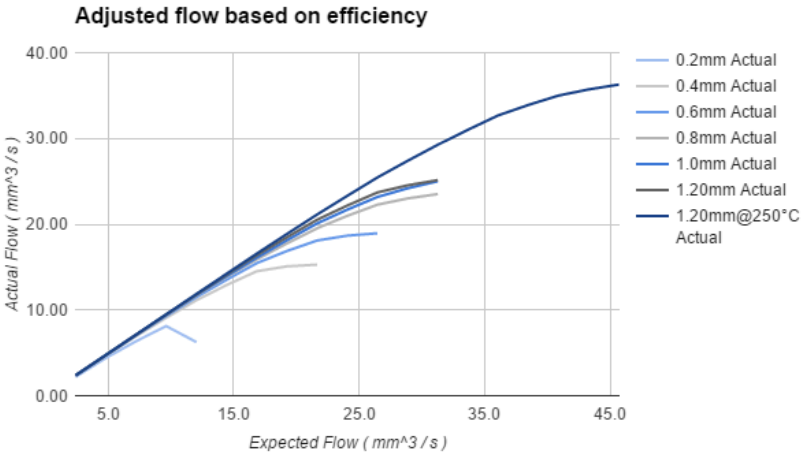
- **24 times** more resistant than 6061-T6 aluminum nozzle
- **12 times** more resistant than C360 brass nozzle



Tests parameters;

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- Reference extruder
- DRV8825 @ 0.87V (Vref)

*Excepted curve 1.20@250°C



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