RapidChange™

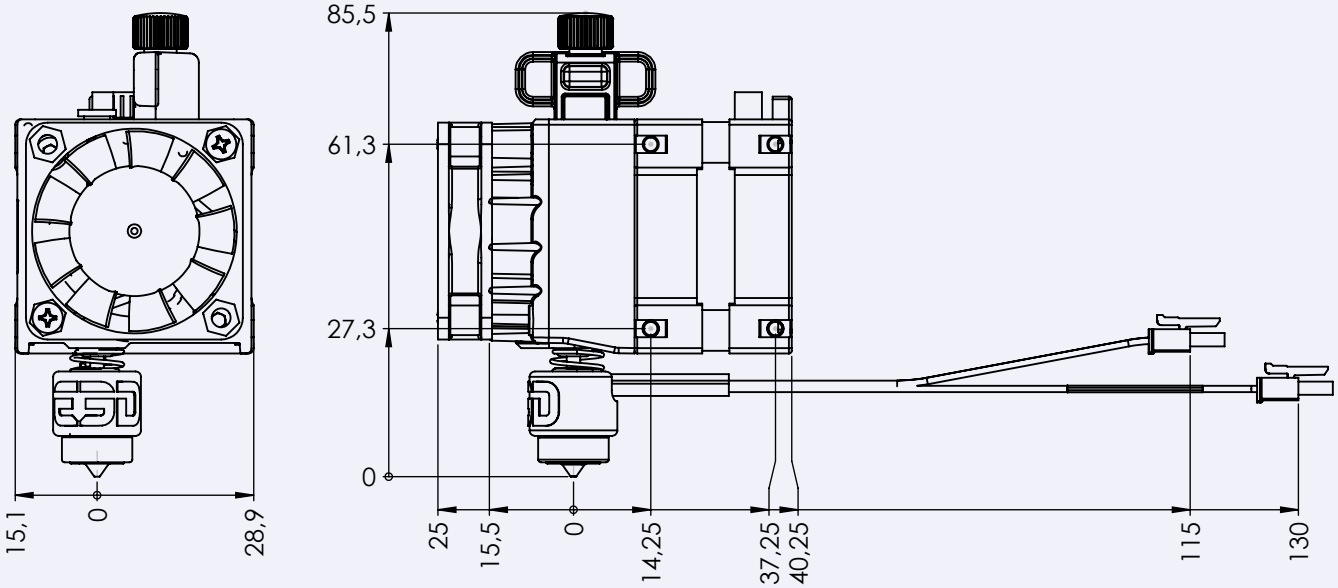
Revo™ Hemera XS

DATA SHEET

SUMMARY

- Drive type: dual drive with adjustable tension idler
- Max printing temperature: 300°C
- Mass: 256.25g (including revo hotside)
- Nominal steps per mm (x16): 397
- Reccomended Current: 1.40A Peak (~0.99A RMS)
- Filament diameter: 1.75mm

DIRECT DRIVE DIMENSIONS



MASS

Direct: 256.25g (including revo hotside)

