

## Magnesium Anode

Magnesium is the most common material used for sacrificial anodes in cathodic protection because of its high driving voltage, easy installation and limited maintenance. It is typically used for buried transmission oil and gas pipelines, and it can also be used to protect structures in fresh water.

Our anodes are all manufactured and tested according to the latest international standards, such as ASTM B843 and ASTM G97, it is available from both M1C (high potential) or AZ63B (Std potential) alloy with annual capacity 8,000 metric tons.

### Feature:

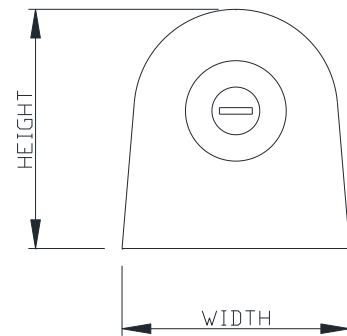
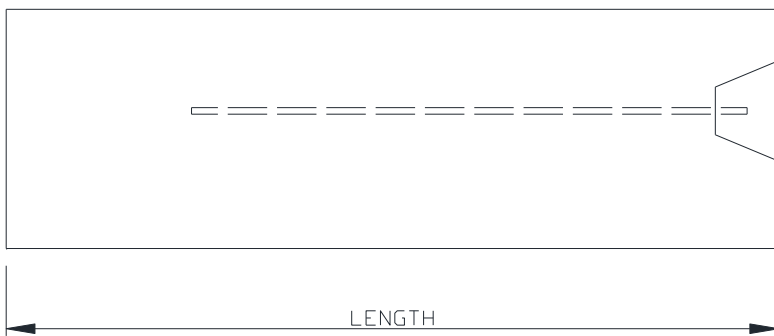
- High purity raw material,
- Rigid process control,
- Automatic production,
- Advanced testing facilities.

### Specification:

Chemical and Electrochemical Properties							
High Potential Magnesium Anode			Standard Potential Magnesium Anode				
Alloy		ASTM B843-M1C		Alloy		ASTM B843-AZ63B	
Design Requirements	Chemical Composition	Aluminum	0.01% Max	Chemical Composition	Aluminum	5.30-6.70	
		Manganese	0.50-1.30		Zinc	2.50-3.50	
		Copper	0.005% Max		Manganese	0.15-0.70	
		Silicon	0.05% Max		Silicon	0.10% Max	
		Nickel	0.001% Max		Copper	0.02% Max	
		Fe	0.01% Max		Nickel	0.002% Max	
		Single Impurity	0.05% Max		Fe	0.003% Max	
		Total Impurity	0.30% Max		Total Impurity	0.30% Max	
		Remaining	Magnesium		Remaining	Magnesium	
	Electrochemical Properties	Open Voltage (-mV)	1.70-1.75(-V) SCE	Electrochemical Properties	Open Voltage (-mV)	1.50-1.55(-V) SCE	
		Closed Voltage (-mV)	1.58-1.62(-V) SCE		Closed Voltage (-mV)	1.45-1.50(-V) SCE	
		Actual capacity (A.h/kg)	1100		Actual capacity (A.h/kg)	1230	
		Efficiency	50%		Efficiency	55%	

