

ProNode™

PRODUCT DESCRIPTION

Magnesium anodes can be used to provide cathodic protection for metallic structures exposed to suitable water environments. They are suitable for use in pressure vessels and similar water-containing equipment, such as heat exchangers and condensers.

Due to the high electrochemical activity of magnesium, these anodes may be consumed rapidly in saltwater environments and are therefore not recommended for saltwater service.

PRODUCT FEATURES

Coating Configuration

- Available in bare or epoxy-coated configurations to suit different application requirements.

Installation & Reliability

- Designed for straightforward installation, with stable and reliable protection performance under designed operating conditions.



PRESSURE VESSEL MAGNESIUM ANODE



PRODUCT PERFORMANCE

Current Control Performance

- Epoxy coating on selected non-active surfaces acts as a current barrier, helping control exposed anode area and current distribution.

Protection Effectiveness

- Provides reliable cathodic protection performance when properly selected and installed under designed operating conditions.

Reference	Title
ASTM B843-18(2025)	STANDARD SPECIFICATION FOR MAGNESIUM ALLOY ANODES FOR CATHODIC PROTECTION
AS 2239-2003(R2016)	GALVANIC (SACRIFICIAL) ANODES FOR CATHODIC PROTECTION

PRODUCT PARAMETERS

Chemical Composition and Electrochemical Properties

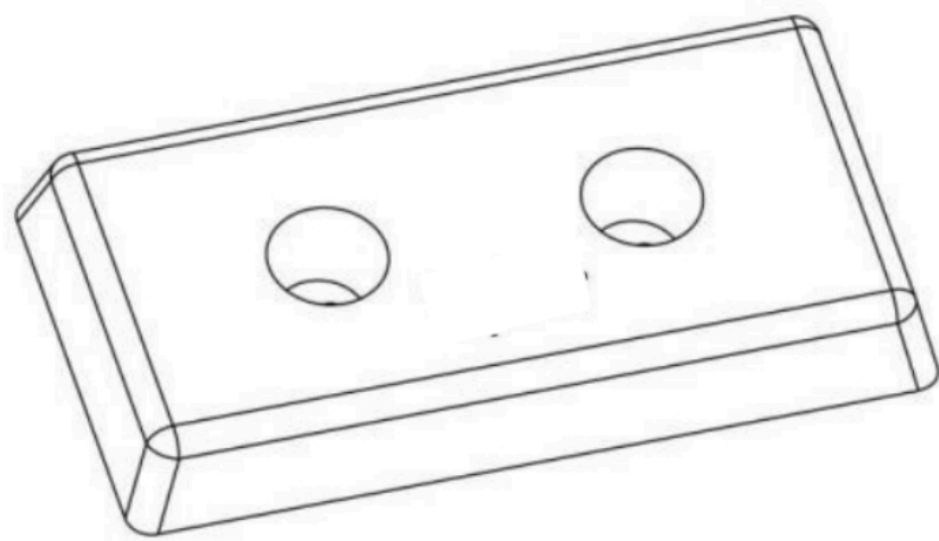
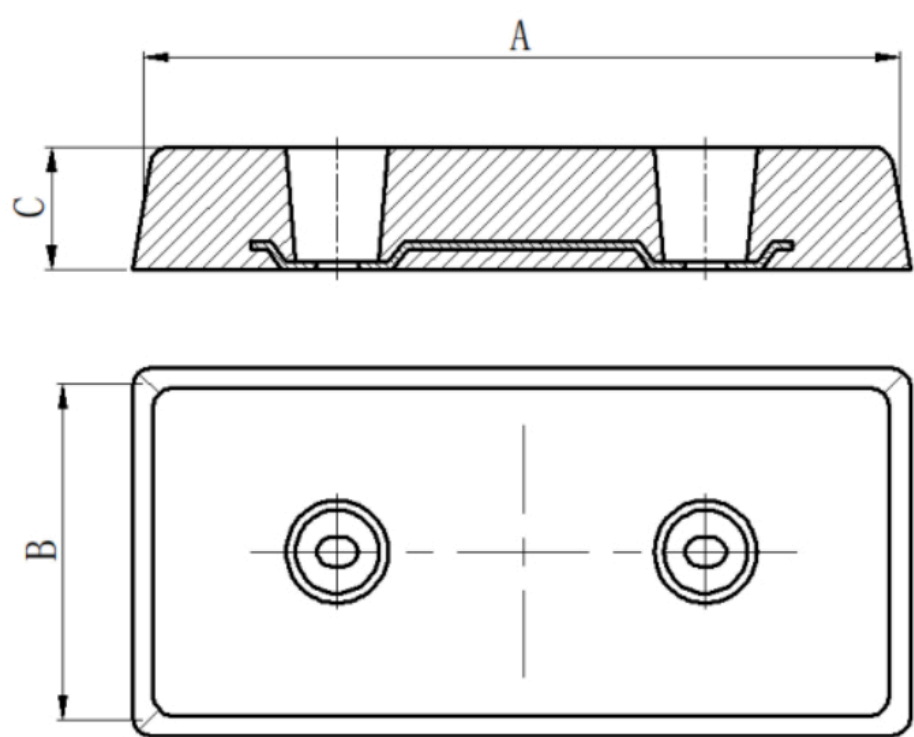
Design Requirements