PERFORMANCE CHARACTERISTICS

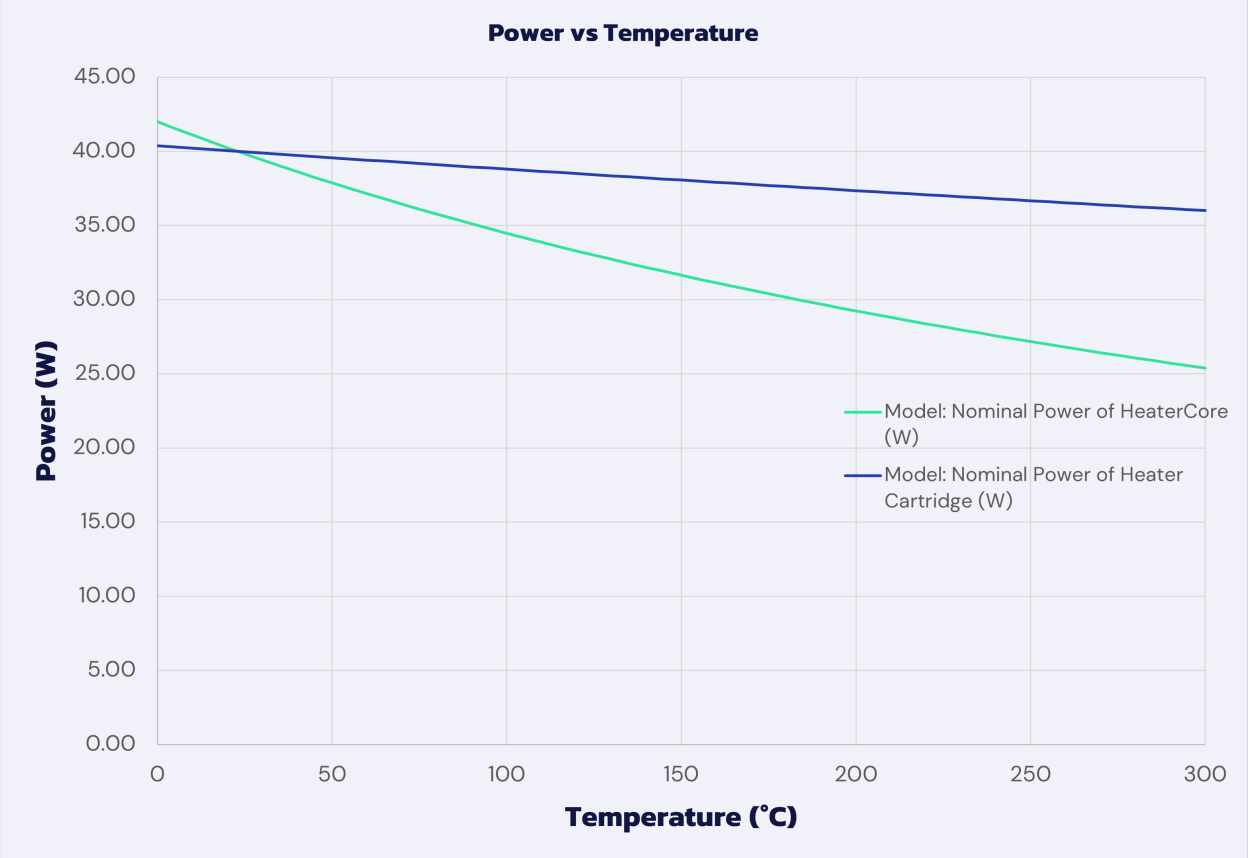
Maximum printing temperature: 300°C

SERVICE TEMPERATURES

Note, these are max ambient service temperatures of the components used, and not a guaranteed operating temperature of the system

- Fan: 50°C
- Motor: 85°C
- Polymer bushing: 90°C
- Bearings: 100°C
- Acetal idler components: 120°C

