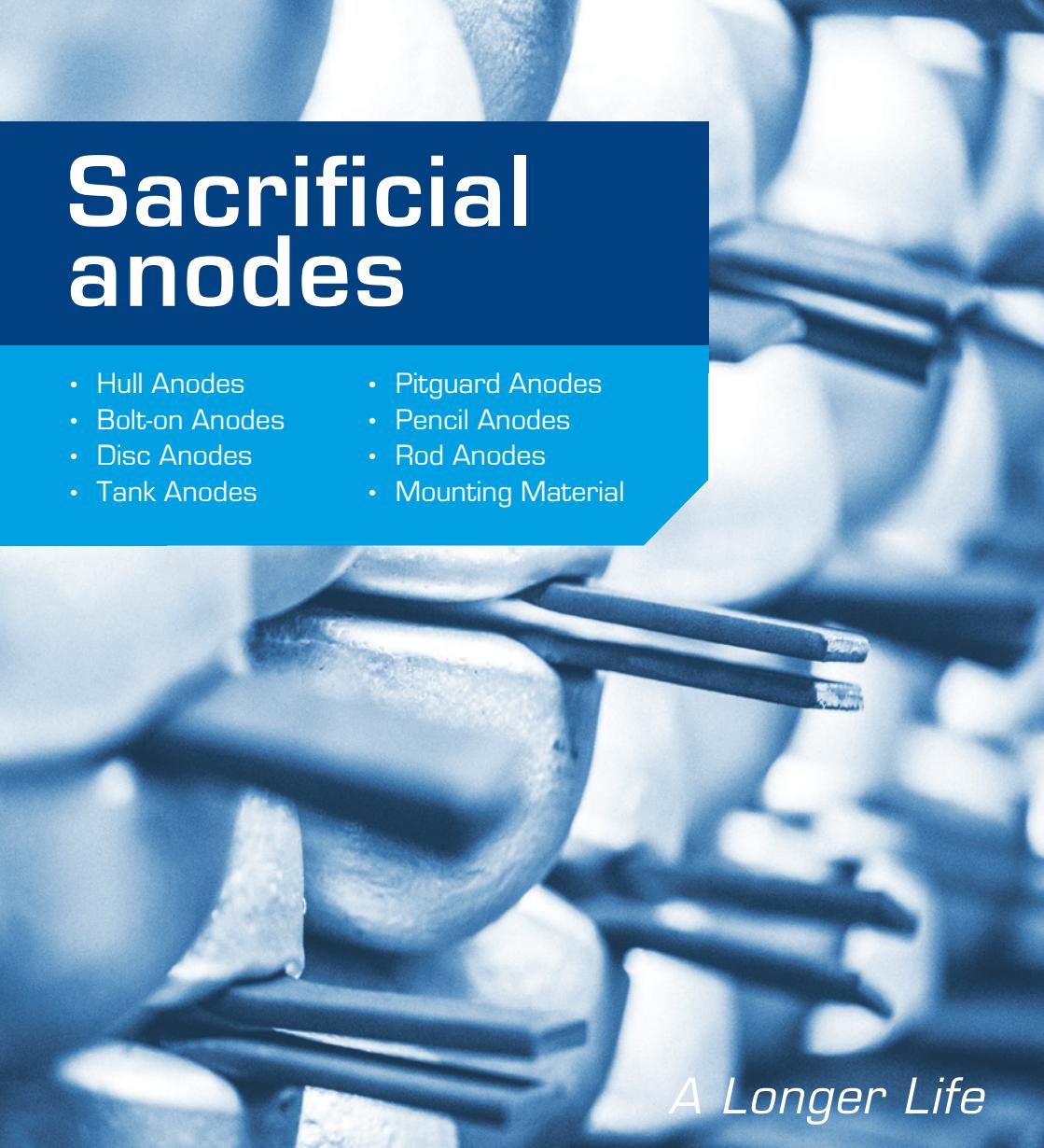


Sacrificial anodes

- Hull Anodes
- Bolt-on Anodes
- Disc Anodes
- Tank Anodes
- Pitguard Anodes
- Pencil Anodes
- Rod Anodes
- Mounting Material



A Longer Life



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About MME Group

MME Group is based in the Rotterdam area in The Netherlands. The company was established in 1963 and has since grown to become one of the most experienced and specialized companies in its field of activity. MME Group serves customers around the globe in industries such as machine building, oil & gas, offshore renewable energy (wind and tidal), shipping and shipbuilding.

MME Group activities:

- Cathodic Protection (SA, ICCP)
- MGPS (Impressed Current Anti-Fouling)
- Harbinger Boarding Equipment
- Non-destructive Testing
- Metallurgical Laboratory
- Marine Surveys
- Rope Access
- NDT Training Courses
- Playground & Recreational Safety

Contact us to find out how we can help you realise 'A Longer Life' for your assets or products.

MME Group sacrificial anodes

Corrosion is one of the largest threats to the long-term integrity and profitability of seagoing vessels and offshore structures. In fact, 4% of our total GDP is wasted due to corrosion. If you don't select the right protection method and solution provider, the vessel you construct or operate might also end up in those statistics. In the end, this will not only damage your reputation, but could even harm people as well as the environment.

Thankfully, MME Group has decades of accumulated knowledge and experience in applying sacrificial anodes and impressed current systems to protect these objects. With in-house corrosion engineering (FEM-analysis) and value added services such as Non-Destructive Testing, Marine Inspections, IRATA certified Rope Access and a Destructive Testing and Corrosion Laboratory, MME Group helps you realise 'A Longer Life' for your vessel.

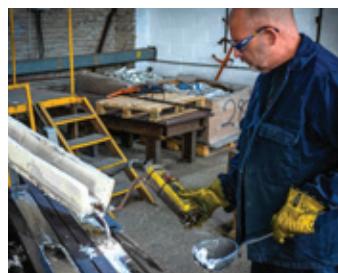


Why choose our anodes?

This catalogue gives you an overview of our sacrificial anode product range for sea and river going vessels. All MME Group anodes are engineered in-house and are produced at our fully owned foundry in the United Kingdom. This allows us to closely control product quality and guarantee short delivery times. From our warehouse in The Netherlands, we can supply most types directly from stock to any location in Europe within a few days.

Harbour and offshore applications

We are also specialised in engineering and production of sacrificial anodes for harbour and port structures (jetties and sheet pile walls) and offshore constructions (jackets, drilling rigs, offshore wind foundations). As these anodes usually require project specific engineering, they are not listed in this catalogue. Please contact us for more information if you are interested in these applications: sa@mme-group.com / +31 180 48 28 28



Alloy specifications of standard Sacrificial Anodes

General

The below mentioned alloys have been chosen with great care to ensure an even corrosion pattern, reliable electrical capacity and a long working life. These alloys are used for standard sacrificial anodes. Upon request, MME Group can cast anodes with different alloy specifications.

Aluminium Alloy

Element	Impurities	Range (%)
Zinc (Zn)		3.50 - 5.00
Titanium (Ti)		0.01 - 0.05
Silicon (Si)		0.05 - 0.20
Bismuth (Bi)		0.05 - 0.15
Indium (In)		0.015 - 0.05
Aluminium		Remainder
	Copper (Cu)	0.01 max
	Iron (Fe)	0.15 max
	Others each	0.02 max
	Others total	0.05 max

Nominal electrical capacity: 2700 AmpHr/Kg

Nominal open circuit potential: -1100 mV vs Ag/AgCl (seawater) reference cell

ZINC ALLOY acc. US MIL Spec. A-18001K

Element	Impurities	Range (%)
Aluminium (Al)		0.10 - 0.5
Cadmium (Cd)		0.025 - 0.07
Zinc (Zn)		Remainder
	Copper (Cu)	0.005 max
	Iron (Fe)	0.005 max
	Lead (Pb)	0.006 max
	Others total	0.10 max

Nominal electrical capacity: 780 AmpHr/Kg

Nominal open circuit potential: -1050 mV vs Ag/AgCl (seawater) reference cell

Choosing Zinc or Aluminium as alloy for Sacrificial Anodes

General

Traditionally, many companies prefer to use zinc instead of aluminium. MME Group advises the use of aluminium instead of zinc for the following reasons:

Price of anode material

Due to the fact that the capacity of aluminium (2700 A hr/Kg) is almost 3.5 times higher than that of zinc (780 A hr /Kg), the total amount of required anode material (Kg) is less. This results in a cheaper Cathodic Protection System to that given by zinc with an equal level of protection.

Price of transport & installation

As the total weight of anode material for a system using aluminium is less compared to a system using zinc anodes, the installation cost for a system using aluminium anodes will also be lower.

Multi-effective

In brackish water, aluminium anodes work more effectively than zinc, due to the higher driving voltage of aluminium.

Environmental Pollution

Compared to zinc, aluminium alloys are considered less harmful to the environment.

For anodes used in water ballast and other tanks see chapter "Choosing tank anodes" (page 7).

Anode Recommendations

Saltwater

Zn

Al



In saltwater, both Zinc and Aluminium are suitable, but aluminium has a better re-activation performance.

Brackish Water



Al



Aluminium is the recommended material for brackish water.

Fresh Water



Al

Mg

In pure fresh water magnesium is the best performing anode material. With polluted water or when a boat is temporarily in brackish water, aluminium is the preferred material.

These recommendations apply to steel structures. For more detailed information, please consult your local distributor or contact MME Group.

Choosing Tank Anodes

General

Traditionally, many vessels are fitted with sacrificial anodes for external protection (hull). For achieving the same protection of the internal construction of the vessel (mainly water ballast tanks) sacrificial anodes can also be used. However, due to the fact that tanks are inherently complex structures as well as being confined spaces, the use of anodes has to be well engineered and the following rules must be adhered to:

Effect of ballast tank anodes

The ballast tank anodes will be without effect when the ballast tanks are empty. It will take some time to obtain full effect (polarisation) of submerged steel surfaces after filling with seawater. In the ullage space or under deck area on top of tanks, the anodes will not be effective unless the tank is completely filled.

The use of zinc / aluminium or magnesium alloy anodes

Anode alloy materials based on zinc or aluminium are acceptable, magnesium alloy is not allowed. Ballast tanks adjacent to tanks for liquid cargo with a flash point < 60° C are to be considered as dangerous areas. Aluminium alloy anodes are to be located in such way that the kinetic energy which is developed in case of loosening and falling down will be < 275 J. This means that in these areas the maximum height (in mtr) of an aluminium anode above tank bottom, deck or stringer may not exceed the value obtained by "28 / W", where "W" is the gross weight of the anode.

Furthermore classification societies may require structures to be installed to protect the aluminium anodes from being hit by falling objects. Please consult your local surveyor / classification society branch office for full details.

Welding or bolting type anodes

For a good operation of the anodes it is vital to have a good electrical conductivity between the ship's structure and the anodes. This can be obtained either by welding (preferably) or bolting the anodes to the ship's structure. In case bolting type anodes are requested, the optional "M" clamps can be used (see page 151).

For the pros and cons of the use of zinc or aluminium alloys for sacrificial anodes used see chapter "Choosing zinc or aluminium as alloy for sacrificial anodes" (page 5).

Our other products & systems

ICCP Systems

Intelligent electronic systems that generate an impressed current that prevents the corrosion process from taking place. Reference cells measure the underwater potential and the output of the system is set accordingly to guarantee a constant level of protection.



mme.group/iccp



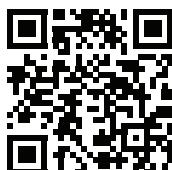
mme.group/icaf

ICAF (MGPS) Systems

Marine growth in sea chests, piping systems and heat exchangers jeopardises the performance of your vessel. To deal with this, MME Group has developed the Marine Growth Prevention System (MGPS), also known as Impressed Current Anti-Fouling (ICAF). The system dissolves a tiny amount of copper ions in the water making it impossible for biological growth to attach itself. We supply spare parts (anodes & power units) for both our own systems and for those produced by other OEMs.

Shaft Grounding Systems

Our shaft grounding systems drain any possible current sent out by the ICCP system and sacrificial anodes that may enter into the propeller shaft through the propeller. If left undrained, the potential difference between the propeller shaft and the hull may cause stray currents in the propeller shaft bearings or gearboxes, which could lead to corrosion and subsequent premature failure.



mme.group/sg

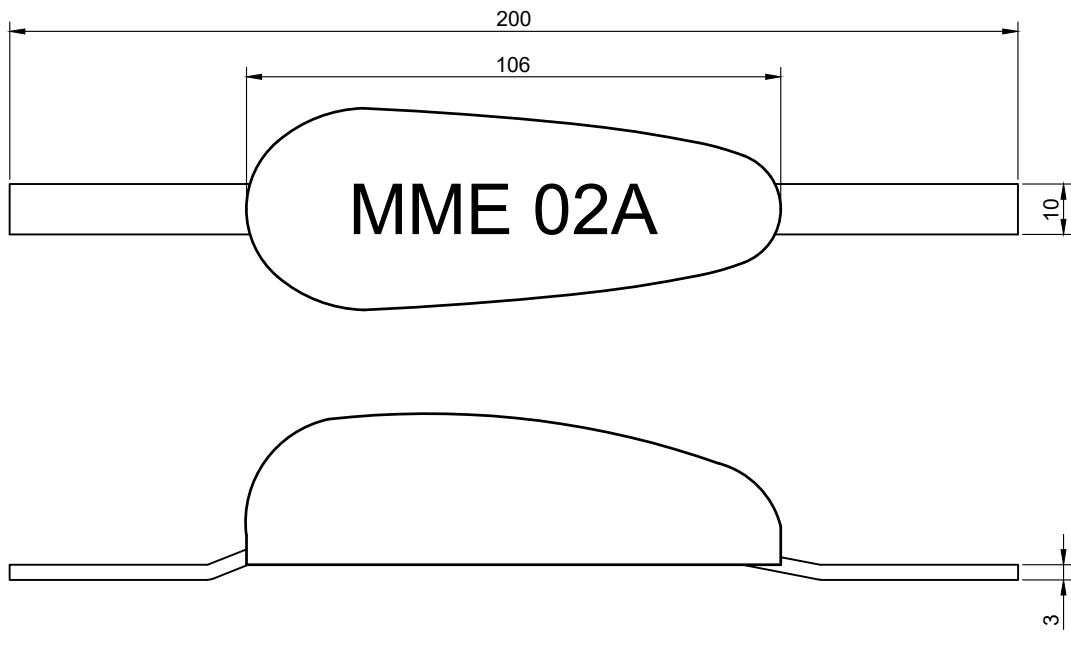


mme.group/harb

Harbinger Boarding Equipment

'A Longer Life' is not limited to the object itself. The crew must be able to safely get to and from their working area. Under the brand name "Harbinger", MME Group supplies a broad range of seawater resistant gangways and accommodation ladders for (seagoing) vessels and offshore installations. We also supply tailor-made solutions according to the customer's specifications.

ALUMINIUM WELD-ON HULL ANODES



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 AHour / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Galvanized steel

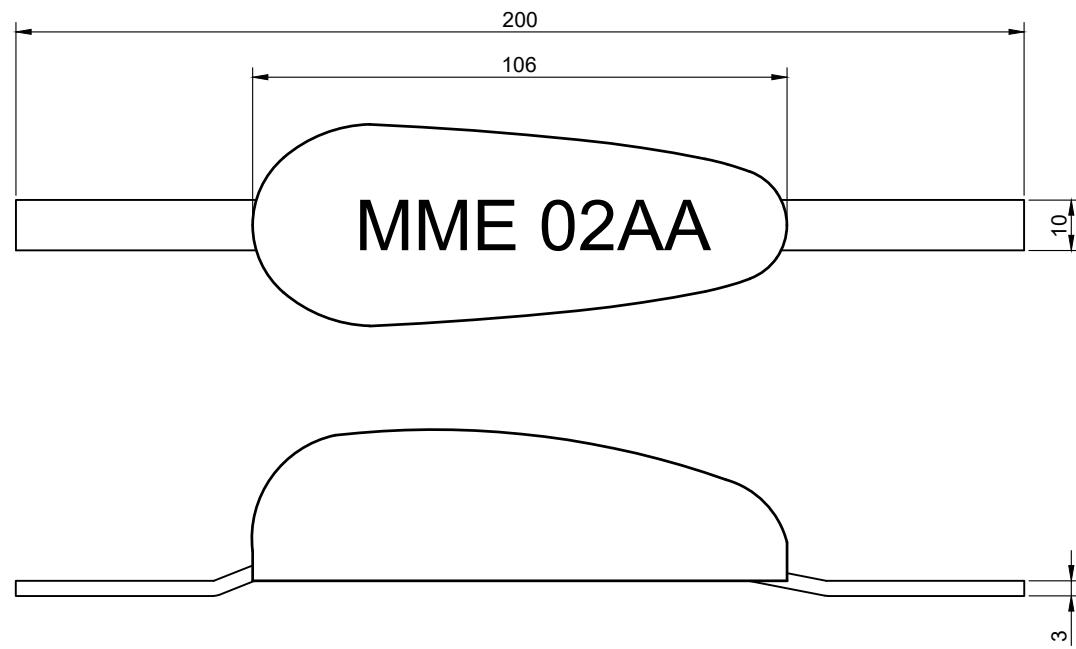
Minimum/maximum anode weight ±5%



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www.mme-group.com

Aluminium Alloy Anode MME 02A

Dwg:	SAA 0002-01	Revision:	0
Drawn:	ESM	Checked:	Approved:
	22-03-21	PP	OT
			Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

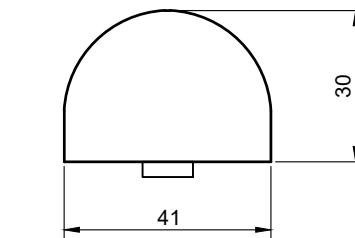
All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Aluminium for applications with aluminium structures

Minimum/maximum anode weight ±5%



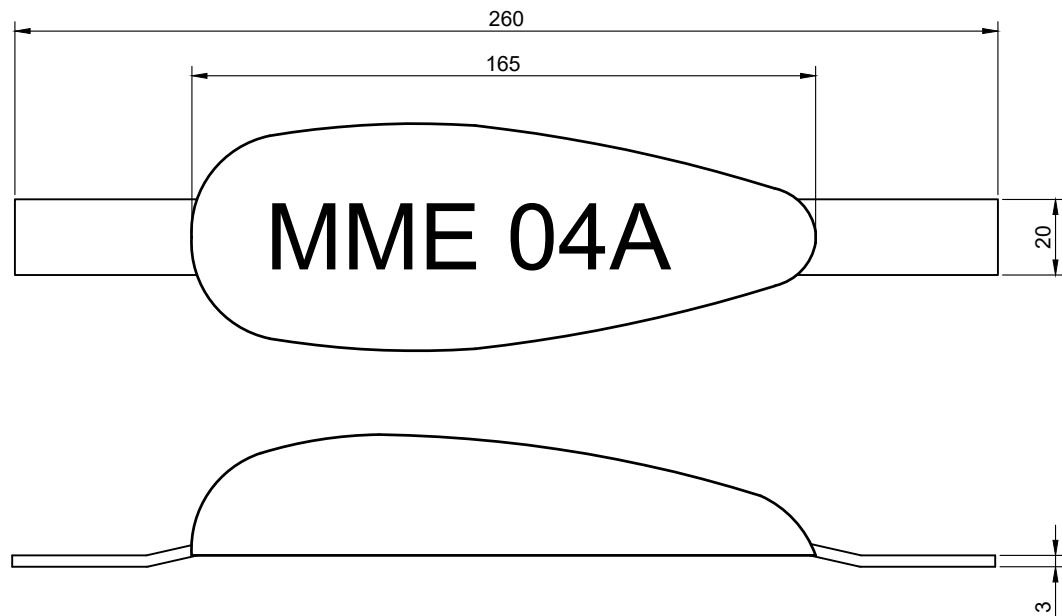
Nett Weight: 0.20 Kg
Gross Weight: 0.22 Kg



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Aluminium Alloy Anode MME 02AA - Aluminium insert

Dwg:	SAA 0002-02		Revision:
Drawn:	Checked:	Approved:	
ESM	PP	OT	
23-03-21	23-03-21	23-03-21	Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

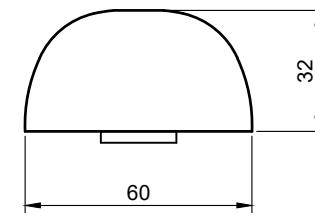
All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Galvanized steel

Minimum/maximum anode weight ±5%



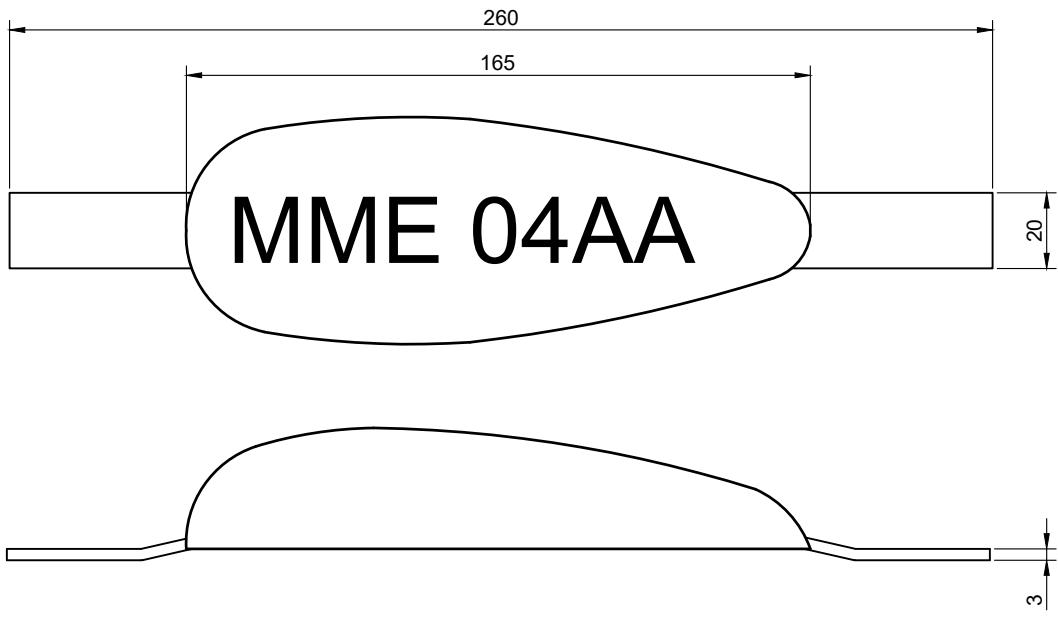
Nett Weight: 0.40 Kg
Gross Weight: 0.52 Kg



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Aluminium Alloy Anode MME 04A

Dwg:	SAA 0004-04		Revision: 0
Drawn:	ESM	Checked: PP	Approved: OT
	23-03-21	23-03-21	23-03-21
			Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Aluminium for applications with aluminium structures

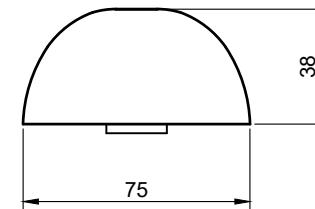
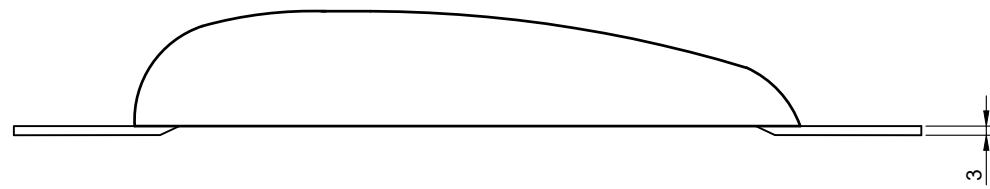
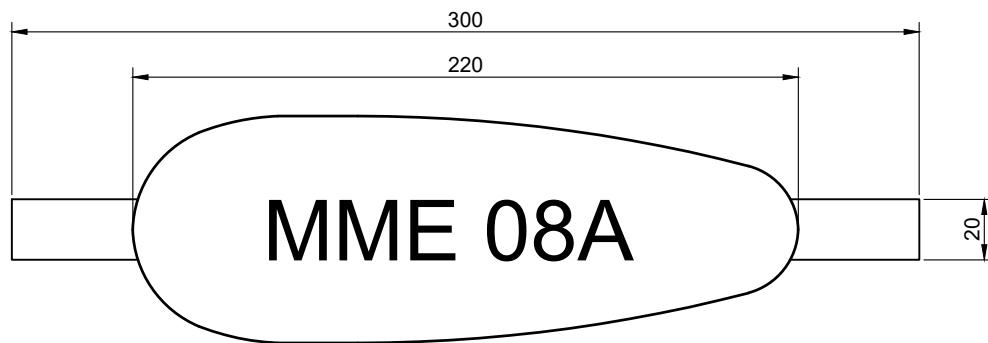
Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 04AA - Aluminium insert

Dwg:	SAA 0004-03	Revision:	0
Drawn:	ESM	Checked:	Approved:
	23-03-21	PP	OT
			Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper		0.01 max
Iron		0.15 max
Others each		0.02 max
Others total		0.05 max

Electrochemical capacity: 2700 AHour / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Galvanized steel

Minimum/maximum anode weight ±5%

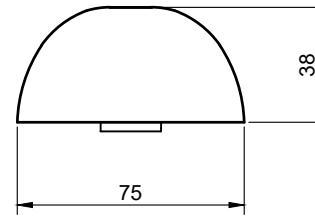
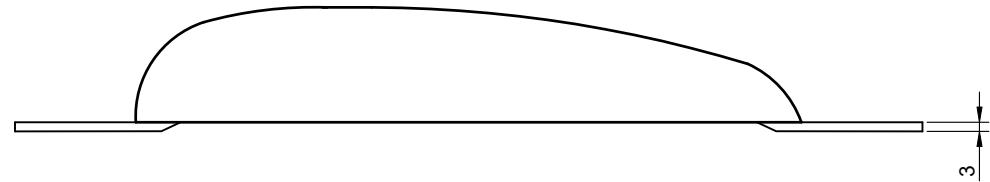
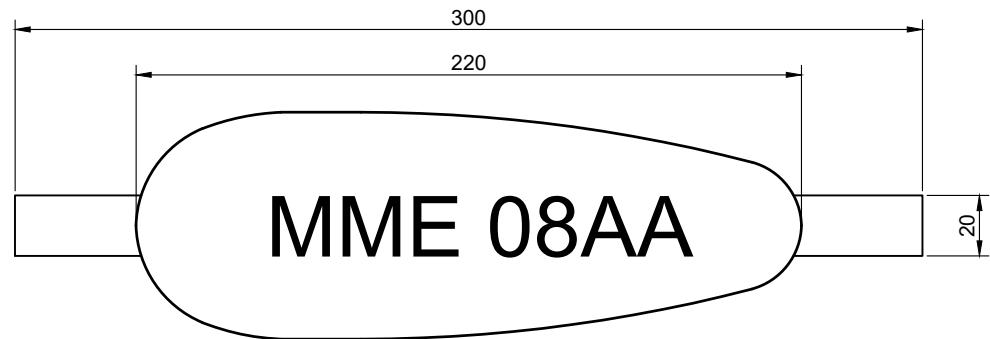
Nett Weight: 0.80 Kg
Gross Weight: 0.94 Kg



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Aluminium Alloy Anode MME 08A

Dwg:	SAA 0008-01	Revision:	0
Drawn:	ESM	Checked:	Approved:
	23-03-21	PP	OT
			Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Aluminium for applications with aluminium structures

Minimum/maximum anode weight ±5%

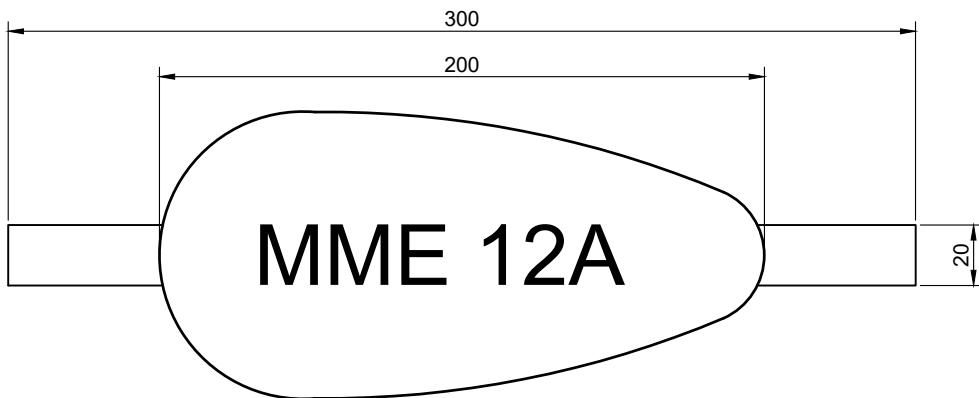
Nett Weight: 0.80 Kg
Gross Weight: 0.85 Kg



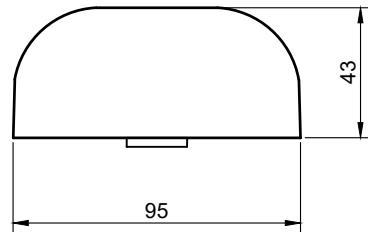
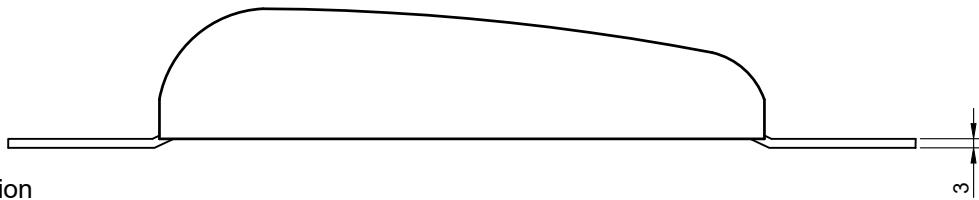
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Aluminium Alloy Anode MME 08AA - Aluminium insert

Dwg:	SAA 0008-03	Revision:	0
Drawn:	ESM	Checked:	Approved:
	23-03-21	23-03-21	OT
			Paper: A4



MME 12A



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Galvanized steel

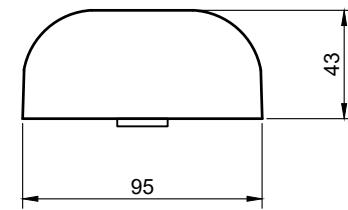
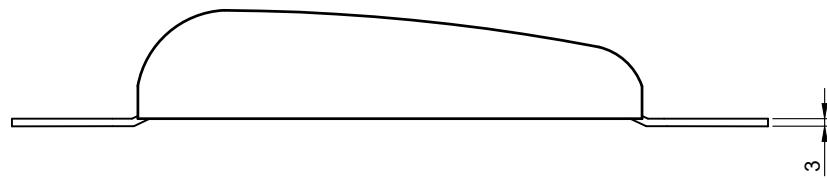
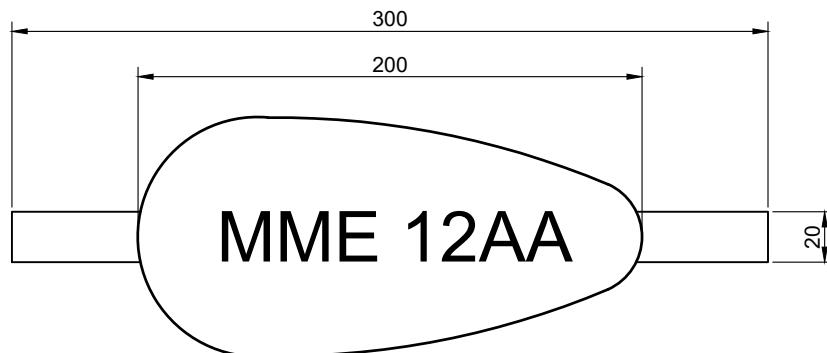
Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 12A

Dwg:	SAA 0012-03	Revision:	0
Drawn:	ESM	Checked:	Approved:
23-03-21	23-03-21	23-03-21	Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper		0.01 max
Iron		0.15 max
Others each		0.02 max
Others total		0.05 max

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Aluminium for applications with aluminium structures

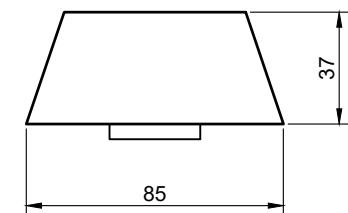
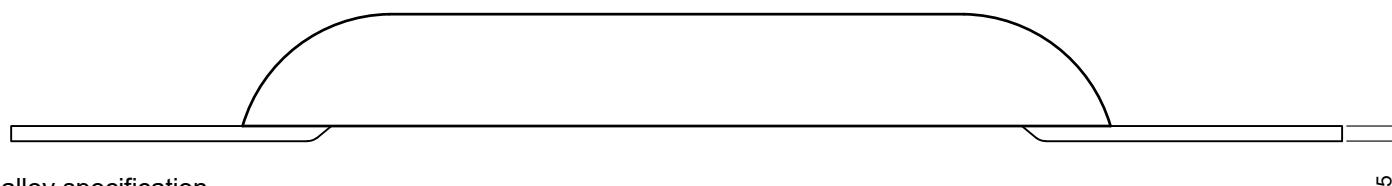
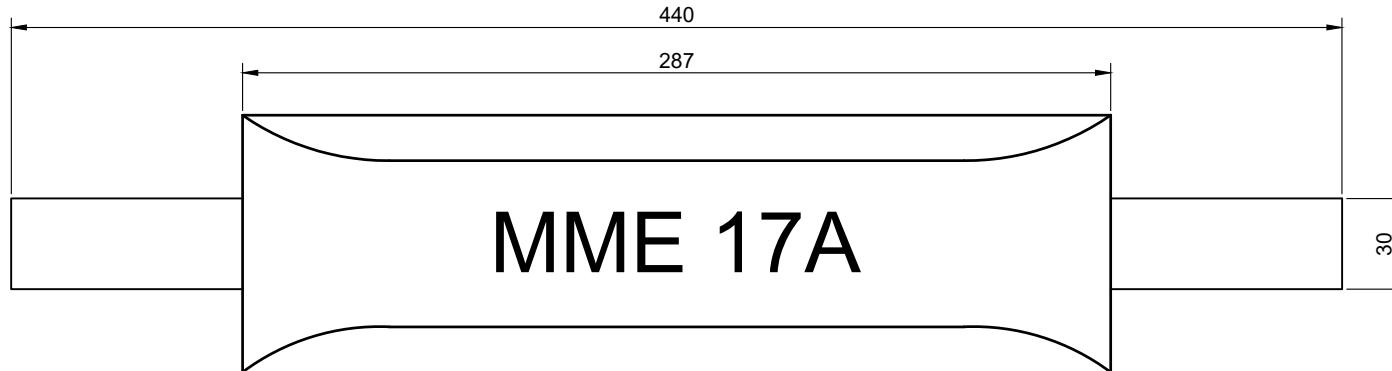
Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 12AA - Aluminium insert

Dwg: SAA 0012-01			Revision: 0
Drawn: ESM	Checked: PP	Approved: OT	Paper: A4
22-03-21	22-03-21	22-03-21	



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 AHour / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

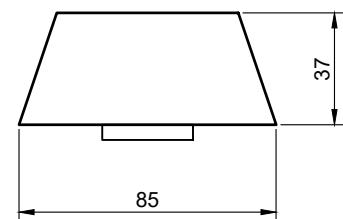
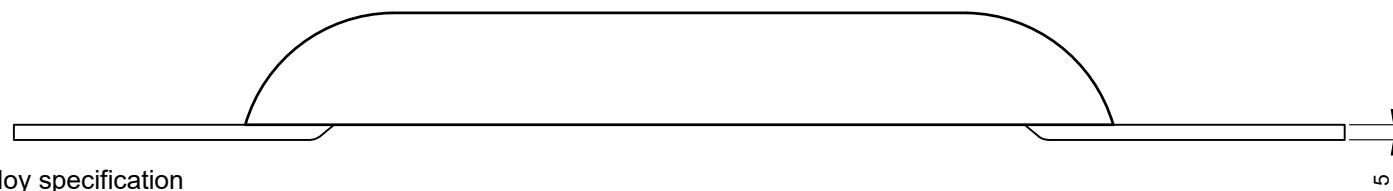
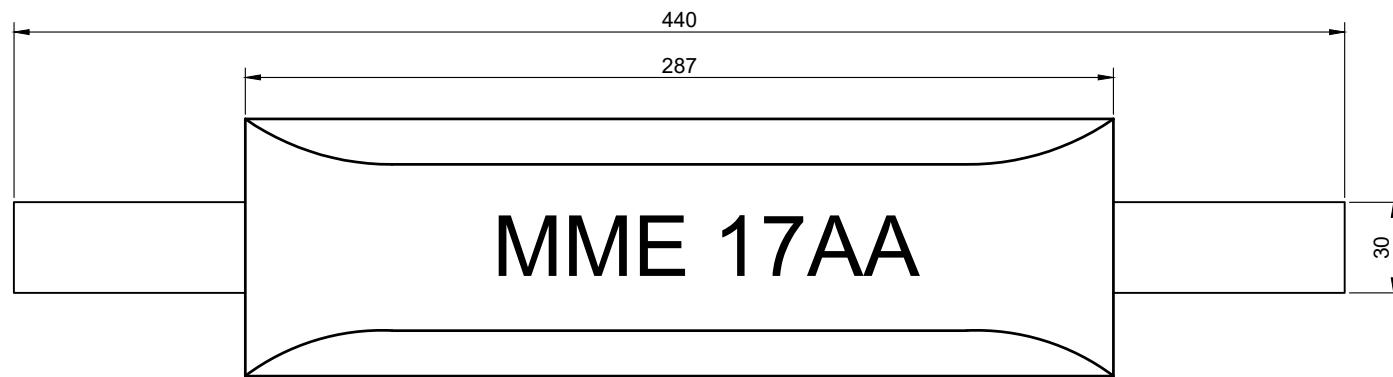
Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 17A

