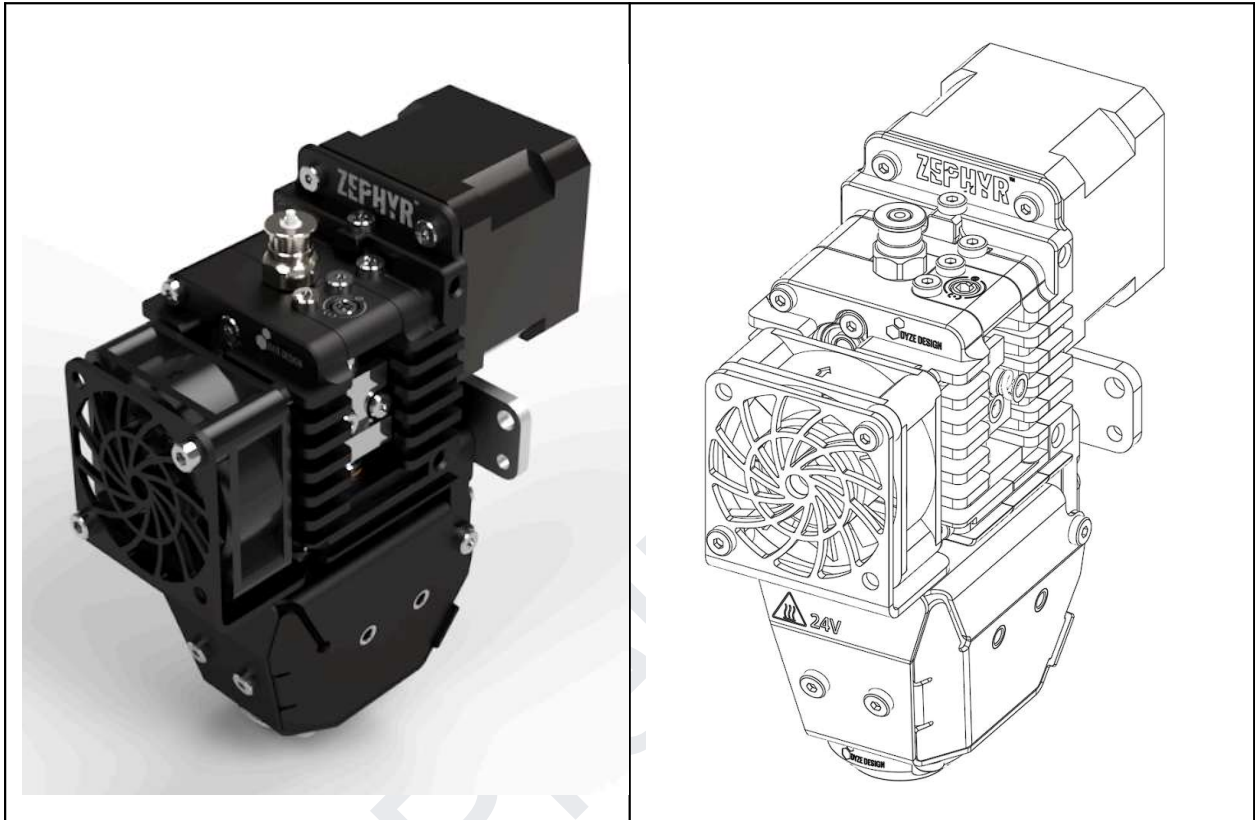




General

Electrical

Stepper Motor

Product Cooling Fan

Heating

Wiring

[Wiring Diagram](#)

Temperatures

Zephyr

Mechanical

Drive Train

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Drawings

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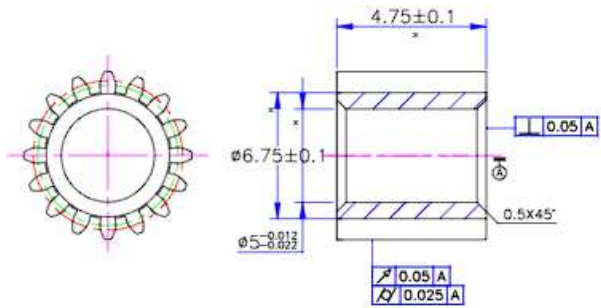
[Spring Adjustment Details](#)

