

Polymer Sample Preparation from Mixing to Extrusion

Brabender MetaStation 4 Prep

Create comparable compounds and extrudates under defined speed, time, and temperature conditions to ensure reliable downstream testing.



Find out more



One platform, three preparation routes

- Select a 30 cm³, 50 cm³, or 350 cm³ mixer for mixing, kneading, homogenizing, and color matching – from small formulation screening to larger laboratory batches
- Produce strands, ribbons, tubes, and other sample formats with 19 mm single-screw extruders at throughputs from 0.5 kg/h to 5 kg/h
- Prepare demanding PVC formulations with conical twin-screw extrusion at throughputs from 0.5 kg/h to 10 kg/h, with 2 Nm × 300 Nm torque and screw speeds of up to 350 min⁻¹

Defined conditions, comparable samples

- Standardize sample quantity, loading, or feeding sequence, speed, time, and temperature for repeatable preparation across operators and batches
- Keep thermal conditions defined as part of your preparation method with integrated five-zone tempering – without a separate tempering setup
- Create a consistent thermal and mechanical sample history with SOP-based settings for mechanical, thermal, visual, or application-specific analysis

Correctly sized for development

- Match mixer volume and preparation route to the material quantity and sample format required for the next development step
- Screen formulations, additives, colors, recyclates, rubber compounds, and PVC variants under controlled preparation conditions
- Move from mixed compounds to test-ready extrudates on one focused preparation platform
- Reduce repeat trials, conserve valuable development material, and strengthen decisions before scale-up

Brabender MetaStation 4 Prep	
Motor	4.2 kW servomotor
Speed range	0 rpm to 150 rpm, infinitely variable
Speed deviation	max ± 1 % of full range through digital feedback
Dynamometer unit	0 Nm to 200 Nm
Ports	Interlinked emergency motor stop
Temperature control	1 × Melt temperature 5 × Control temperature 5 × Heating 1 × Central cooling air input 4 × Cooling air output to the control zones
Power supply – Electricity	230 V ~ 3 PH, 50/60 Hz 400 V ~ 3 PH, 50/60 Hz
Power supply – Rated power	11.7 kW (with 230 V) 11.3 kW (with 400 V)
Power supply – Rated current	29.3 A (with 230 V) 16.3 A (with 400 V)
Dimensions (W × H × D)	595 mm × 810 mm × 940 mm (without mobile frame) 595 mm × 1621 mm × 962 mm (with mobile frame)
Weight	166 kg (366 lbs) (without mobile frame) 186 kg (410 lbs) (with mobile frame)