Dwg:	SAA 0017-02	Revision:	0
Drawn:	ESM	Checked:	Approved:
	23-03-21	PP	OT
			Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 AHour / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Aluminium for applications with aluminium structures

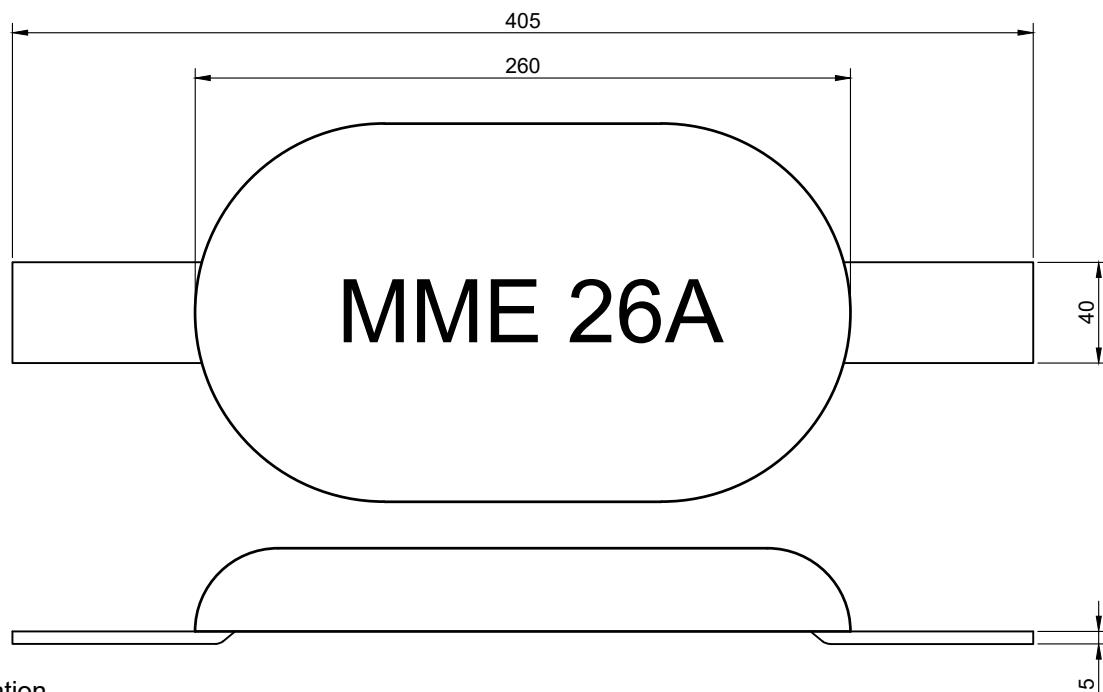
Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 17AA - Aluminium insert

Dwg: SAA 0017-01			Revision: 0
Drawn: ESM	Checked: PP	Approved: OT	Paper: A4
23-03-21	23-03-21	23-03-21	



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper		0.01 max
Iron		0.15 max
Others each		0.02 max
Others total		0.05 max

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

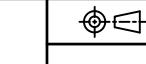
All data is subject to change without prior notice

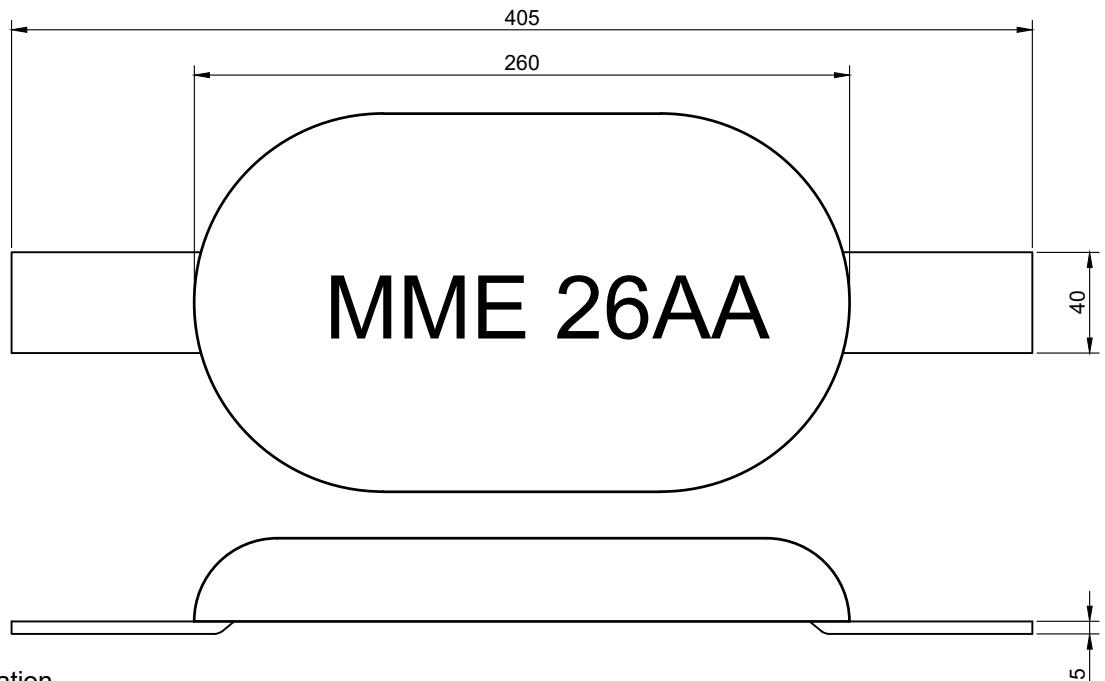
Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%

 MME GROUP			Cathodic Protection Division Tel: +31 (0)180 48 28 28 E-mail: sales@mme.nl www.mme-group.com
Aluminium Alloy Anode MME 26A			
Dwg: SAA 0026-03 Revision: 0			 ESM PP OT 23-03-21 23-03-21 23-03-21 Paper: A4
Drawn:	Checked:	Approved:	
PP		OT	



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

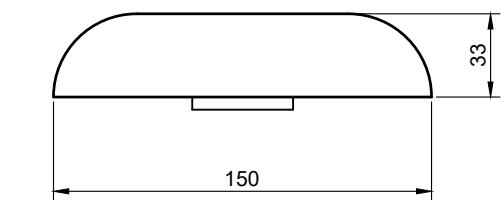
All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Aluminium for applications with aluminium structures

Minimum/maximum anode weight ±5%



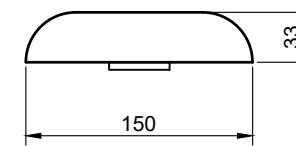
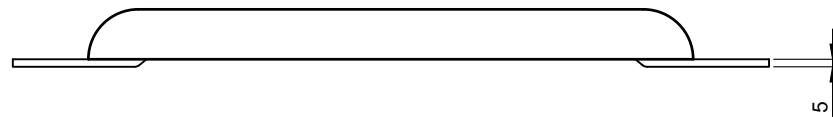
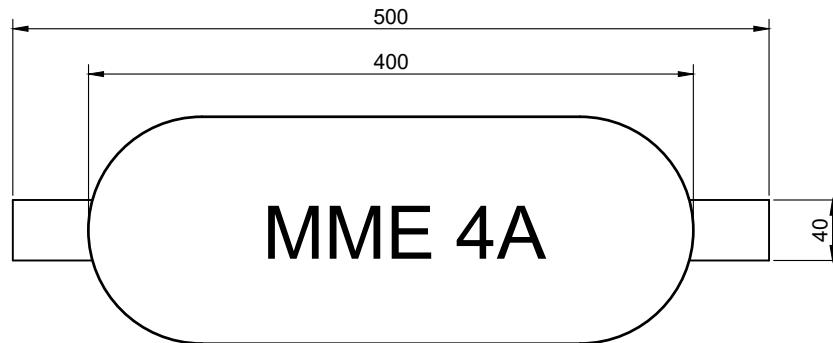
Nett Weight: 2.6 Kg
Gross Weight: 2.8 Kg



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www.mme-group.com

Aluminium Alloy Anode MME 26AA - Aluminium insert

Dwg:	SAA 0026-02	Revision:	0
Drawn:	ESM	Checked:	Approved:
	23-03-21	23-03-21	OT
			Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper		0.01 max
Iron		0.15 max
Others each		0.02 max
Others total		0.05 max

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

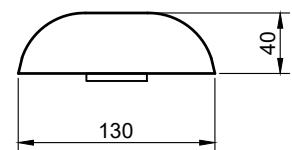
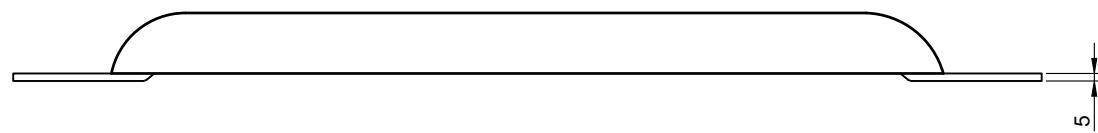
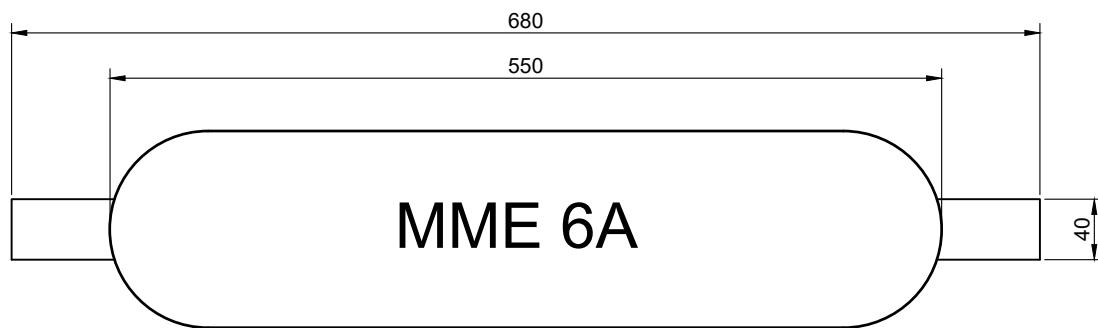
Minimum/maximum anode weight ±5%



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www.mme-group.com

Aluminium Alloy Anode MME 4A

Dwg:	SAA 0040-01	Revision:	0
Drawn:	ESM	Checked:	Approved:
	23-03-21	PP	OT
			Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

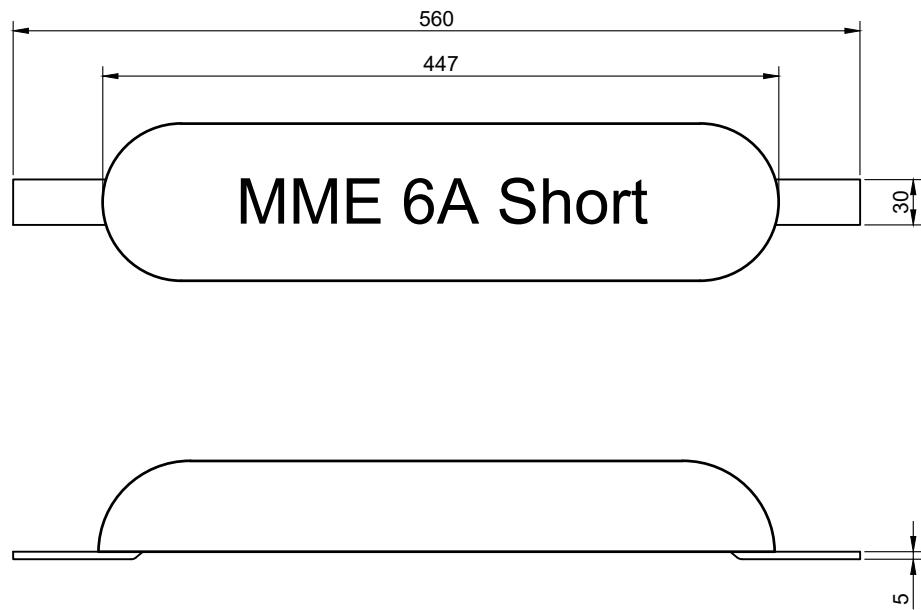
Minimum/maximum anode weight ±5%



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www.mme-group.com

Aluminium Alloy Anode MME 6A

Dwg:	SAA 0060-01	Revision:	0
Drawn:	ESM	Checked:	Approved:
	23-03-21	PP	OT
			Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 AHour / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

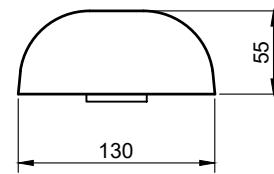
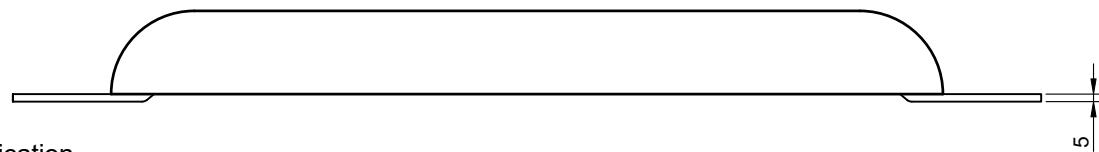
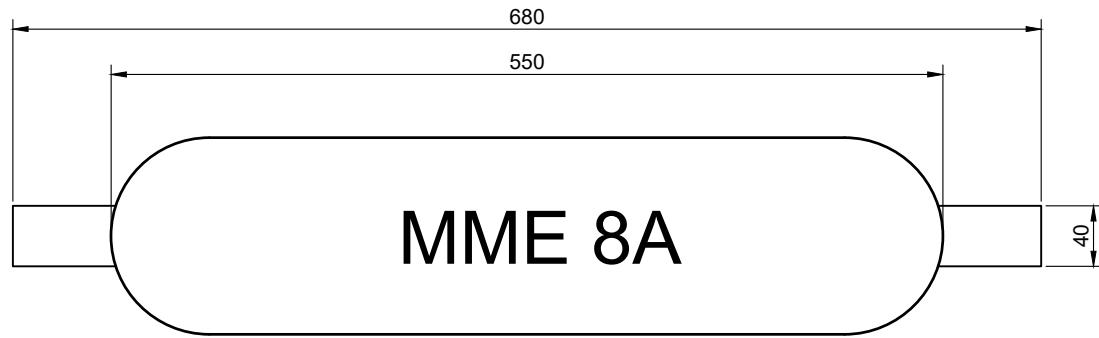
Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 6A Short

Dwg:	SAA 0060-02	Revision:	0
Drawn:	ESM	Checked:	Approved:
	23-03-21	PP	OT
			Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

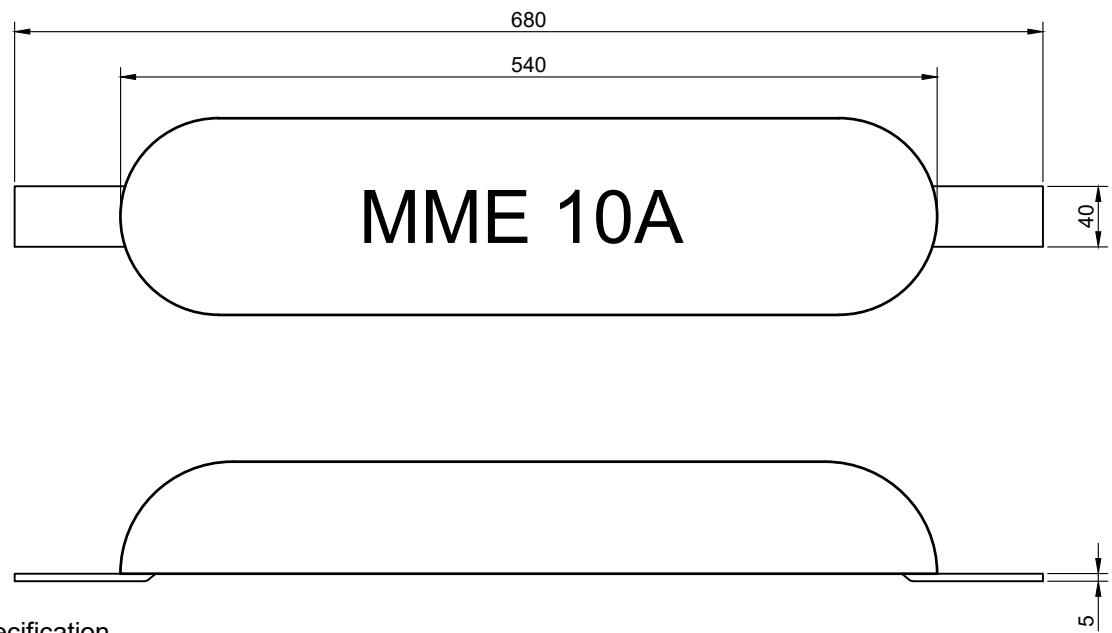
Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 8A

Dwg:	SAA 0080-03	Revision:	0
Drawn:	ESM	Checked:	Approved:
23-03-21	23-03-21	23-03-21	Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

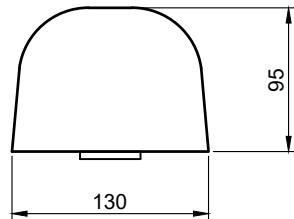
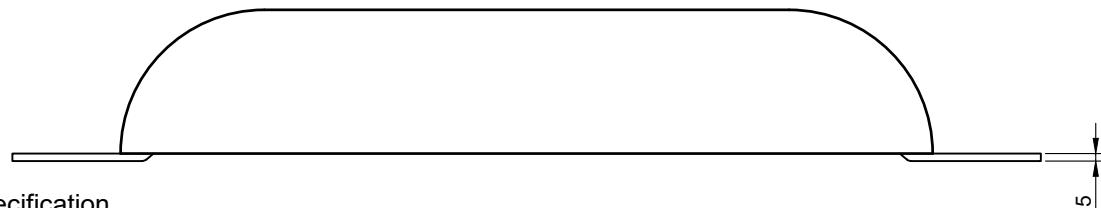
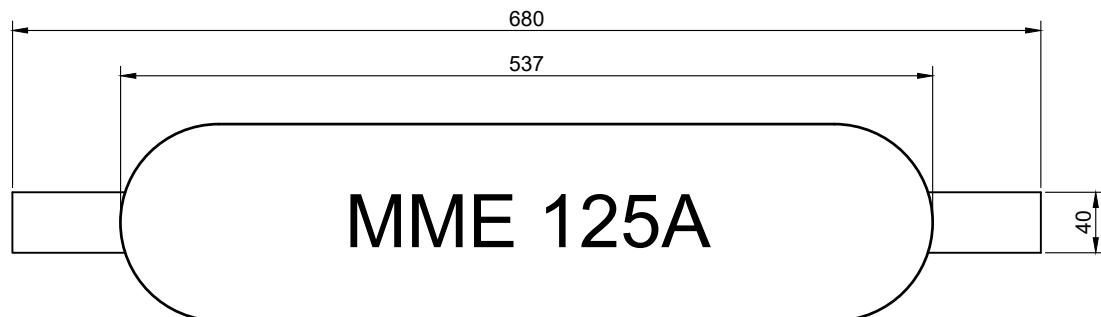
Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 10A

Dwg:	SAA 0100-03	Revision:	0
Drawn:	ESM	Checked:	Approved:
	24-03-21	PP	OT
			Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 AHour / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

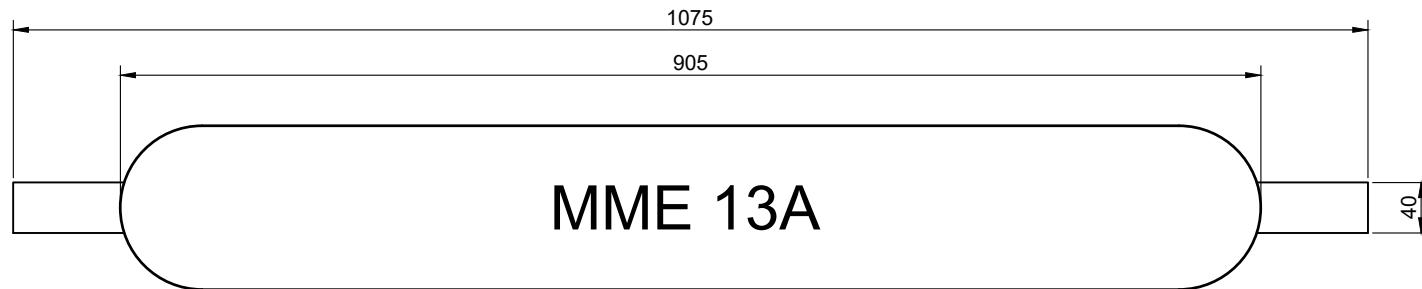
Minimum/maximum anode weight ±5%



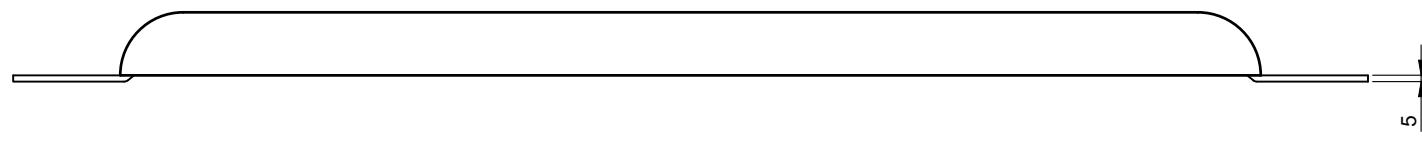
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www.mme-group.com

Aluminium Alloy Anode MME 125A

Dwg:	SAA 0125-02	Revision:	0
Drawn:	ESM	Checked:	Approved:
	24-03-21	24-03-21	OT
			Paper: A4



MME 13A



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper		0.01 max
Iron		0.15 max
Others each		0.02 max
Others total		0.05 max

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%

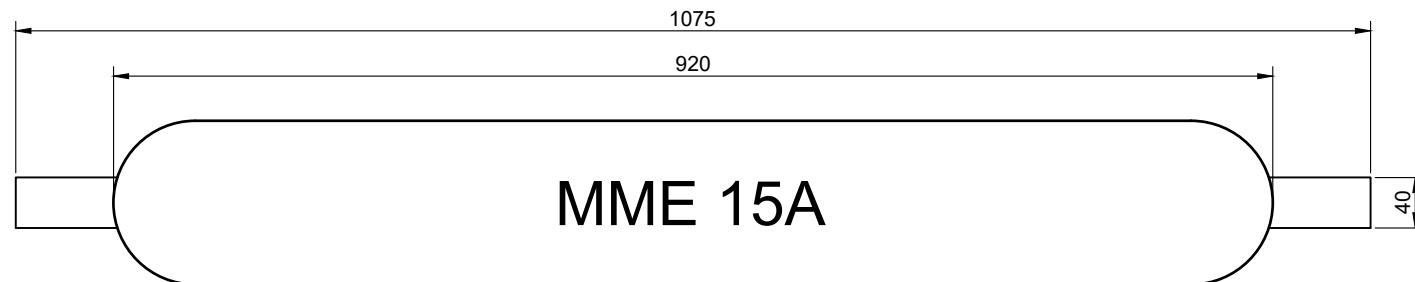
Nett Weight: 13.0 Kg
Gross Weight: 14.7 Kg



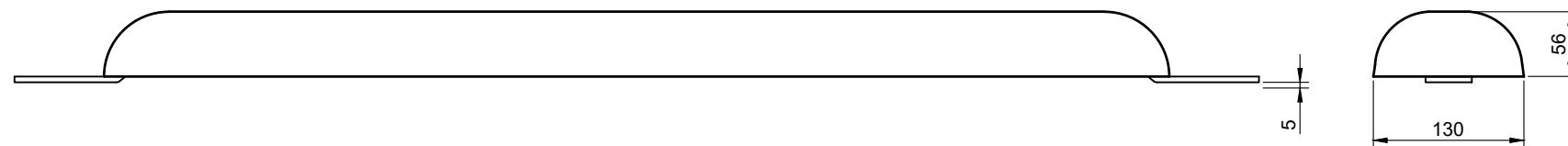
Cathodic Protection Division
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www.mme-group.com

Aluminium Alloy Anode MME 13A

Dwg:	SAA 0130-01	Revision:	0
Drawn:	ESM	Checked:	Approved:
	24-03-21	PP	OT
			Paper: A4



MME 15A



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper		0.01 max
Iron		0.15 max
Others each		0.02 max
Others total		0.05 max

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%

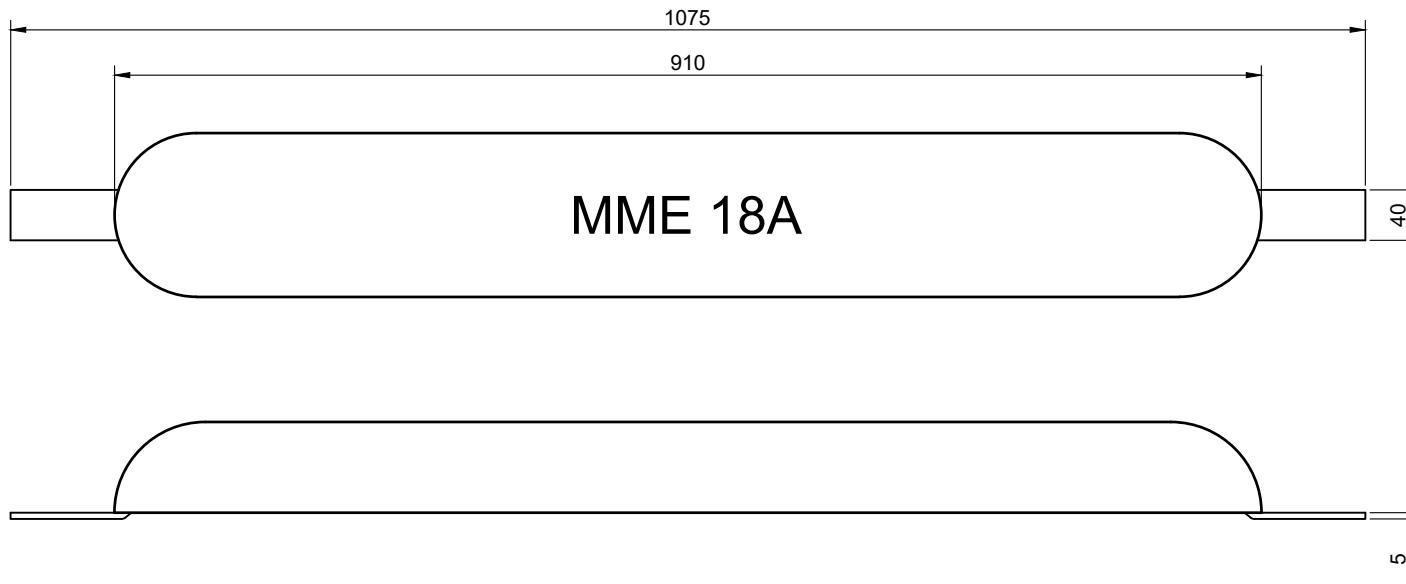
Nett Weight: 15.0 Kg
Gross Weight: 16.7 Kg



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Aluminium Alloy Anode MME 15A

Dwg:	SAA 0150-01	Revision:	0
Drawn:	ESM	Checked:	Approved:
	24-03-21	PP	OT
			Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper		0.01 max
Iron		0.15 max
Others each		0.02 max
Others total		0.05 max

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%

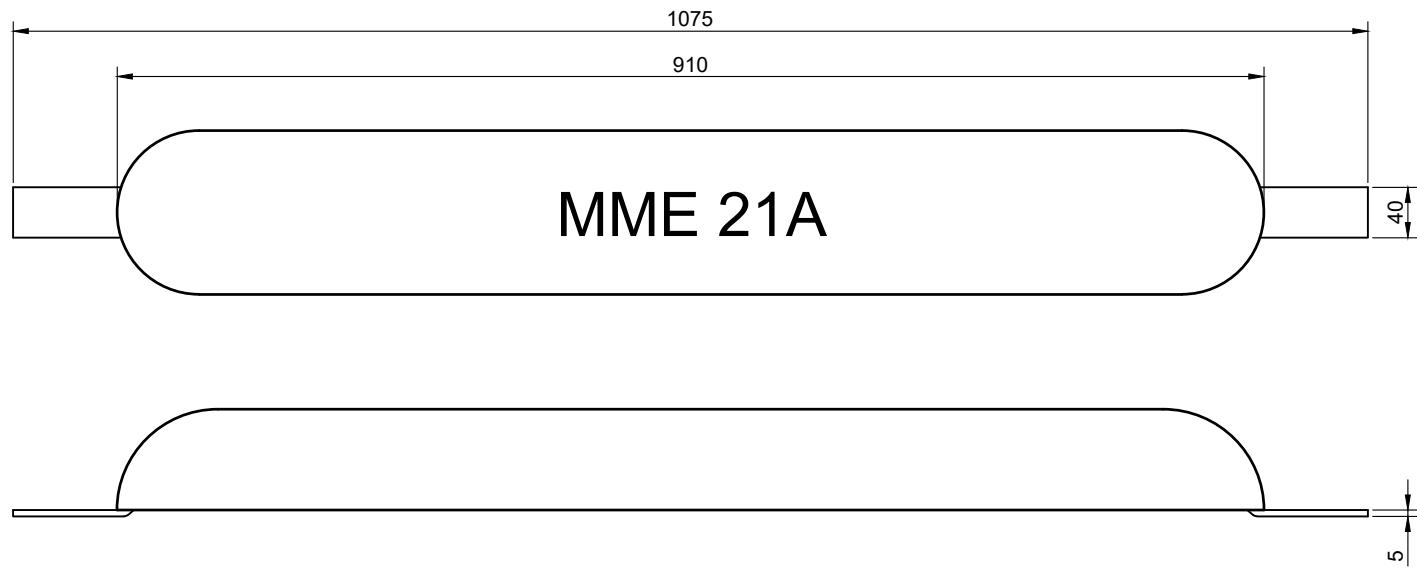
Nett Weight: 18.0 Kg
Gross Weight: 19.7 Kg



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Aluminium Alloy Anode MME 18A

Dwg:	SAA 0180-01		Revision: 0
Drawn:	ESM	Checked: PP	Approved: OT
	25-03-21	25-03-21	25-03-21
			Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%

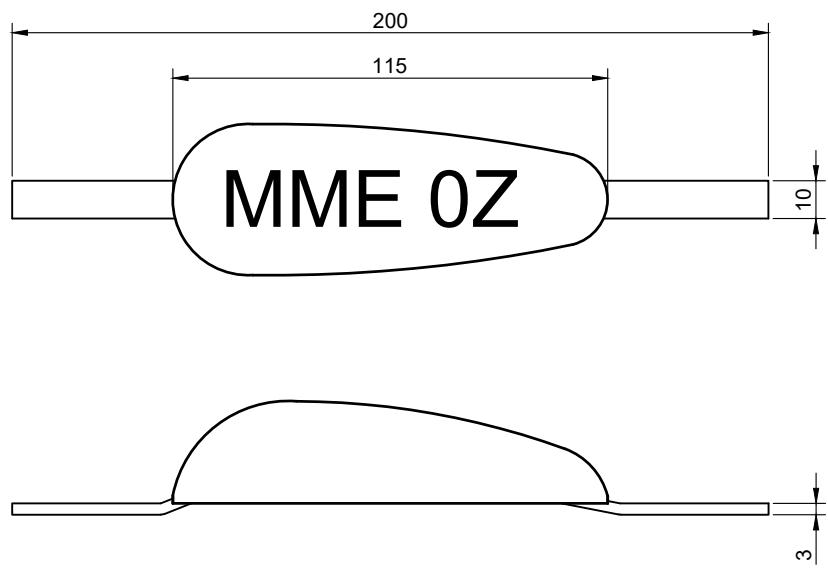


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www.mme-group.com

Aluminium Alloy Anode MME 21A

Dwg:	SAA 0210-01	Revision:	0
Drawn:	ESM	Checked:	Approved:
	25-03-21	PP	OT
			Paper: A4

ZINC WELD-ON HULL ANODES



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Galvanized steel

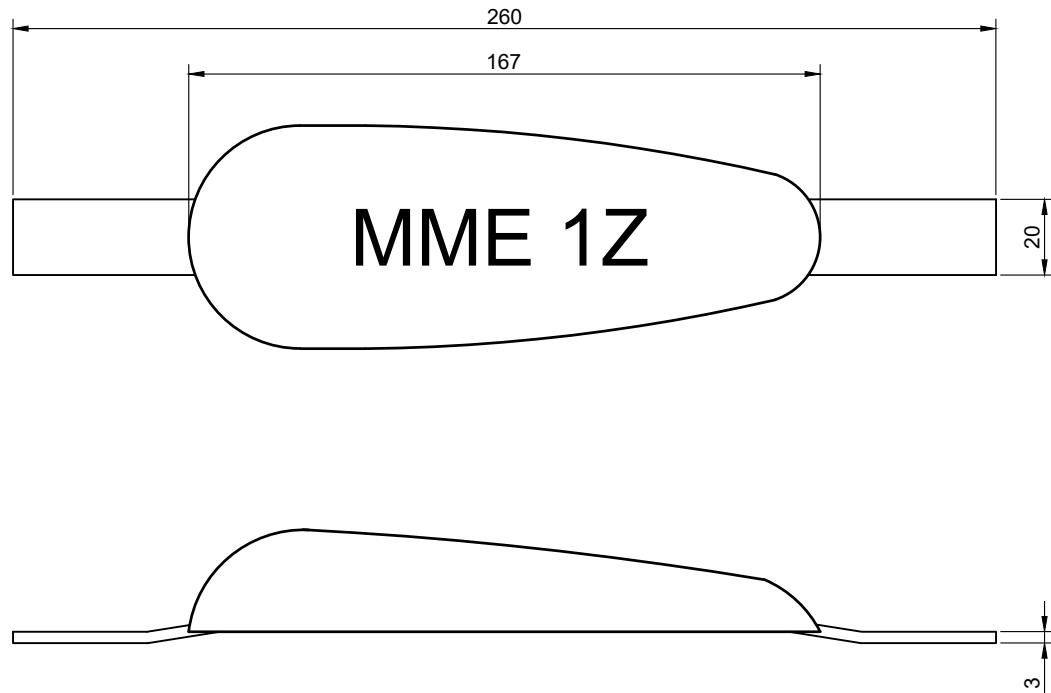
Minimum/maximum anode weight ±5%



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**Zinc Alloy Anode
MME 0Z**

Dwg: SAZ 0005-02			Revision: 0
Drawn: ESM	Checked: PP	Approved: OT	Paper: A4
21-04-21	21-04-21	21-04-21	



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

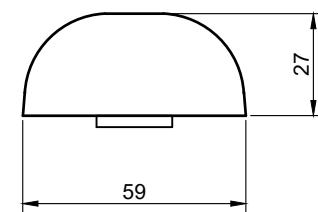
All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Galvanized steel

Minimum/maximum anode weight ±5%



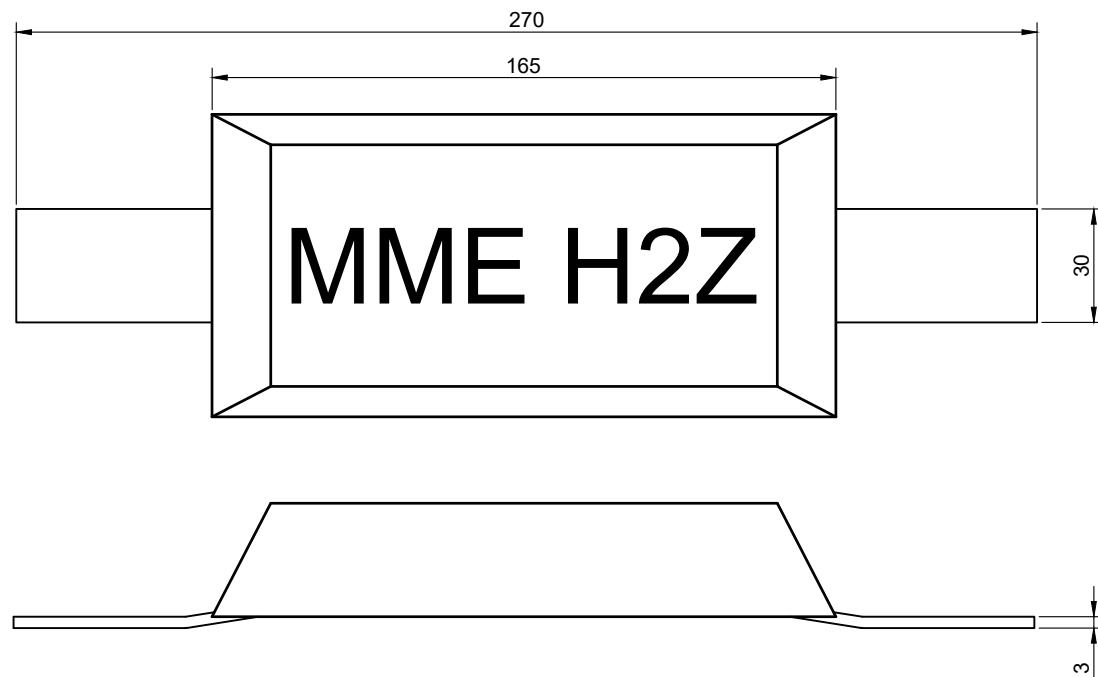
Nett Weight: 1.0 Kg
Gross Weight: 1.1 Kg



