

AVIMETAL

MINERAL PROCESSING SYSTEMS

PRODUCT CATALOG

2026 Edition

Modular Processing · Precision Refining · Zero-Water Recovery

19 Industrial Systems

ABOUT AVIMETAL

Avimetal designs and delivers modular mineral processing systems for gold, silver, copper, PGMs, rare earths, and critical minerals. Our product portfolio spans the full processing chain — from primary crushing to final refining — built on containerized modules engineered for rapid deployment, scalability, and remote-site operation. Every system is FAT-tested, backed by 12–24 month warranties, and supported by Avimetal's engineering team from design through commissioning.

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Container Frame

Modules — Complete Containerized Processing Line

PRODUCTS 01 – 04

Crush Line Module (Dry)

SKU: AVM-CL-D-20

Containerized dry crushing & material-preparation for remote or fast-deployment mining. Integrates jaw/hammer crushing, vibratory screening, dual cyclone dust removal, and baghouse filtration in a self-contained 40 ft setup.

KEY SPECS

Min Throughput	5 TPH
Max Capacity	100 TPH
Lead Time	90 days
Warranty	12/24 months

Wet Pulverizing Module

SKU: AVM-WP-05

Containerized slurry grinding and concentration system. Reduces crushed ore (0–10 mm) to 75–200 microns via ceramic ball mill, diaphragm pump, centrifugal concentrator, and water-recycling components.

KEY SPECS

Feed Size	0–10 mm
Output	75–200 microns
Application	Au, REE, Polymetallic
Design	Containerized

Wet Gravity Concentration Module

SKU: AVM-WGC-05

Density-based wet processing to separate valuable heavy minerals from slurry. Supports gold, heavy minerals, rare earths, and polymetallic ores. Integrates with upstream grinding and downstream flotation, leaching, or smelting.

KEY SPECS

Method	Gravity / Density
Metals	Au, REE, Polymetallic
Design	Modular Container
Pairing	Wet Pulverizing Module

Dry Concentration Module

SKU: AVM-DC-05

Waterless mineral separation using electrostatic separation, air classification, and dry screening. Ideal for arid, desert, and water-restricted sites. Integrates Tornado Mill, Electrostatic Dry Washer, and Rotary Steam Drier.

KEY SPECS

Throughput	10 TPD
Total Power	~75 kW
Feed Size	0–10 mm
Water	Zero (Dry)

PRODUCTS 05 – 08

Environment Control Module

SKU: AVM-EC-05

Skid-mounted air pollution control — captures dust, fumes, and fine particles from crushing, grinding, drying, and separation lines. Integrates heat exchanger, double cyclone, pulse-jet baghouse (112 m²), wet gas scrubber, and centrifugal fan.

KEY SPECS

Air Flow	7,728–15,200 m ³ /h
Filter Area	112 m ²
PM Outlet	< 30 mg/Nm ³
Total Power	~28 kW

High Temp Fusion Furnace Module

SKU: AVM-HTF-1000

Compact transportable smelting system with dual 1,000 kg tilting induction furnaces, 700 kW rectifier, closed-loop cooling tower, and PLC control room. Reaches 1,700°C for precious metals, copper alloys, PGMs, and slag fusion.

KEY SPECS

Capacity	2 × 1,000 kg/heat
Rectifier	700 kW
Max Temp	1,700 °C
Daily Output	~24–32 t/day

Autoclave Module

SKU: AVM-AC-12K

12,000 L magnetic-driven pressure reactor for hydrometallurgical processing, pressure oxidation (POX), HPAL, refractory leaching, and PGM digestion. N6 nickel-clad construction with zero-leak magnetic drive and full safety instrumentation.

KEY SPECS

Volume	12,000 L
Design Pressure	3.5 MPa
Max Temp	230 °C
Throughput	~20–30 t/day

Steam Drier Module

SKU: AVM-SD-05

Containerized rotary steam drying for continuous drying of wet mineral concentrate, filter cake, and moisture-bearing materials. Integrates screw feeder, rotary steam dryer, fabric filter, scrubber, fan, and stack in one compact system.

