

Break Through in R&D and Battery Manufacturing with RONDOL's

21mm Twin-Screw Horizontal Extruder

Optimum Performance, Weight And Cost in R&D and Battery Manufacturing

RONDOL's 21mm twin-screw extruder makes it possible to manufacture complex polymer thin films that can be used in all battery parts (*cathode, anode, electrolyte, separator or box*) in order to optimise the overall performance of the battery.

Our unique set up **improves material flow, facilitates smoother mixing**, provides **superior temperature management** and preserves the **integrity of sensitive components** with varying melt-degradation properties, enhancing your medicines and medical device performance.

Key Benefits of our Extruder:

Scalability of our continuous manufacturing

process: Seamlessly transition from lab testing to industrial production with our scalable geometric proportions.

Easy to clean barrel: Ensure traceability with different sources of critical materials thanks to inside liners easy to disassemble and clean.

Materials versatility and durability: Our contact parts are capable of processing a wide range of products with different physical and chemical properties while experiencing minimal abrasion and corrosion.

Versatile screw design and die options: Cater to diverse R&D and production applications with our flexible design features.

Precise monitoring of process temperature with autonomous control for each of the 8 zones.

Integrated controls for feeders: Enhance operational convenience with our advanced control panel and compatible feeders from which you can inject in-the-barrel additional materials, additives and even gases.



21MM HORIZONTAL

SPECIFICATION SHEET: BATTERY / R&D

Nominal screw diameter	21mm
Length / Diameter	40:1
Machine material	Full stainless steel (high nickel option)
Screw speed	0-300rpm (or 0-600rpm optional)
Screw configuration	Segmented screw design fully interchangeable
Footprint	1.2m ² / 12.92sq.ft
Dimensions	2000mm x 600mm x 1220mm (6.56ft x 1.97ft x 4.00ft)
Motor power	4.5KW
Electrical consumption	7.56kWh (standard's maximal temperature and speed: feeder + extruder + cast film die + haul-off winder film)
Torque output	55N.m per shaft maximum
Number of barrel zones	8 temperature-controlled zones (heating / cooling)
Temperature range	15-300°C (or 15-450°C optional)
Dies	Standard: strand die Options: cast film, strip, tube, co-extrusion
Plug-and play feeding	Options: main powder, pellet, or side feeder, liquid and/or gas feeders
Maximum output	Up to 8kg/hr (up to 16kg/hr optional)
Maximum pressure	100 bars
Product cooling systems	Options: air conveyor / water bath
Plug-and-play downstream equipment	Options: haul off winder (filament, film or strip), varicut pelletizer, calendaring
Human machine interface	15.6" touch screen with PLC-controlled data logging and audit trail, remote diagnostic tool Option: controlled by PC or tablet
Electrical power Requirements	40 amp, 3 x 276/480V+1N+1PE, 50/60Hz (North America) 40 amp, 3 x 230/400V+1N+1PE, 50/60Hz (Europe)
Water supply requirements	4-6 bars
Option	Specific design for Glovebox