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Zinc Alloy Anode MME 1Z

Dwg:	SAZ 0010-05	Revision:	0
Drawn:	ESM	Checked:	Approved:
	31-03-21	31-03-21	OT
			Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc		Remainder
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHour/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

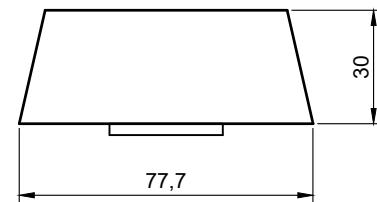
All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Galvanized steel

Minimum/maximum anode weight ±5%



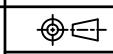
Nett Weight: 2.0 Kg
Gross Weight: 2.2 Kg



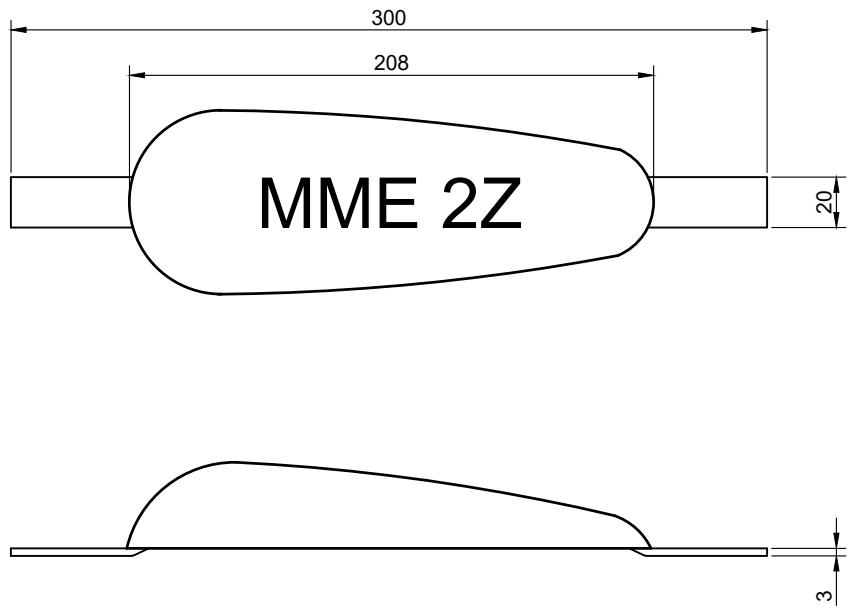
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Zinc Alloy Anode MME H2Z

Dwg:	SAZ 0020-03	Revision:	0
Drawn:	ESM	Checked:	Approved:
	23-04-21	23-04-21	OT



Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc		Remainder
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHour/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

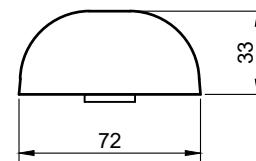
All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Galvanized steel

Minimum/maximum anode weight ±5%



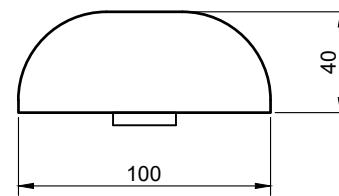
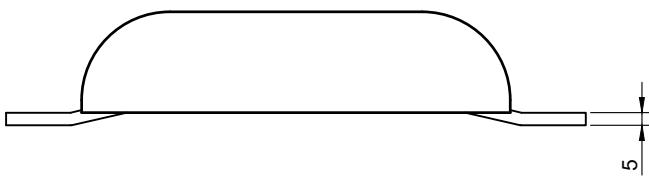
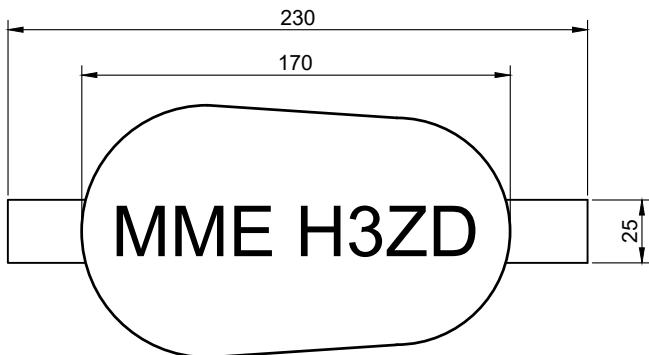
Nett Weight: 2.0 Kg
Gross Weight: 2.1 Kg



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**Zinc Alloy Anode
MME 2Z**

Dwg: SAZ 0020-04			Revision: 0
Drawn: ESM	Checked: PP	Approved: OT	Paper: A4
23-04-21	23-04-21	23-04-21	



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc		Remainder
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 Ahr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Galvanized steel

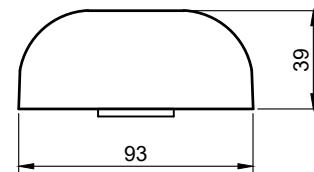
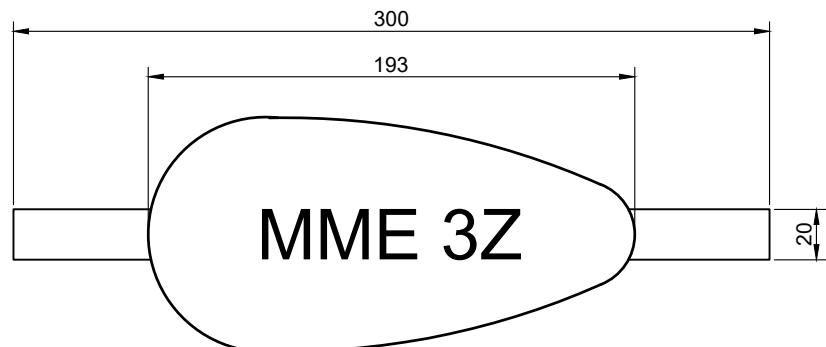
Minimum/maximum anode weight ±5%



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Zinc Alloy Anode MME H3ZD

Dwg:	SAZ 0030-02	Revision:	0
Drawn:	ESM	Checked:	Approved:
23-04-21	PP	OT	Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc		Remainder
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHour/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Galvanized steel

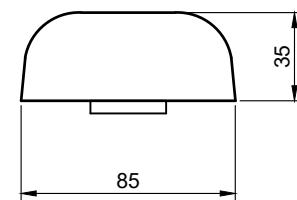
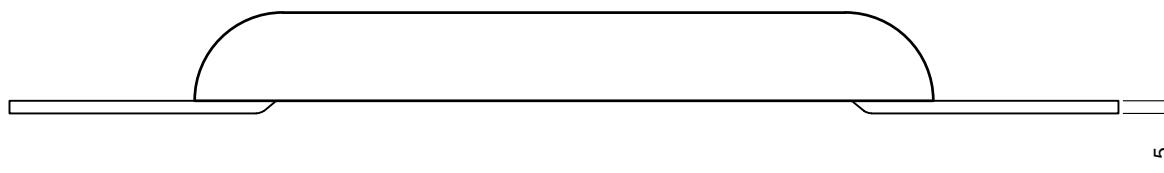
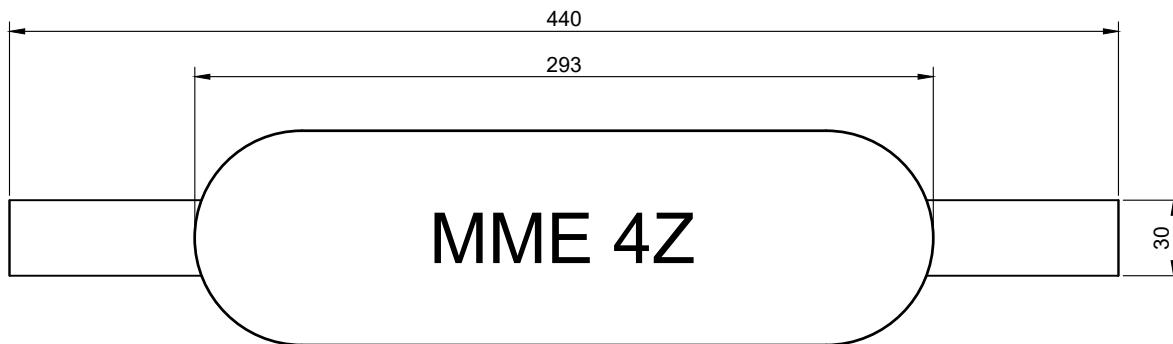
Minimum/maximum anode weight ±5%



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Zinc Alloy Anode MME 3Z

Dwg:	SAZ 0030-03	Revision:	0
Drawn:	ESM	Checked:	Approved:
	PP	OT	
23-04-21	23-04-21	23-04-21	Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%

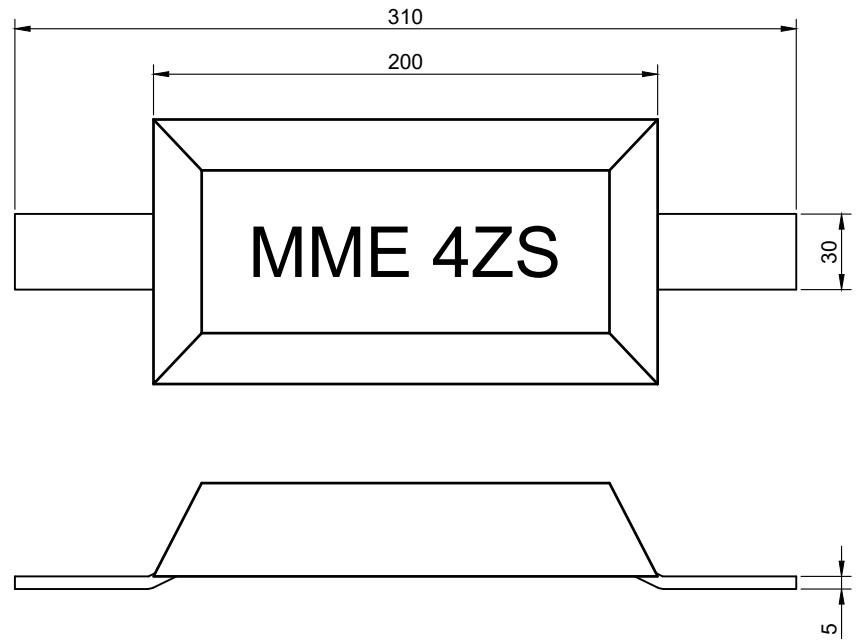
Nett Weight: 4.0 Kg
Gross Weight: 4.6 Kg



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Zinc Alloy Anode MME 4Z

Dwg:	SAZ 0040-02	Revision:	0
Drawn:	ESM	Checked:	Approved:
	PP	OT	
21-04-21	21-04-21	21-04-21	Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc		Remainder
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 Ahr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

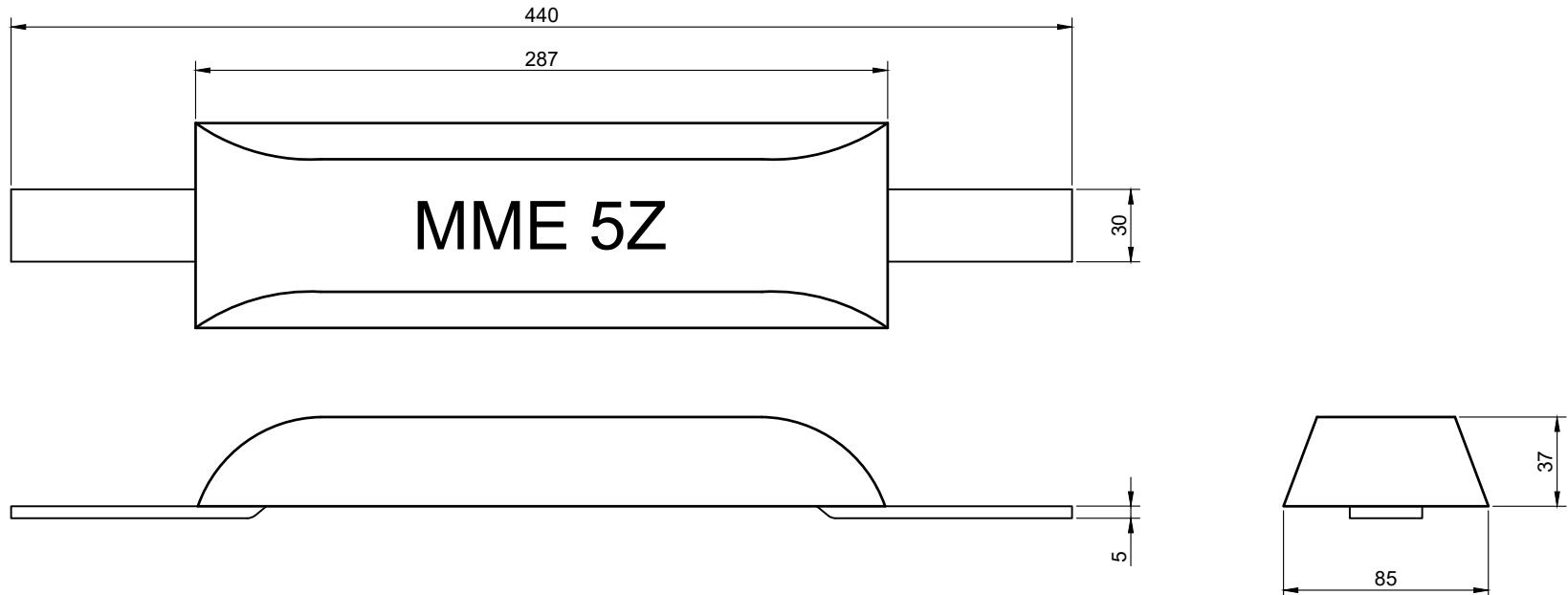
Minimum/maximum anode weight ±5%



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Zinc Alloy Anode MME 4ZS

Dwg:	SAZ 0040-05	Revision:	0
Drawn:	ESM	Checked:	Approved:
	23-04-21	23-04-21	OT
			Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%

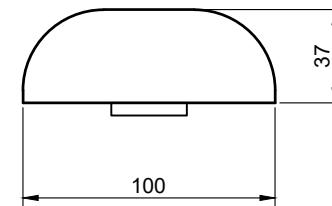
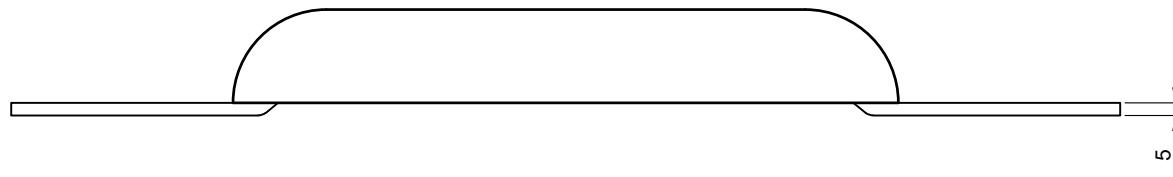
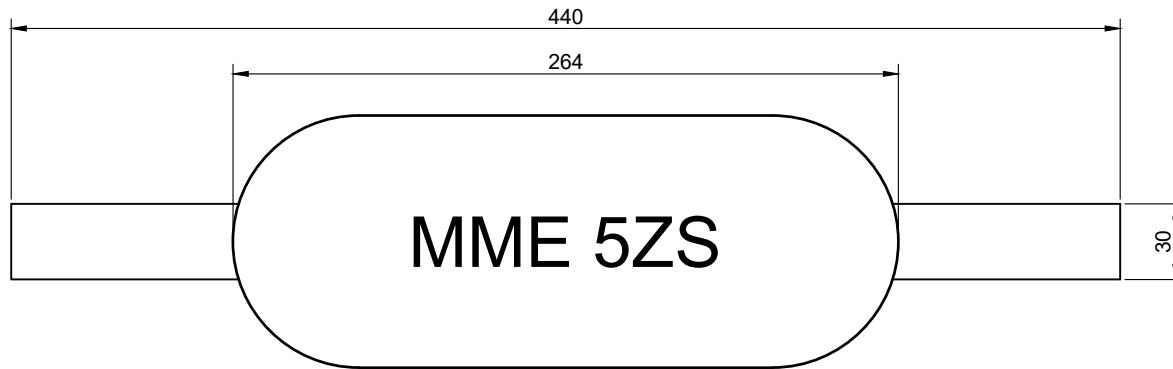
Nett Weight: 5.0 Kg
Gross Weight: 5.6 Kg



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Zinc Alloy Anode MME 5Z

Dwg:	SAZ 0050-01	Revision:	0
Drawn:	ESM	Checked:	Approved:
	PP	OT	
21-04-21	21-04-21	21-04-21	Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHour/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%

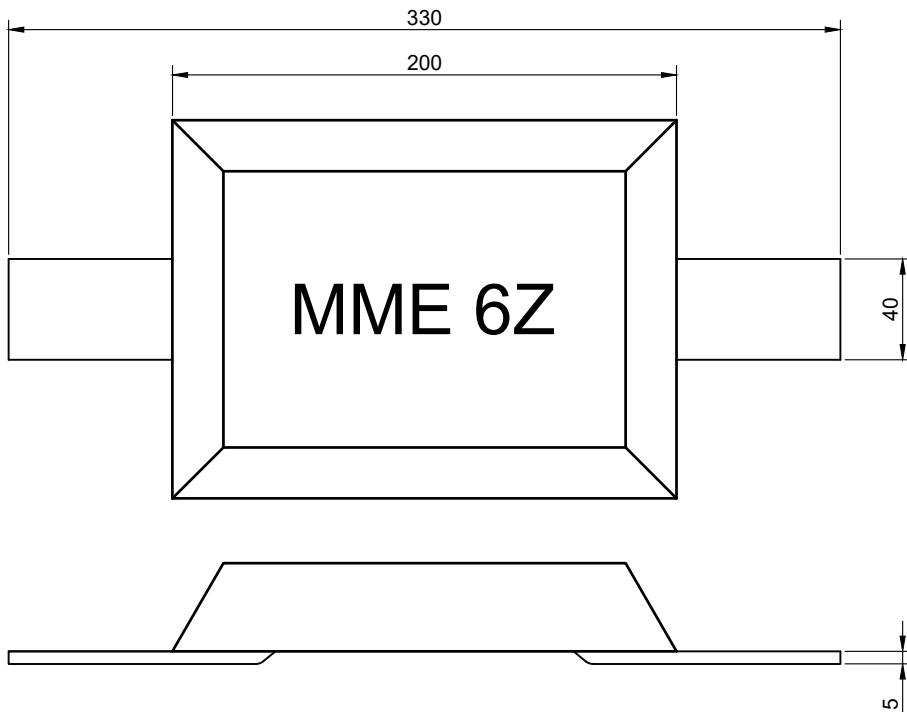
Nett Weight: 5.0 Kg
Gross Weight: 5.6 Kg



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Zinc Alloy Anode MME 5ZS

Dwg: SAZ 0050-02			Revision: 0
Drawn: ESM	Checked: PP	Approved: OT	Paper: A4
21-04-21	21-04-21	21-04-21	



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc		Remainder
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHour/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

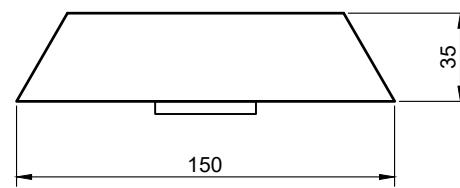
All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%



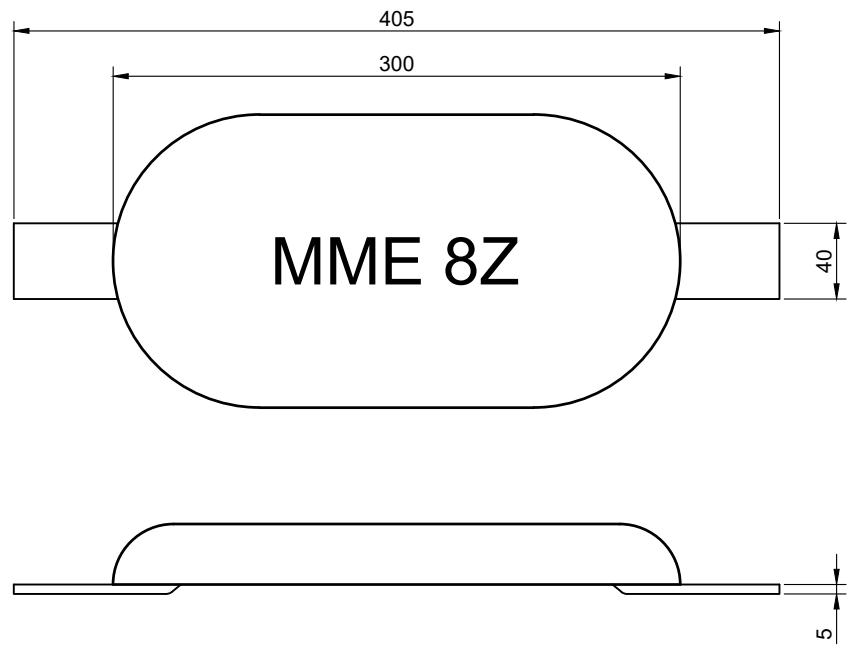
Nett Weight: 6.0 Kg
Gross Weight: 6.5 Kg



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**Zinc Alloy Anode
MME 6Z**

Dwg:	SAZ 0060-06	Revision:	0
Drawn:	ESM	Checked:	Approved:
	23-04-21	23-04-21	OT
			Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHour/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%

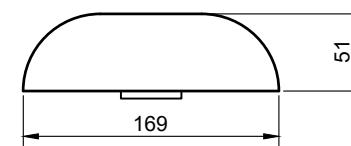
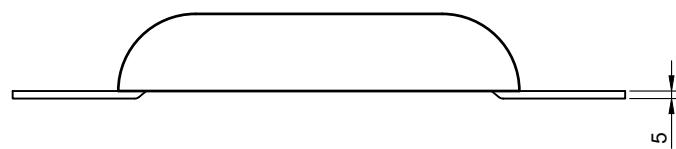
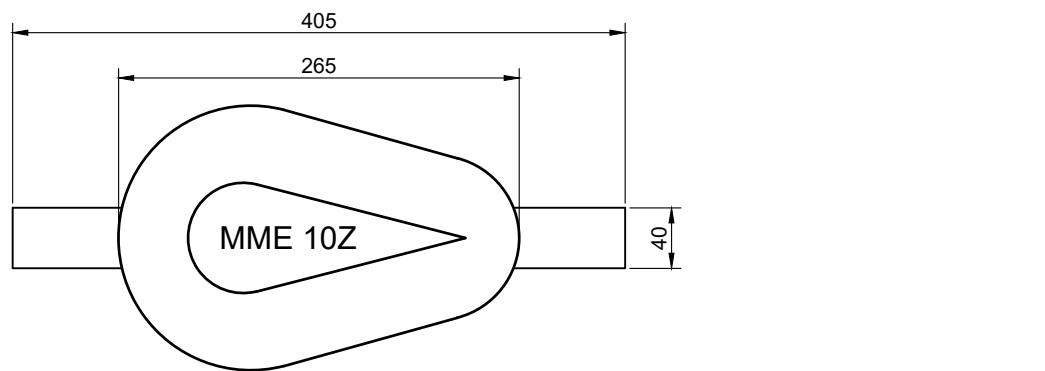
Nett Weight: 8.0 Kg
Gross Weight: 8.6 Kg



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Zinc Alloy Anode MME 8Z

Dwg:	SAZ 0080-02	Revision:	0
Drawn:	ESM	Checked:	Approved:
	PP	OT	
21-04-21	21-04-21	21-04-21	Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc		Remainder
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHour/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

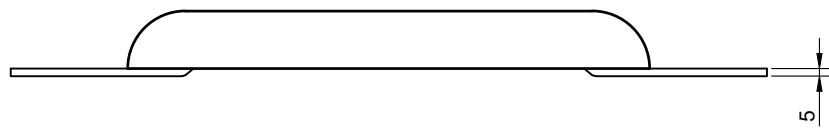
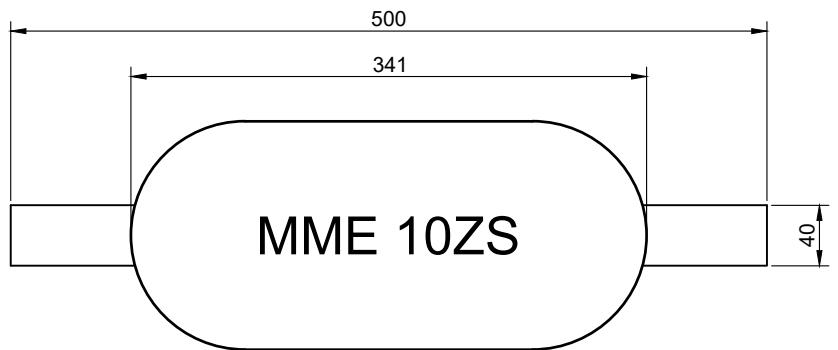
Minimum/maximum anode weight ±5%



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Zinc Alloy Anode MME 10Z

Dwg:	SAZ 0100-06	Revision:	0
Drawn:	ESM	Checked:	Approved:
23-04-21	PP	OT	Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

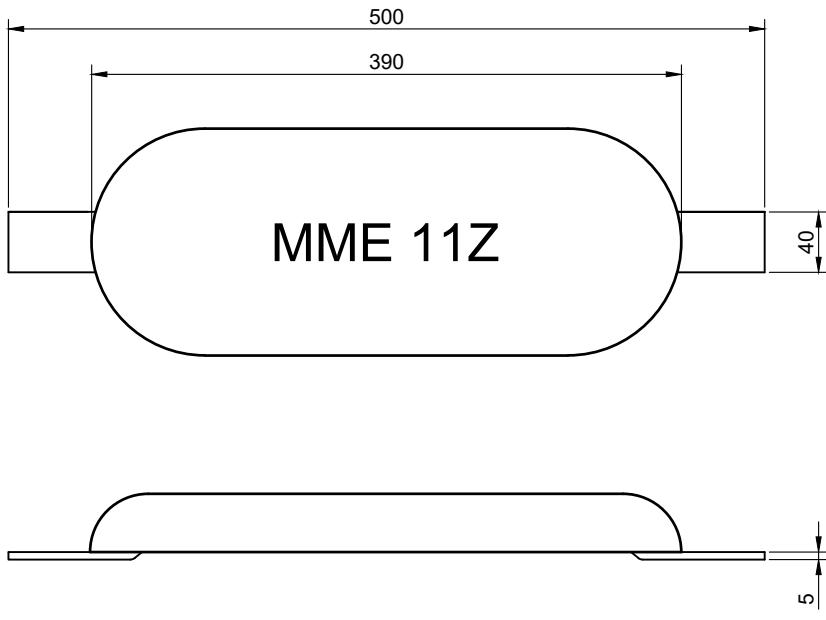
Minimum/maximum anode weight ±5%



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Zinc Alloy Anode MME 10ZS

Dwg:	SAZ 0100-01	Revision:	0
Drawn:	ESM	Checked:	Approved:
	21-04-21	PP	OT
			Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

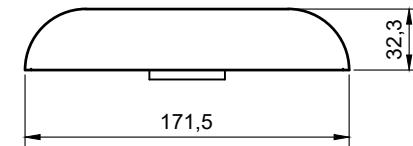
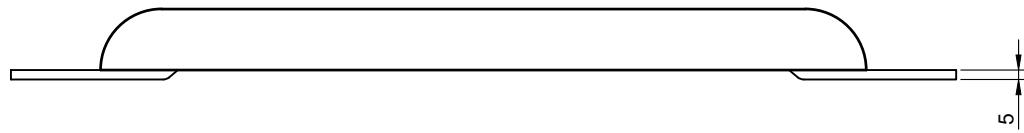
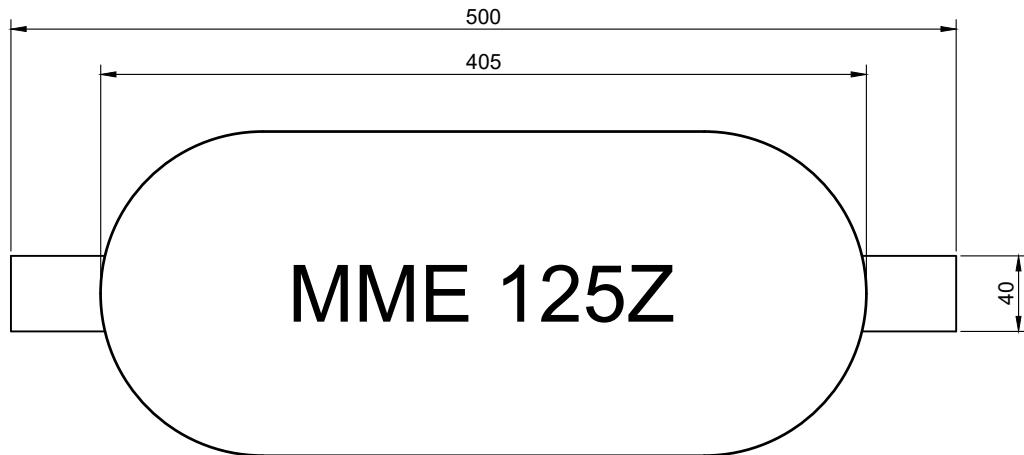
Minimum/maximum anode weight ±5%



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Zinc Alloy Anode MME 11Z

Dwg: SAZ 0050-02			Revision: 0
Drawn: ESM	Checked: PP	Approved: OT	Paper: A4
21-04-21	21-04-21	21-04-21	



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc		Remainder
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 Ah/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%

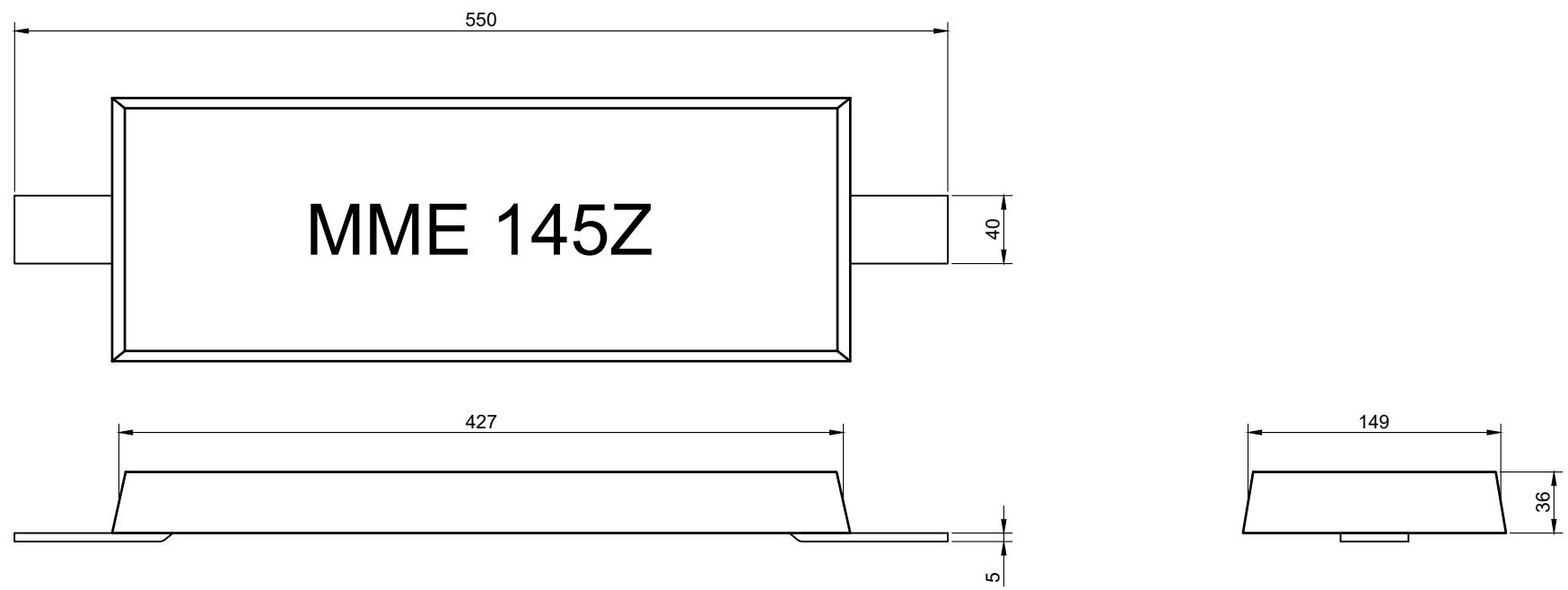
Nett Weight: 12.5 Kg
Gross Weight: 13.3 Kg



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Zinc Alloy Anode MME 125Z

Dwg:	SAZ 0125-01	Revision:	0
Drawn:	ESM	Checked:	Approved:
	31-03-21	31-03-21	OT
			Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc		Remainder
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 Ah/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%

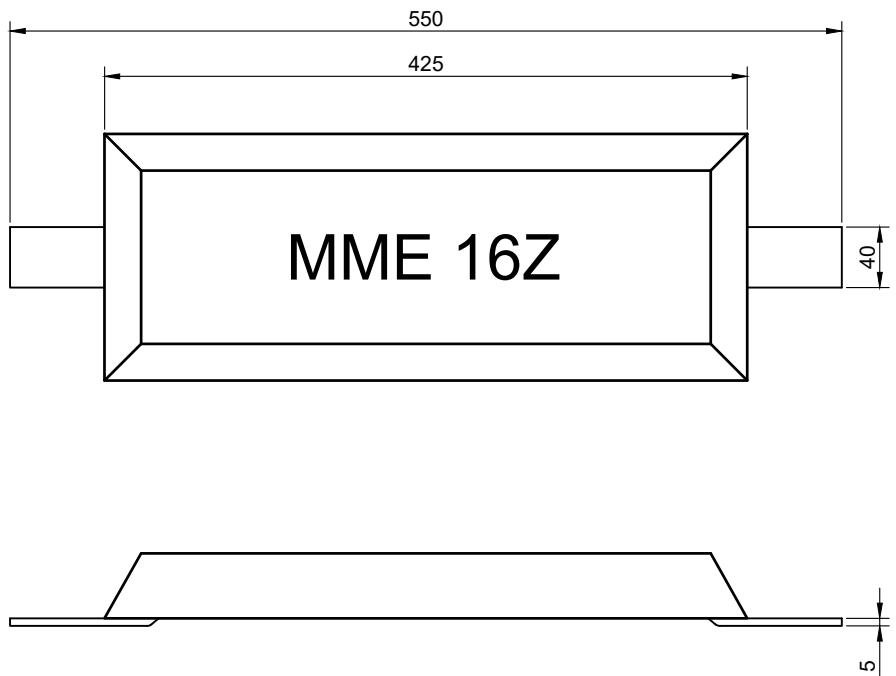
Nett Weight: 14.5 Kg
Gross Weight: 15.4 Kg



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Zinc Alloy Anode
MME 145Z

Dwg:	SAZ 0145-01	Revision:	0
Drawn:	ESM	Checked:	Approved:
	31-03-21	31-03-21	OT
			Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

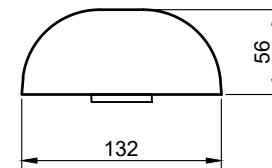
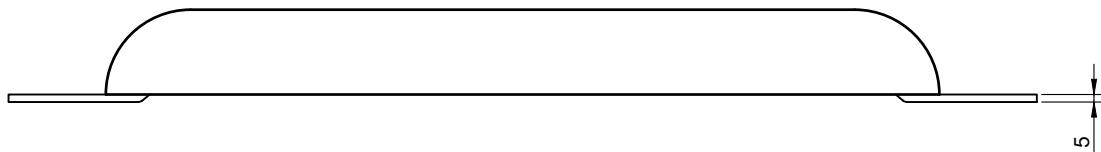
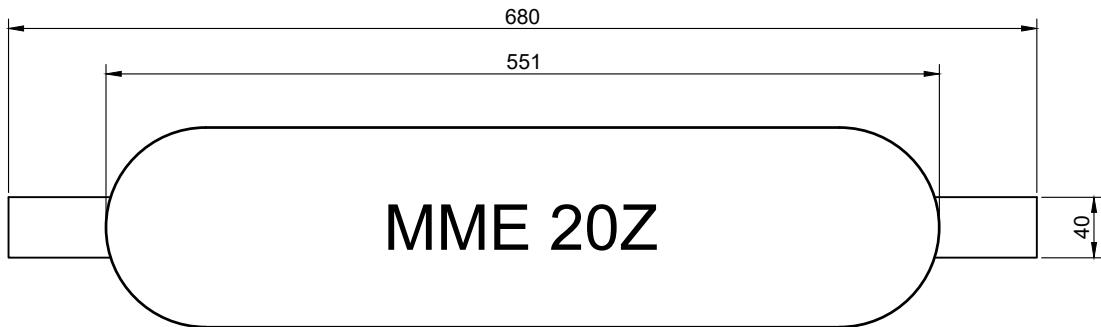
Minimum/maximum anode weight ±5%



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Zinc Alloy Anode MME 16Z

Dwg:	SAZ 0160-01	Revision:	0
Drawn:	ESM	Checked:	Approved:
	PP	OT	
21-04-21	21-04-21	21-04-21	Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%

