



Magnesium Anodes

ISO 9001 Certified

ISO 17025 Accredited cert. #3612.01

Galvotec's experience, since 1984 producing sacrificial (galvanic) anodes assures that you will receive the highest quality anodes in the industry, that will effectively mitigate corrosion when used in a properly designed and maintained cathodic protection system.

Galvotec's laboratory is accredited to the International Standard, ISO/IEC17025 in order to insure quality with respect to chemical composition and electrochemical performance.

Galvotec Magnesium Anodes are produced in a wide variety of shapes and sizes for use in soil applications, brackish or freshwater cathodic protection systems (magnesium anodes may also be used in specific sea water applications).

Chemical Composition of Magnesium Anode Alloys %

Element	ASTM AZ 63 (H-1 Alloy)			High-Potential Alloy
	Grade "A"	Grade "B"	Grade "C"	
Aluminum (Al)	5.3 - 6.7	5.3 - 6.7	5.0 - 7.0	0.01 max.
Zinc (Zn)	2.5 - 3.5	2.5 - 3.5	2.0 - 4.0	-
Manganese (Mn)	0.15 min.	0.15 min.	0.15 min.	0.50 - 1.3
Iron (Fe)	0.003 max.	0.003 max.	0.003 max.	0.03 max.
Nickel (Ni)	0.002 max.	0.003 max.	0.003 max.	0.001 max.
Copper (Cu)	0.02 max.	0.05 max.	0.10 max.	0.02 max.
Silicon (Si)	0.10 max.	0.30 max.	0.30 max.	.05 max.
Other	0.30 max.	0.30 max.	0.30 max.	0.30 max.
Magnesium	Remainder	Remainder	Remainder	Remainder

Electrochemical Properties of Magnesium Anode Alloys

	ASTM AZ-63 (H-1 Alloy)			High-Potential Alloy
	Grade-A	Grade-B	Grade-C	
*Closed Circuit Potential	-1.45 to -1.55v			1.50 to -1.75v
*Open Circuit Potential	-1.50 to -1.60v			-1.70 to -1.78v
% Efficiency	50 to 54			> or = to 50
Current Capacity (Amp-Hrs/lb)	500 to 540			> or = to 500



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* vs. Copper/Copper Sulfate Reference Electrode

Applications

Magnesium anodes are economical and effective corrosion fighters that have been in use for well over 50 years and have been successfully protecting steel structures in fresh, brackish, and salt water environments as well as high resistivity soils.

Applications for Magnesium Anodes include:

- Hulls of ships, barges, tugs, and boats
 - Ballast Tanks for ore carriers and similar vessels
 - Water Storage Tanks
 - Piers and Pilings
 - Pipelines
 - Heat Exchangers
 - Traveling Screens
 - Dams, Locks, and Gates
-



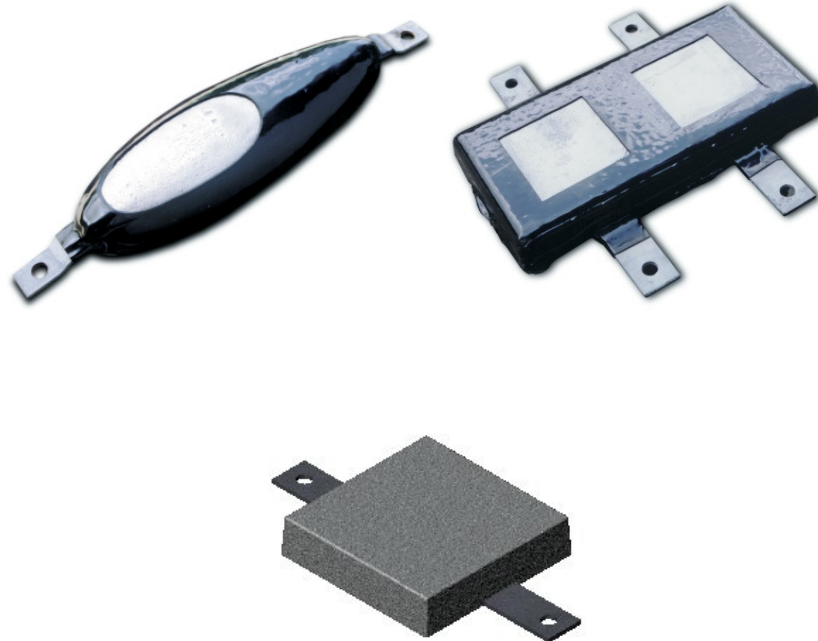
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Marine Hull Anodes H-1 Alloy (AZ-63)

Marine Hull Anodes are available with or without Plastisol coating that serves as an excellent current barrier.