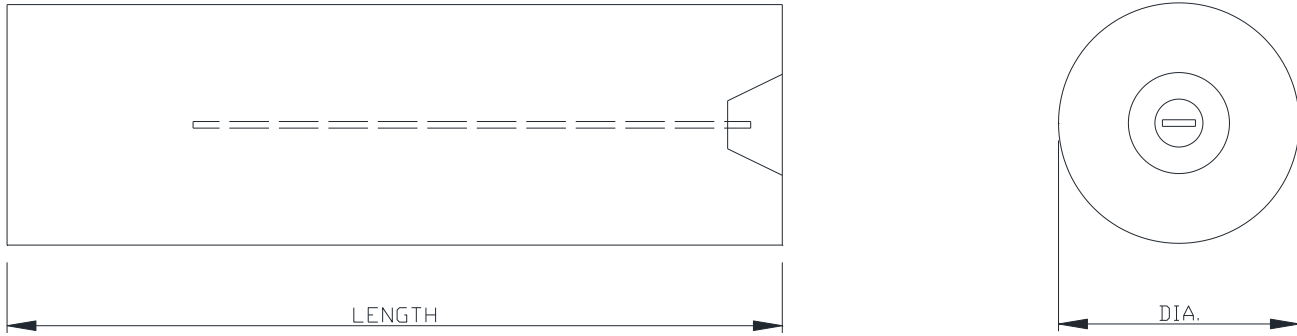
## Dimension and Weight

### “D” Shape Anode



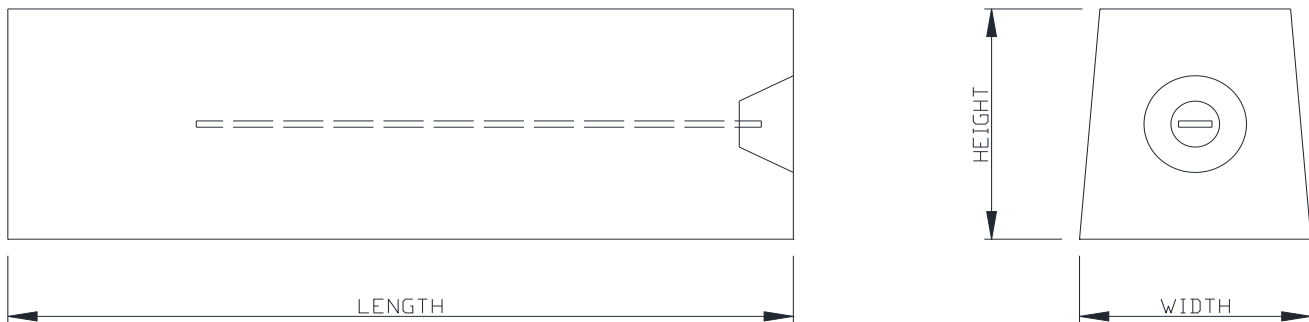
Item No.	'D' Type	High Potential(-1.7V)				Standard Potential(-1.5V)			
		Nominal Width (mm)	Nominal Length (mm)	Nominal Height (mm)	Nominal Weight (kg) (lbs)	Nominal Width (mm)	Nominal Length (mm)	Nominal Height (mm)	Nominal Weight (kg) (lbs)
1	JAU-MG-5D2	70	310	76	2.3 (27)	70	305	76	2.3 (5)
2	JAU-MG-9D2	70	545	76	4.1 (9)	70	540	76	4.1 (9)
3	JAU-MG-9D2-1	63.5	650	67	4.1 (9)	63.5	640	67	4.1 (9)
4	JAU-MG-20D2	70	1524	76	9.1 (20)	70	1495	76	9.1 (20)
5	JAU-MG-14D2	70	850	76	6.36 (14)	70	815	76	6.36 (14)
6	JAU-MG-17D2	63.5	1210	67	7.7 (17)	63.5	1188	67	7.7 (17)
7	JAU-MG-5D3	89	190	95	2.3 (5)	89	180	95	2.3 (5)
8	JAU-MG-9D3	89	345	95	4.1 (9)	89	325	95	4.1 (9)
9	JAU-MG-17D3	89	645	95	7.7 (17)	89	610	95	7.7 (17)
10	JAU-MG-35D5	140	498	146	14.5 (32)	140	472	146	14.5 (32)
11	JAU-MG-48D5	140	750	146	21.8 (48)	140	710	146	21.8 (48)
12	JAU-MG-17D4	102	525	108	7.7 (17)				
13	JAU-MG-60D4	112	1524	112	27.3 (60)	112	1460	112	27.3 (60)

## "R" Shape Anode



Item No.	'R' Type	Nominal Diameter (mm)	Nominal Length (mm)	Nominal Weight		Nominal Diameter (mm)	Nominal Length (mm)	Nominal Weight	
				(kg)	(lbs)			(kg)	(lbs)
1	JAU-MG-R50	114	288	5.0	(11)	114	275	5.0	(11)
2	JAU-MG-R77	114	440	7.7	(17)	114	410	7.7	(17)
3	JAU-MG-R100	114	565	10.0	(22)	114	545	10.0	(22)
4	JAU-MG-R145	146	505	14.5	(32)	146	475	14.5	(32)
5	JAU-MG-R273	114	1524	27.3	(60)	114	1450	27.3	(60)