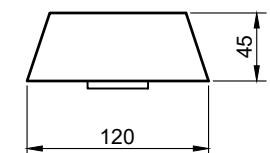
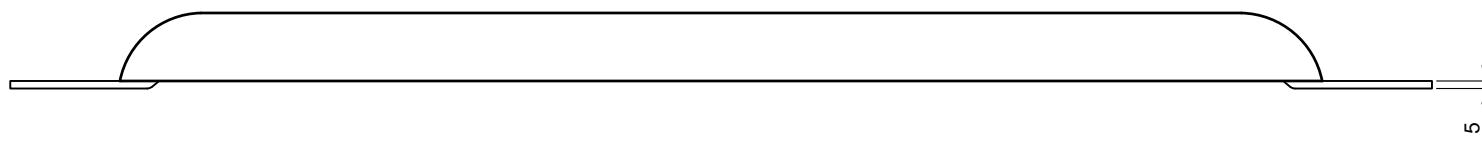
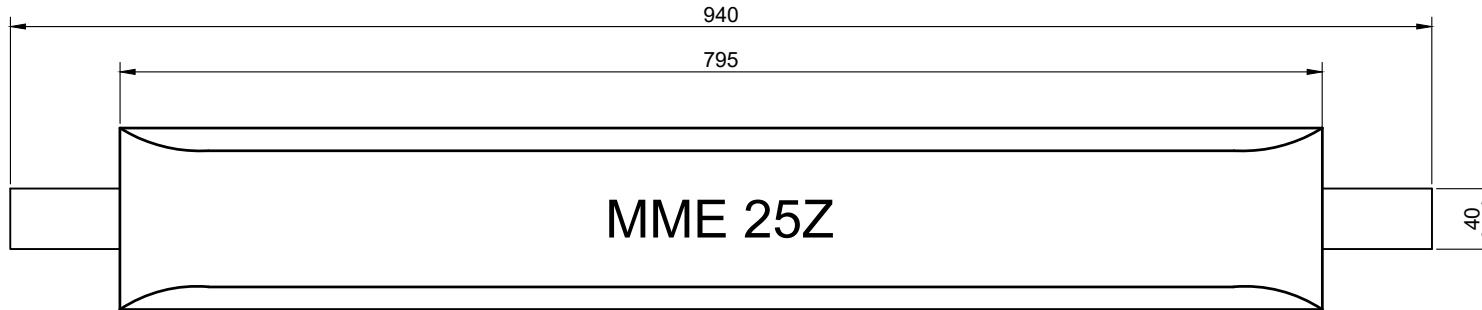
Nett Weight: 20.0 Kg
Gross Weight: 21.0 Kg



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Zinc Alloy Anode
MME 20Z

Dwg:	SAZ 0200-01	Revision:	0
Drawn:	ESM	Checked:	Approved:
	30-03-21	30-03-21	OT
			Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHour/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

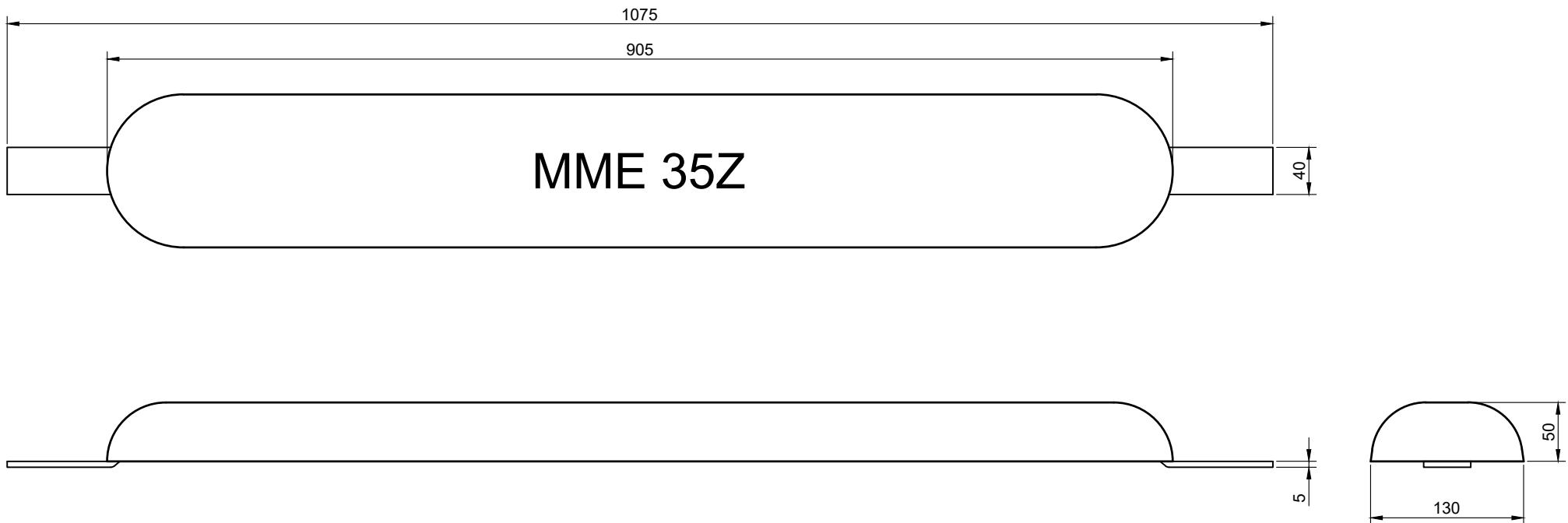
Minimum/maximum anode weight ±5%



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www.mme-group.com

Zinc Alloy Anode MME 25Z

Dwg:	SAZ 0250-01	Revision:	A
Drawn:	MB	Checked:	Approved:
	23-08-2023	PP	OT
	23-08-2023		23-08-2023
Scale:	1:5		
Paper:	A4		



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%

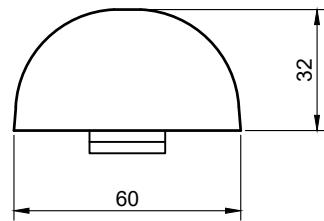
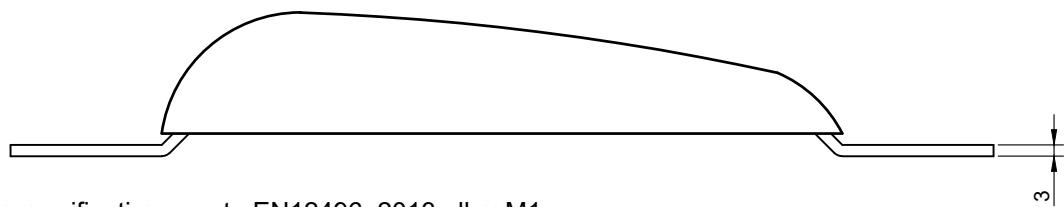
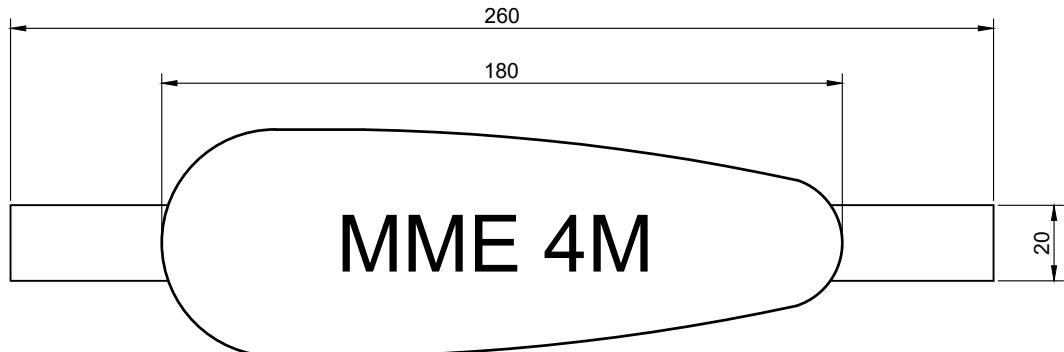


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Zinc Alloy Anode
MME 35Z

Dwg:	SAZ 0350-01	Revision:	0
Drawn:	ESM	Checked:	Approved:
	PP	OT	
30-03-21	30-03-21	30-03-21	Paper: A4

MAGNESIUM WELD-ON HULL ANODES



Magnesium alloy specification acc. to EN12496: 2013 alloy M1

Components	Impurities	Percentage (%)
Aluminium		5.0 - 7.0
Zinc		2.0 - 4.0
Manganese		0.15 - 0.70
Magnesium		Remainder
Iron		0.005 max
Copper		0.08 max
Silicon		0.30 max
Lead		0.03 max
Nickel		0.003 max
Others total		0.30 max

Electrical capacity: 1200 AHR / Kg nominal

Solution potential: -1500 mV vs. Ag / AgCl reference cell nominal (in seawater)

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%

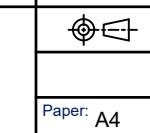
Nett Weight: 0.24 Kg
Gross Weight: 0.44 Kg

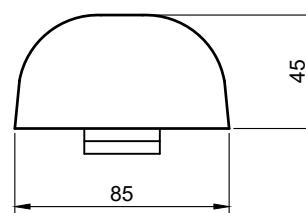
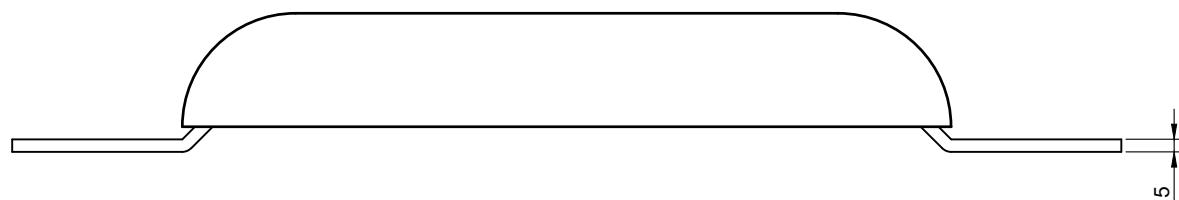
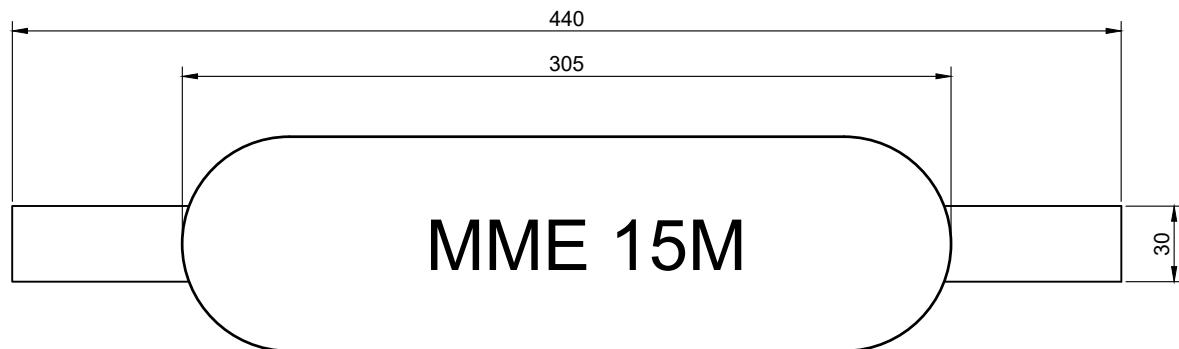


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Magnesium Alloy Anode MME 4M

Dwg:	SAM 0002-04		Revision: 0
Drawn:	ESM	Checked: PP	Approved: OT
	25-05-21	25-05-21	25-05-21





Magnesium alloy specification acc. to EN12496: 2013 alloy M1

Components	Impurities	Percentage (%)
Aluminium		5.0 - 7.0
Zinc		2.0 - 4.0
Manganese		0.15 - 0.70
Magnesium		Remainder
Iron		0.005 max
Copper		0.08 max
Silicon		0.30 max
Lead		0.03 max
Nickel		0.003 max
Others total		0.30 max

Electrical capacity: 1200 AHR / Kg nominal

Solution potential: -1500 mV vs. Ag / AgCl reference cell nominal (in seawater)

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%

Nett Weight: 1.0 Kg
Gross Weight: 1.4 Kg

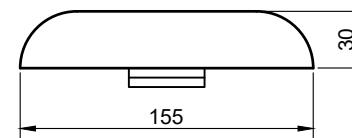
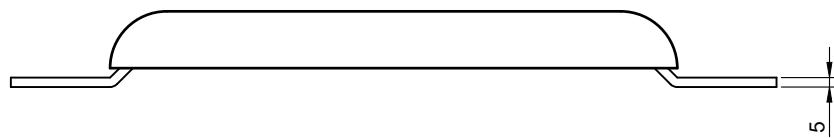
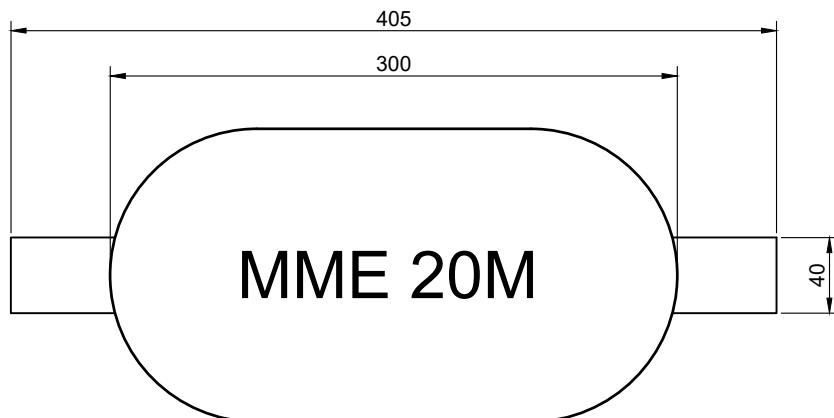
	Cathodic Protection Division Tel: +31 (0)180 48 28 28 E-mail: sales@mme.nl www.mme-group.com
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Magnesium Alloy Anode MME 15M

Dwg:	SAM 0010-07		Revision: 0
Drawn:	ESM	Checked: PP	Approved: OT
	25-05-21	25-05-21	25-05-21



Paper: A4



Magnesium alloy specification acc. to EN12496: 2013 alloy M1

Components	Impurities	Percentage (%)
Aluminium		5.0 - 7.0
Zinc		2.0 - 4.0
Manganese		0.15 - 0.70
Magnesium		Remainder
Iron		0.005 max
Copper		0.08 max
Silicon		0.30 max
Lead		0.03 max
Nickel		0.003 max
Others total		0.30 max

Electrical capacity: 1200 AHR / Kg nominal

Solution potential: -1500 mV vs. Ag / AgCl reference cell nominal (in seawater)

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

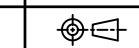
Minimum/maximum anode weight ±5%



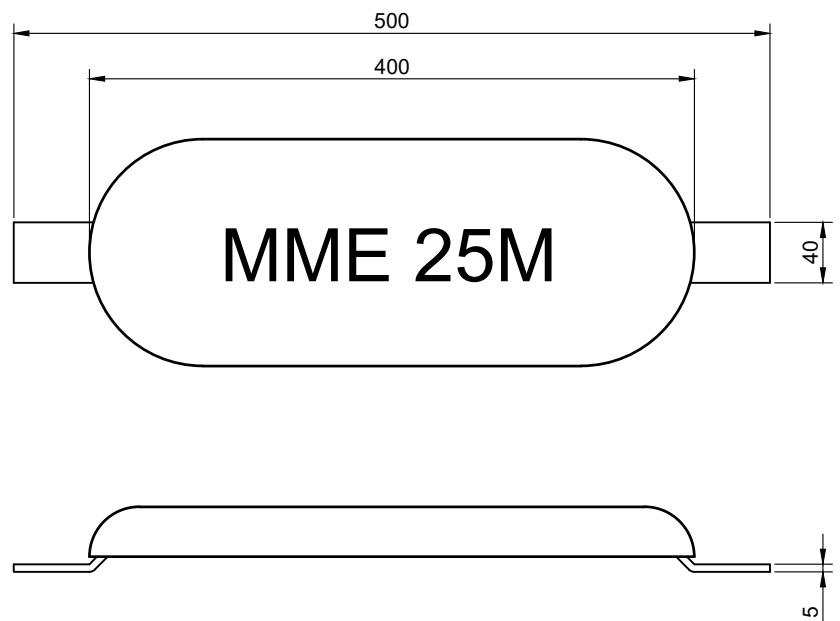
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E-mail: sales@mme.nl
www.mme-group.com

**Magnesium Alloy Anode
MME 20M**

Dwg:	SAM 0020-05		Revision: 0
Drawn:	ESM	Checked: PP	Approved: OT
	25-05-21	25-05-21	25-05-21



Paper: A4



Magnesium alloy specification acc. to EN12496: 2013 alloy M1

Components	Impurities	Percentage (%)
Aluminium		5.0 - 7.0
Zinc		2.0 - 4.0
Manganese		0.15 - 0.70
Magnesium	Iron	0.005 max
	Copper	0.08 max
	Silicon	0.30 max
	Lead	0.03 max
	Nickel	0.003 max
	Others total	0.30 max

Electrical capacity: 1200 AHR / Kg nominal

Solution potential: -1500 mV vs. Ag / AgCl reference cell nominal (in seawater)

Note: All dimensions and weights are nominal. Dimensions in mm

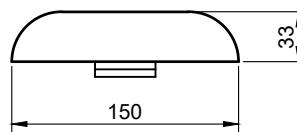
All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%



Nett Weight: 2.6 Kg
Gross Weight: 3.4 Kg

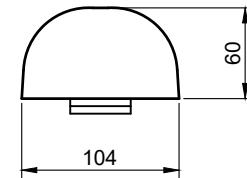
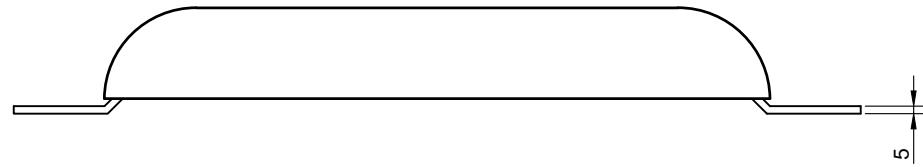
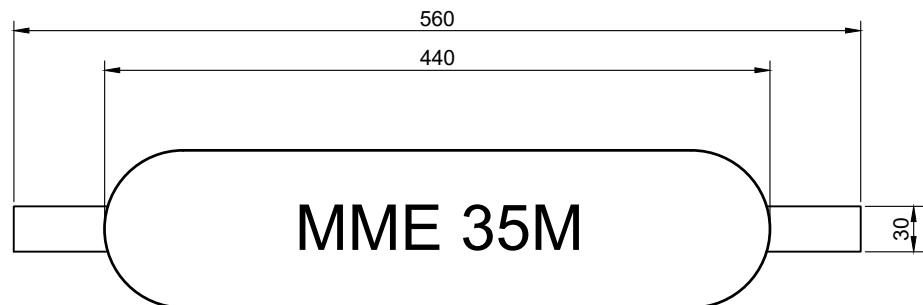


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Magnesium Alloy Anode MME 25M

Dwg:	SAM 0026-04		Revision: 0
Drawn:	ESM	Checked: PP	Approved: OT
	25-05-21	25-05-21	25-05-21

Paper: A4



Magnesium alloy specification acc. to EN12496: 2013 alloy M1

Components	Impurities	Percentage (%)
Aluminium		5.0 - 7.0
Zinc		2.0 - 4.0
Manganese		0.15 - 0.70
Magnesium	Iron	0.005 max
	Copper	0.08 max
	Silicon	0.30 max
	Lead	0.03 max
	Nickel	0.003 max
	Others total	0.30 max

Electrical capacity: 1200 AHR / Kg nominal

Solution potential: -1500 mV vs. Ag / AgCl reference cell nominal (in seawater)

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%

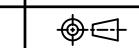
Nett Weight: 3.8 Kg
Gross Weight: 4.5 Kg



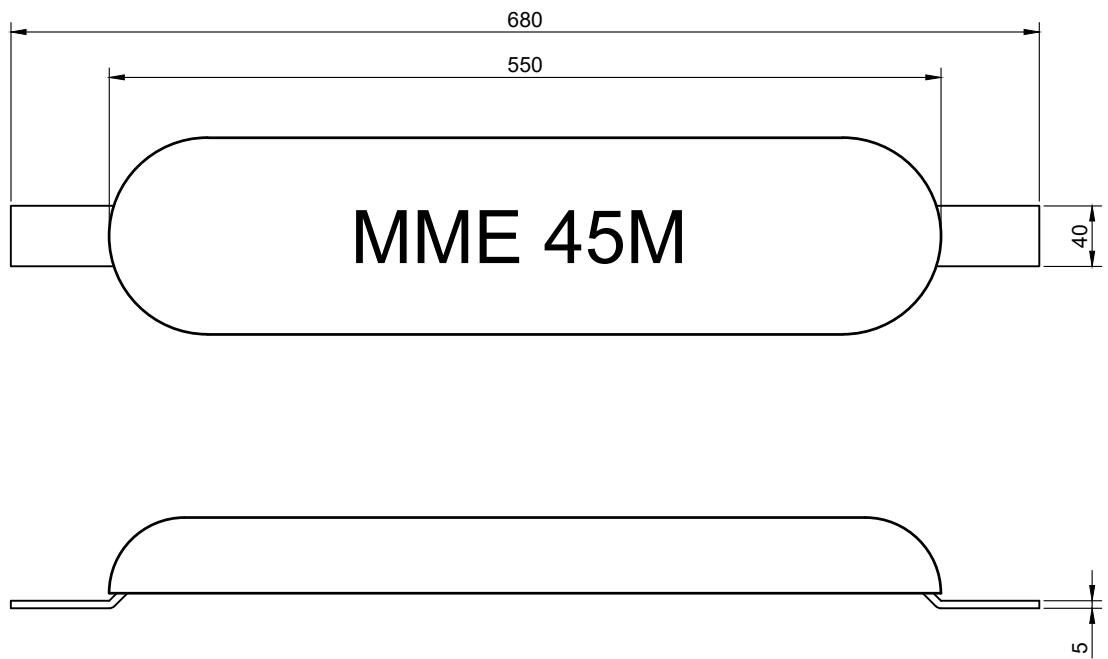
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Magnesium Alloy Anode MME 35M

Dwg:	SAM 0038-01		Revision: 0
Drawn:	ESM	Checked: PP	Approved: OT
	25-05-21	25-05-21	25-05-21



Paper: A4



Magnesium alloy specification acc. to EN12496: 2013 alloy M1

Components	Impurities	Percentage (%)
Aluminium		5.0 - 7.0
Zinc		2.0 - 4.0
Manganese		0.15 - 0.70
Magnesium		Remainder
Iron		0.005 max
Copper		0.08 max
Silicon		0.30 max
Lead		0.03 max
Nickel		0.003 max
Others total		0.30 max

Electrical capacity: 1200 AHR / Kg nominal

Solution potential: -1500 mV vs. Ag / AgCl reference cell nominal (in seawater)

Note: All dimensions and weights are nominal. Dimensions in mm

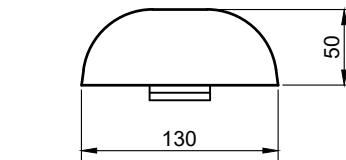
All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode can also be provided backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%



Nett Weight: 5.1 Kg
Gross Weight: 6.2 Kg



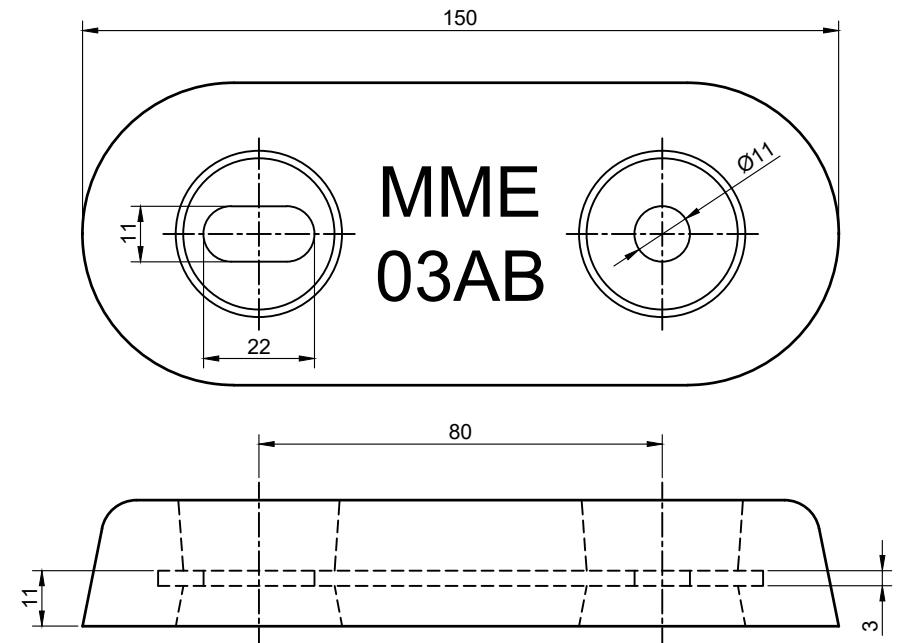
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Magnesium Alloy Anode MME 45M

Dwg:	SAM 0051-02		Revision: 0
Drawn:	ESM	Checked: PP	Approved: OT
	25-05-21	25-05-21	25-05-21

Paper: A4

ALUMINIUM BOLT-ON HULL ANODES



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

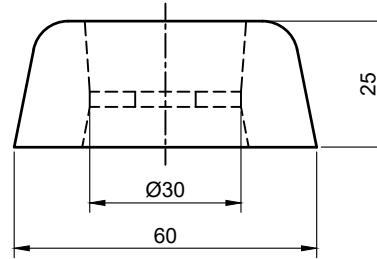
Text on anode is indicative and will not always be identical to this drawing

Anode is fitted with holes suitable for M10 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Non galvanized steel

Minimum/maximum anode weight ±5%



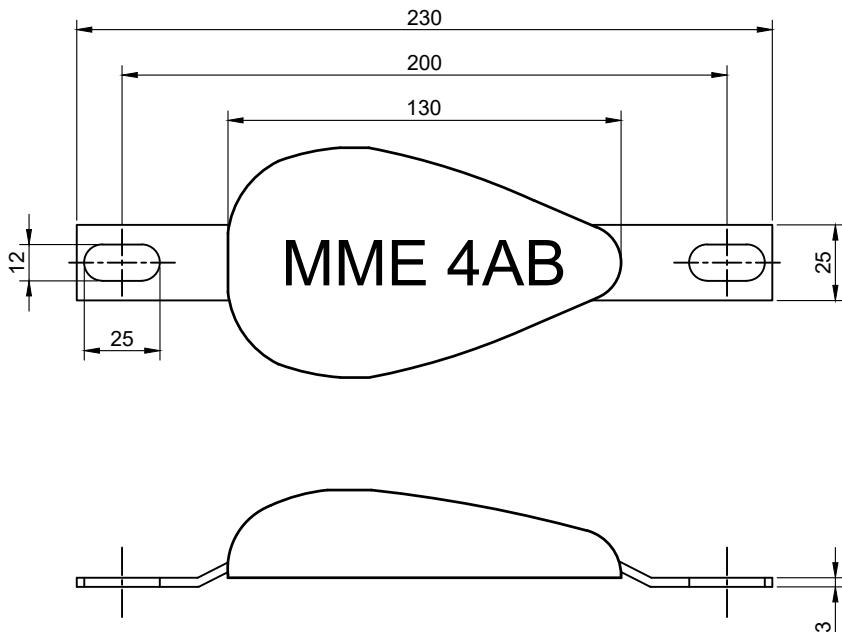
Nett Weight: 0.37 Kg
Gross Weight: 0.45 Kg



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Aluminium Alloy Anode MME 03AB

Dwg:	SAA 0004-01	Revision:	A
Drawn:	MB	Checked:	Approved:
	23-08-2023	PP	OT
	23-08-2023		23-08-2023
Scale:	1:1.5	Paper:	A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode is fitted with holes suitable for M10 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Non galvanized steel

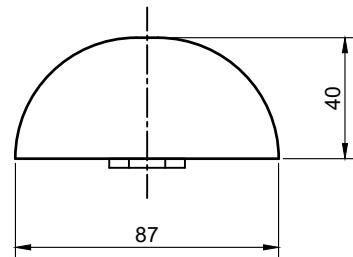
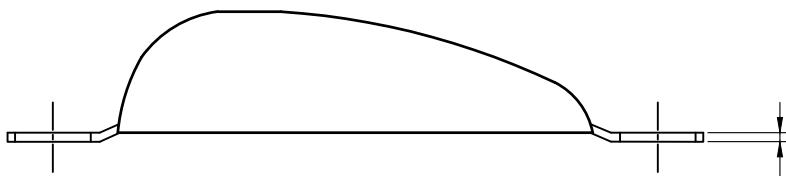
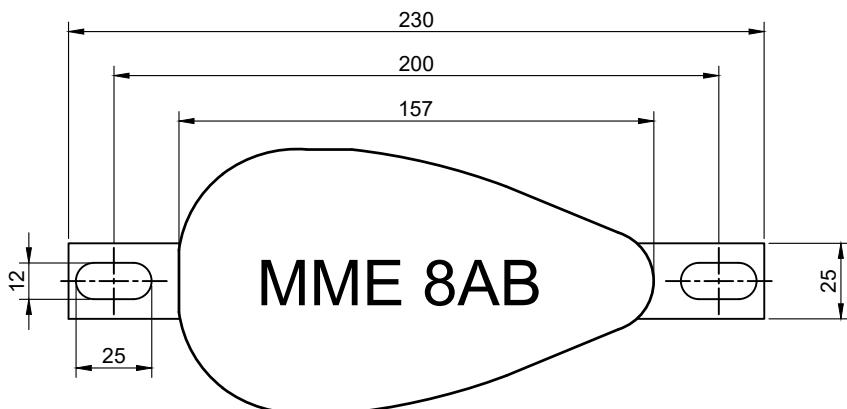
Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 4AB

Dwg:	SAA 0004-05	Revision:	0
Drawn:	ESM	Checked:	Approved:
24-03-21	24-03-21	24-03-21	Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode is fitted with holes suitable for M10 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Non galvanized steel

Minimum/maximum anode weight ±5%

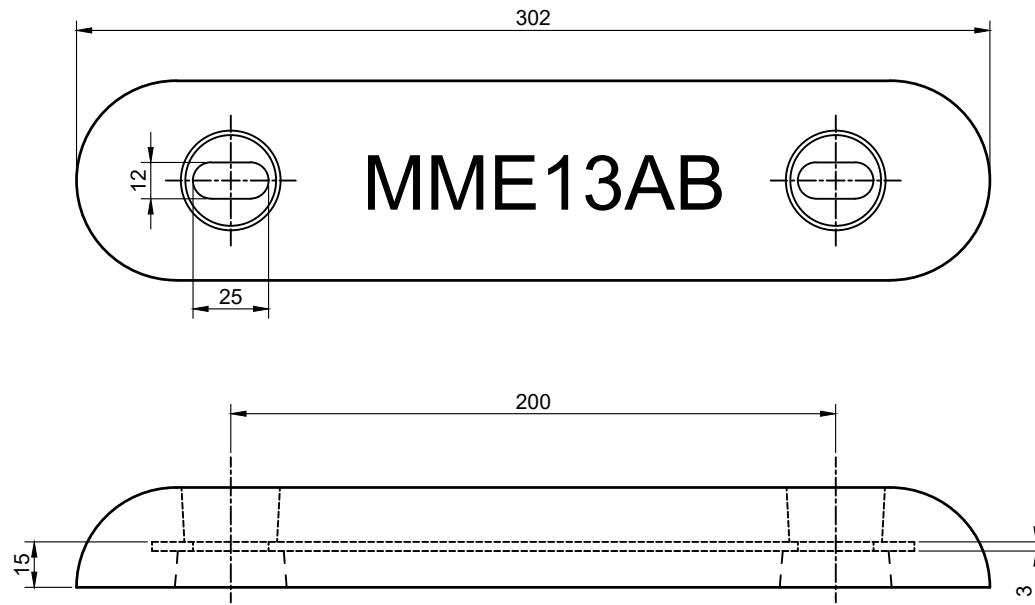
Nett Weight: 0.80 Kg
Gross Weight: 0.92 Kg



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www.mme-group.com

Aluminium Alloy Anode MME 8AB

Dwg:	SAA 0008-02	Revision:	0
Drawn:	ESM	Checked:	Approved:
	19-03-21	19-03-21	OT
			Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode is fitted with holes suitable for M10 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Non galvanized steel

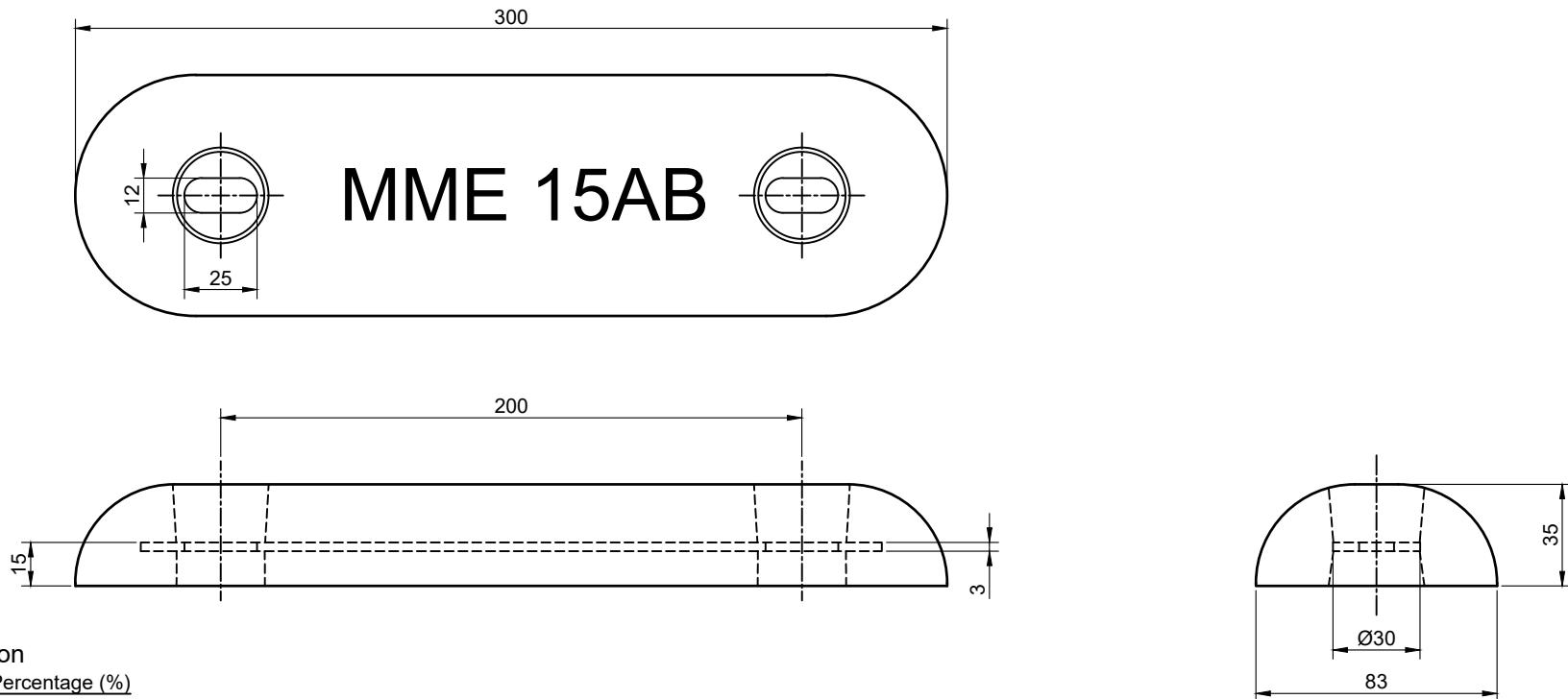
Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 13AB

Dwg:	SAA 0013-01	Revision:	A
Drawn:	MB	Checked:	Approved:
	23-08-2023	PP	OT
	23-08-2023		23-08-2023
Scale:	1:2.5	Paper:	A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode is fitted with holes suitable for M10 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Non galvanized steel

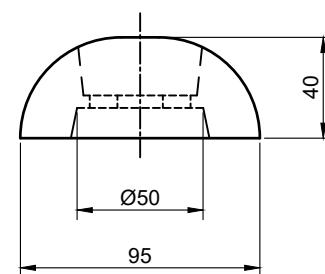
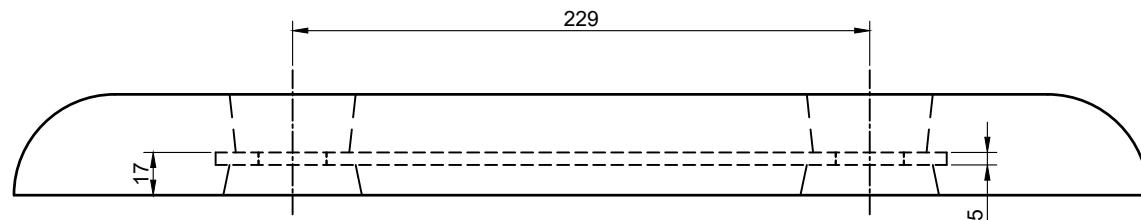
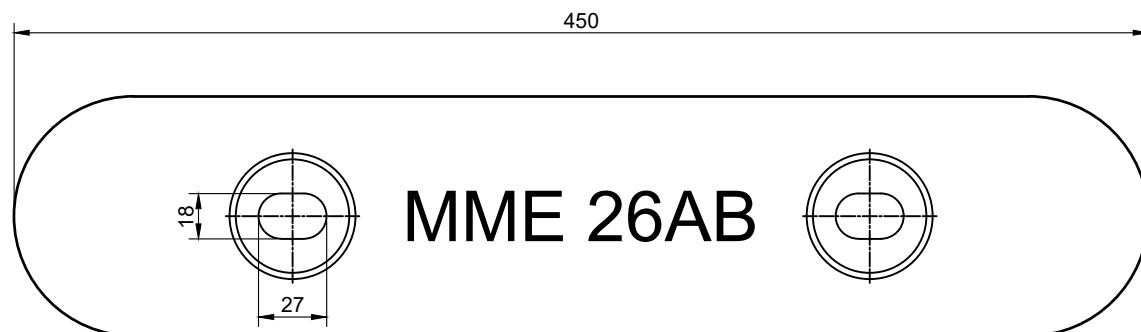
Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 15AB