High Potential Magnesium Alloy Sacrificial Anode		Standard Potential Magnesium Alloy Sacrificial Anode	
Alloy	M1C	Alloy	AZ63B
Chemical Composition		Chemical Composition	
Al	≤0.01%	Al	5.30-6.70%
Mn	0.50 - 1.30%	Zn	2.50-3.50%
Cu	≤0.005%	Mn	0.15-0.70%
Si	≤0.05%	Si	≤0.10%
Ni	≤0.001%	Cu	≤0.02%
Fe	≤0.01%	Ni	≤0.002%
Other Impurities (each)	≤0.05%	Fe	≤0.003%
Other Impurities (total)	≤0.30%	Other Impurities (total)	≤0.30%
Mg	Remainder	Mg	Remainder

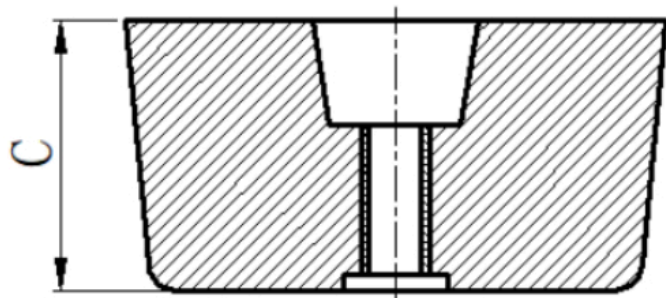
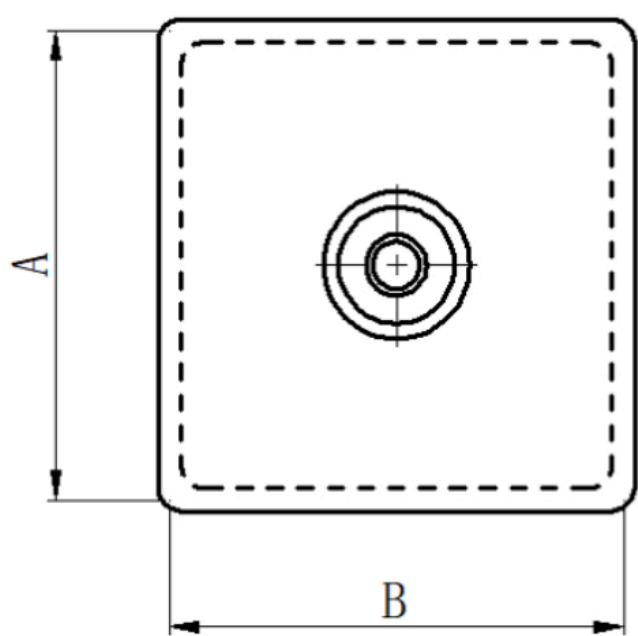
Electrochemical Properties

	M1C	AZ63B
Open-circuit Potential (V, SCE)	-1.75 to -1.70	-1.55 to -1.50
Closed-circuit Potential (V, SCE)	-1.62 to -1.58	-1.50 to -1.45
Current Capacity (A.h/kg)	1100	1230
Current Efficiency (%)	50	55

MODELS AND SPECIFICATIONS



Model	Anode Size (mm)			Anode Weight (kg)
	A	B	C	
ATMG-5S	300	150	30	2.2
ATMG-14.5S	300	200	65	6.5