## "S" Shape Anode



Item No.	'S' Type	High Potential(-1.7V)				Standard Potential(-1.5V)			
		Nominal Width (mm)	Nominal Length (mm)	Nominal Height (mm)	Nominal Weight (kg / lbs)	Nominal Width (mm)	Nominal Length (mm)	Nominal Height (mm)	Nominal Weight (kg / lbs)
1	JAU-MG-3S3	86.25	120	76	1.4 (3)	86.25	115	76	1.4 (3)
2	JAU-MG-5S3	86.25	204	76	2.3 (5)	86.25	198	76	2.3 (5)
3	JAU-MG-9S3	86.25	365	76	4.1 (9)	86.25	345	76	4.1 (9)
4	JAU-MG-17S3	86.25	680	76.2	7.7 (17)	86.25	650	76	7.7 (17)
5	JAU-MG-32S5	117	563	127	14.5 (32)	117	535	127	14.5 (32)
6	JAU-MG-48S5	117	845	127	21.8 (48)	117	820	127	21.8 (48)

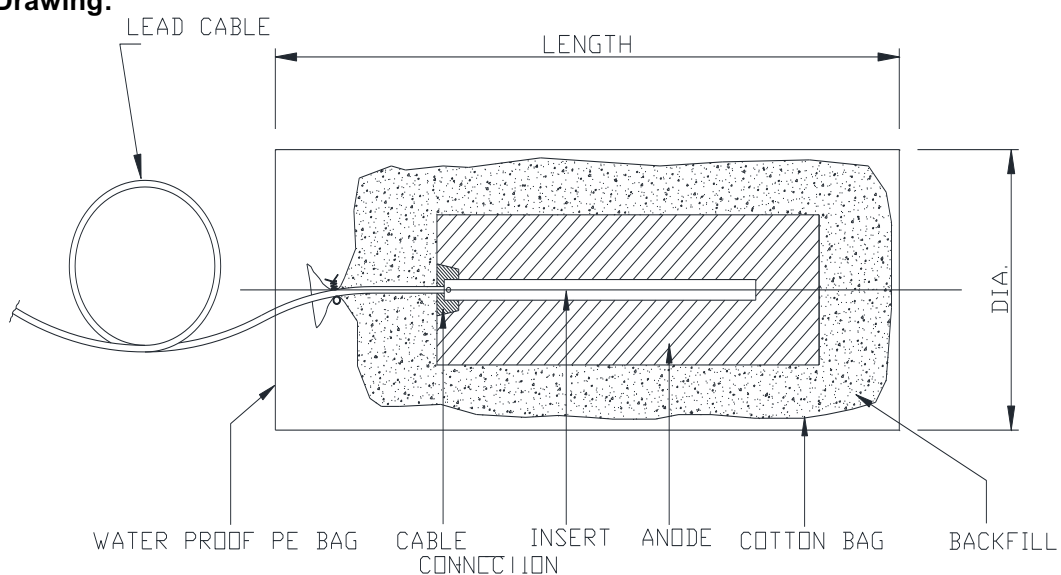
## Pre-packaged Magnesium Anode

Jennings Anodes' pre-packed anodes are made of recyclable material and easily decomposable material, the content of harmful element in the backfill is lower than safety standards, which is absolutely environmental friendly.

The available cables type are PVC/PVC,XLPE/PVC,HMWPE,THHN,TW at any required size.

Backfill Element	
Gypsum	75%
Bentonite	20%
Sodium Sulphate	5%
Harmful Elements	
Cadmium (Cd)	≤1ppm
Arsenicum (As)	≤1ppm
Mercury (Hg)	≤1ppm
Phosphorus (Pb)	≤10ppm

### Typical Drawing:



**Dimension and Weight:**

Item No.	Part No.	Diameter (mm)	Length (mm)	Weight	
				(kg)	(lbs)
1	JAU-PMG-5D2	127	450	8.2	(18)
2	JAU-PMG-9D2	140	690	16	(35)
3	JAU-PMG-9D2-1	130	810	16	(35)
4	JAU-PMG-20D2	140	1650	38	(84)
5	JAU-PMG-5D3	160	300	9.0	(17)
6	JAU-PMG-9D3	160	550	16	(35)
7	JAU-PMG-17D3	160	780	22	(49)
8	JAU-PMG-35D5	200	680	30	(66)
9	JAU-PMG-48D5	205	960	45	(99)
10	JAU-PMG-R50	160	480	13.5	(30)
11	JAU-PMG-R77	175	640	22	(48)
12	JAU-PMG-R100	175	710	25	(55)
13	JAU-PMG-R145	200	650	30	(66)
14	JAU-PMG-R273	175	1650	58	(127)
15	JAU-PMG-5S3	160	350	10	(22)
16	JAU-PMG-9S3	160	550	16	(35)
17	JAU-PMG-17S3	160	800	23	(51)
18	JAU-PMG-32S5	195	700	30	(66)
19	JAU-PMG-48S5	200	1000	45	(99)