



# ECO+ Electrochemical Machining



## ECO+

### Modular Entry Level ECM machine

With the new modular ECM entry level machine concept, EXTRUDE HONE offers the flexibility its customers need to get exactly the right equipment to run their ECM applications.

One modular system with five different packages helps you to configure the machine to fit your requirements.

Standardized packages reduce delivery time while offering high modularity. This means you don't have to pay for unnecessary options without affecting the quality of your ECM'd parts.



### FEATURES and BENEFITS

- + **Extrude Hone's newest generator technology**  
Profit of our state-of-the-art generator technology which allows you using modern pulse patterns to improve parts quality.
- + **Highest flexibility**  
Modular concept offering up to 500 A generator power, idT process control, full automatic process fluid control, and more.
- + **Process control**  
State-of-the-art control system stores and monitors all major process data.
- + **Minimized operating costs**  
Short circuit control before and monitoring during the process reduces tool wear and reduces parts damage.
- + **Make it easy**  
With our pre-defined configuration packages you can easily configure the machine as it fits best to your requirements - without paying for unnecessary features.

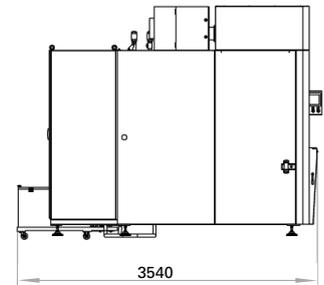
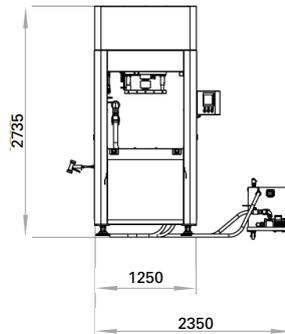
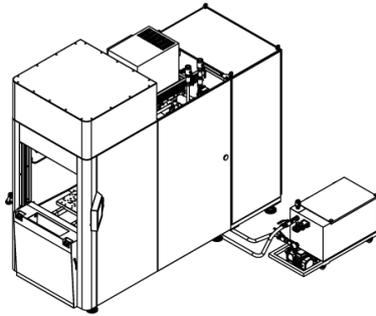


# TECHNICAL INFORMATION

## ECO+



### MACHINE SPECIFICATIONS



Machine layout and appearance is subject to change without further notice.

#### ELECTRICAL CONNECTION

Supply voltage	400 V AC/3 Ph/N/50 Hz
Generator type	RLI; aut. short circuit control; DC & Pulse mode
Min. process power	Connected load 25 kVA / sec. current 250 A / voltage 60 V
Max. process power	Connected load 40 kVA / sec. current 500 A / voltage 60 V

#### ELECTROLYTE & FILTRATION

Electrolyte	NaNO <sub>3</sub>
Electrolyte tank	Tank made of PE V = 750 l (198 gal)
Basic Filtration System	2 filter cartridges Filter surface area 29 m <sup>2</sup> (312 ft <sup>2</sup> )
Chamber Filter Press ECO	15 filter plates Filter surface area 5 m <sup>2</sup> (53.8 ft <sup>2</sup> )
Chamber Filter Press	19 filter plates Filter surface area 6.3 m <sup>2</sup> (67.5 ft <sup>2</sup> )

#### PNEUMATICS

Min. input pressure	6 bar (87 psi) at < 5 m <sup>3</sup> /h (177ft <sup>3</sup> /h)
Connection	3/8" thread
Minimum pressure monitoring; maintenance unit	

#### TRANSPORTATION

Machine weight	from 1300 kg to 1800 kg
----------------	-------------------------

#### OPERATOR SAFETY

Safety Options	Lifting Door, Light Curtain, 2-Hand Start
----------------	---

#### CONTROLS

Programmable Logic Controller (PLC)	Siemens S7-1500
Operator interface	Simatec HMI TPI 700 Comfort Panel 7"

#### PACKAGES

- Productivity Package
- Comfort Package
- Power Package
- Media Control Package
- Rinsing Trench

#### OPTIONS

- Automation interface
- Cr (VI) Unit
- Catch tray for machine & filtration
- Rinsing / preserving reservoir for post-treatment
- Country-specific customization

All systems comply with the applicable EU Machinery Directive governing machine safety and bear the CE mark. They also comply with accident prevention and the VDE and VDI regulations, as well as the requirements concerning electromagnetic compatibility regulations.



NOTE: Specifications and availability are subject to change without notice.

NOTE: Refer to ECO+ on the webpage for process methods.