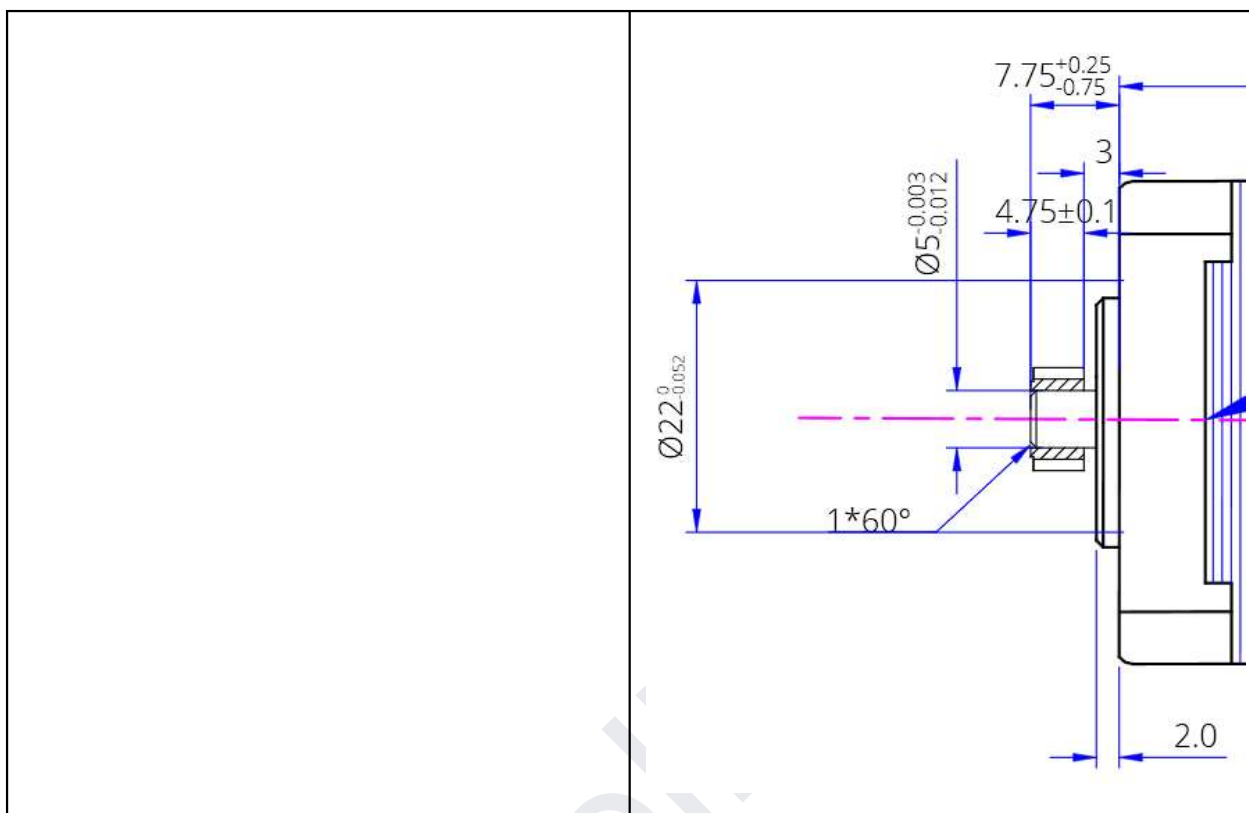
General

Version	Zephyr	With Mounting Bracket
Envelope volume W x L X H	47.3mm x 104.1mm x 123.7mm	63.3mm x 104.1mm x 123.7mm
Weight	700g	+10g