POWER vs Temperature

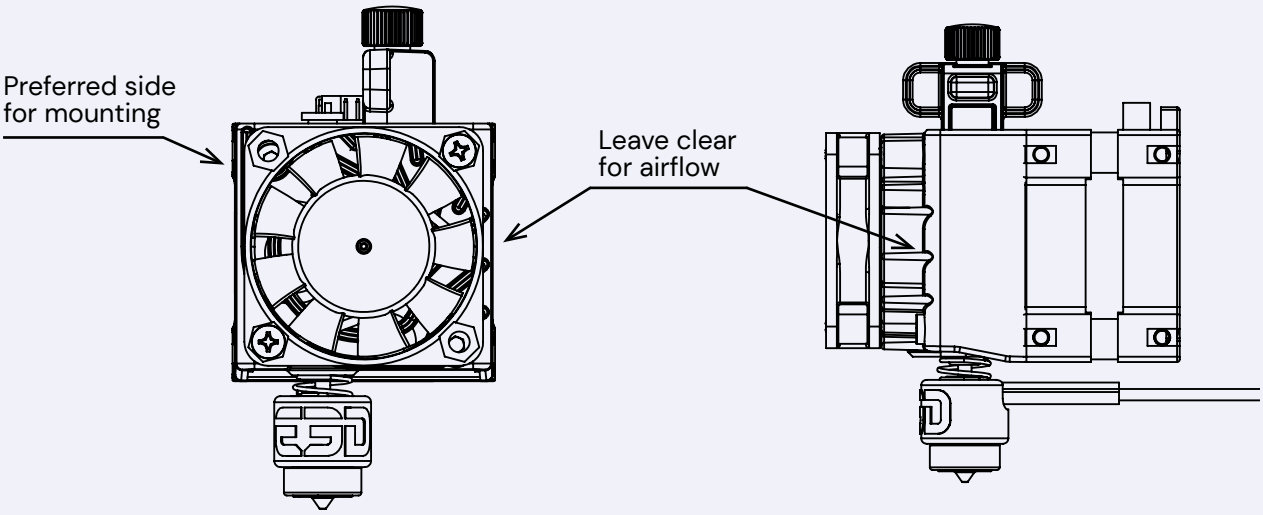


Initial Resistance of a 24V heater at 23°C: 14.4Ω

Temp Coefficient of HeaterCore: 0.002078

Temp Coefficient of Heater Cartridge: 0.002078

MOUNTING GUIDANCE



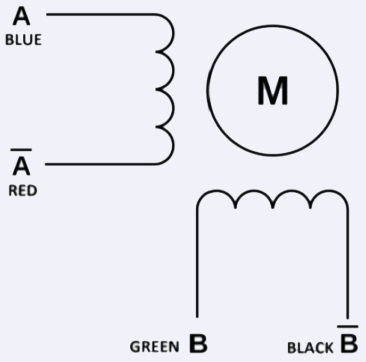
- Hemera is mounted to a flat surface via the T-slots in the left or right sides of the motor
- Typically Hemera is mounted on to the left side, as the air from the heatsink cooling fan exits on the right, if mounting on the right ensure that sufficient space is left for airflow.
- The screws must protrude 3mm±0.25mm from the mounting surface to go into the T-slots
- The supplied M3×8 mounting screws are suitible for a nominal 5mm mounting plate thickness
- Hemera must be mounted on a minimum of 2 mounting points, if using 2 mounting points, diagonally opposing points should be used, in order to ensure rigidity.

FAN SPECIFICATION

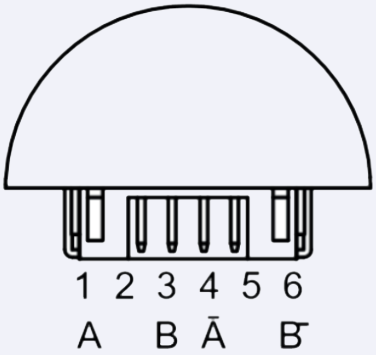
- Width: 40mm
- Depth: 10mm
- Cable: 1000mm
- Voltage: 12VDC and 24VDC
- Current: 0.08A (12V) and 0.04A (24V)
- RPMS: 7500±10% (12V) and 6900±10% (24V)
- Speed: 7000RPM
- Connector: Dupont 0.1”
- Startup voltage: 6 VDC (12V) and 12VDC (24V)
- Airflow: 6.8 CFM
- Static Pressure: 4.55 mmH20
- Noise level: 33.6 dBA
- Weight: 14g

MOTOR SPECIFICATION AND DIAGRAMS

- Motor cable length: 1000mm
- Phase no: 2 phases
- Rated voltage per phase: 3.22V
- Reccomended Current: 1.40A Peak (~0.99A RMS)
- Resistance: 2.3Ω per phase
- Inductance: 2.5mH
- Holding torque: 180mNm
- Detent torque: 10mNm
- Rotate direction: ABĀB̄ CW
- Insulation class: Class B
- Rotor inertia: 24.3gcm²
- Connector: JST - 56B - PH
- Step angle: 1.8°
- Motor mass: 160g