Product I.D.	L		W		H		Weight	
	in	mm	in	mm	in	mm	lbs	kg
GA-MG-10-Launch	12	305	6	152.4	3	76.2	10	4.5
GA-MG-5-Launch	10	254	5	127	2 1/2	63.5	5	2.3
GA-MG-JR	9	228.6	3	76.2	1 3/8	34.9	1.5	0.7
GA-MG-H-22	10	254	20	508	2	51	22	10
GA-MG-H-12W	9	228.6	9	228.6	2	51	12	5.4

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GA-MG-H-24W	18	457. 2	9	228.6	2	51	24	10.9
GA-MG-44W	19	482. 6	9	228.6	4	101.6	44	20

All Magnesium Anode weights and dimensions are nominal

Product I.D.	Core L		Core W		Core T		Core C to C		Hole Dia.		Notes
	in	mm	in	mm	in	mm	in	mm	in	mm	
GA-MG-10-Launch	17	431.8	1 1/4	32	1/4	6	15	60	9/16	14. 3	
GA-MG-5-Launch	14 1/4	361.9	2 1/4	57.1	1/4	6	13 1/4		5/8	16	
GA-MG-JR	12	305	3/4	19	1/8	3.17	11 1/4	285. 7	3/8	9.5	
GA-MG-H-22	17	457.2	2	38.1	1/4	6	15*		3/4		2-cores
GA-MG-H-12W	17	431.8	2	51	1/4	6	15		3/4	19	
GA-MG-H-24W	17	368.3	2	51	1/4	6	8 / 15		3/4	19	2-cores
GA-MG-44W	17	368.3	2	51	1/4	6	8 / 15	60	3/4	19	2-cores

All Magnesium Anode weights and dimensions are nominal



Pier Anodes

Product I.D.	Wt		Cylinder Diameter		Length	
	lbs	kg	in	mm	IN	mm
GA-MG-P-50C	50	22.7	8	203	1	406



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					6	
					3	
GA-MG-P-100C	100	45.4	8	203	2	813
					2	
GA-MG-P-200C	200	90.7	12	305	7	686

* Comes standard with eyebolt. Alternate core configurations are available

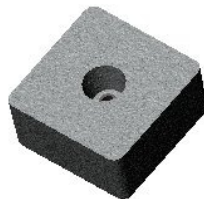


Condenser Anodes

Product I.D.	Wt		Cylinder Diameter		Thickness	
	lbs	kg	in	mm	in	mm
GA-MG-2R5	2.5	1.13	5	127	2	51
GA-MG-1R5	1.25	0.57	5	127	1	25

* Comes standard with pipe core

All Magnesium Anode weights and dimensions are nominal



Product I.D.	Wt		Length		Width		Thick	
	lbs	kg	in	mm	in	mm	in	mm
GA-MG-	6	13.2	8	203	3	76	4	101.6



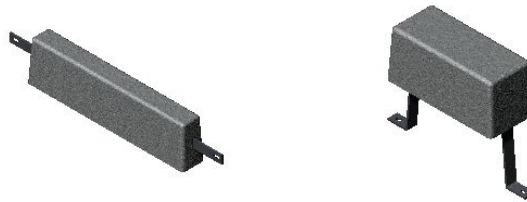
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6SX3								
	7.							
GA-MG-7.5S	5	16.5	8	203	8	203	2	50.8
GA-MG-15-S	15	33	8	203	8	203	4	101.6