Electrical

Stepper Motor

Recommended Drive Voltage	24VDC
Part Number	LDO-42STH40-1684AH Class H
Motor Current	1.68A
Frame Size	NEMA17
Motor Gear Specification 16T 0.50M 20° Profile Shift coefficient: 0.00 Outside Diameter: 9.00mm Addendum :0.50mm Whole Depth :1.12mm Root Diameter :6.75mm Backlash :0.01mm Span over 2 teeth: 2.301mm Maximum OD runout: 0.031mm Lateral Runout: 0.022mm	



Product Cooling Fan

Working ambient temperature	-10°C ~ 60°C ¹
Model	AFB0424SHB
Rated Voltage	24 VDC
Rated Current	0.12A
Rated Power	2.88 W
Speed	11000 RPM
Air Flow	0.420 m ³ /min
Acoustical Noise	41.5 dBA

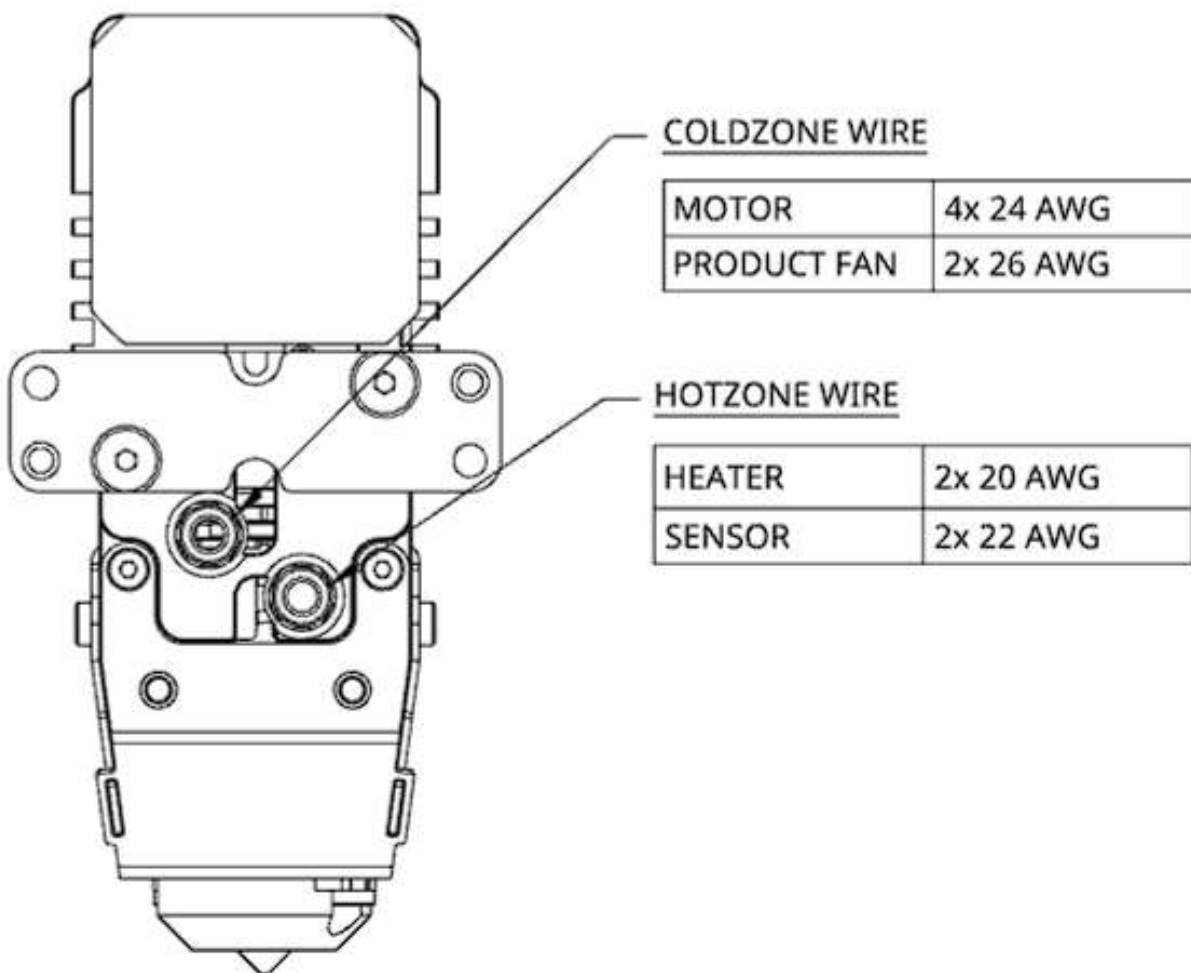
Heating

Maximum Heatcore Temperature	450°C
Number of heaters	1
Total heating power	140W
Heater operating voltage	24V
Heater current draw	5.83A
Sensor type available	PT100

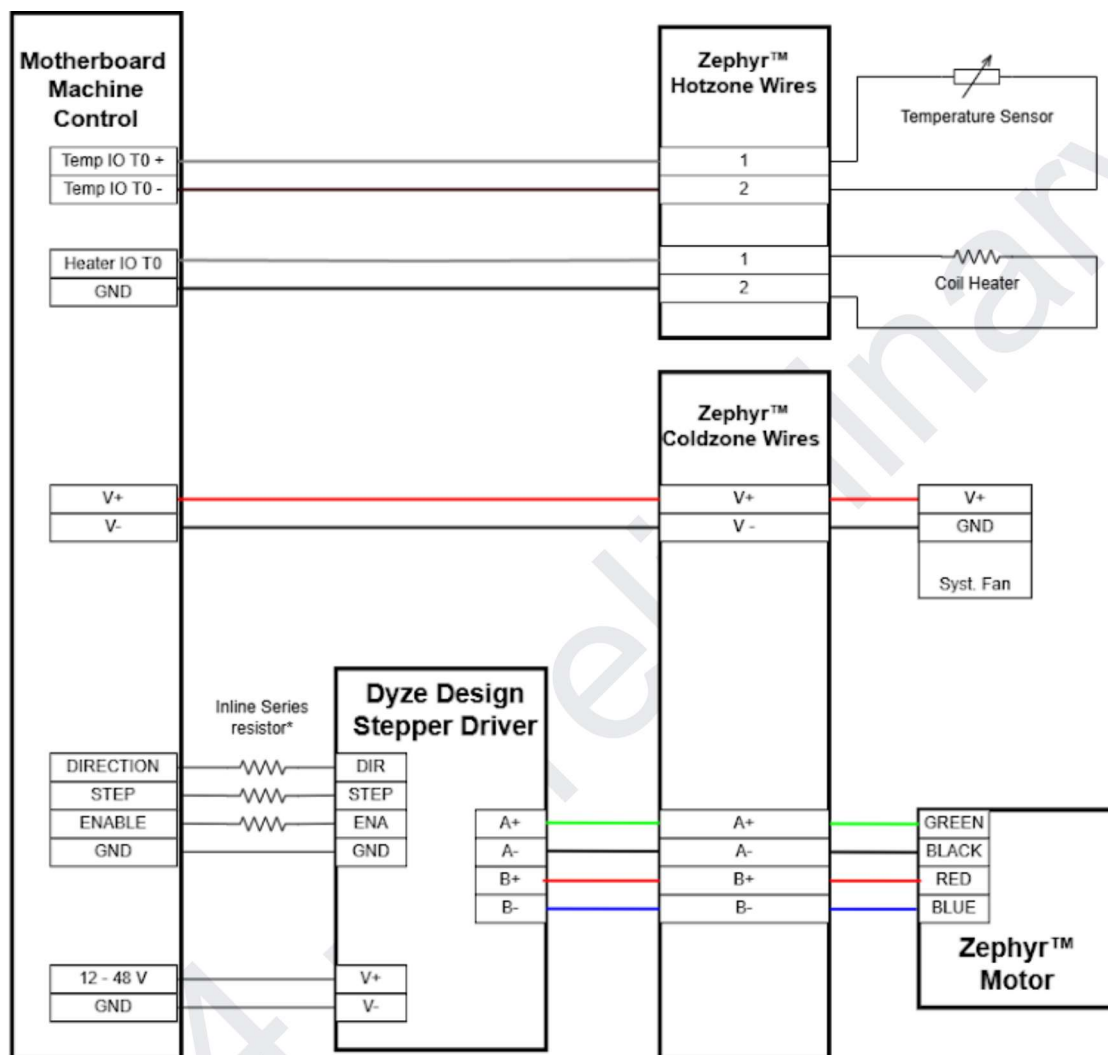
¹ Life span might be affected when operating over 40°C