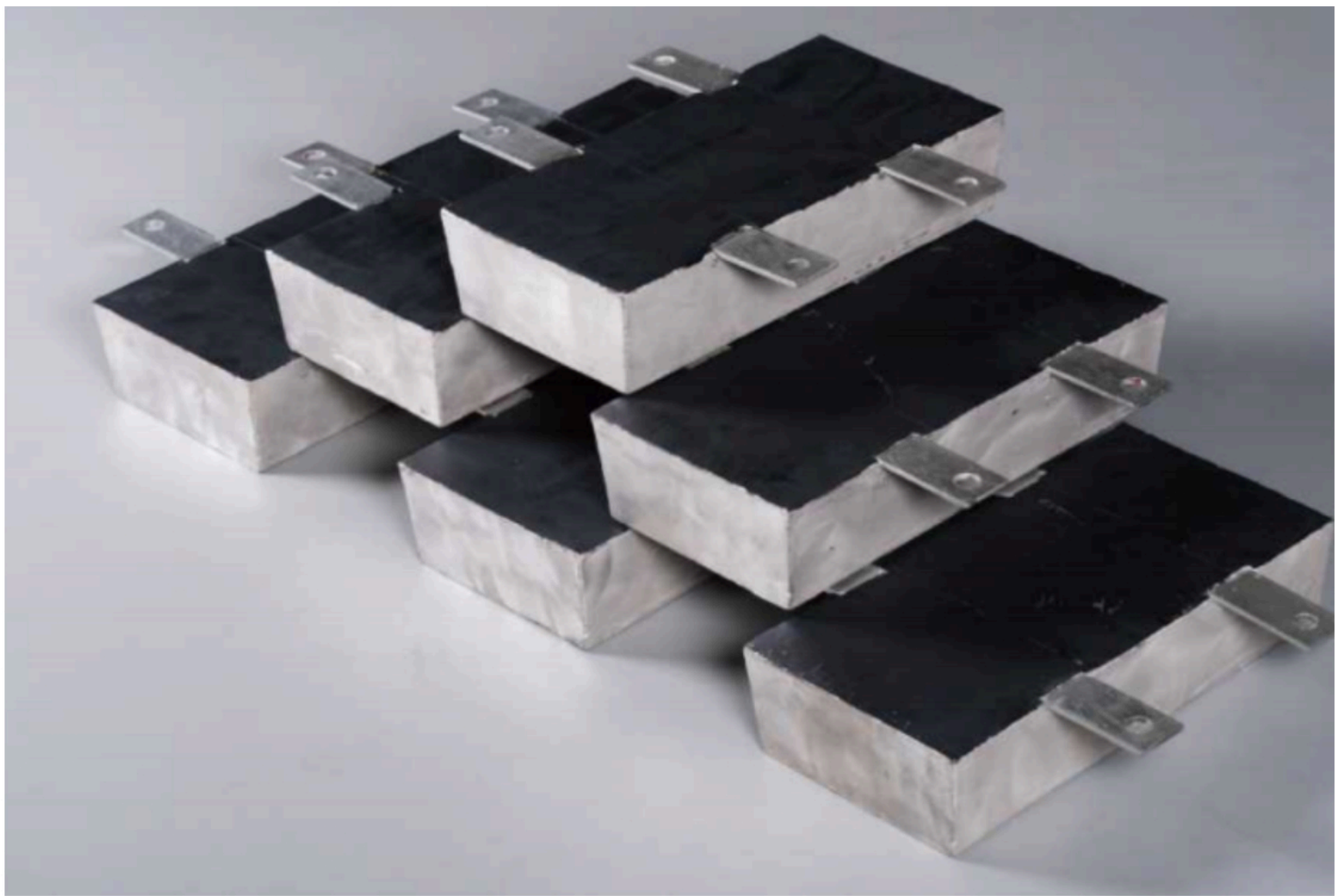
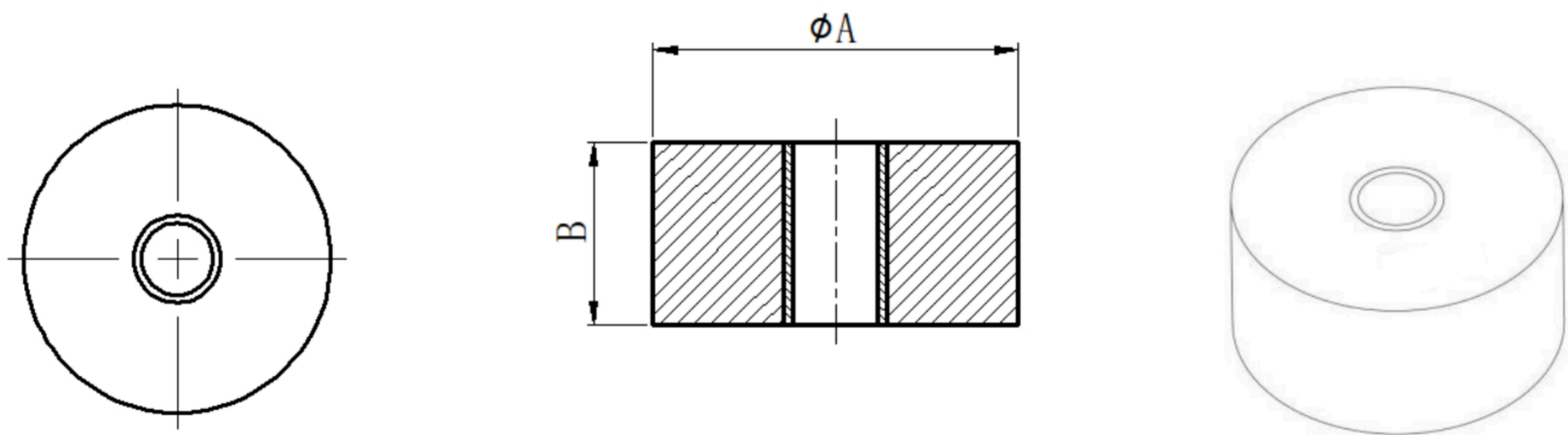


Model	Anode Size (mm)			Anode Weight (kg)
	A	B	C	
ATMG-7.5S	203	203	51	3.4
ATMG-15S	203	203	102	6.8

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PRESSURE VESSEL MAGNESIUM ANODE

Model	Anode Size (mm)		Anode Weight (kg)
	A	B	
ATMG-5R	127	102	2.2



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