



HIGH TEMPERATURE ZINC ANODES



50 YEARS EXPERIENCE IN CATHODIC PROTECTION



HIGH TEMPERATURE ZINC ANODES

DATA SHEET

It is known that common zinc alloys have a tendency to fail at temperatures above 60°C. Above this temperature, zinc alloys can suffer from intergranular corrosion, especially when buried in saline mud.

When at high temperature, common zinc anodes may become ineffective or even detrimental to the iron and steel structure intended to be protected by the sacrificial CP system. The zinc anode suffers passivation and polarity reversal — a dangerous condition in which zinc and steel reverse their natural polarity and steel becomes anodic to zinc, corroding itself and protecting the anode.

To meet the demand of anode applications at high temperature, we have developed this specialized zinc anode that can operate successfully at elevated temperatures up to 90°C.

Our high temperature zinc anode is designed for use in tanks intended for the carriage of liquid cargo with high temperature exposure, hot subsea pipelines and heat exchangers.



CHEMICAL COMPOSITION

Element \ Temperature	≤ 50°C	50°C ~ 90°C
Aluminum (Al)	0.005% max.	0.1% ~ 0.25%
Magnesium (Mg)	—	0.05% ~ 0.15%
Lead (Pb)	0.003% max.	0.006% max.
Iron (Fe)	0.0014% max.	0.002% max.
Copper (Cu)	0.002% max.	0.001% max.
Cadmium (Cd)	0.003% max.	0.001% max.
Total Impurities	—	0.1% max.
Zinc (Zn)	Remainder	Remainder

ELECTROCHEMICAL PROPERTIES

Technical Measurement	20°C	60°C	80°C	90°C
Closed Circuit Voltage (-V)	1.03	1.01	0.98	0.95
Current Capacity	800 A.h/kg	770 A.h/kg	774 A.h/kg	750 A.h/kg

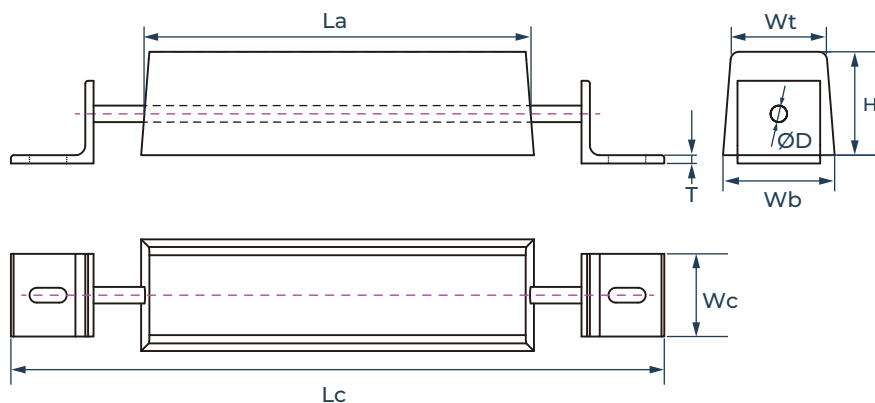
* The open/closed circuit voltage is with respect to an Ag/AgCl reference electrode in seawater.

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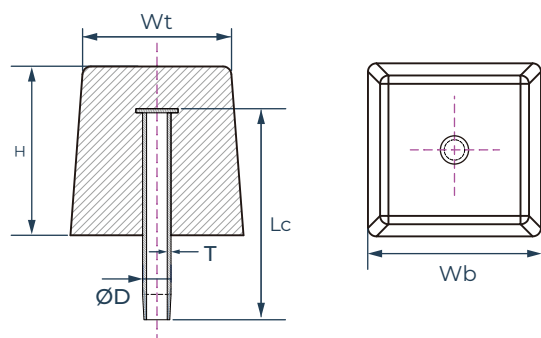
SPECIFICATIONS

■ Rectangular Type Anode



Item No.	Anode Dimensions				Insert Dimensions				Weight	
	Wt	Wb	H	La	ØD	Wc	T	Lc	N.W	G.W
JA-HTZ-R50	4.5" (115 mm)	5.3" (135 mm)	4.9" (125 mm)	18.3" (465 mm)	0.8" (20 mm)	3.9" (100 mm)	0.4" (10 mm)	31.1" (790 mm)	112 lbs (50.8 kg)	115.1 lbs (52.2 kg)

■ Square Type Anode

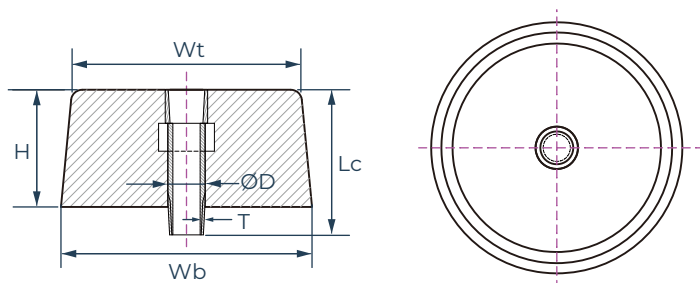


Item No.	Anode Dimensions			Insert Dimensions			Weight	
	Wt	Wb	H	ØD	T	Lc	N.W	G.W
JA-HTZ-S22	4.5" (115 mm)	5.5" (140 mm)	7.9" (200 mm)	1.3" (33.4 mm)	0.2" (4.5 mm)	9.8" (250 mm)	48.9 lbs (22.2 kg)	50.7 lbs (23 kg)
JA-HTZ-S50	6.9" (175 mm)	8.1" (205 mm)	7.9" (200 mm)	1.3" (33.4 mm)	0.2" (4.5 mm)	9.8" (250 mm)	111.3 lbs (50.5 kg)	113.1 lbs (51.3 kg)

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■ Round Type Anode



Item No.	Anode Dimensions			Insert Dimensions			Weight	
	Wt	Wb	H	ØD	T	Lc	N.W	G.W
JA-HTZ-C26	Ø8.1" (Ø205 mm)	Ø8.9" (Ø225 mm)	4.1" (105 mm)	1.3" (33.4 mm)	0.2" (4.5 mm)	5.1" (130 mm)	58.2 lbs (26.4 kg)	59.1 lbs (26.8 kg)

Notes: All dimensions and weights are nominal. The parameter provided is subject to variation in material compositions and Jennings Anodes foundry tolerance.

TESTING DETAILS

We employ ISO 9001:2015 quality management system and rigorous internal testing standards to ensure the optimum lifespan and performance of our Anodes. Each anode is labelled with a unique serial number for quality tracking.

Technical Measurement	Chemical Composition	Electrochemical Performance	Physical Properties
Testing Standard	ATSM B418	ATSM B418	Foundry ITP
Testing Content	Chemical Analysis	Circuit Potential Current Capacity Current Efficiency Electrical Resistance	Surface Finish Dimension & Weight Steel Insert
Equipment	Optical Emission Spectrometer OBLF QSN 750	Electrochemical Analyzer EPI 200	Calibrated Digital Measuring Devices

* Third party testing is conducted by customer's special request at extra charge.



Worldwide Service Network

Our worldwide network of sales and service centers can provide immediate advice and assistance on the complete range of products.

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