

Extruder Overview

The SCOUT Pellet Extruder is a high-throughput FGF solution engineered for industrial and large-format additive manufacturing applications. Built for power and reliability, it delivers high flow rates and operates across a wide temperature range, making it the tool of choice for production-scale printing and advanced material processing.

Key features include:

- Universal control logic (Pulse/Direction stepper motor control, 220V heaters through SSR — compatible with most machine control architectures)
- 20mm screw diameter for high-volume material throughput
- M16 nozzle thread, compatible with 2–10mm nozzle diameters
- Two zone, 1900W heating system with max temperature of 400°C
- Maximum flow rate of 3900 g/h (tested on IVE LABS PP GF30)

CHARACTERISTICS

Weight	12000g
Motor control	Step/Dir (Geared NEMA34 Stepper)
Heater	2 x 220V, 950W each, SSR controlled
Temperature sensor	100k Thermistors/PT1000 options
Max temperature	400°C
Nozzle thread	M16
Nozzle diameter	2-10mm
Throughput, max.	3900 g/h
Screw diameter	20mm
L:D ratio	15:1
CR	2:1
Radiator Fan	24V

* Exact temperature range depends on temperature sensor type.
** Throughput depends on material properties — it will vary based on pellet shape, size, polymer properties, and density. The value given was experimentally determined using rPPGF30. Denser materials might result in higher apparent flow rates.



DIMENSIONS

The SCOUT has 4 dedicated mounting threaded holes at the back wall. The arrangement of the holes is shown below. Immediately below the bottom holes there is a vent for air cooling — it should not be covered entirely, allowing air to flow over the radiator, which is positioned at the height of the cooling fan, shown on the illustration.

Top mounting holes

Mounting holes