Winding Arrangement



Connector Pinout

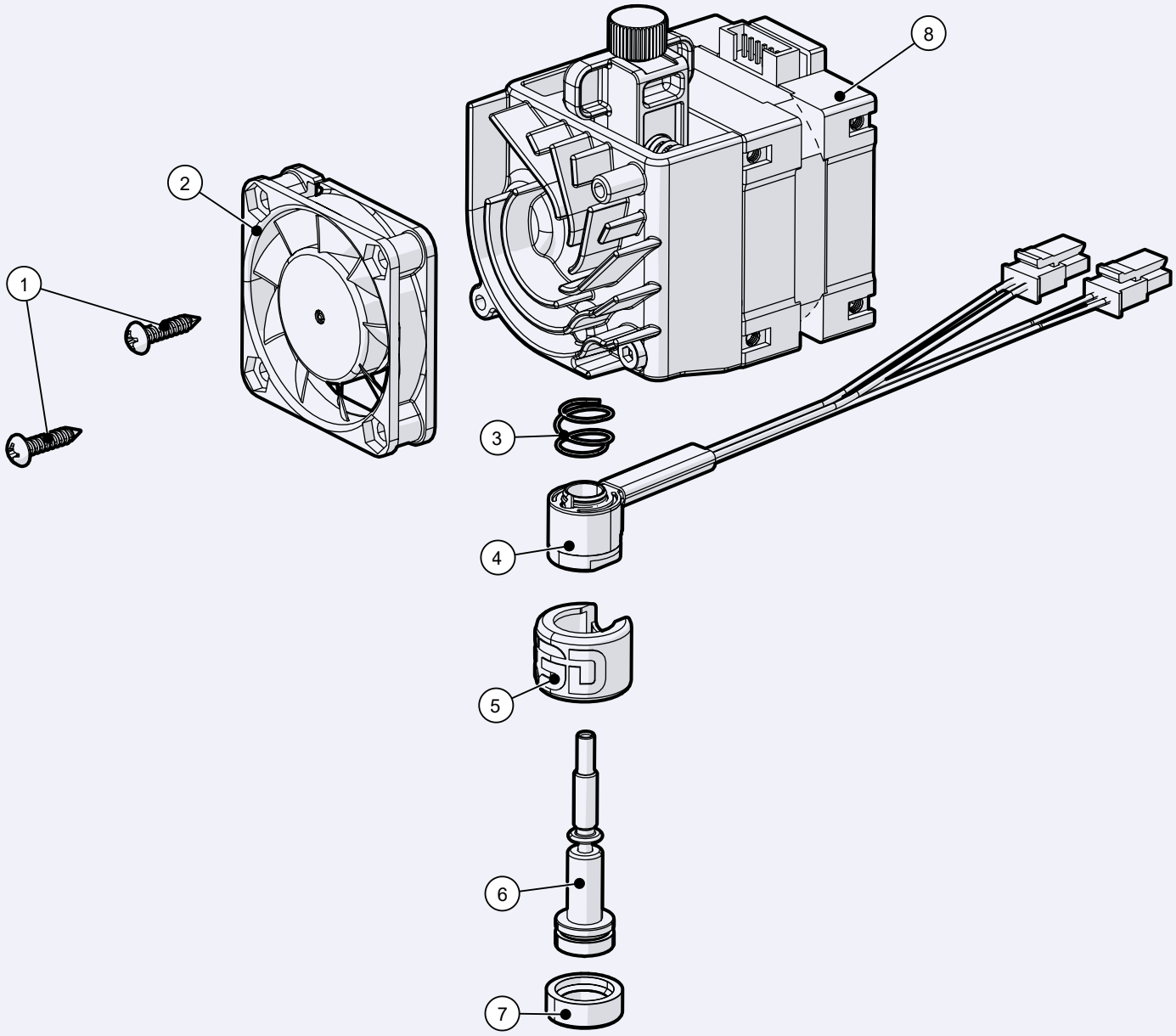
MAINTENANCE

- Do not remove the grease from the drive gears.
- Compressed air is a recommended method of dislodging filament debris from hobb teeth.
- Avoid using wire brushes on the hobb teeth or gears.

MATERIALS

- Heatsink: die cast aluminium
- Gear/Hobb materials: stainless steel
- Fixings: steel
- Idler materials: acetal
- Bearing elements: 2x shielded 623 bearings (drive shaft), Igus bushing.

EXPLODED VIEW



1. Self-Tapping screws
2. 4010 fan
3. Revo spring
4. Revo HeaterCore
5. Revo HeaterCore sock
6. Revo Nozzle
7. Revo Nozzle sock
8. Hemera XS

CHANGELOG

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