* Comes standard with pipe core



Tank Anodes

Product I.D.	Wt		Net Wt		W		H		La		Lc		X	
	lb s	kg	lbs	kg	in	mm	in	mm	in	mm	in	mm	in	mm
GA-MG-T-36	36	16.3	32	14.5	4	102	4.5	114	28	711	3 8	965	3 6	914
GA-MG-T-52A	52	23.6	48	21.8	5	127	5.25	133	29	737	3 8	965	3 6	914
GA-MG-T-53	53	24	51	23.1	7	178	7.25	184	16	406	2 4	610	2 2	559

Product I.D.	Wt		Net Wt		W		H		La		Lc		X		Y	
	lbs	kg	lbs	kg	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
GA-MG-T-57	57	25.9	53	24	7	178	7.5	190	16	406	21	533	19	483	8	203

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Magnesium Soil Anodes

High-Potential (ASTM-B843 M1C) Galvotec SuperMAG™



Product I.D.	Model	Wt		Wt Packaged		W		H		L		Diameter		Packaged Length	
		lb	kg	lbs	kg	in	m	in	m	in	mm	in	m	in	mm
		s													
GA-MG-3 HP	3D3	3	1.4	3	1.4	3.5	89	3.75	95	5	127	6	152	10	254
GA-MG-5 HP	5D5	5	2.3	5	2.3	3.5	89	3.75	95	8.5	216	6	152	12	305
GA-MG-9HP	9D3	9	4.1	9	4.1	3.5	89	3.75	95	14	356	6	152	17	432
GA-MG-17 HP	17D3	17	7.7	17	7.7	3.5	89	3.75	95	25.7	654	7	191	34	864
GA-MG-20 HP	20D2	20	9.1	20	9.1	2.7	70	3	76	59.7	1518	5	127	66	1676
GA-MG-32	32D5	32	14.5	32	14.5	5.5	140	5	127	20.5	521	8	203	28	711



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HP			5												
GA-MG-32 HP	32D3	32	14. 5			3.5	89	3.75	95	45.2 5	114 9	6. 5	165	53	1346
GA-MG-40 HP	40D3	40	18. 1			3.5	89	3.75	95	59.7 5	151 8	6. 5	165	66	1676
GA-MG-48 HP	48D5	48	21. 8			5.5	140	5.75	146	31	787	8	203	38	965
GA-MG-60 HP	4 X 4 X 60	60	27. 2			4	102	4	102	60	152 4	7	178	64	1626

Anodes may be purchased bare or packaged. Packaged anodes come standard in cotton bags with backfill consisting of 75% hydrated gypsum, 20% bentonite and 5 % sodium sulphate. Standard connection wire is 10 ft. solid #12 AWG THHN/THWN copper lead wire. Alternate packaging is available upon request.

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Standard Potential (ASTM-B843 Grades H1A, H1B, H1C) (AZ63)





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Product I.D.	Wt		Wt Packaged		W		H		L		Diameter		Packaged Length	
	lbs	kg	lbs	kg	in	m	in	m	in	m	in	mm	in	mm
GA-MG-3 H1	3	1.4	8	3.6	3	76	3	76	5	127	5.25	133	8	203
GA-MG-5 H1	5	2.3	13	5.9	3	76	3	76	8	229	5.25	133	11.25	286
GA-MG-9 H1	9	4.1	27	12.2	3	76	3	76	14	336	5.25	133	20	508
GA-MG-12 H1	12	5.4	32	14.5	4	102	4	102	12	305	7.5	191	18	457
GA-MG-17 H1	17	7.7	45	20.4	4	102	4	102	17	432	7.5	191	24	610
GA-MG-32 H1	32	14.5	68	30.8	5	127	5	127	20.5	521	8.5	216	28	711
GA-MG-50 H1	50	22.7	100	45.4	7	178	7	178	16	406	10	254	24	610

Anodes may be purchased bare or packaged. Packaged anodes come standard in cotton bags with backfill consisting of 75% hydrated gypsum, 20% bentonite and 5 % sodium sulphate. Standard connection wire is 10 ft. solid #12 AWG THHN/THWN copper lead wire. Alternate packaging is available upon request.

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