Wiring

Coldzone Wires	
Motor Wires 24 AWG 1.68 Amp	• A+ : Green • A- : Black • B+ : Red • B- : Blue
Product Fan Wires 26 AWG 0.12 Amp	• V+ : Red • V- : Black
Hotzone Wires	
Coil Heater 20 AWG 5.83 Amp	No polarity
PT100 Sensor 22 AWG	No Polarity



Wiring Diagram



Temperatures

Zephyr

Working Ambient Temperature	0°C ~ 60°C
Extruder Cooling	Forced air with provided 40mm fan

Mechanical

Mounting Option	Front : 2x M4 x 0.7 Back : 2x M4 x 0.7 Left Side : 2x M4 x 0.7 Right Side : 2x M4 x 0.7
Filament tension	Adjustable through 2 M3 screws

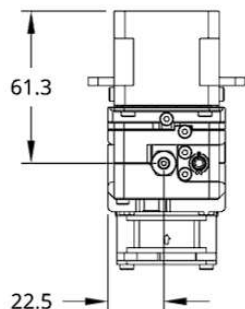
Drive Train

Gear ratio	3.1:1
Gear material	Hardened Alloy Steel (4100 series)
Gear lubrication	Hasco FM Crystal Greases

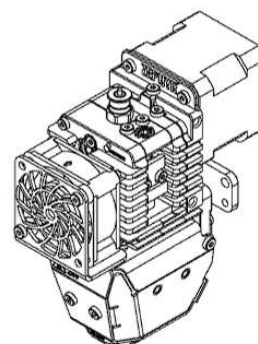
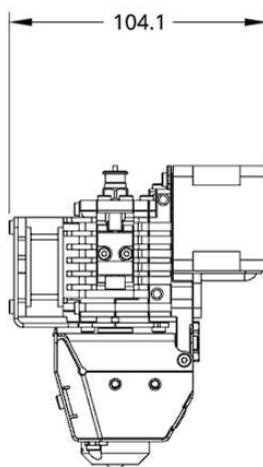
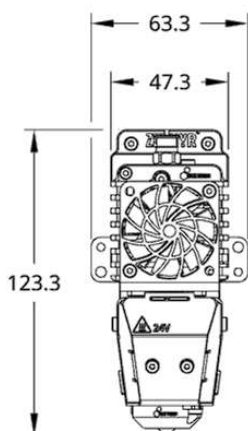
Extrusion

Compatible filament diameter	Ø1.75mm
Nozzle size available	• 0.40 mm • 0.60 mm • 0.90 mm • 1.20 mm • 1.80 mm • 2.50 mm
Maximum PLA flow rate @ 260°C with 1.80 mm nozzle	