Dwg:	SAA 0015-01	Revision:	0
Drawn:	ESM	Checked:	Approved:
19-03-21	19-03-21	19-03-21	Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper		0.01 max
Iron		0.15 max
Others each		0.02 max
Others total		0.05 max

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode is fitted with holes suitable for M16 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%

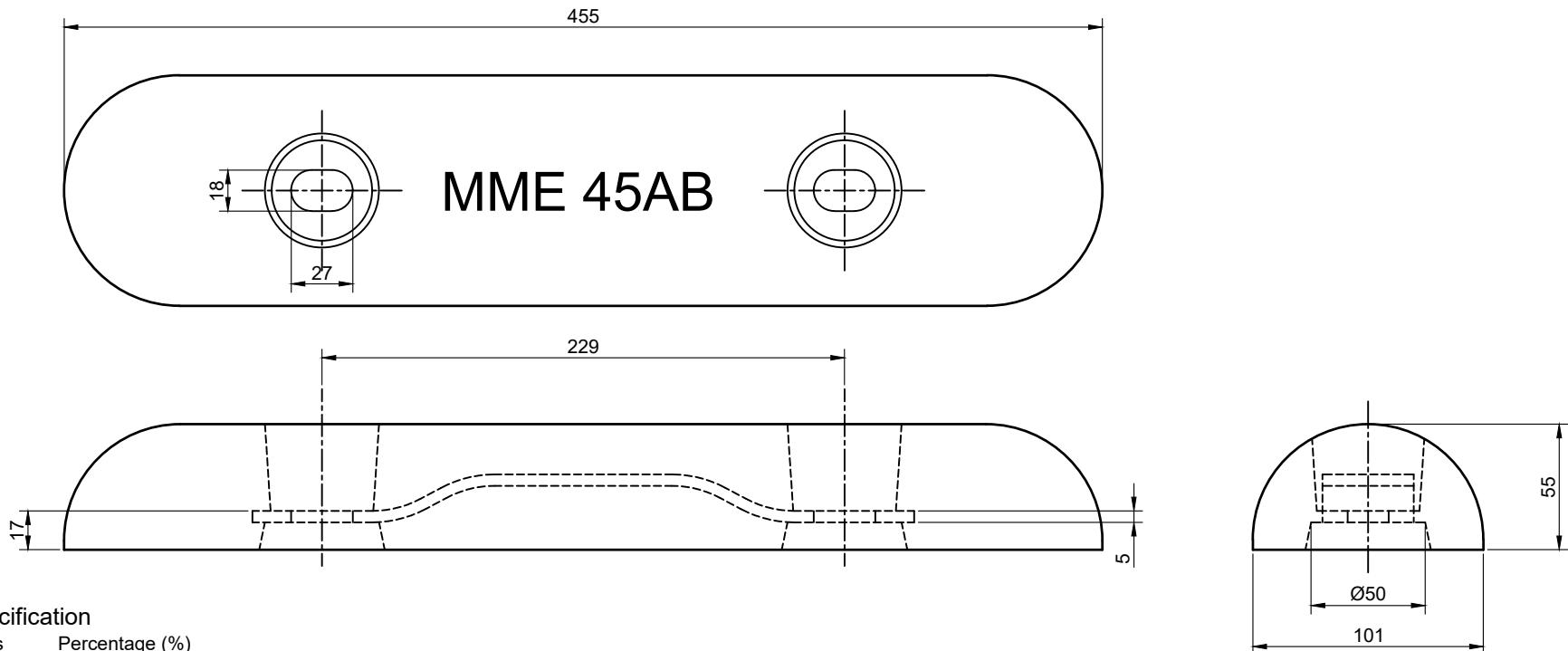
Nett Weight: 2.6 Kg
Gross Weight: 3.1 Kg



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Aluminium Alloy Anode MME 26AB

Dwg:	SAA 0026-01	Revision:	A
Drawn:	MB	Checked:	Approved:
	23-08-2023	PP	OT
	23-08-2023		23-08-2023
Scale:	1:3	Paper:	A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode is fitted with holes suitable for M16 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Mild steel

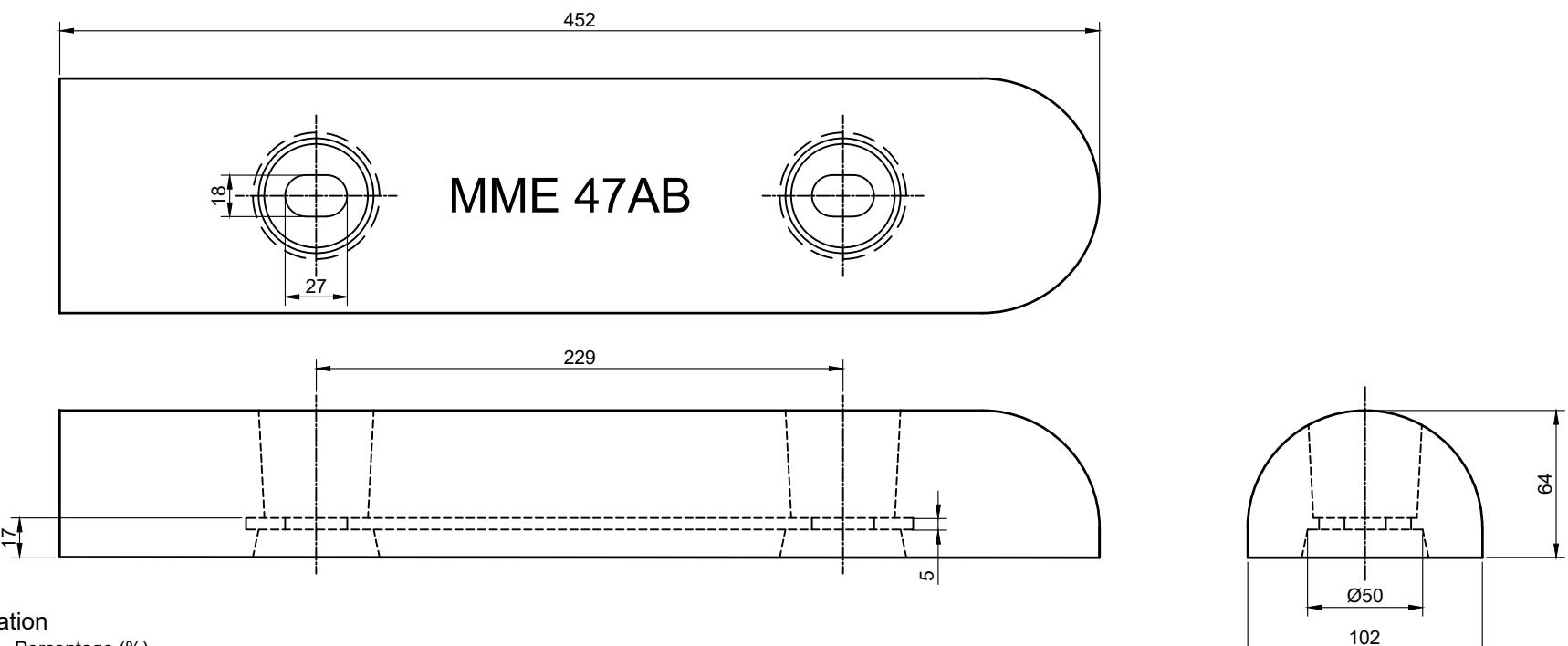
Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 45AB

Dwg:	SAA 0045-01	Revision:	A
Drawn:	MB	Checked:	Approved:
	23-08-2023	PP	OT
	23-08-2023		23-08-2023
Scale:	1:3		
Paper:	A4		



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper		0.01 max
Iron		0.15 max
Others each		0.02 max
Others total		0.05 max

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode is fitted with holes suitable for M16 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Mild steel

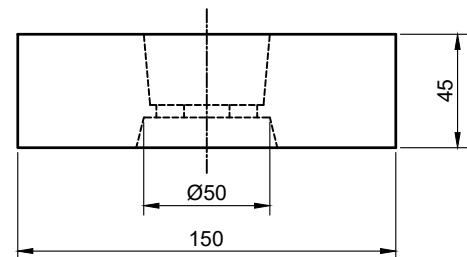
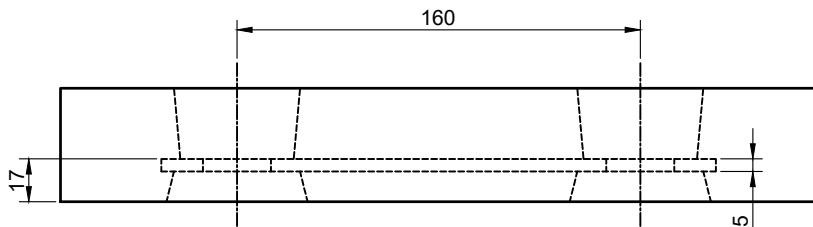
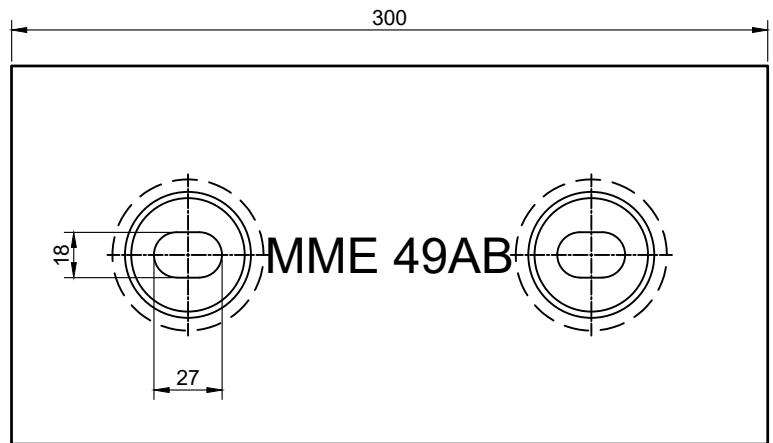
Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 47AB

Dwg:	SAA 0047-01	Revision:	A
Drawn:	MB	Checked:	Approved:
	23-08-2023	PP	OT
	23-08-2023		23-08-2023
Scale:	1:3		
Paper:	A4		



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode is fitted with holes suitable for M16 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Mild steel

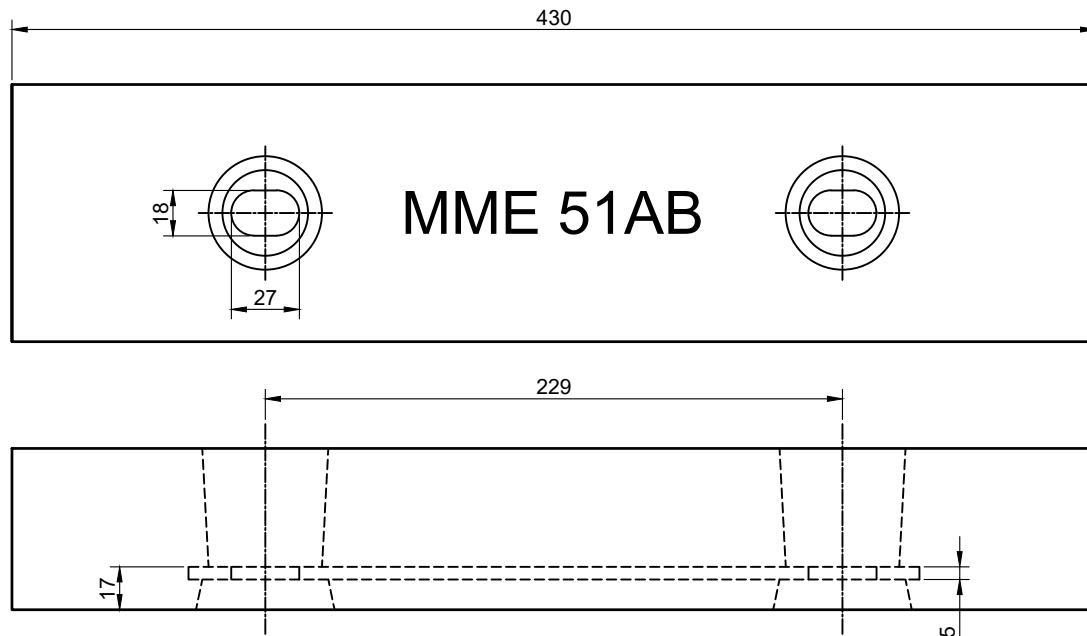
Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 49AB

Dwg:	SAA 0049-01	Revision:	A
Drawn:	MB	Checked:	Approved:
	23-08-2023	PP	OT
	23-08-2023		23-08-2023
Scale:	1:3		
Paper:	A4		



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

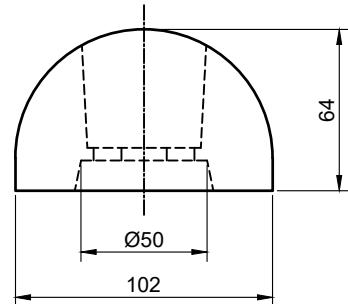
Text on anode is indicative and will not always be identical to this drawing

Anode is fitted with holes suitable for M16 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%



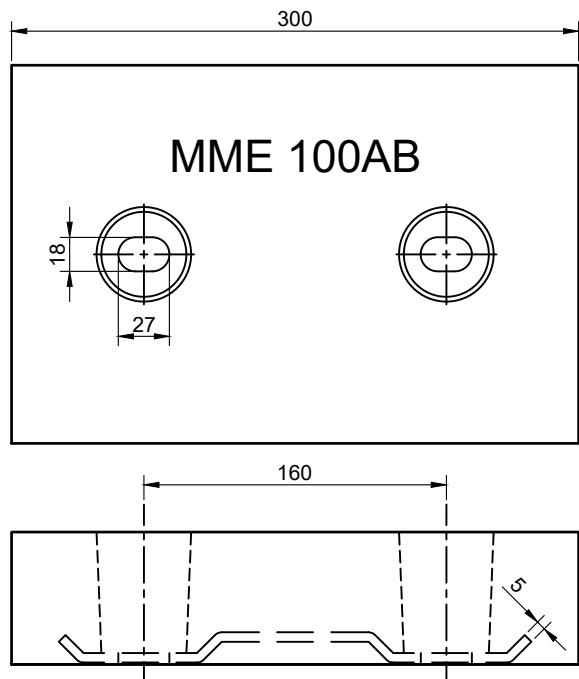
Nett Weight: 5.1 Kg
Gross Weight: 5.6 Kg



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Aluminium Alloy Anode MME 51AB

Dwg:	SAA 0051-01	Revision:	A
Drawn:	MB	Checked:	Approved:
	23-08-2023	PP	OT
	23-08-2023		23-08-2023
Scale:	1:3		
Paper:	A4		



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

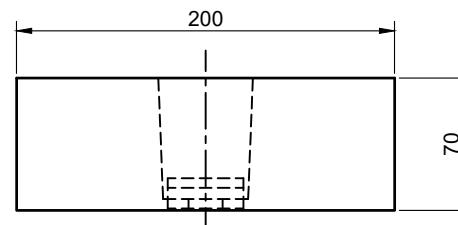
Text on anode is indicative and will not always be identical to this drawing

Anode is fitted with holes suitable for M16 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%



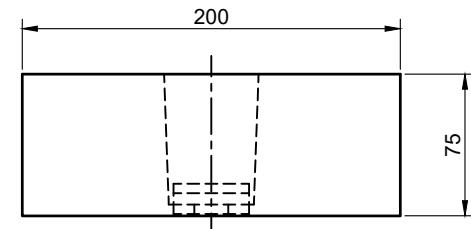
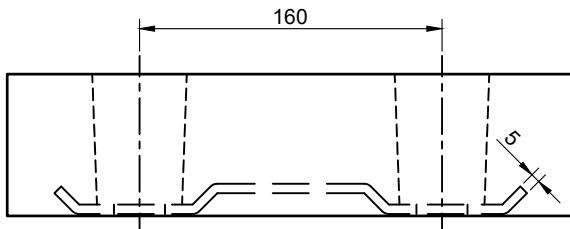
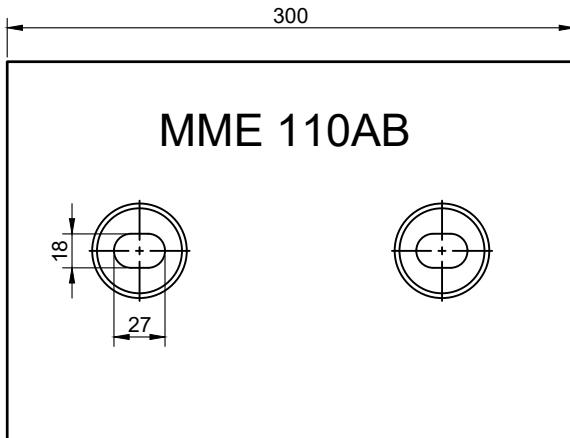
Nett Weight: 10.0 Kg
Gross Weight: 10.4 Kg



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Aluminium Alloy Anode MME 100AB

Dwg:	SAA 0100-02	Revision:	A
Drawn:	MB	Checked:	PP
Approved:	OT	Scale:	1:4
	23-08-2023	23-08-2023	23-08-2023
		Paper:	A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 AHour / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode is fitted with holes suitable for M16 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%

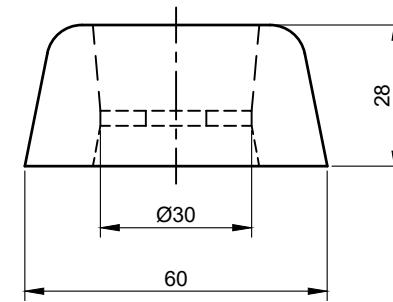
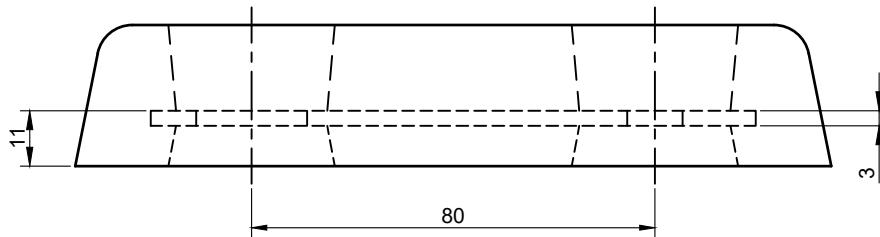
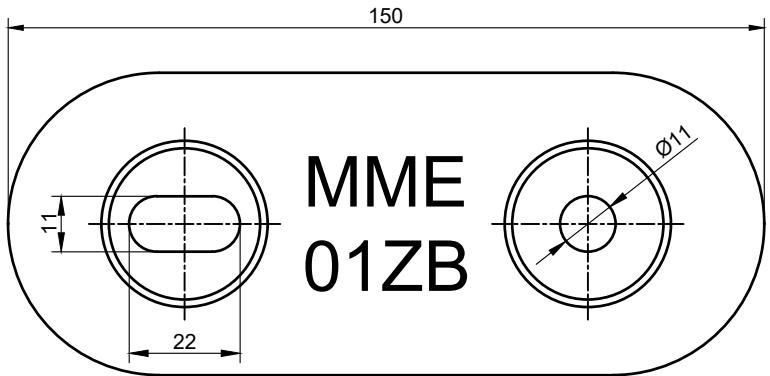


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Aluminium Alloy Anode MME 110AB

Dwg:	SAA 0110-01	Revision:	A
Drawn:	MB	Checked:	Approved:
	23-08-2023	PP	OT
	23-08-2023	23-08-2023	23-08-2023
Scale:	1:4		
Paper:	A4		

ZINC BOLT-ON HULL ANODES



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode is fitted with holes suitable for M10 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Galvanized steel

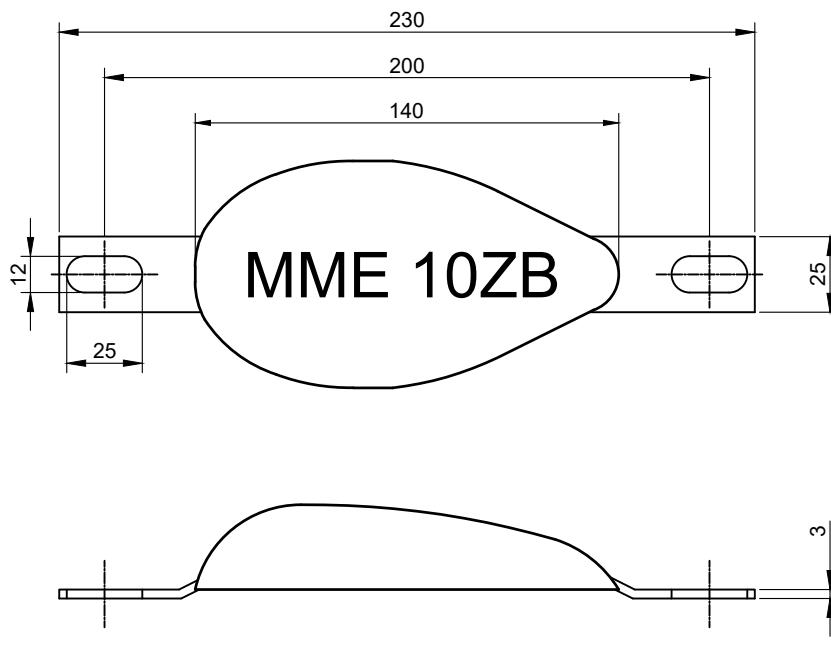
Minimum/maximum anode weight ±5%



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Zinc Alloy Anode MME 01ZB

Dwg:	SAZ 0010-03	Revision:	A
Drawn:	MB	Checked:	Approved:
	23-08-2023	PP	OT
	23-08-2023		23-08-2023
Scale:	1:1.5	Paper:	A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode is fitted with holes suitable for M10 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Galvanized steel

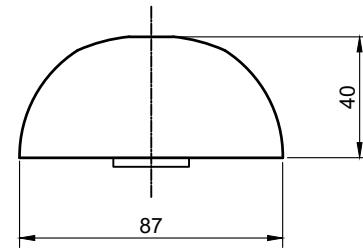
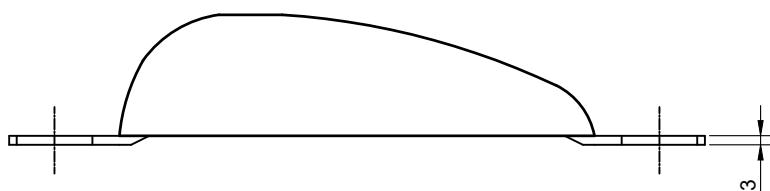
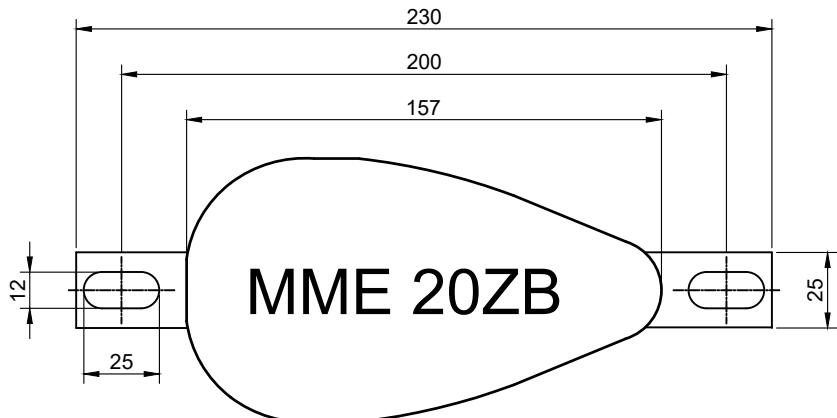
Minimum/maximum anode weight ±5%



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**Zinc Alloy Anode
MME 10ZB**

Dwg:	SAZ 0010-02	Revision:	0
Drawn:	ESM	Checked:	Approved:
	26-03-21	PP	OT
			Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode is fitted with holes suitable for M10 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Galvanized steel

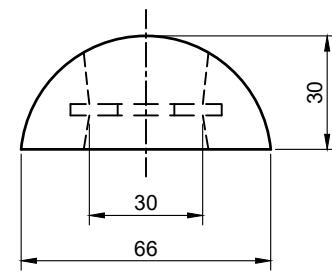
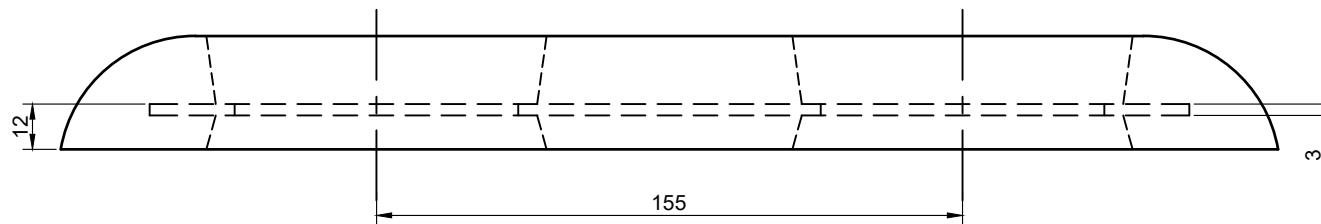
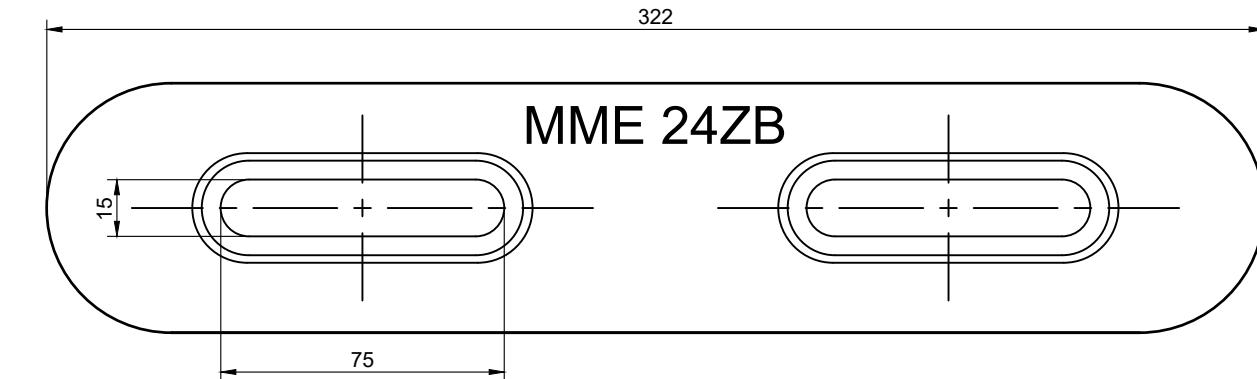
Minimum/maximum anode weight ±5%



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Zinc Alloy Anode MME 20ZB

Dwg: SAZ 0020-01			Revision: 0
Drawn:	Checked:	Approved:	
ESM	PP	OT	
26-03-21	26-03-21	26-03-21	Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode is fitted with holes suitable for M12 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%



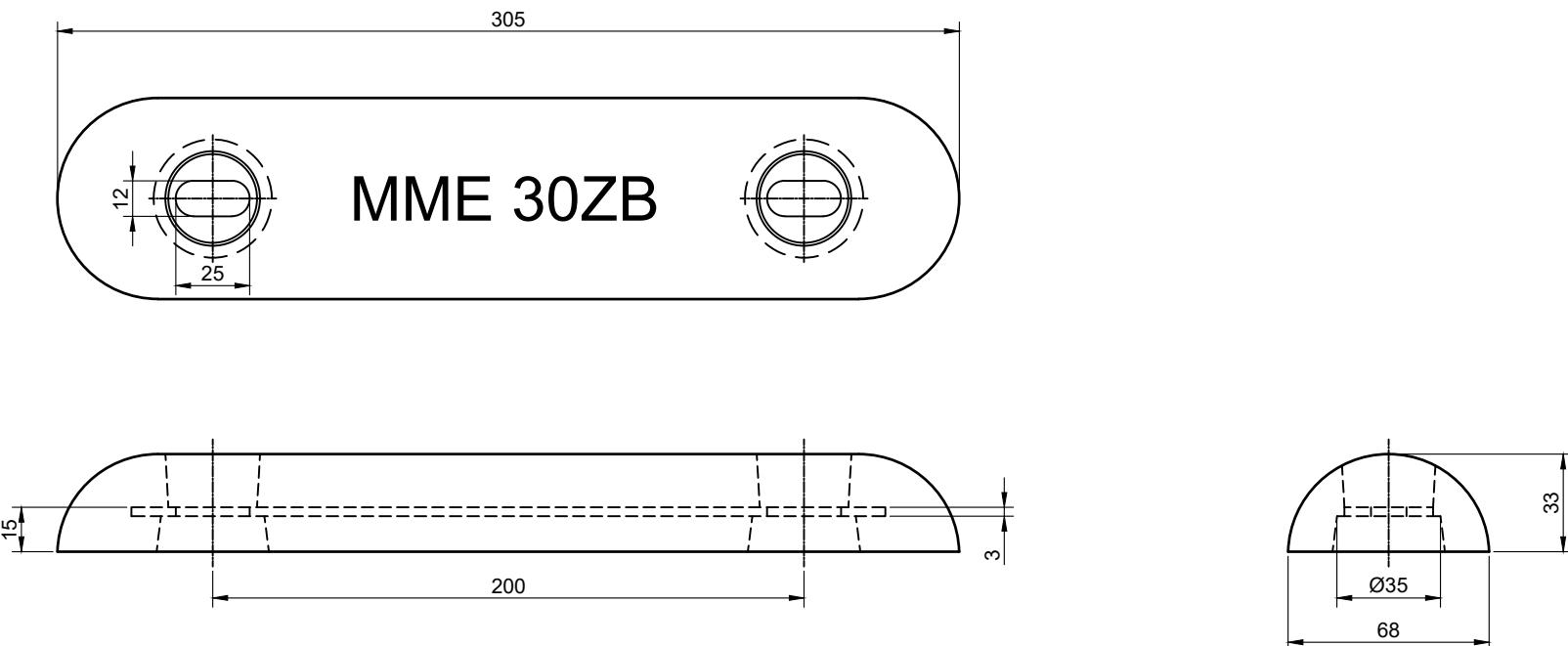
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www.mme-group.com

Zinc Alloy Anode MME 24ZB

Dwg:	SAZ 0024-01	Revision:	A
Drawn:	MB	Checked:	Approved:
	23-08-2023	PP	OT
	23-08-2023		23-08-2023

Scale: 1:2

Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper	0.005 max	
Iron	0.005 max	
Lead	0.006 max	
Others total	0.10 max	

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode is fitted with holes suitable for M10 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Galvanized steel

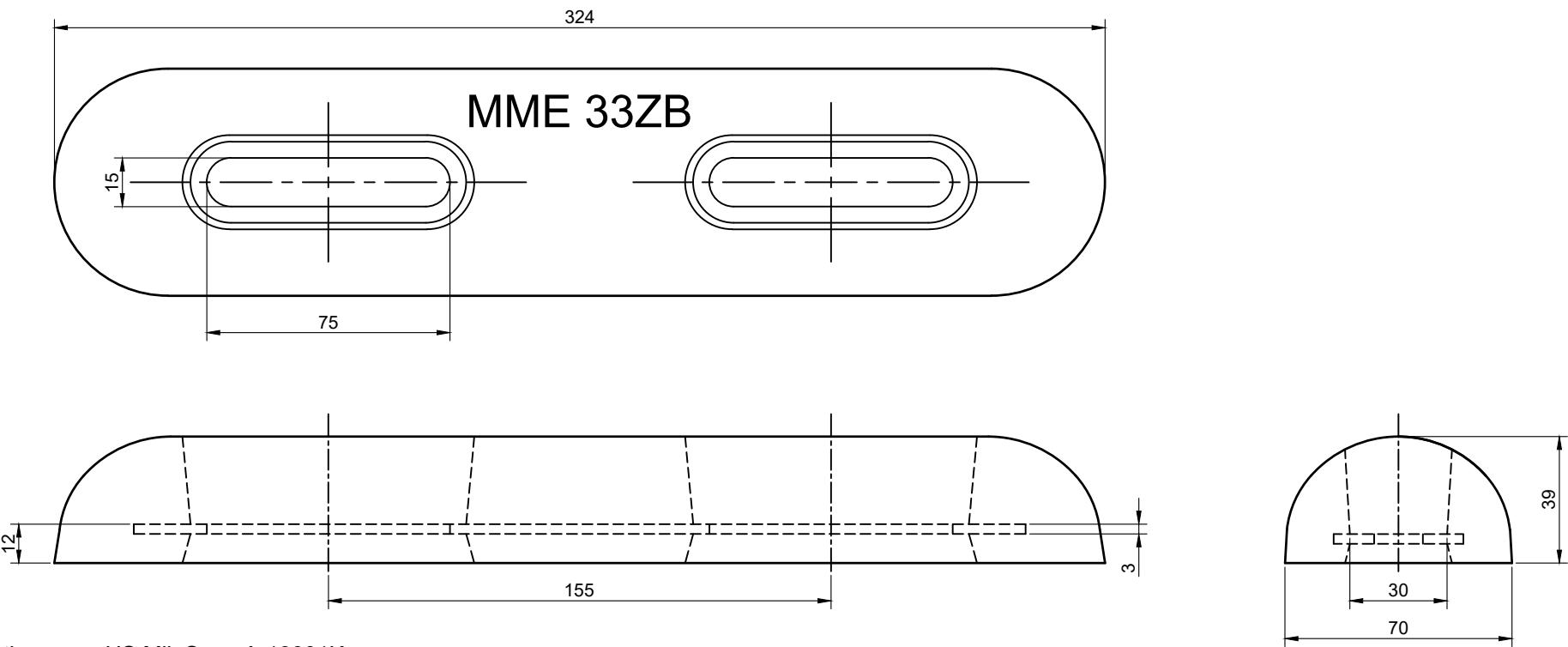
Minimum/maximum anode weight ±5%



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Zinc Alloy Anode MME 30ZB

Dwg:	SAZ 0030-01	Revision:	A
Drawn:	MB	Checked:	Approved:
	23-08-2023	PP	OT
	23-08-2023		23-08-2023
Scale:	1:2.5	Paper:	A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode is fitted with holes suitable for M12 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%



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**Zinc Alloy Anode
MME 33ZB**

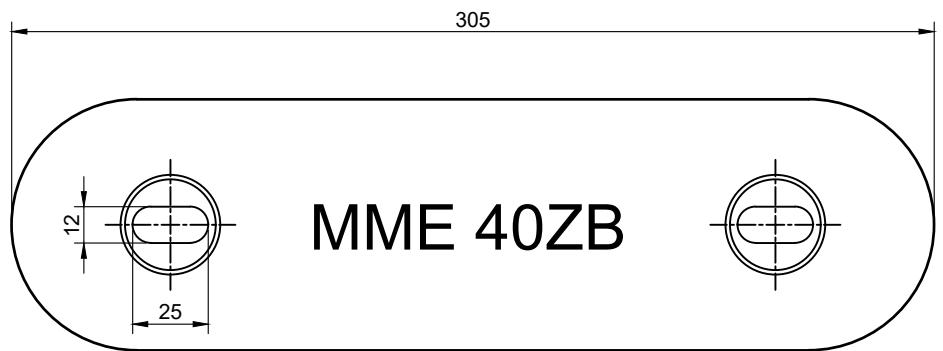
Dwg:	SAZ 0033-03	Revision:	A
Drawn:	MB	Checked:	Approved:
	23-08-2023	PP	OT
	23-08-2023		23-08-2023



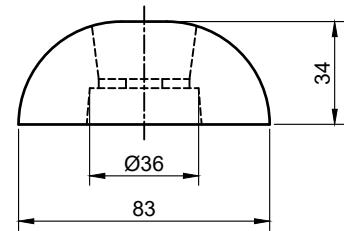
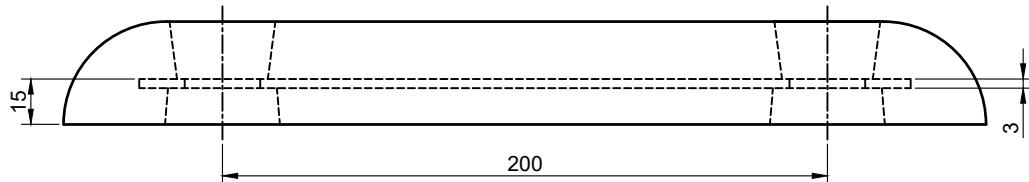
Scale: 1:2



Paper: A4



MME 40ZB



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode is fitted with holes suitable for M10 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Galvanized steel