KEY SPECS

Function	Moisture Removal
Output	< 1% moisture
Pairing	Filter Press, Smelter
Design	Containerized

PRODUCTS 09 – 13

<p>EW/ER Cell Module</p> <p>SKU: AVM-EW-05</p> <p>Containerized electrolytic cell system for metal recovery from leach solutions and purification of impure metals. Supports precious metals, base metals, and critical metals with integrated rectifiers and solution handling.</p> <p>KEY SPECS</p> <table border="1"> <tr> <td>Method</td> <td>Electrolytic</td> </tr> <tr> <td>Metals</td> <td>Au, Ag, Cu, PGMs</td> </tr> <tr> <td>Design</td> <td>Modular Container</td> </tr> <tr> <td>Control</td> <td>PLC</td> </tr> </table>	Method	Electrolytic	Metals	Au, Ag, Cu, PGMs	Design	Modular Container	Control	PLC	<p>Rotary Kiln Module</p> <p>SKU: AVM-RK-05</p> <p>Containerized continuous thermal processing for mineral roasting, drying, calcining, and heat treatment. Two 40 ft container modules create an extended kiln with integrated feeding, discharge handling, and gas scrubbing.</p> <p>KEY SPECS</p> <table border="1"> <tr> <td>Max Temp</td> <td>1,000 °C</td> </tr> <tr> <td>Process</td> <td>Roasting / Calcining</td> </tr> <tr> <td>Design</td> <td>2x 40 ft Containers</td> </tr> <tr> <td>Emissions</td> <td>Integrated Scrubber</td> </tr> </table>	Max Temp	1,000 °C	Process	Roasting / Calcining	Design	2x 40 ft Containers	Emissions	Integrated Scrubber	<p>Filter Press Module</p> <p>SKU: AVM-FP-05</p> <p>Containerized pressure filtration for dewatering slurry, concentrate, and tailings. Produces drier filter cake and cleaner filtrate for reuse. Supports closed-loop water recycling and integrates with leaching, grinding, and refining systems.</p> <p>KEY SPECS</p> <table border="1"> <tr> <td>Method</td> <td>Pressure Filtration</td> </tr> <tr> <td>Output</td> <td>Dry Filter Cake</td> </tr> <tr> <td>Pairing</td> <td>Autoclave, Wet Mill</td> </tr> <tr> <td>Water</td> <td>Closed-Loop Recycle</td> </tr> </table>	Method	Pressure Filtration	Output	Dry Filter Cake	Pairing	Autoclave, Wet Mill	Water	Closed-Loop Recycle
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<p>Mobile Fire Assay Module</p> <p>AVI-MLM-001 / AVI-FAM-001</p> <p>25-place fusion & cupellation system for high-throughput gold, silver, and PGM fire assay. Includes HEPA dust collector, wet gas scrubber/hood, and refractory load trays. Safe for commercial labs and on-site mining assay.</p> <p>KEY SPECS</p> <table border="1"> <tr> <td>Capacity</td> <td>25 samples/batch</td> </tr> <tr> <td>Fusion Temp</td> <td>1,150 °C</td> </tr> <tr> <td>Cupellation</td> <td>900–980 °C</td> </tr> <tr> <td>Safety</td> <td>HEPA + Gas Scrubber</td> </tr> </table>	Capacity	25 samples/batch	Fusion Temp	1,150 °C	Cupellation	900–980 °C	Safety	HEPA + Gas Scrubber	<p>Mobile Sample Prep Lab</p> <p>SKU: AVI-MLM-001</p> <p>Turnkey containerized laboratory for mining, mineral testing, and onsite sample preparation. Includes 2 fume hoods, 4 lab benches, 2 chemical storage cabinets, and wet-bed gas scrubber. Ships in 6–8 weeks.</p> <p>KEY SPECS</p> <table border="1"> <tr> <td>Fume Hoods</td> <td>2 x 1500 mm</td> </tr> <tr> <td>Lab Benches</td> <td>4 x 1500 mm</td> </tr> <tr> <td>Gas Scrubber</td> <td>SO₂, HCl, HF</td> </tr> <tr> <td>Lead Time</td> <td>6–8 weeks</td> </tr> </table>	Fume Hoods	2 x 1500 mm	Lab Benches	4 x 1500 mm	Gas Scrubber	SO ₂ , HCl, HF	Lead Time	6–8 weeks									
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Milling &

Concentration — Tornado Mill · Electrostatic Dry Washer

PRODUCTS 14 – 15

Tornado Mill

SKU: AVR-25 HP / AVR-100 HP / AVR-150 HP

Ultra-fine particle size reduction using high-speed vortex airflow to create intense particle-to-particle collisions. Produces consistent micron and sub-micron output with minimal wear, contamination, and heat. Three scalable models from pilot-scale to 5,000 kg/h industrial production.