Drawings

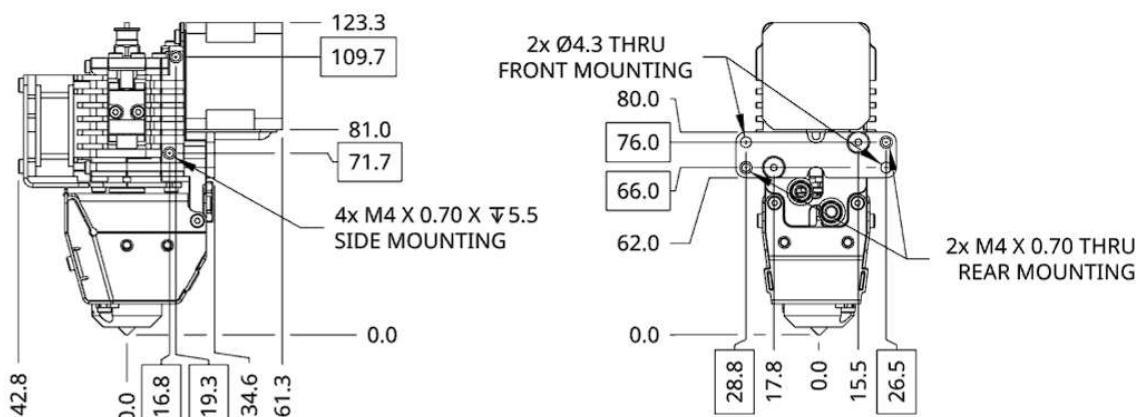


ZEPHYR™

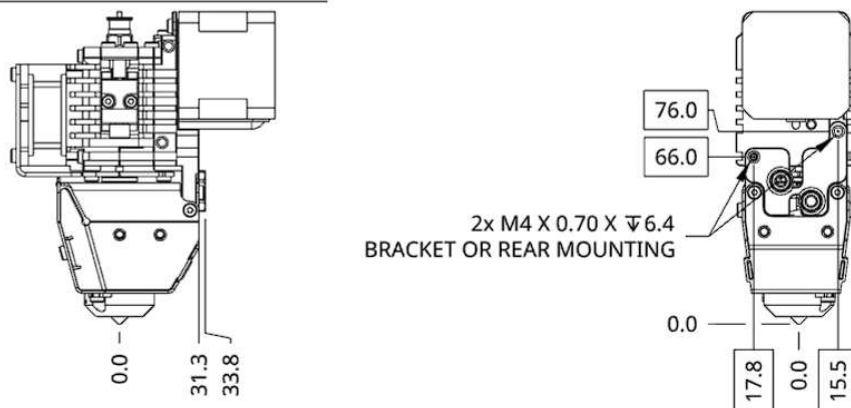


Mounting Details

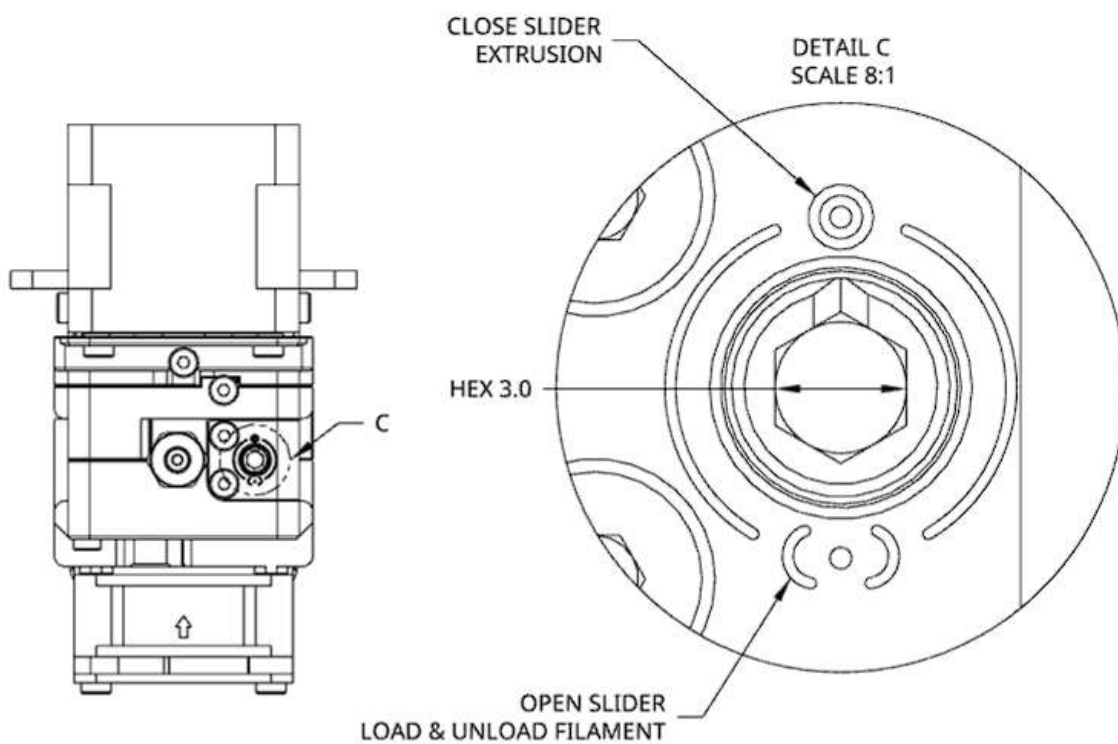
WITH MOUNTING BRACKET



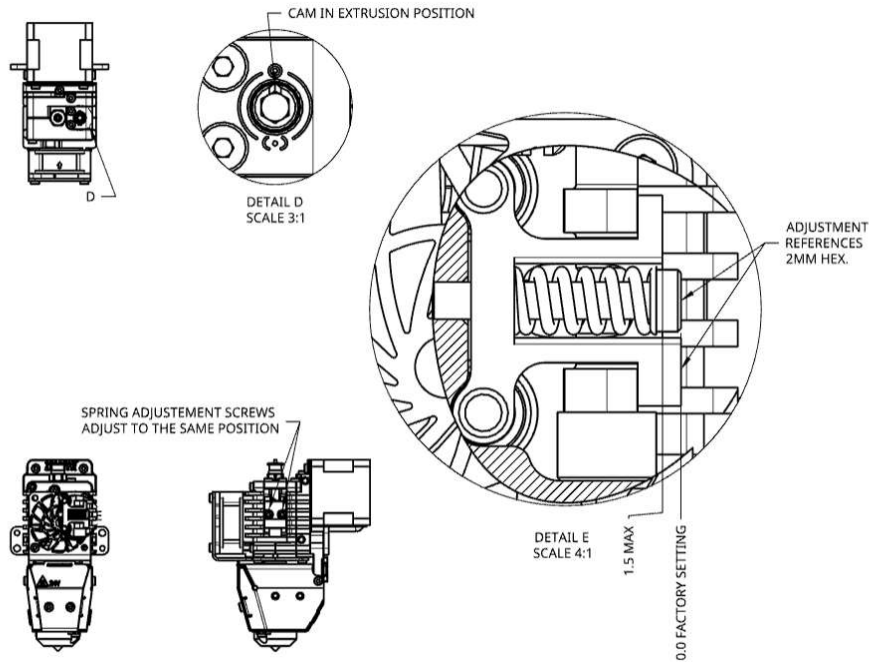
WITHOUT MOUNTING BRACKET



Cam Setting Details



Spring Adjustment Details



M3 SHOULDER SCREWS ADJUSTEMENT

SCREW TURNS - DISTANCE PER TURN 0.5MM	APPLIED LOAD ON FILAMENT (NEWTONS)
+3 / +1.5MM (MAX)	199
+2 / +1.0MM	181
+1 / +0.5MM	163
0 - FACTORY SETTING	145
-1 / -0.5MM	127
-2 / -1.0MM	109
-3 / -1.5MM	91