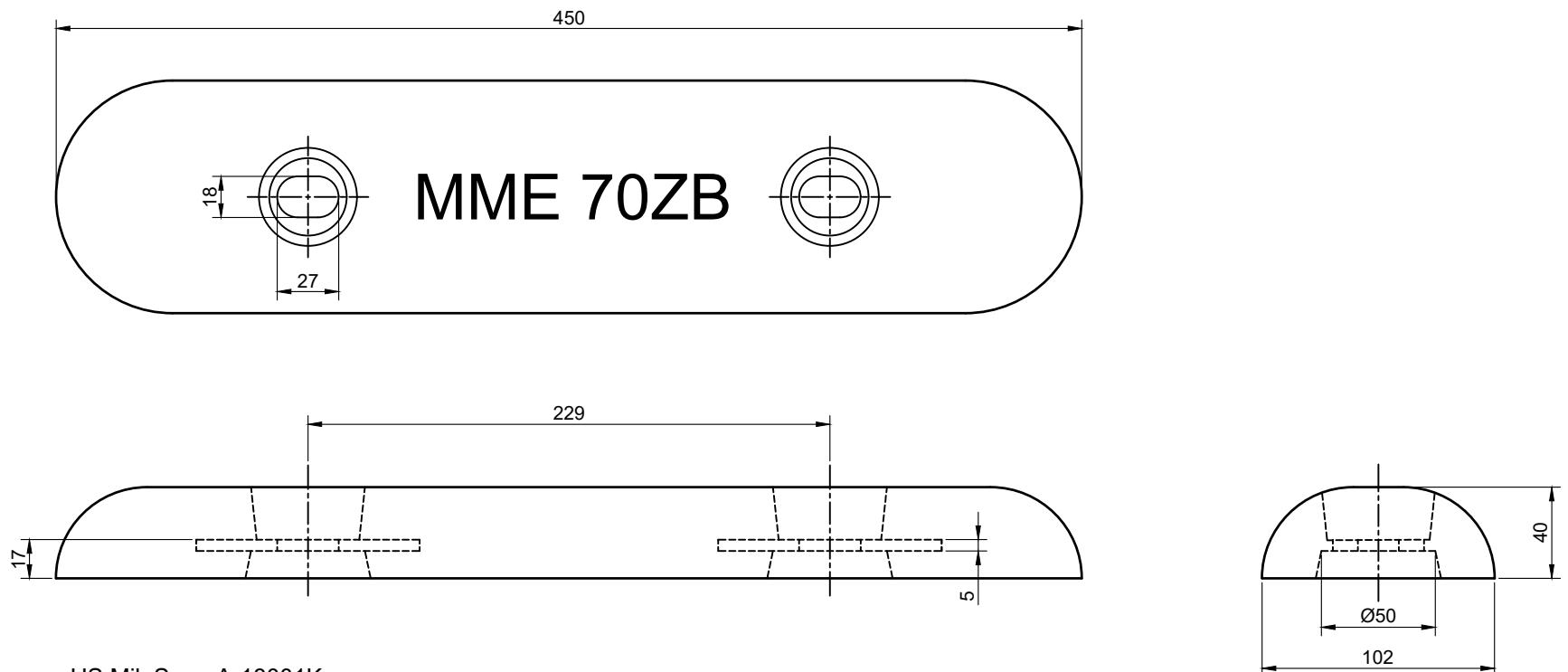
Minimum/maximum anode weight ±5%



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**Zinc Alloy Anode
MME 40ZB**

Dwg:	SAZ 0040-03	Revision:	A
Drawn:	MB	Checked:	Approved:
	23-08-2023	PP	OT
	23-08-2023	23-08-2023	23-08-2023
Scale:	1:2.5	Paper:	A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode is fitted with holes suitable for M16 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%



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**Zinc Alloy Anode
MME 70ZB**

Dwg:	SAZ 0070-01	Revision:	A
Drawn:	MB	Checked:	Approved:
	23-08-2023	PP	OT
	23-08-2023		23-08-2023

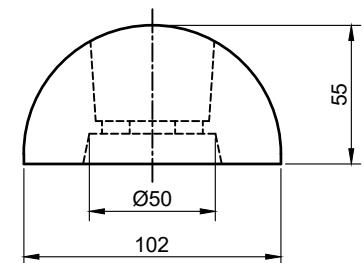
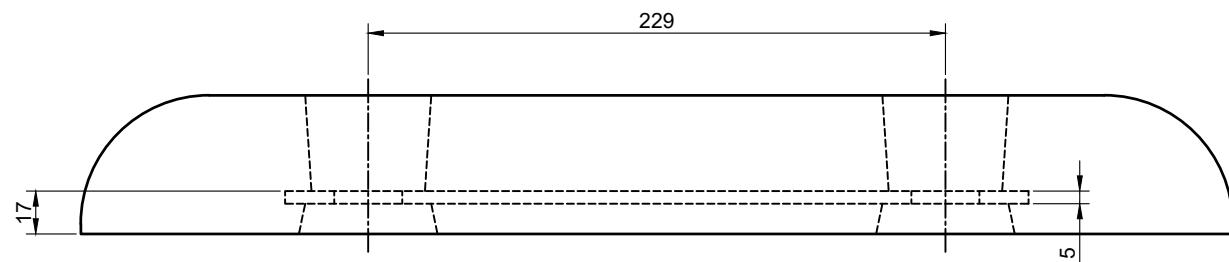


Scale: 1:3

Paper: A4



MME 120ZB



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode is fitted with holes suitable for M16 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Mild steel

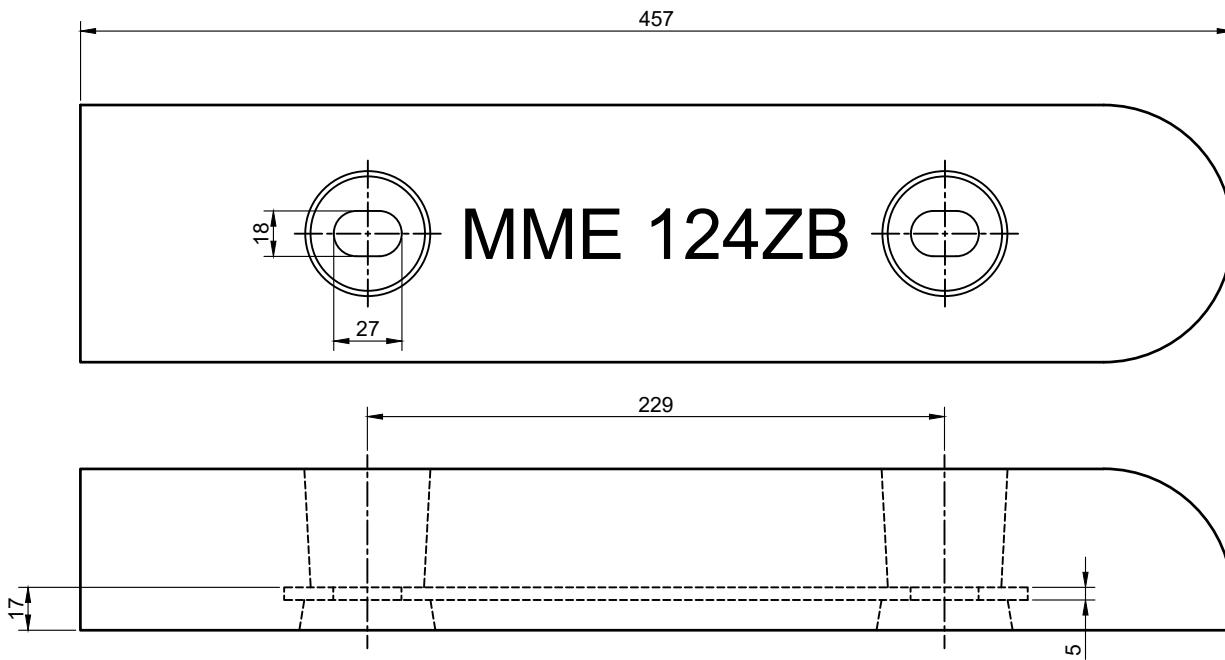
Minimum/maximum anode weight ±5%



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**Zinc Alloy Anode
MME 120ZB**

Dwg:	SAZ 0120-02	Revision:	A
Drawn:	MB	Checked:	Approved:
	23-08-2023	PP	OT
	23-08-2023		23-08-2023
Scale:	1:3	Paper:	A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper	0.005 max	
Iron	0.005 max	
Lead	0.006 max	
Others total	0.10 max	

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode is fitted with holes suitable for M16 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Mild steel

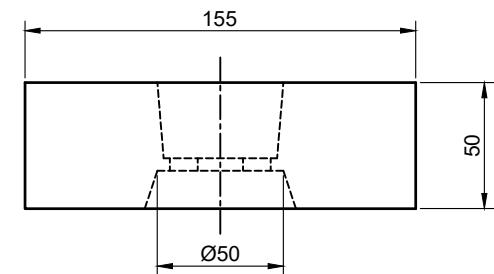
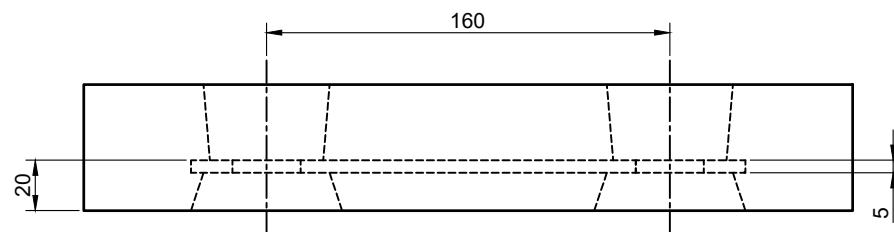
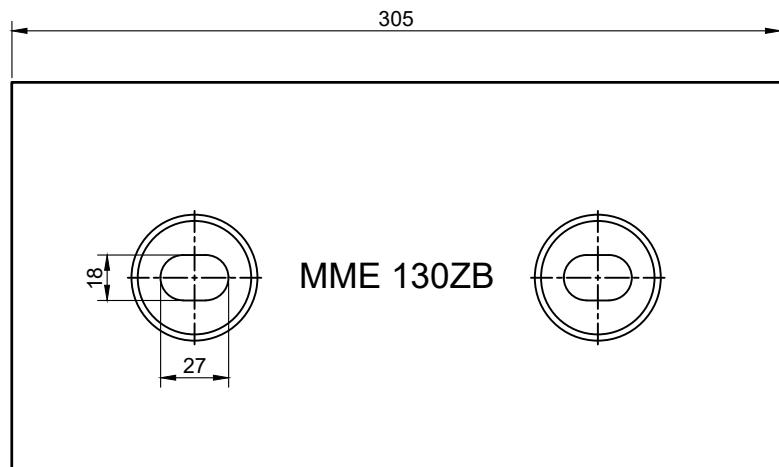
Minimum/maximum anode weight ±5%



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Zinc Alloy Anode
MME 124ZB

Dwg:	SAZ 0124-01	Revision:	A
Drawn:	MB	Checked:	Approved:
	23-08-2023	PP	OT
	23-08-2023		23-08-2023
Scale:	1:3		
Paper:	A4		



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode is fitted with holes suitable for M16 studs and nuts

Anode can also be provided with backing sheet or backside coated

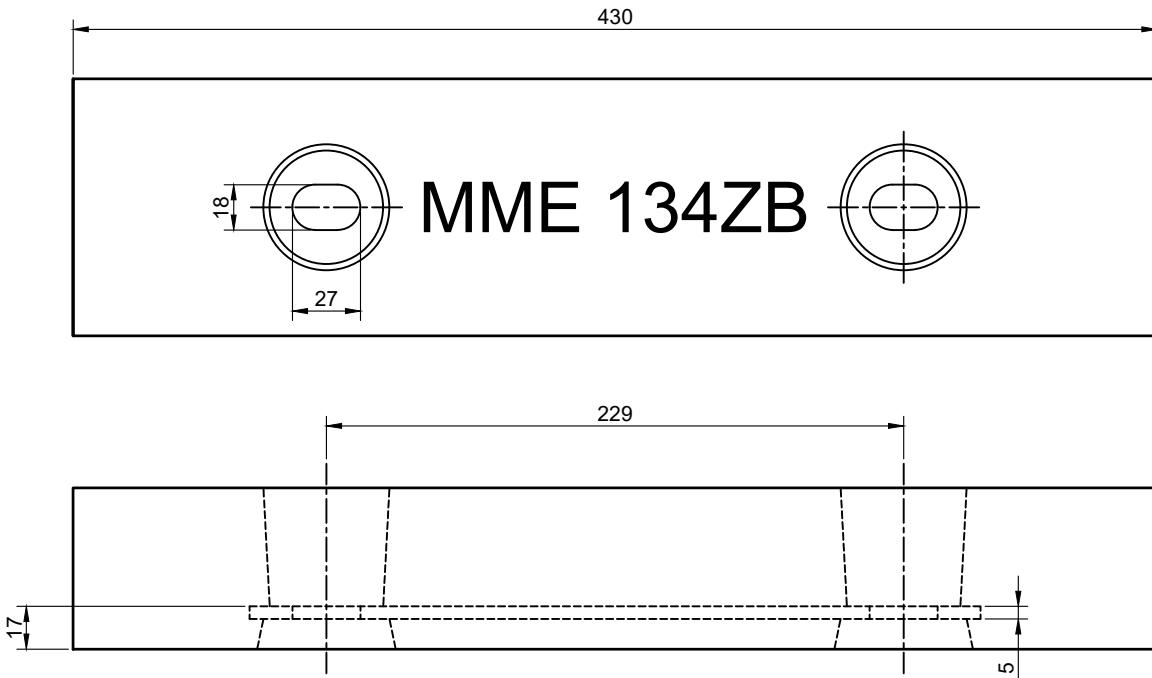
Insert material: Mild steel

Minimum/maximum anode weight ±5%



**Zinc Alloy Anode
MME 130ZB**

Dwg:	SAZ 0130-02	Revision:	A
Drawn:	MB	Checked:	PP
Approved:	OT	Scale:	1:3
23-08-2023	23-08-2023	23-08-2023	Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper	0.005 max	
Iron	0.005 max	
Lead	0.006 max	
Others total	0.10 max	

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode is fitted with holes suitable for M16 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Mild steel

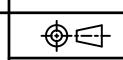
Minimum/maximum anode weight ±5%



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**Zinc Alloy Anode
MME 134ZB**

Dwg:	SAZ 0134-01	Revision:	A
Drawn:	MB	Checked:	Approved:
	23-08-2023	PP	OT
	23-08-2023		23-08-2023

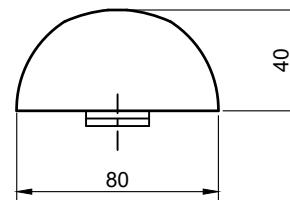
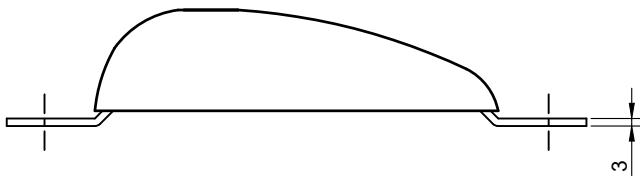
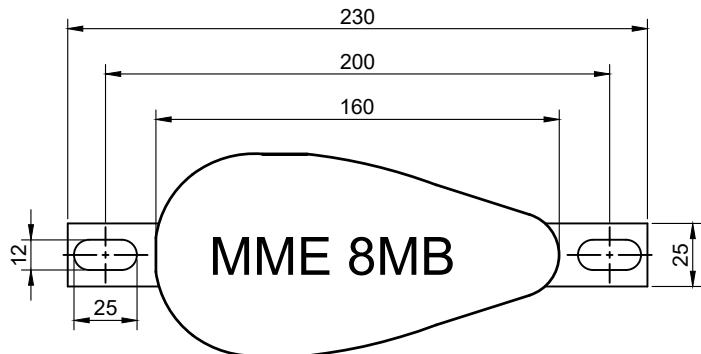


Scale: 1:3



Paper: A4

MAGNESIUM BOLT-ON HULL ANODES



Magnesium alloy specification acc. to EN12496: 2013 alloy M1

Components	Impurities	Percentage (%)
Aluminium		5.0 - 7.0
Zinc		2.0 - 4.0
Manganese		0.15 - 0.70
Magnesium	Iron	0.005 max
	Copper	0.08 max
	Silicon	0.30 max
	Lead	0.03 max
	Nickel	0.003 max
	Others total	0.30 max

Electrical capacity: 1200 AHR / Kg nominal

Solution potential: -1500 mV vs. Ag / AgCl reference cell nominal (in seawater)

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode is fitted with holes suitable for M10 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%

Nett Weight: 0.50 Kg
Gross Weight: 0.74 Kg

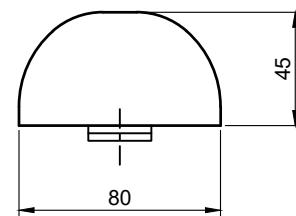
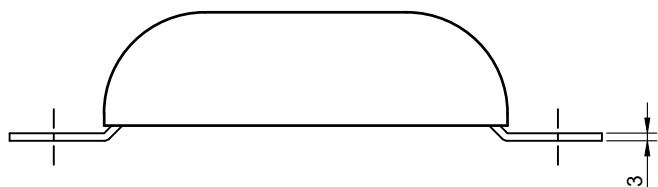
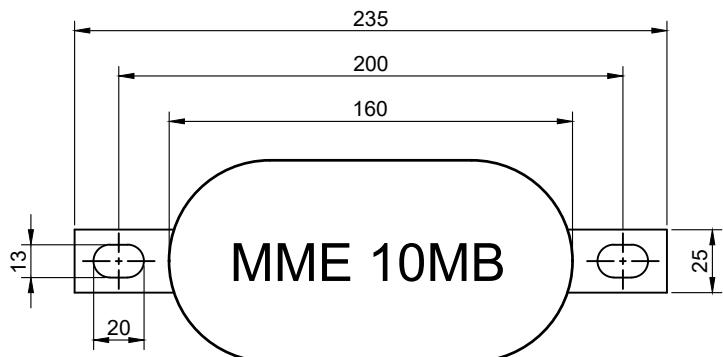


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Magnesium Alloy Anode MME 8MB

Dwg:	SAM 0005-03		Revision: 0
Drawn:	ESM	Checked: PP	Approved: OT
	25-05-21	25-05-21	25-05-21

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Magnesium alloy specification acc. to EN12496: 2013 alloy M1

Components	Impurities	Percentage (%)
Aluminium		5.0 - 7.0
Zinc		2.0 - 4.0
Manganese		0.15 - 0.70
Magnesium		Remainder
Iron		0.005 max
Copper		0.08 max
Silicon		0.30 max
Lead		0.03 max
Nickel		0.003 max
Others total		0.30 max

Electrical capacity: 1200 AHR / Kg nominal

Solution potential: -1500 mV vs. Ag / AgCl reference cell nominal (in seawater)

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode is fitted with holes suitable for M10 / M12 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%

Nett Weight: 0.80 Kg
Gross Weight: 0.82 Kg

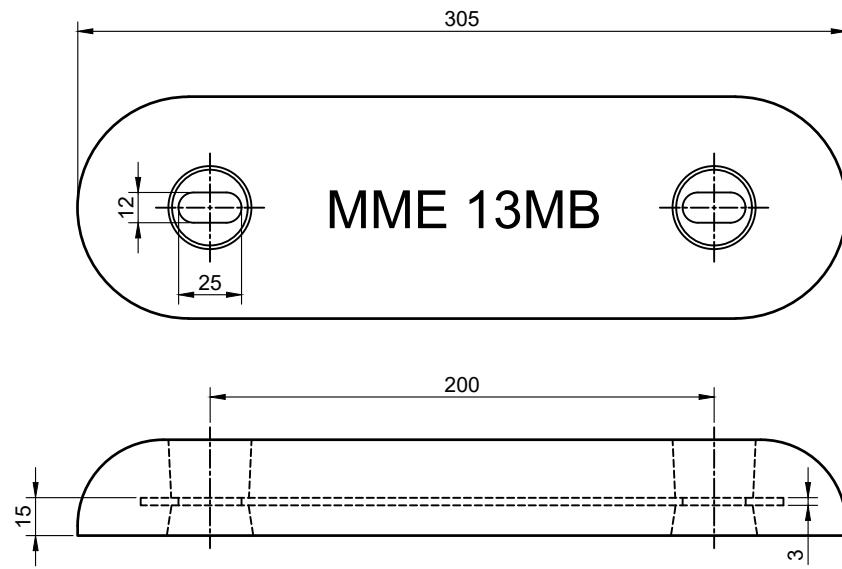


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**Magnesium Alloy Anode
MME 10MB**

Dwg:	SAM 0008-05		Revision: 0
Drawn:	ESM	Checked: PP	Approved: OT
	25-05-21	25-05-21	25-05-21

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Magnesium alloy specification acc. to EN12496: 2013 alloy M1

Components	Impurities	Percentage (%)
Aluminium		5.0 - 7.0
Zinc		2.0 - 4.0
Manganese		0.15 - 0.70
Magnesium	Iron	0.005 max
	Copper	0.08 max
	Silicon	0.30 max
	Lead	0.03 max
	Nickel	0.003 max
	Others total	0.30 max

Electrical capacity: 1200 AHR / Kg nominal

Solution potential: -1500 mV vs. Ag / AgCl reference cell nominal (in seawater)

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

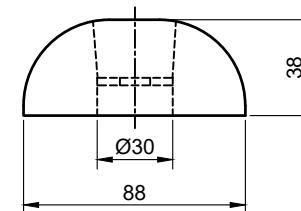
Text on anode is indicative and will not always be identical to this drawing

Anode is fitted with holes suitable for M10 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%



Nett Weight: 1.0 Kg
Gross Weight: 1.2 Kg



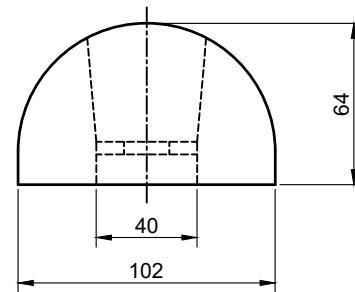
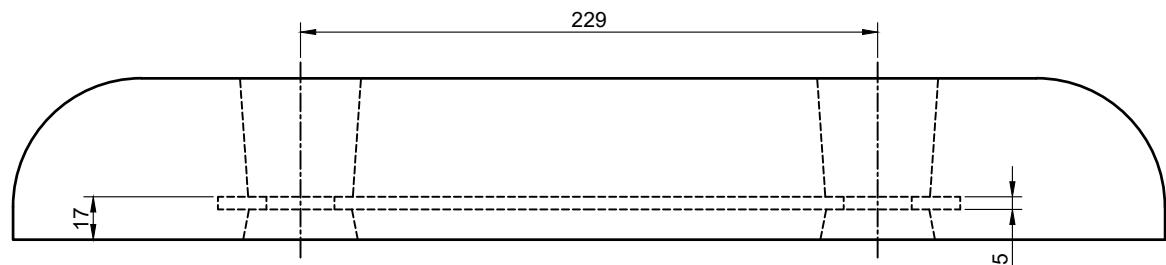
Cathodic Protection Division
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Magnesium Alloy Anode MME 13MB

Dwg:	SAM 0010-06		Revision: 0
Drawn:	ESM	Checked: PP	Approved: OT
	25-05-21	25-05-21	25-05-21
			Paper: A4



MME 35MB



Magnesium alloy specification acc. to EN12496: 2013 alloy M1

Components	Impurities	Percentage (%)
Aluminium		5.0 - 7.0
Zinc		2.0 - 4.0
Manganese		0.15 - 0.70
Magnesium		Remainder
Iron		0.005 max
Copper		0.08 max
Silicon		0.30 max
Lead		0.03 max
Nickel		0.003 max
Others total		0.30 max

Electrical capacity: 1200 AHR / Kg nominal

Solution potential: -1500 mV vs. Ag / AgCl reference cell nominal (in seawater)

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Anode is fitted with holes suitable for M16 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%

Nett Weight: 2.9 Kg
Gross Weight: 3.4 Kg



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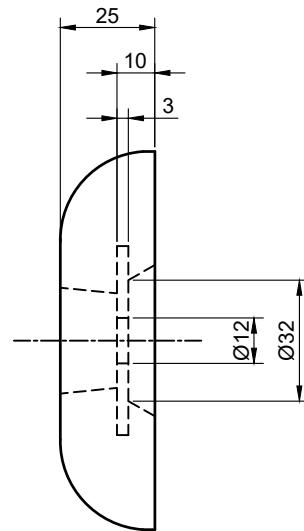
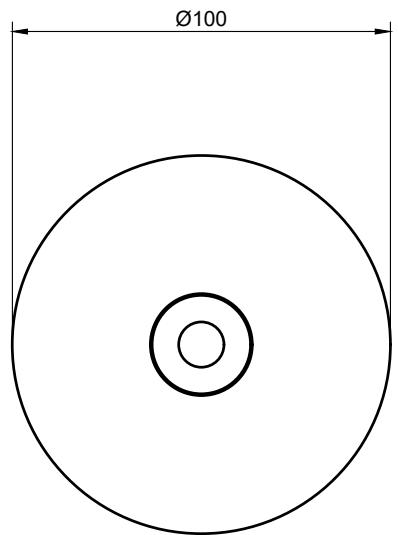
Magnesium Alloy Anode MME 35MB

Dwg:	SAM 0029-01		Revision: 0
Drawn:	ESM	Checked: PP	Approved: OT
	25-05-21	25-05-21	25-05-21



Paper: A4

ALUMINIUM BOLT-ON DISC ANODES



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 AHour / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Anode is fitted with holes suitable for M10 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Non galvanized steel

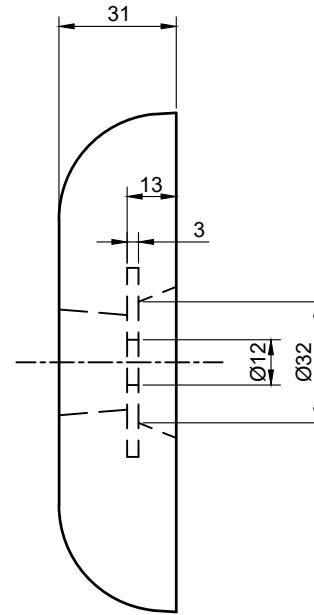
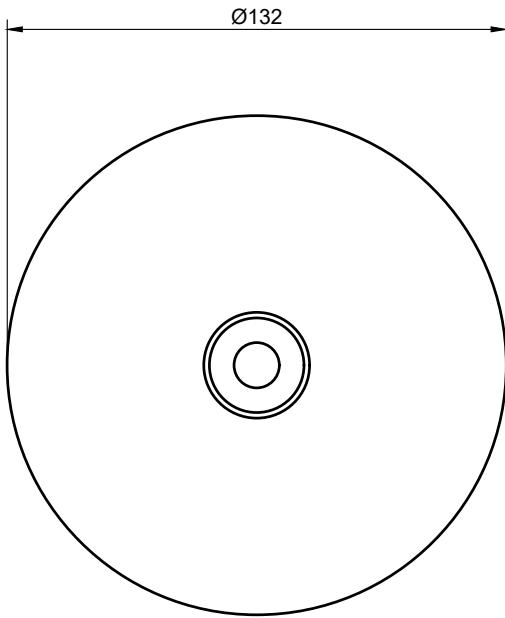
Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 04AB

Dwg:	SAA 0004-02	Revision:	A
Drawn:	MB	Checked:	Approved:
	23-08-2023	PP	OT
	23-08-2023		23-08-2023
Scale:	1:2	Paper:	A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Anode is fitted with holes suitable for M10 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Non galvanized steel

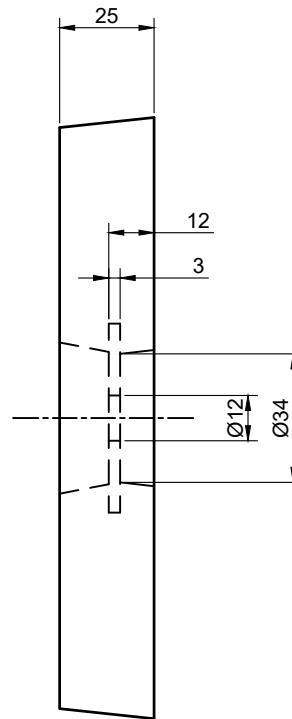
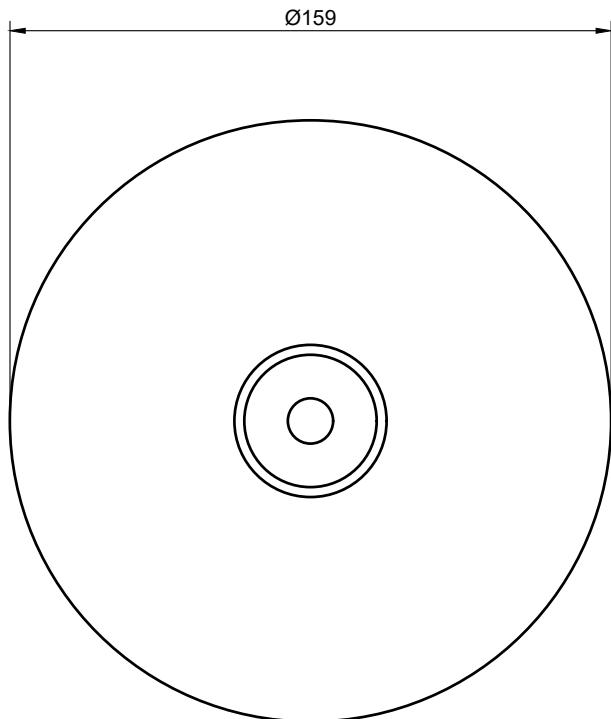
Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 08AB

Dwg:	SAA 0008-04	Revision:	A
Drawn:	MB	Checked:	Approved:
	23-08-2023	PP	OT
	23-08-2023		23-08-2023
Scale:	1:2		
Paper:	A4		



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Anode is fitted with holes suitable for M10 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Non galvanized steel

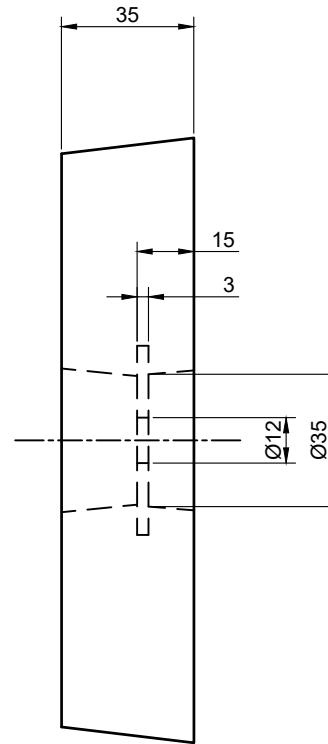
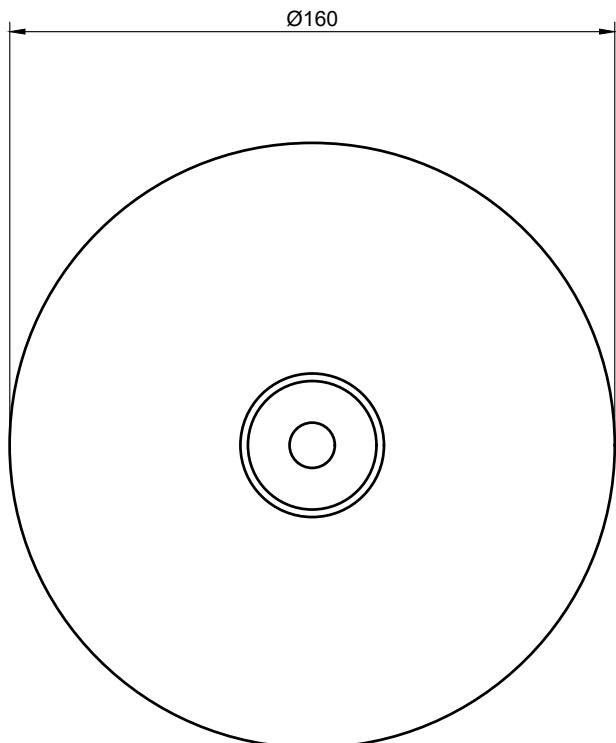
Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 12AB

Dwg:	SAA 0012-02	Revision:	A
Drawn:	MB	Checked:	Approved:
	23-08-2023	PP	OT
	23-08-2023	23-08-2023	23-08-2023
Scale:	1:2		
Paper:	A4		



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Anode is fitted with holes suitable for M10 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Non galvanized steel

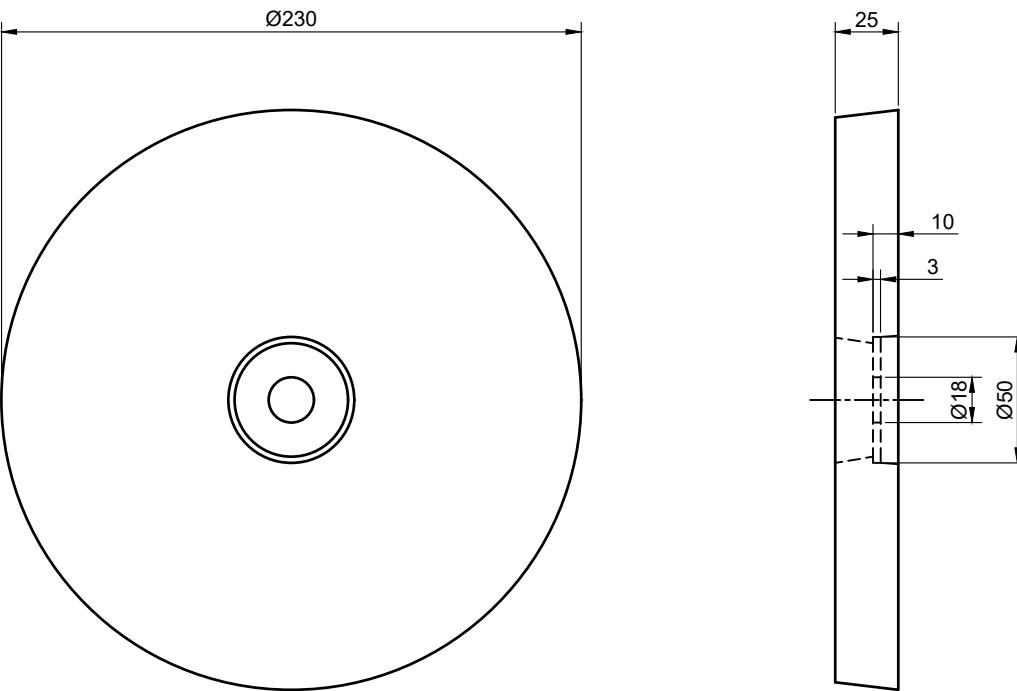
Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 16AB

Dwg:	SAA 0016-01	Revision:	A
Drawn:	MB	Checked:	Approved:
	23-08-2023	PP	OT
	23-08-2023	23-08-2023	23-08-2023
Scale:	1:2		
Paper:	A4		



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Anode is fitted with holes suitable for M16 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Non galvanized steel

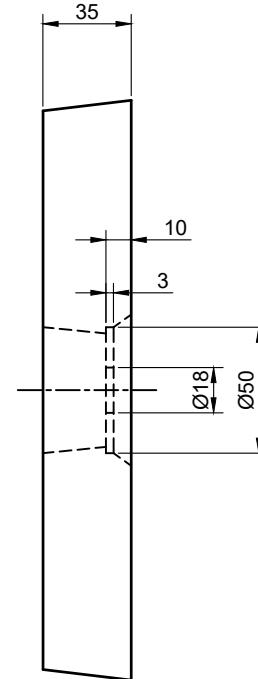
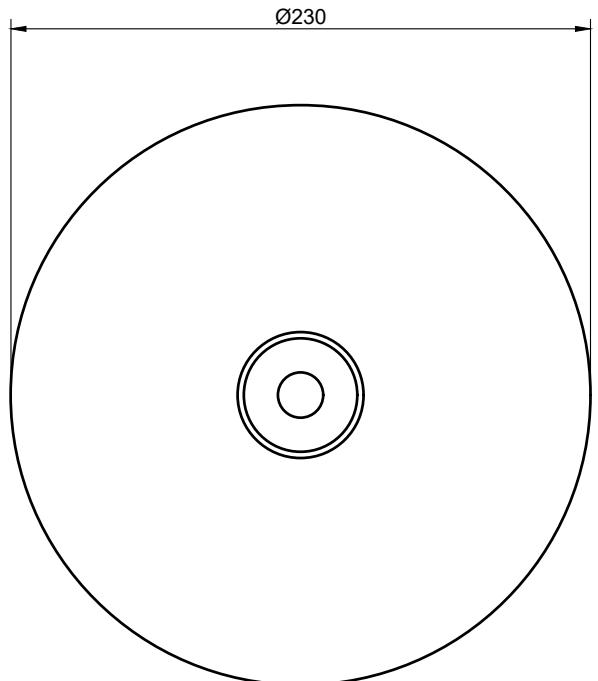
Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 28AB

Dwg:	SAA 0028-01	Revision:	A
Drawn:	MB	Checked:	Approved:
	23-08-2023	PP	OT
	23-08-2023		23-08-2023
Scale:	1:3		
Paper:	A4		



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper		0.01 max
Iron		0.15 max
Others each		0.02 max
Others total		0.05 max

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Anode is fitted with holes suitable for M16 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Non galvanized steel

Minimum/maximum anode weight ±5%

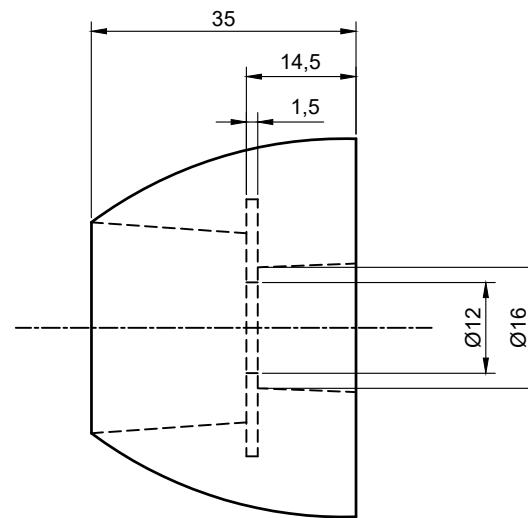
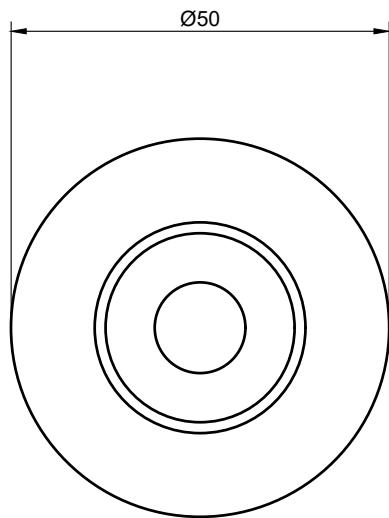