KEY SPECS

Models	AVR-25HP / 100HP / 150HP
Max Capacity	3,000–5,000 kg/h
Output	Micron / Sub-micron
Applications	Minerals, Metals, Chemicals

Electrostatic Dry Washer Concentrator

SKU: AVES-1000 / AVES-1200 / AVES-1600

Waterless gold recovery with 40,000–60,000V electrostatic separation and vibratory dual-layer screening. Captures fine and micron-sized gold with 99% recovery — zero water required. Three scalable models for prospecting through commercial operations.

KEY SPECS

Recovery Rate	99%
Electrostatic	40,000–60,000 V
Capacity Range	0.5–5 t/hr
Water	Zero (Fully Dry)

AVES MODEL COMPARISON

Model	Table Dim.	Motor	Voltage / mA	Capacity
AVES-1000	1000x3000 mm	2 × 1.9 KW	40–60kV / 75mA	0.5–1.5 t/hr
AVES-1200	1200x5500 mm	2 × 2.2 KW	40–60kV / 100mA	1–3 t/hr
AVES-1600	1600x5000 mm	2 × 3 KW	40–60kV / 100mA	2–5 t/hr



Electrowinning &

Electrorefining — Cyclone · Rotating Cell Technology

PRODUCTS 16 – 19

Cyclone Electrowinning System

SKU: AVEW-100 / 150 / 200 / 250 Series

High-efficiency metal recovery combining centrifugal cyclone flow with advanced electrowinning. Forces electrolyte through a controlled vortex for superior mass transfer, faster deposition, higher recovery, and lower energy vs. conventional cells. Produces Au, Ag, Cu, Pt, Pd, Zn.

KEY SPECS

Cell Sizes	100mm / 150mm / 200mm / 250mm
Max Gold Output	Up to 147 kg/h (20-cell)
Anode	Iridium-coated MMC
Lead Time	30 days

Cyclone Electrorefining System

SKU: AVER-250-500 / 1000 / 2000

Purifies impure anodes (copper, noble metals) into high-purity cathode deposits using cyclone electrolyte circulation. Continuous anode casting furnace (AVCC-100/300) produces tubular anodes. Noble metal slimes recovered separately via electrowinning.

KEY SPECS

Cathode Dia.	250 mm
Current	300A / 500A / 800A
Casting Furnace	AVCC-100 & AVCC-300
Output	High-Purity Metal

Rotating Electrowinning

SKU: REW-1 to REW-8 Cell

Compact high-efficiency system with graphene-coated graphite anodes and a rotating titanium cathode for uniform deposition and easy harvest. Modular 1–8 cell configurations. Delivers 99.8% purity. Ideal for E-waste, jewelry stripping, plating waste, and mining.

KEY SPECS

Purity	Up to 99.8%
Cells	1–8 cells (scalable)
Metals	Au, Ag, Pt, Rh
Power/Cell	4.5V / 150–1200A

Rotating Electrorefining Cell

SKU: RER Series

Advanced rotating drum electrorefining with rotating cylindrical cathode and consumable anodes. Superior hydrodynamic ion transport eliminates concentration polarization, gas bubble buildup, and uneven current density. Produces ultra-pure metal with reduced energy and dendrite-free deposits.

KEY SPECS

Method	Rotating Drum Cathode
Advantage	Faster, denser deposits
Slimes Recovery	Au, Ag, PGMs
Adaptable To	Cu, Ag, Au, Ni, Co

Ready to Build Your Processing Plant?

Our engineering team will assess your site, ore type, and production targets and confirm the best technology for your operation.

[REQUEST A QUOTE](#)

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