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Aluminium Alloy Anode MME 37AB

Dwg:	SAA 0037-01	Revision:	A
Drawn:	MB	Checked:	Approved:
	23-08-2023	PP	OT
	23-08-2023		23-08-2023
Scale:	1:3		
Paper:	A4		

ZINC BOLT-ON DISC ANODES



Zinc alloy specifications acc. US Mil. Spec-A-18001K

<u>Components</u>	<u>Impurities</u>	<u>Percentage (%)</u>
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHour/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Anode is fitted with holes suitable for M10 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Galvanized steel

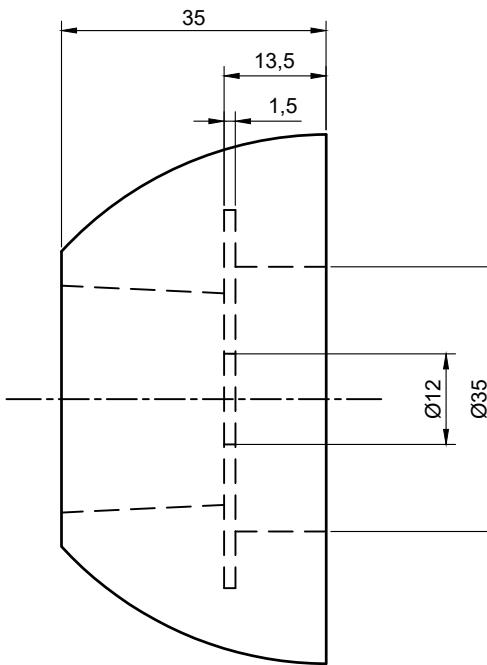
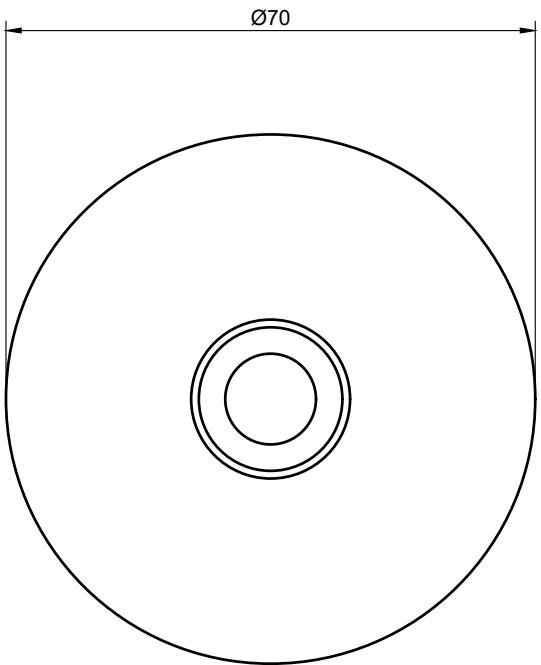
Minimum/maximum anode weight ±5%



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Zinc Alloy Anode MME 03ZB

Dwg:	SAZ 0003-01	Revision:	A
Drawn:	MB	Checked:	Approved:
	23-08-2023	PP	OT
	23-08-2023		23-08-2023
Scale:	1:1	Paper:	A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHour/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Anode is fitted with holes suitable for M10 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Galvanized steel

Minimum/maximum anode weight ±5%

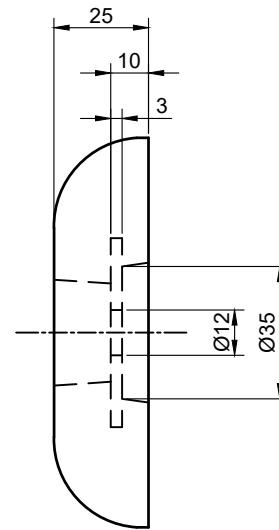
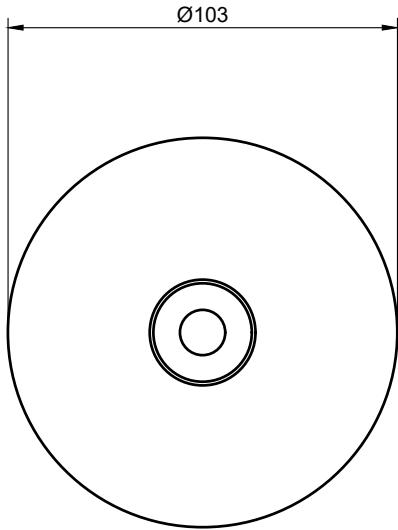
Nett Weight: 0.50 Kg
Gross Weight: 0.52 Kg



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**Zinc Alloy Anode
MME 05ZB**

Dwg:	SAZ 0005-01	Revision:	A
Drawn:	MB	Checked:	Approved:
	23-08-2023	PP	OT
	23-08-2023		23-08-2023
Scale:	1:1	Paper:	A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

<u>Components</u>	<u>Impurities</u>	<u>Percentage (%)</u>
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc		Remainder
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHour/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Anode is fitted with holes suitable for M10 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Galvanized steel

Minimum/maximum anode weight ±5%



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Zinc Alloy Anode MME 1ZB

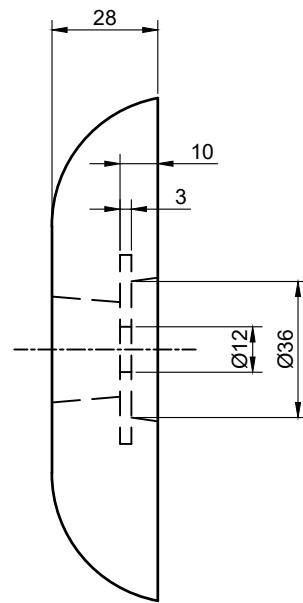
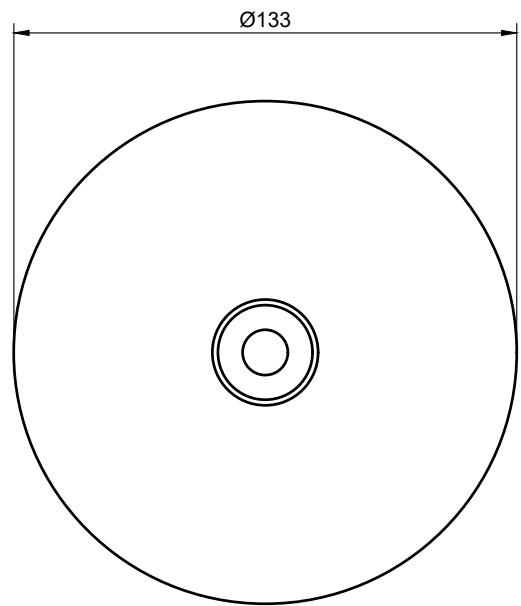
Dwg:	SAZ 0010-01	Revision:	A
Drawn:	MB	Checked:	Approved:

23-08-2023

23-08-2023

23-08-2023

Scale: 1:2
Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHour/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Anode is fitted with holes suitable for M10 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Galvanized steel

Minimum/maximum anode weight ±5%



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Zinc Alloy Anode MME 2ZB

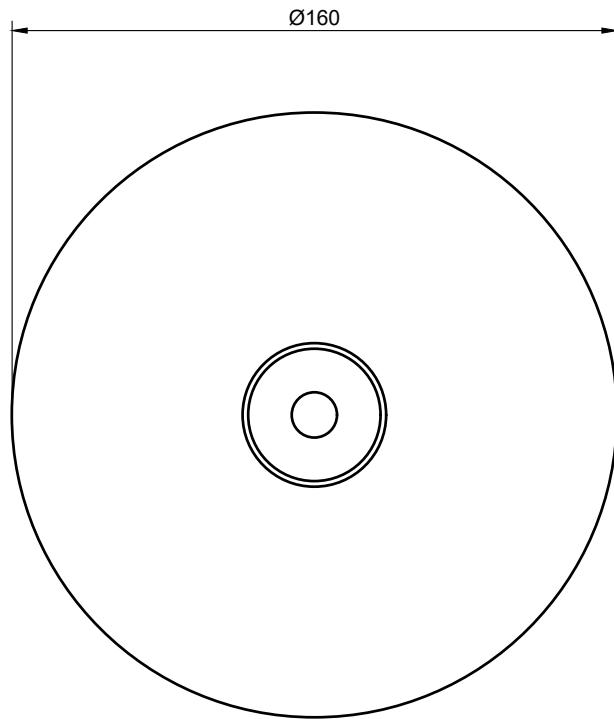
Dwg:	SAZ 0020-02	Revision:	A
Drawn:	MB	Checked:	Approved:

23-08-2023

23-08-2023

23-08-2023

Scale: 1:2
Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

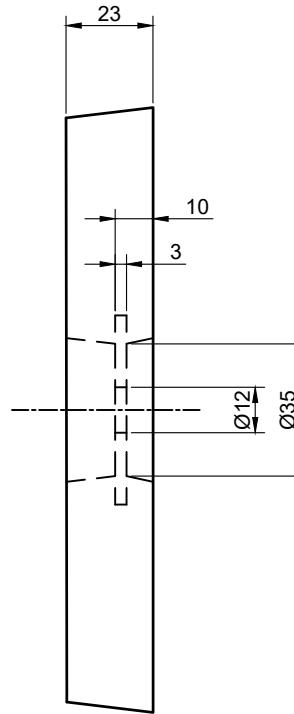
All data is subject to change without prior notice

Anode is fitted with holes suitable for M10 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Galvanized steel

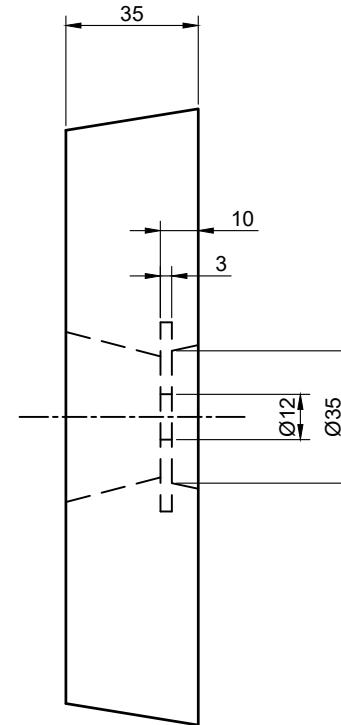
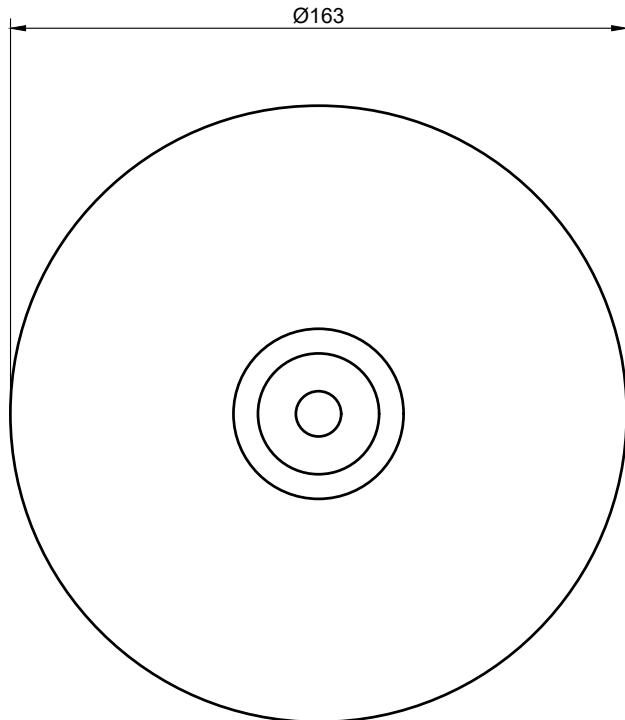
Minimum/maximum anode weight ±5%



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**Zinc Alloy Anode
MME 27ZB**

Dwg:	SAZ 0027-01	Revision:	A
Drawn:	MB	Checked:	Approved:
	23-08-2023	PP	OT
	23-08-2023		23-08-2023
Scale:	1:2	Paper:	A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Anode is fitted with holes suitable for M10 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Galvanized steel

Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 41ZB

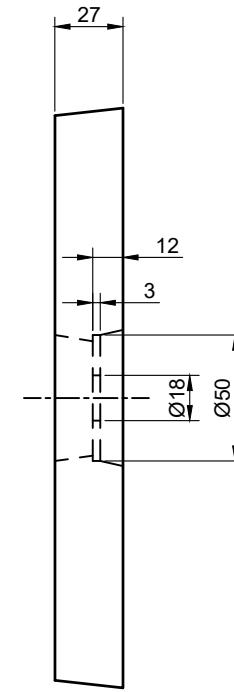
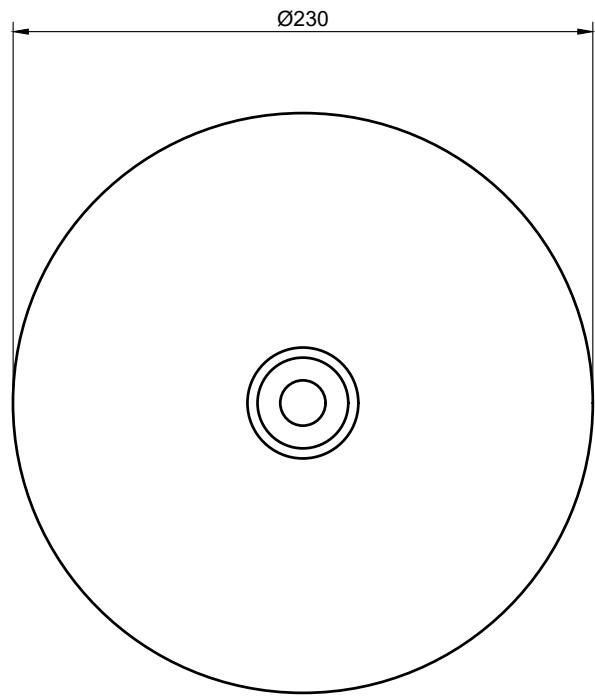
Dwg:	SAZ 0041-01	Revision:	A
Drawn:	MB	Checked:	Approved:

23-08-2023

23-08-2023

23-08-2023

Scale: 1:2
Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Anode is fitted with holes suitable for M16 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Galvanized steel

Minimum/maximum anode weight ±5%



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Zinc Alloy Anode MME 71ZB

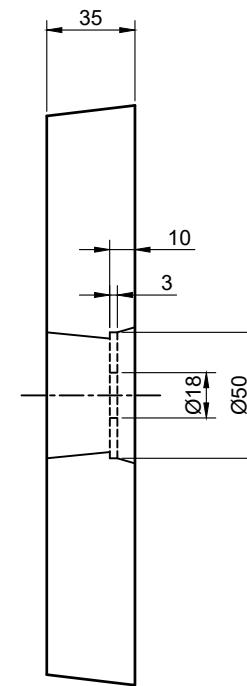
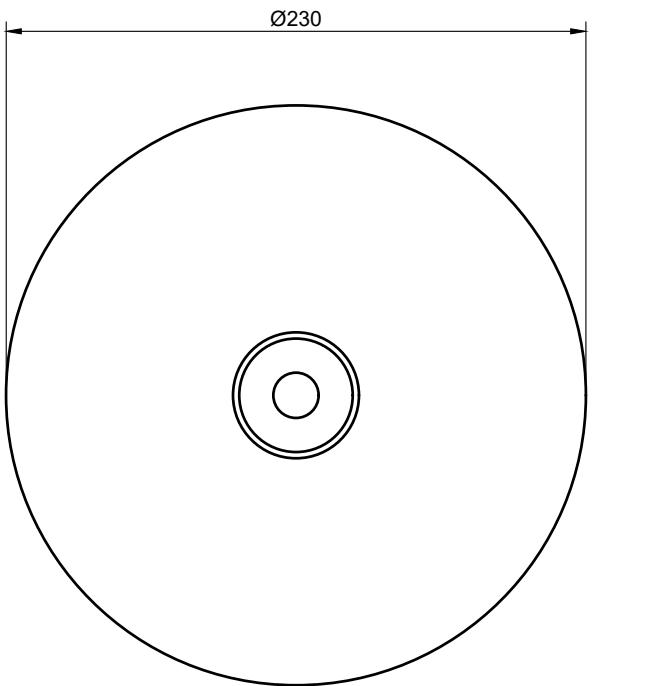
Dwg:	SAZ 0071-02	Revision:	A
Drawn:	MB	Checked:	Approved:

23-08-2023

23-08-2023

23-08-2023

Scale: 1:3
Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper	0.005 max	
Iron	0.005 max	
Lead	0.006 max	
Others total	0.10 max	

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Anode is fitted with holes suitable for M16 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Galvanized steel

Minimum/maximum anode weight ±5%

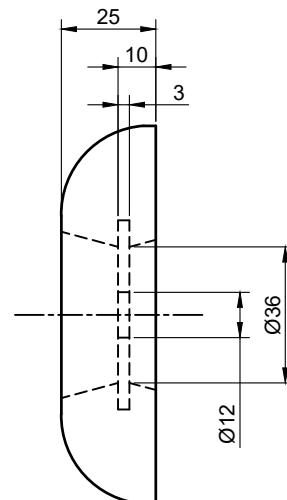
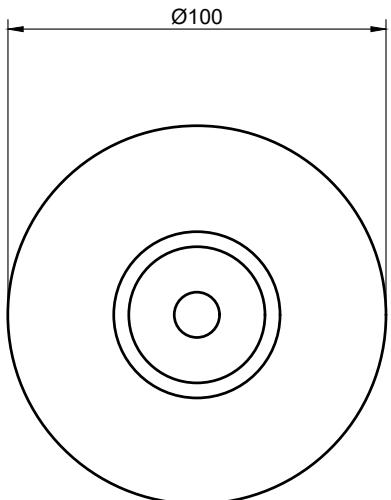


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Zinc Alloy Anode MME 89ZB

Dwg:	SAZ 0089-01	Revision:	A
Drawn:	MB	Checked:	Approved:
	23-08-2023	PP	OT
	23-08-2023		23-08-2023
Scale:	1:3	Paper:	A4

MAGNESIUM BOLT-ON DISC ANODES



Magnesium alloy specification acc. to EN12496: 2013 alloy M1

<u>Components</u>	<u>Impurities</u>	<u>Percentage (%)</u>
Aluminium		5.0 - 7.0
Zinc		2.0 - 4.0
Manganese		0.15 - 0.70
Magnesium	Iron	0.005 max
	Copper	0.08 max
	Silicon	0.30 max
	Lead	0.03 max
	Nickel	0.003 max
	Others total	0.30 max

Electrical capacity: 1200 AHR / Kg nominal

Solution potential: -1500 mV vs. Ag / AgCl reference cell nominal (in seawater)

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Anode is fitted with holes suitable for M10 studs and nuts

Anode can also be provided with backing sheet or backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%

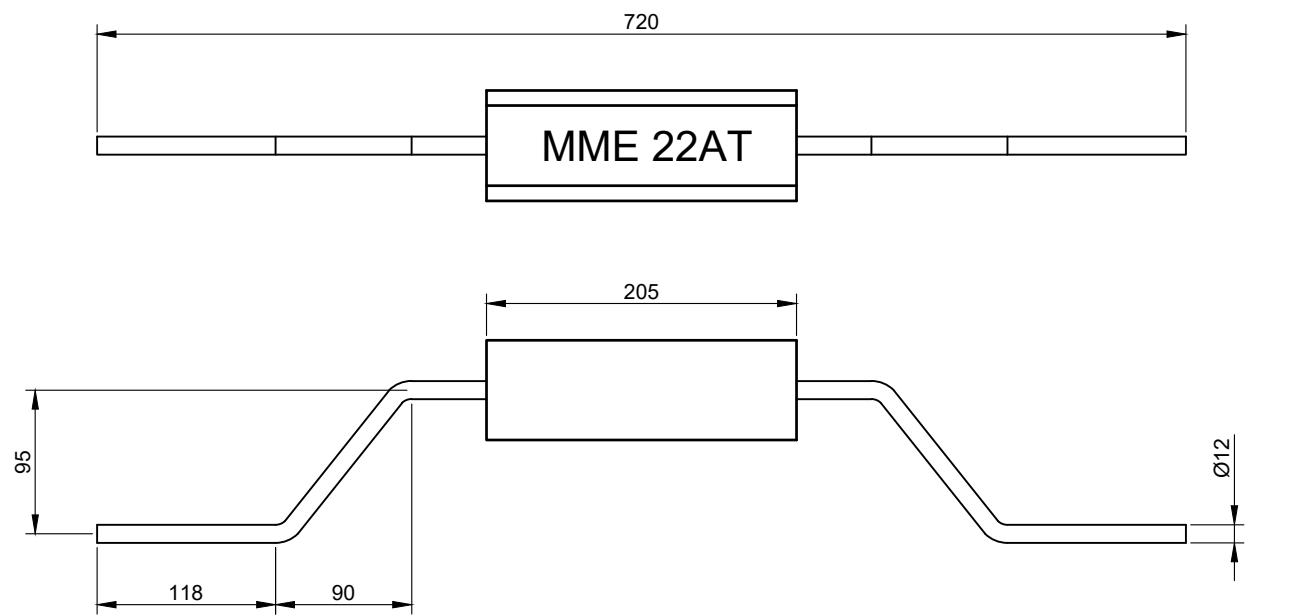


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Magnesium Alloy Anode MME 4MB

Dwg:	SAM 0002-03		Revision: 0
Drawn:	ESM	Checked: PP	Approved: OT
	25-05-21	25-05-21	25-05-21
			Paper: A4

ALUMINIUM TANK ANODES



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper		0.01 max
Iron		0.15 max
Others each		0.02 max
Others total		0.05 max

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Tank anodes available with Z-cracked (shown) or straight insert

Other insert arrangements available on request

Anode can also be provided backside coated

Insert material: Mild steel

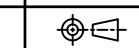
Minimum/maximum anode weight ±5%



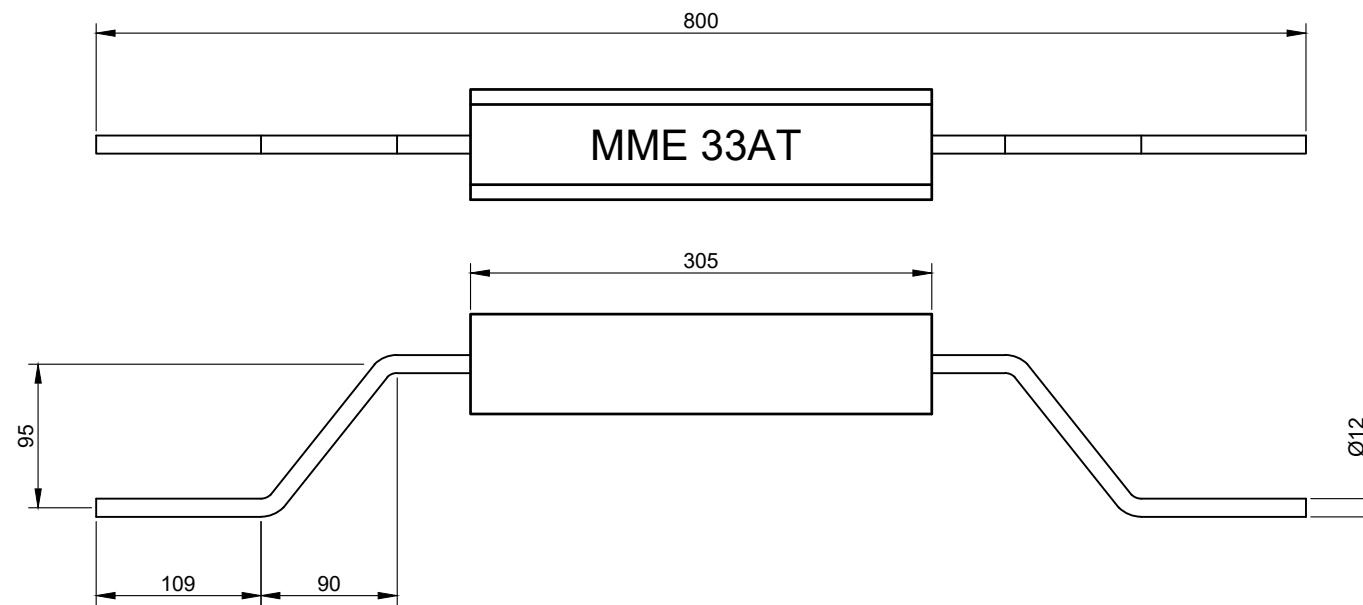
Cathodic Protection Division
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E-mail: sales@mme.nl
www.mme-group.com

Aluminium Alloy Anode MME 22AT

Dwg:	SAA 0022-02		Revision: 0
Drawn:	ESM	Checked: PP	Approved: OT
	25-03-21	25-03-21	25-03-21



Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper		0.01 max
Iron		0.15 max
Others each		0.02 max
Others total		0.05 max

Electrochemical capacity: 2700 AHr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Tank anodes available with Z-cracked (shown) or straight insert

Other insert arrangements available on request

Anode can also be provided backside coated

Insert material: Mild steel

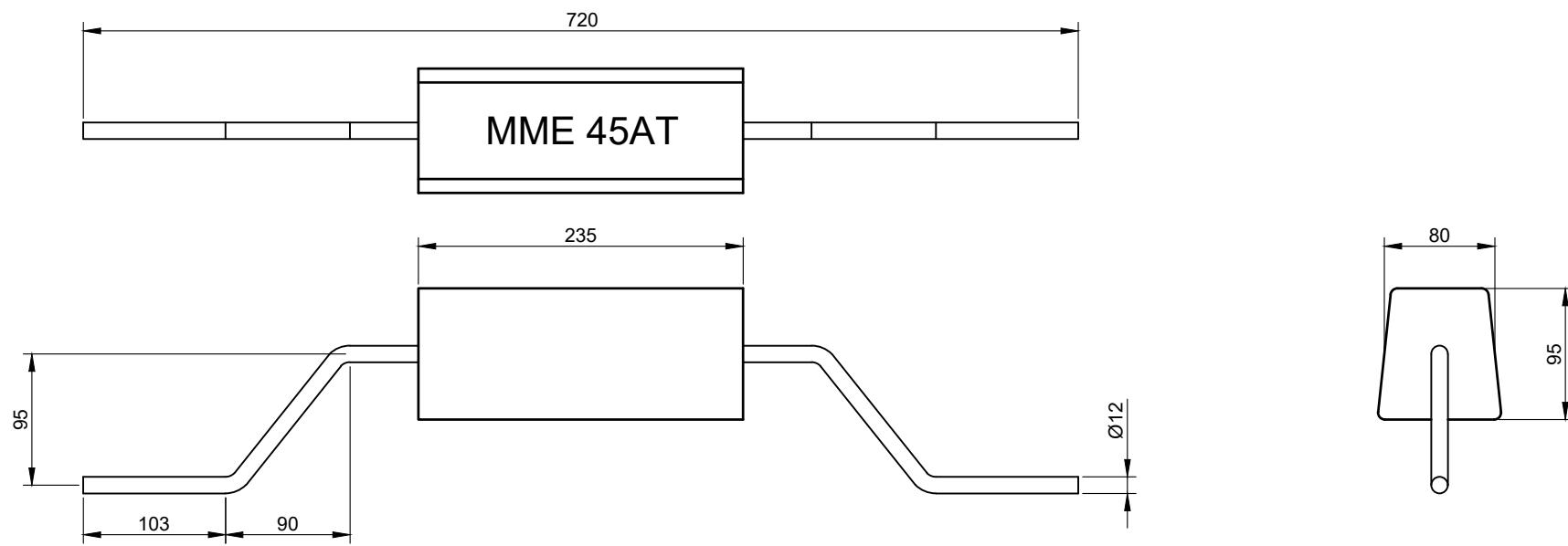
Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 33AT

Dwg:	SAA 0033-02	Revision:	0
Drawn:	ESM	Checked:	Approved:
25-03-21	25-03-21	OT	Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper		0.01 max
Iron		0.15 max
Others each		0.02 max
Others total		0.05 max

Electrochemical capacity: 2700 AHr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Tank anodes available with Z-cracked (shown) or straight insert

Other insert arrangements available on request

Anode can also be provided backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%



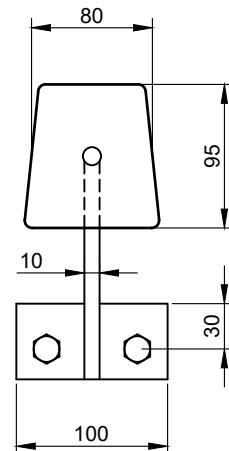
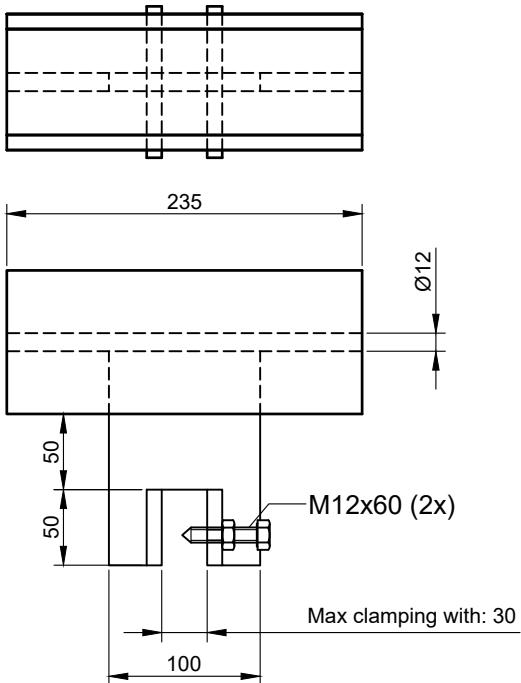
Cathodic Protection Division
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www.mme-group.com

Aluminium Alloy Anode MME 45AT

Dwg:	SAA 0045-04		Revision: 0
Drawn:	ESM	Checked: PP	Approved: OT
	25-03-21	25-03-21	25-03-21



Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 AHour / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Insert material: Mild steel

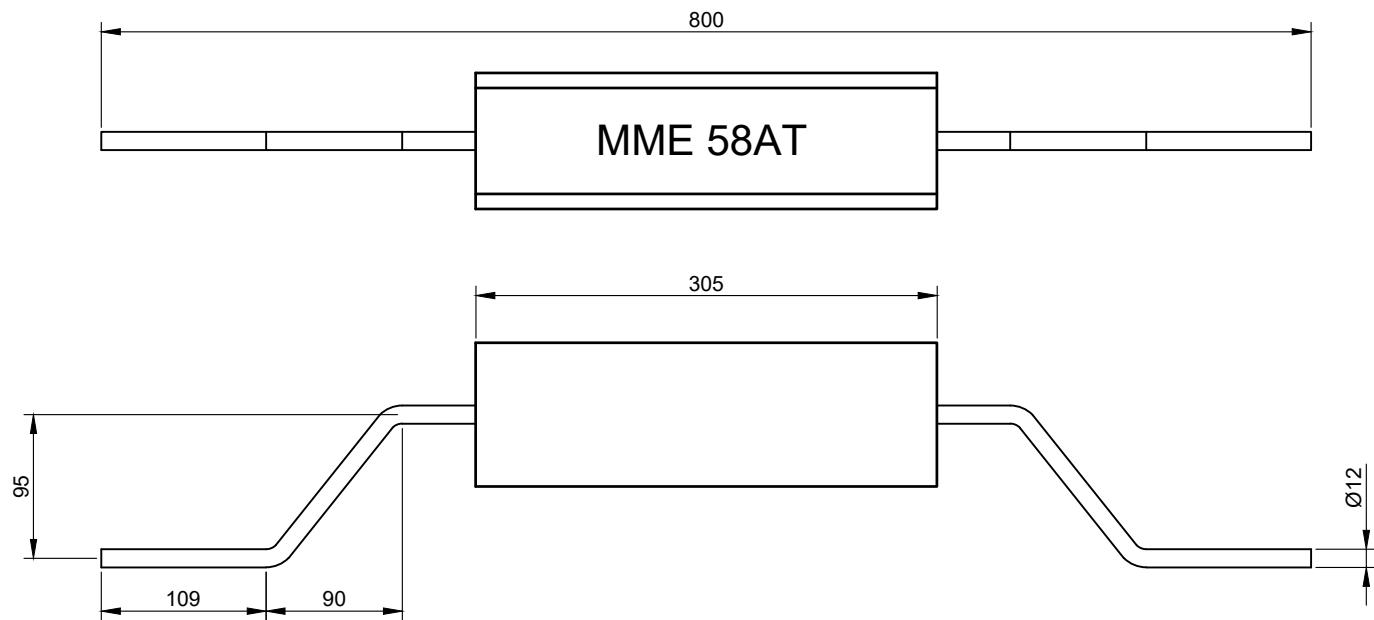
Minimum/maximum anode weight ±5%

Nett Weight: 4.5 Kg
Gross Weight: 5.7 Kg

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Aluminium Alloy Anode MME 45AT Clamp

Dwg:	SAA 0045-03		Revision: 0
Drawn:	ESM	Checked: PP	Approved: OT
	25-03-21	25-03-21	25-03-21



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper		0.01 max
Iron		0.15 max
Others each		0.02 max
Others total		0.05 max

Electrochemical capacity: 2700 AHr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Tank anodes available with Z-cracked (shown) or straight insert

Other insert arrangements available on request

Anode can also be provided backside coated

Insert material: Mild steel

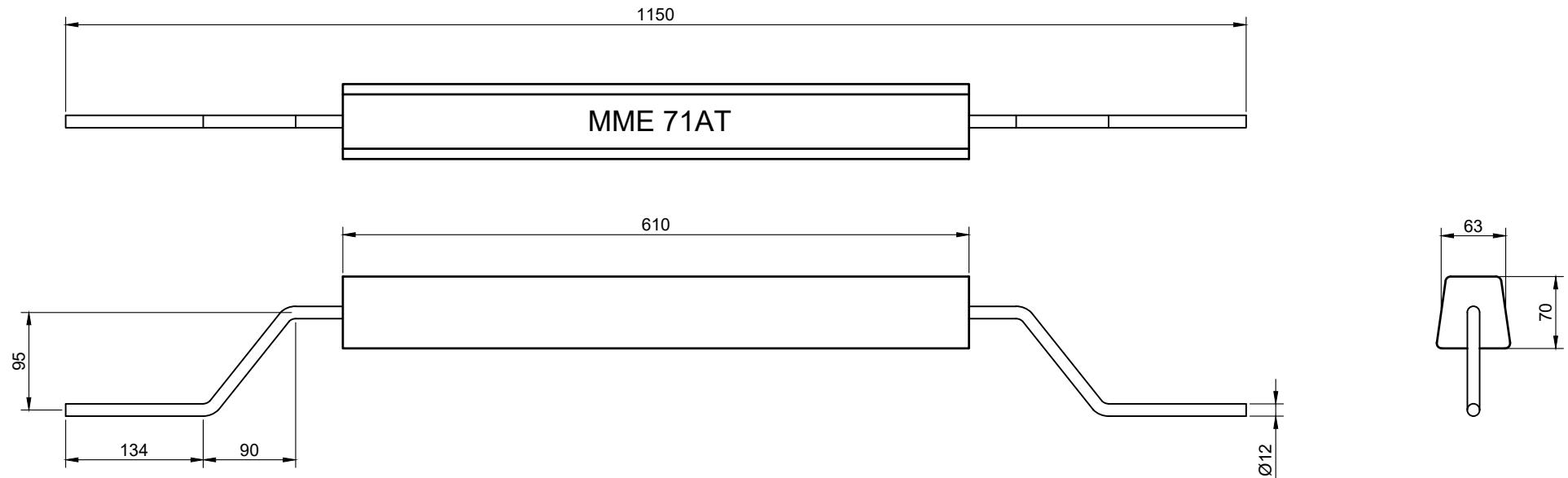
Minimum/maximum anode weight ±5%

Nett Weight: 5.8 Kg
Gross Weight: 6.6 Kg

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Aluminium Alloy Anode MME 58AT

Dwg:	SAA 0058-02	Revision:	0
Drawn:	ESM	Checked:	Approved:
	25-03-21	PP	OT
			Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper		0.01 max
Iron		0.15 max
Others each		0.02 max
Others total		0.05 max

Electrochemical capacity: 2700 AHR / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Tank anodes available with Z-cracked (shown) or straight insert

Other insert arrangements available on request

Anode can also be provided backside coated

Insert material: Mild steel

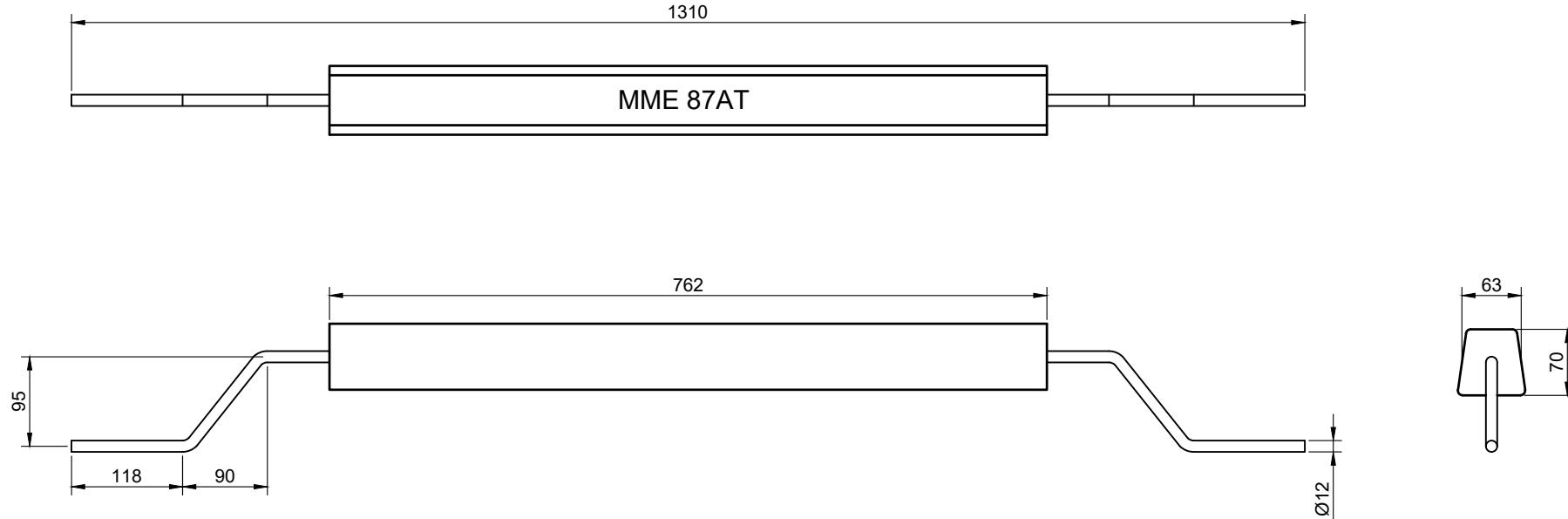
Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 71AT

Dwg:	SAA 0071-01	Revision:	0
Drawn:	ESM	Checked:	Approved:
	25-03-21	PP	OT
			Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper		0.01 max
Iron		0.15 max
Others each		0.02 max
Others total		0.05 max

Electrochemical capacity: 2700 AHR / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Tank anodes available with Z-cracked (shown) or straight insert

Other insert arrangements available on request

Anode can also be provided backside coated

Insert material: Mild steel

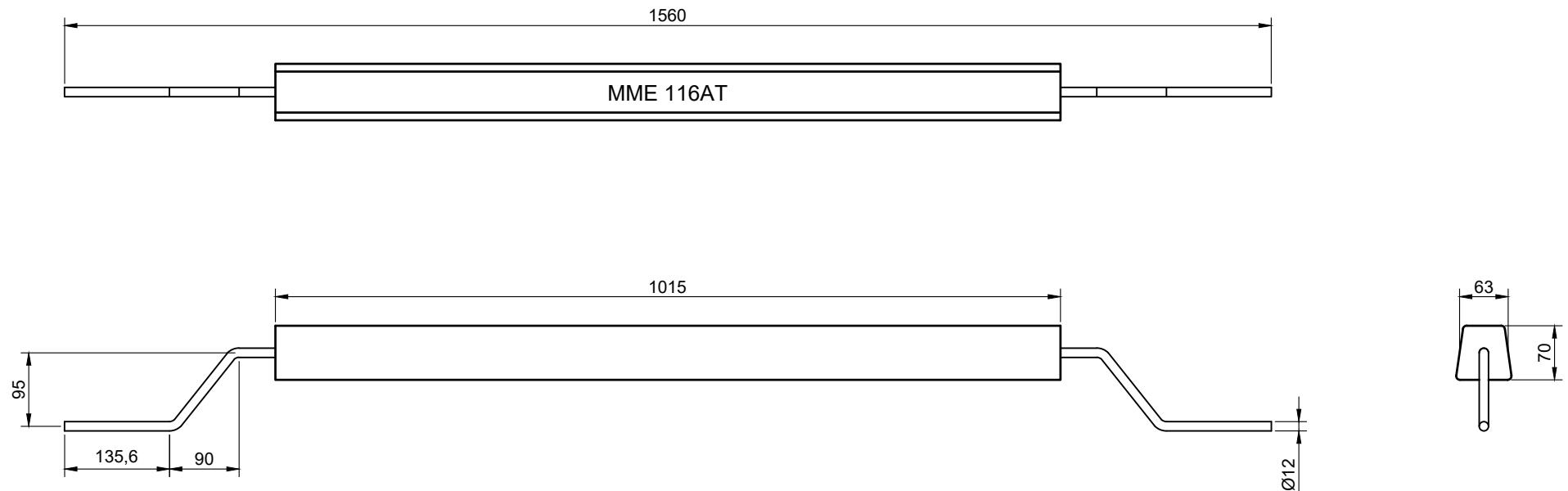
Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 87AT

Dwg:	SAA 0087-01	Revision:	0
Drawn:	ESM	Checked:	Approved:
	25-03-21	PP	OT
			Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper		0.01 max
Iron		0.15 max
Others each		0.02 max
Others total		0.05 max

Electrochemical capacity: 2700 AHR / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Tank anodes available with Z-cracked (shown) or straight insert

Other insert arrangements available on request

Anode can also be provided backside coated

Insert material: Mild steel

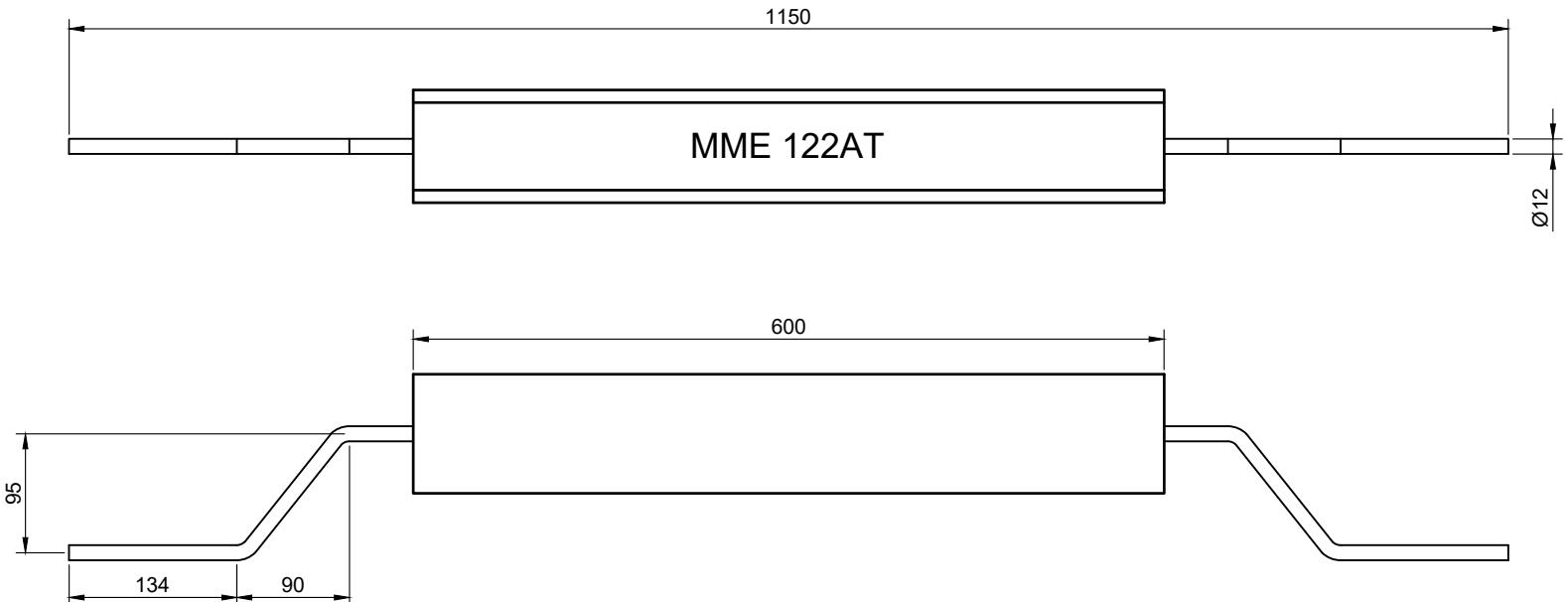
Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 116AT

Dwg:	SAA 0116-01	Revision:	0
Drawn:	ESM	Checked:	Approved:
25-03-21	PP	OT	Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper		0.01 max
Iron		0.15 max
Others each		0.02 max
Others total		0.05 max

Electrochemical capacity: 2700 AHr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Tank anodes available with Z-cracked (shown) or straight insert

Other insert arrangements available on request

Anode can also be provided backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%

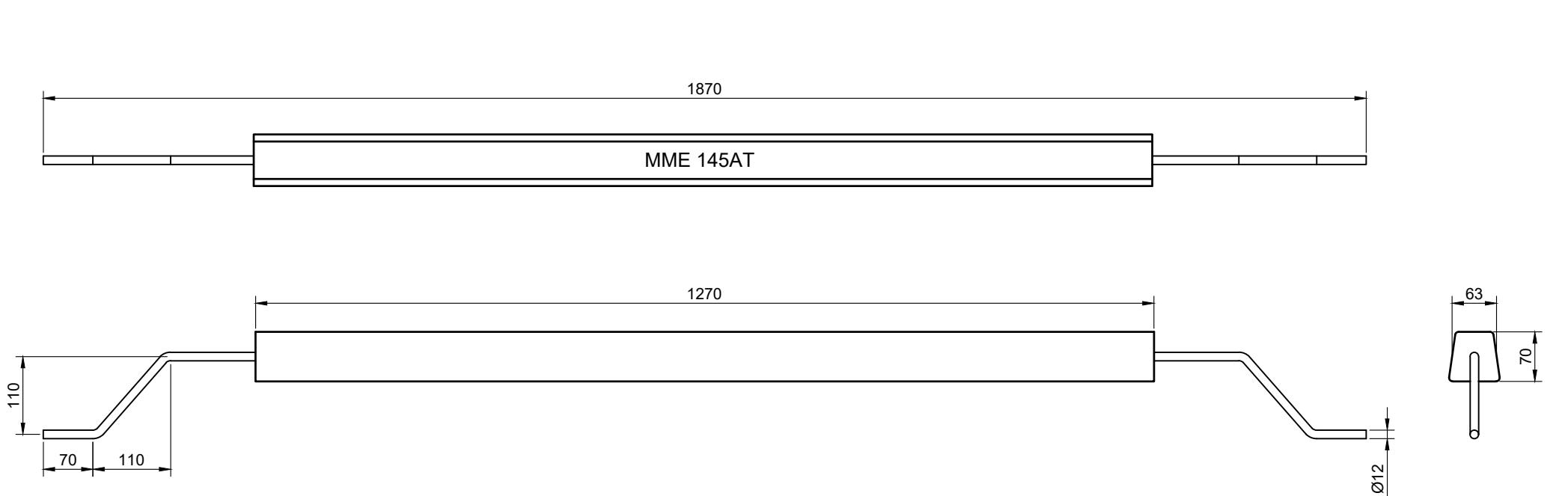
Nett Weight: 12.2 Kg
Gross Weight: 13.3 Kg



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Aluminium Alloy Anode MME 122AT

Dwg:	SAA 0122-01	Revision:	0
Drawn:	ESM	Checked:	Approved:
	26-03-21	PP	OT
			Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper		0.01 max
Iron		0.15 max
Others each		0.02 max
Others total		0.05 max

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Tank anodes available with Z-cracked (shown) or straight insert

Other insert arrangements available on request

Anode can also be provided backside coated

Insert material: Mild steel

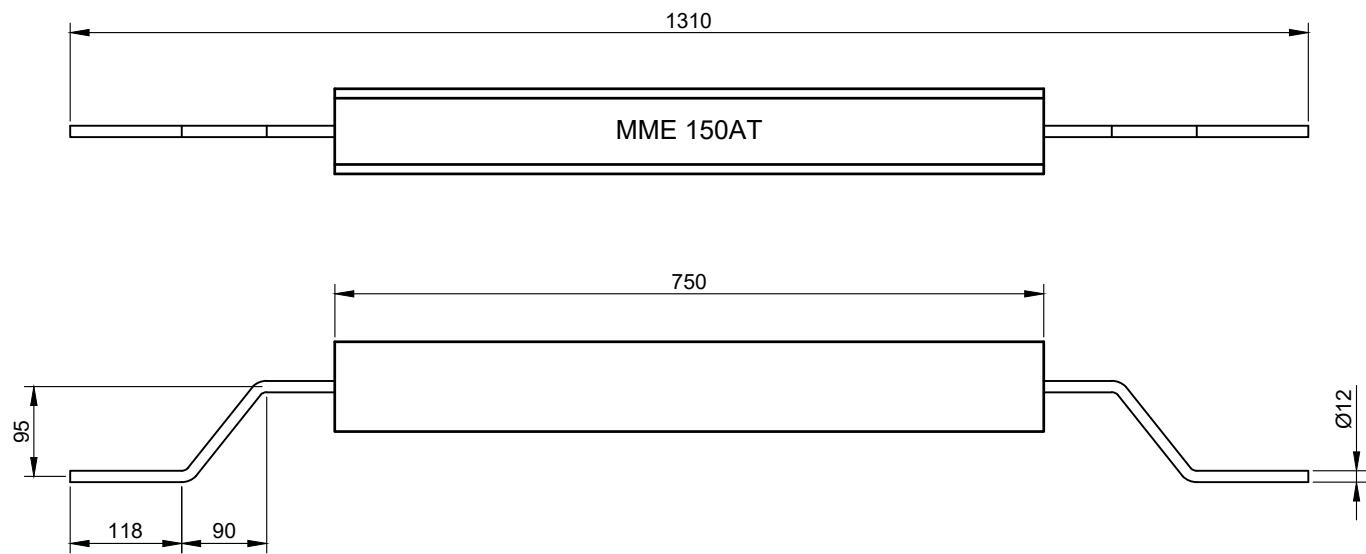
Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 145AT

Dwg:	SAA 0145-02	Revision:	0
Drawn:	ESM	Checked:	Approved:
	26-03-21	26-03-21	OT
			Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper		0.01 max
Iron		0.15 max
Others each		0.02 max
Others total		0.05 max

Electrochemical capacity: 2700 AHr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Tank anodes available with Z-cracked (shown) or straight insert

Other insert arrangements available on request

Anode can also be provided backside coated

Insert material: Mild steel

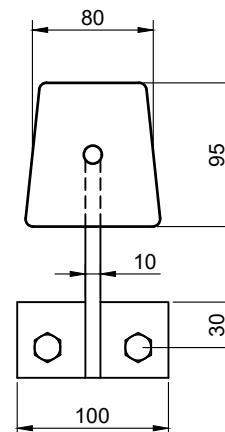
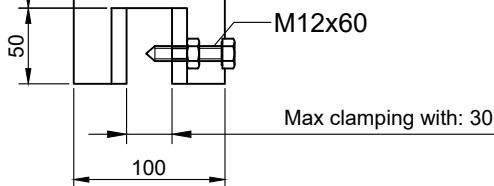
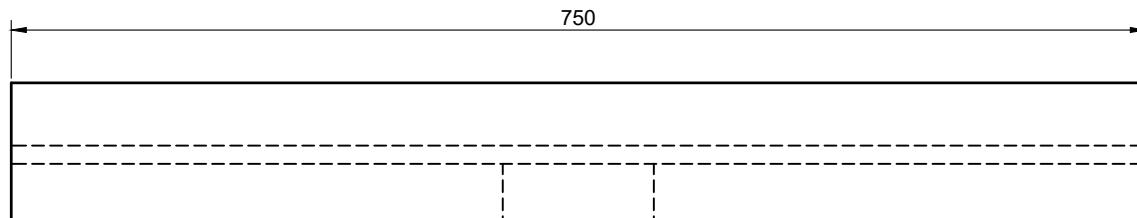
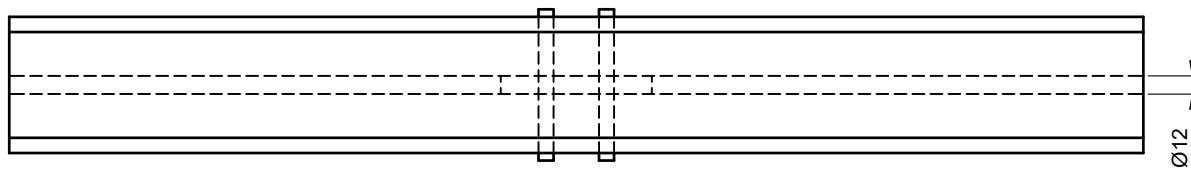
Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 150AT

Dwg:	SAA 0150-03	Revision:	0
Drawn:	ESM	Checked:	Approved:
	26-03-21	PP	OT
			Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper		0.01 max
Iron		0.15 max
Others each		0.02 max
Others total		0.05 max

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Insert material: Mild steel

Minimum/maximum anode weight ±5%

Nett Weight: 15.0 Kg
Gross Weight: 17.0 Kg

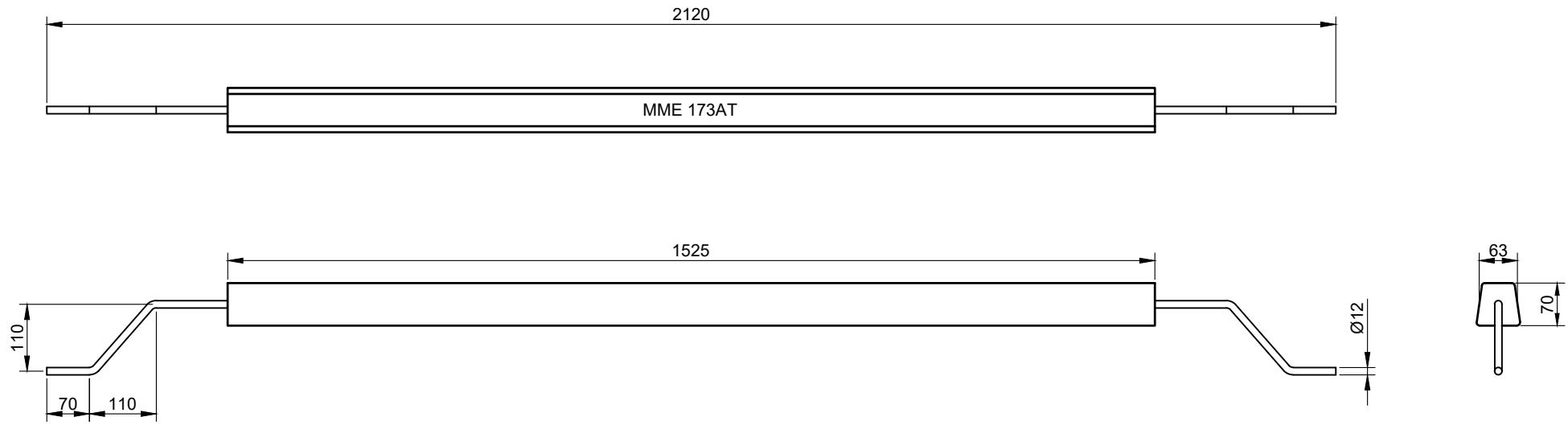


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Aluminium Alloy Anode MME 150AT Clamp

Dwg:	SAA 0150-02	Revision:	0
Drawn:	ESM	Checked:	Approved:
	26-03-21	26-03-21	OT

Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper		0.01 max
Iron		0.15 max
Others each		0.02 max
Others total		0.05 max

Electrochemical capacity: 2700 AHR / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Tank anodes available with Z-cracked (shown) or straight insert

Other insert arrangements available on request

Anode can also be provided backside coated

Insert material: Mild steel

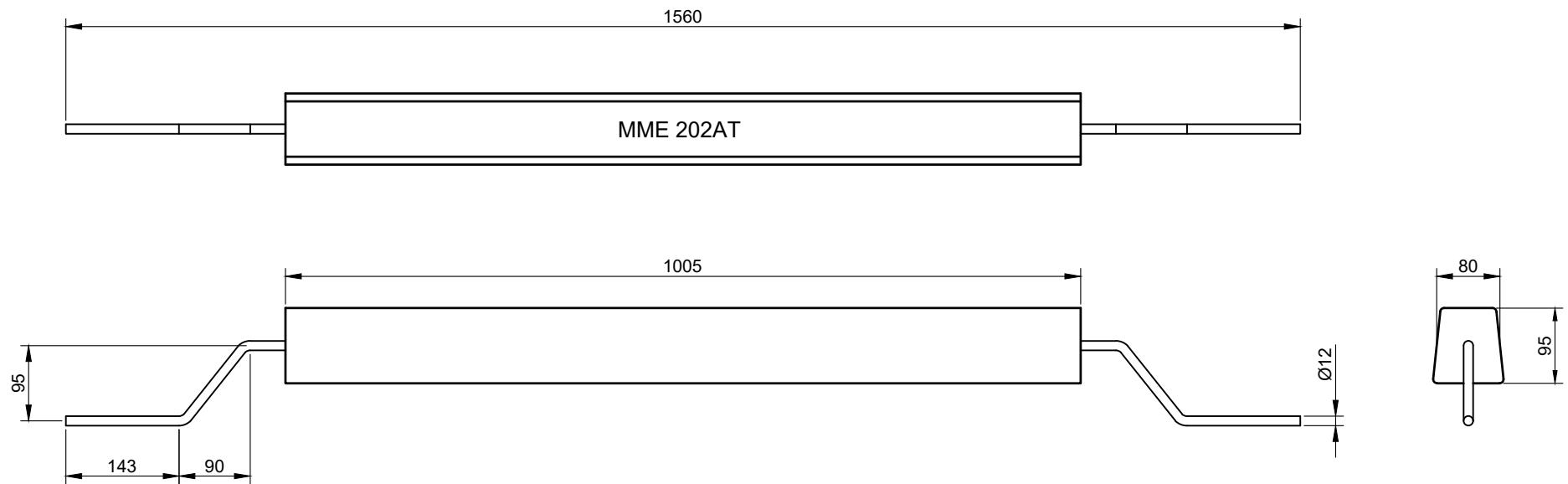
Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 173AT

Dwg:	SAA 0173-01		Revision: 0
Drawn:	ESM	Checked: PP	Approved: OT
	26-03-21	26-03-21	26-03-21
			Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper		0.01 max
Iron		0.15 max
Others each		0.02 max
Others total		0.05 max

Electrochemical capacity: 2700 AHr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Tank anodes available with Z-cracked (shown) or straight insert

Other insert arrangements available on request

Anode can also be provided backside coated

Insert material: Mild steel

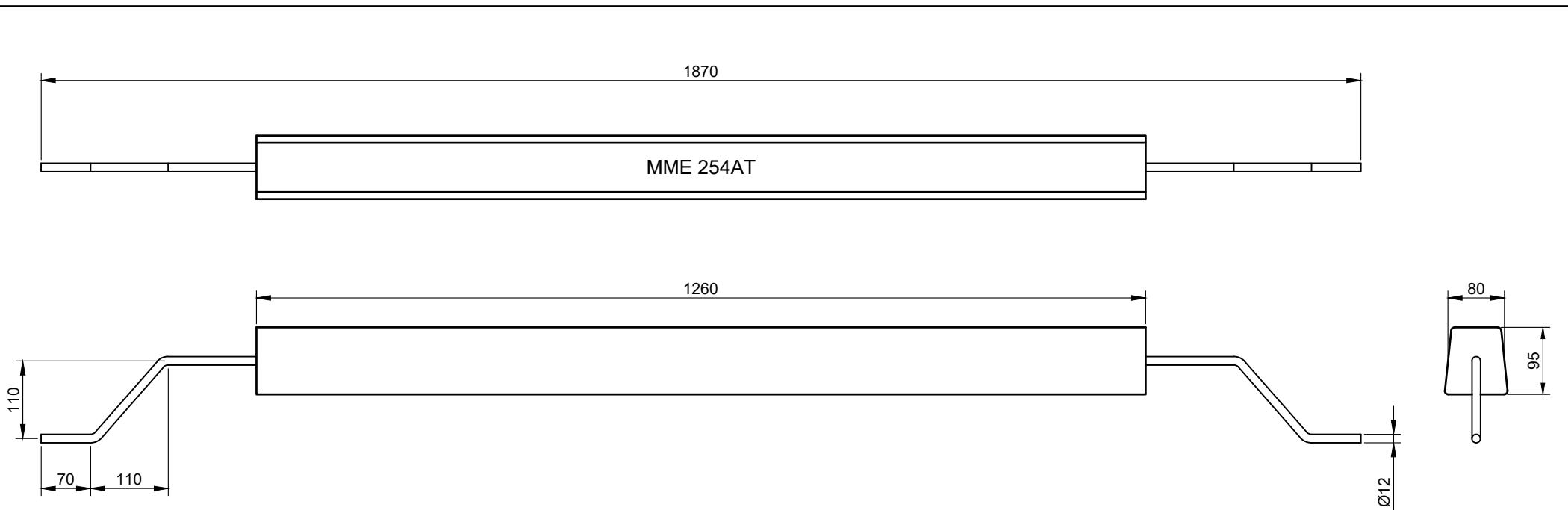
Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 202AT

Dwg:	SAA 0202-01	Revision:	0
Drawn:	ESM	Checked:	Approved:
26-03-21	26-03-21	26-03-21	Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper		0.01 max
Iron		0.15 max
Others each		0.02 max
Others total		0.05 max

Nett Weight: 25.4 Kg
Gross Weight: 27.2 Kg

Electrochemical capacity: 2700 AHr / Kg nominal
Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Tank anodes available with Z-cracked (shown) or straight insert

Other insert arrangements available on request

Anode can also be provided backside coated

Insert material: Mild steel

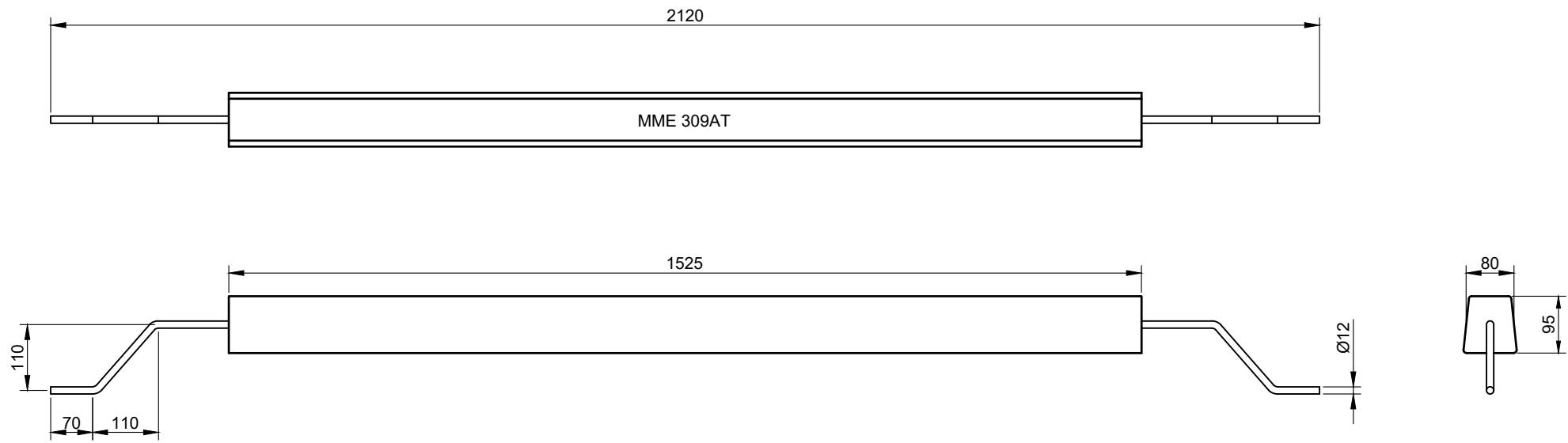
Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 254AT

Dwg:	SAA 0254-01	Revision:	0
Drawn:	ESM	Checked:	Approved:
	26-03-21	26-03-21	OT
			Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper		0.01 max
Iron		0.15 max
Others each		0.02 max
Others total		0.05 max

Nett Weight: 30.9 Kg
Gross Weight: 32.9 Kg

Electrochemical capacity: 2700 AHR / Kg nominal
Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Tank anodes available with Z-cracked (shown) or straight insert

Other insert arrangements available on request

Anode can also be provided backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%

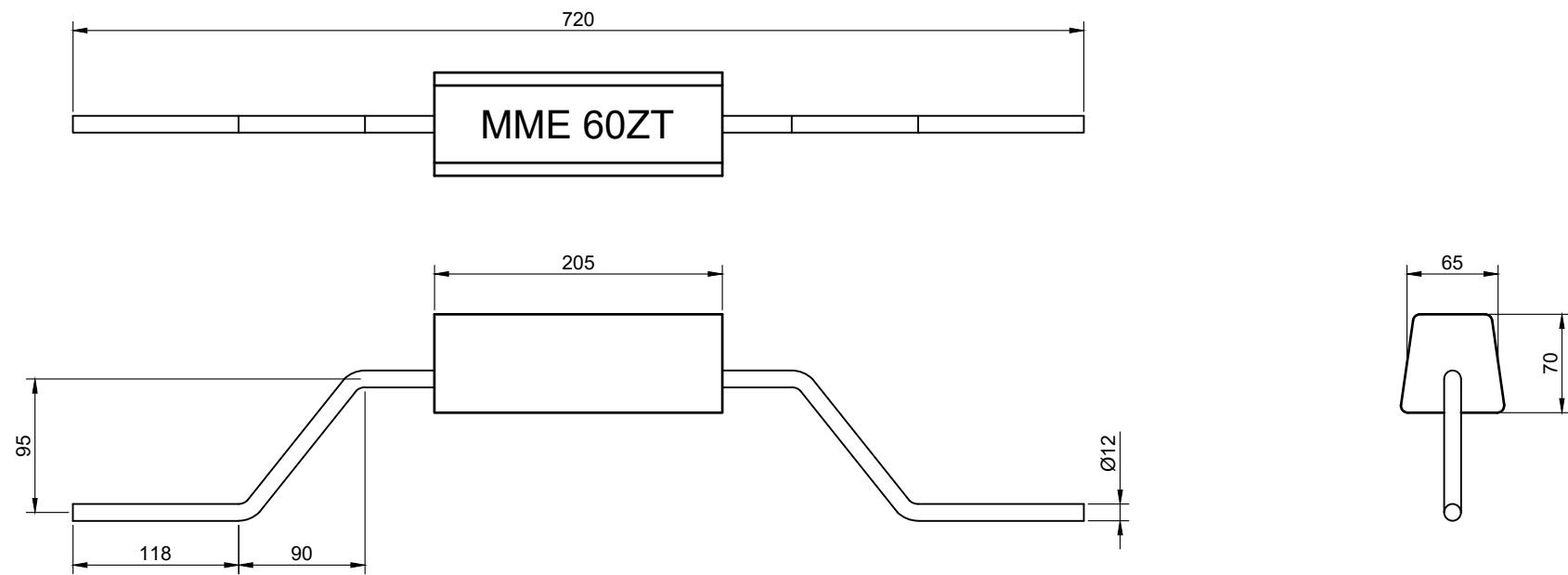


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Aluminium Alloy Anode MME 309AT

Dwg:	SAA 0309-01	Revision:	0
Drawn:	ESM	Checked:	Approved:
	26-03-21	PP	OT
			Paper: A4

ZINC TANK ANODES



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc		Remainder
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Tank anodes available with Z-cracked (shown) or straight insert

Other insert arrangements available on request

Anode can also be provided backside coated

Insert material: Mild steel

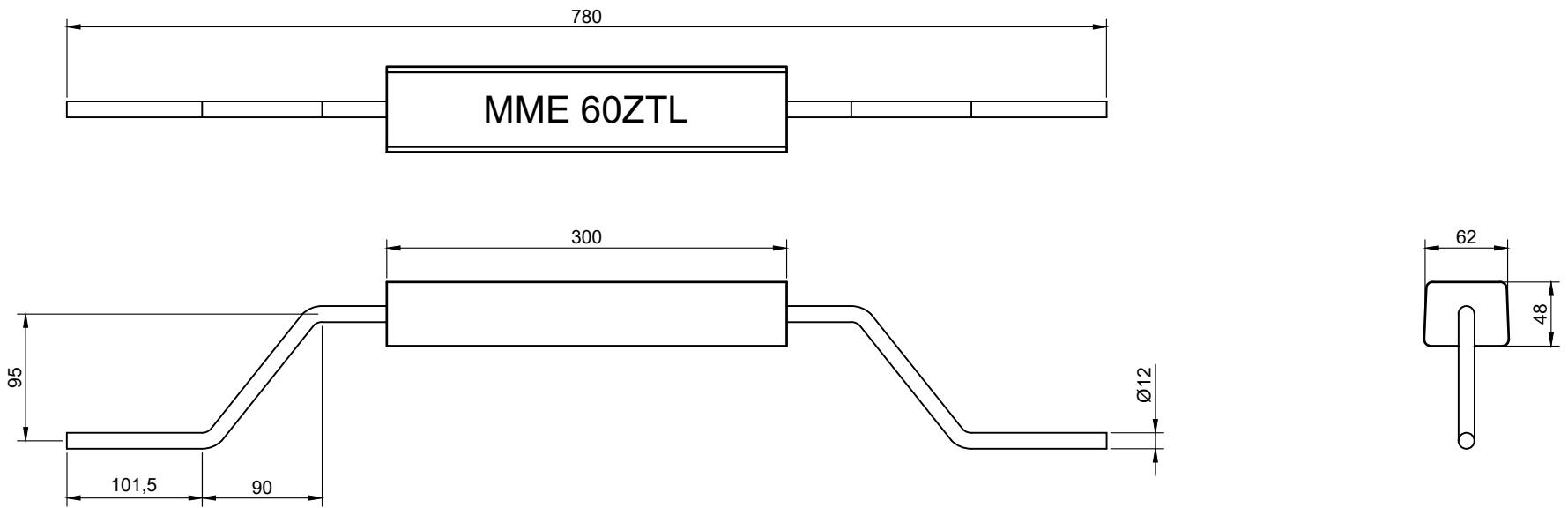
Minimum/maximum anode weight ±5%



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**Zinc Alloy Anode
MME 60ZT**

Dwg:	SAZ 0060-05	Revision:	0
Drawn:	ESM	Checked:	Approved:
14-04-21	14-04-21	14-04-21	Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc		Remainder
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHour/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Tank anodes available with Z-cranked (shown) or straight insert

Other insert arrangements available on request

Anode can also be provided backside coated

Insert material: Mild steel

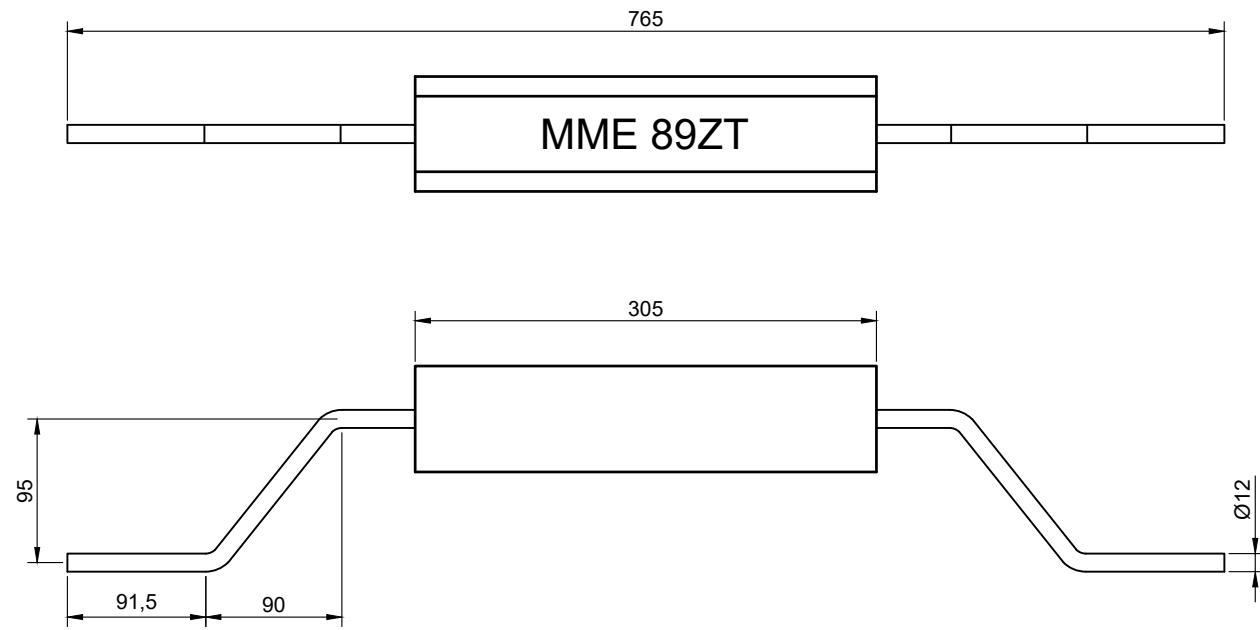
Minimum/maximum anode weight ±5%



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**Zinc Alloy Anode
MME 60ZTL**

Dwg:	SAZ 0060-04	Revision:	0
Drawn:	ESM	Checked:	Approved:
	14-04-21	14-04-21	OT
			Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc		Remainder
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHour/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Tank anodes available with Z-cracked (shown) or straight insert

Other insert arrangements available on request

Anode can also be provided backside coated

Insert material: Mild steel

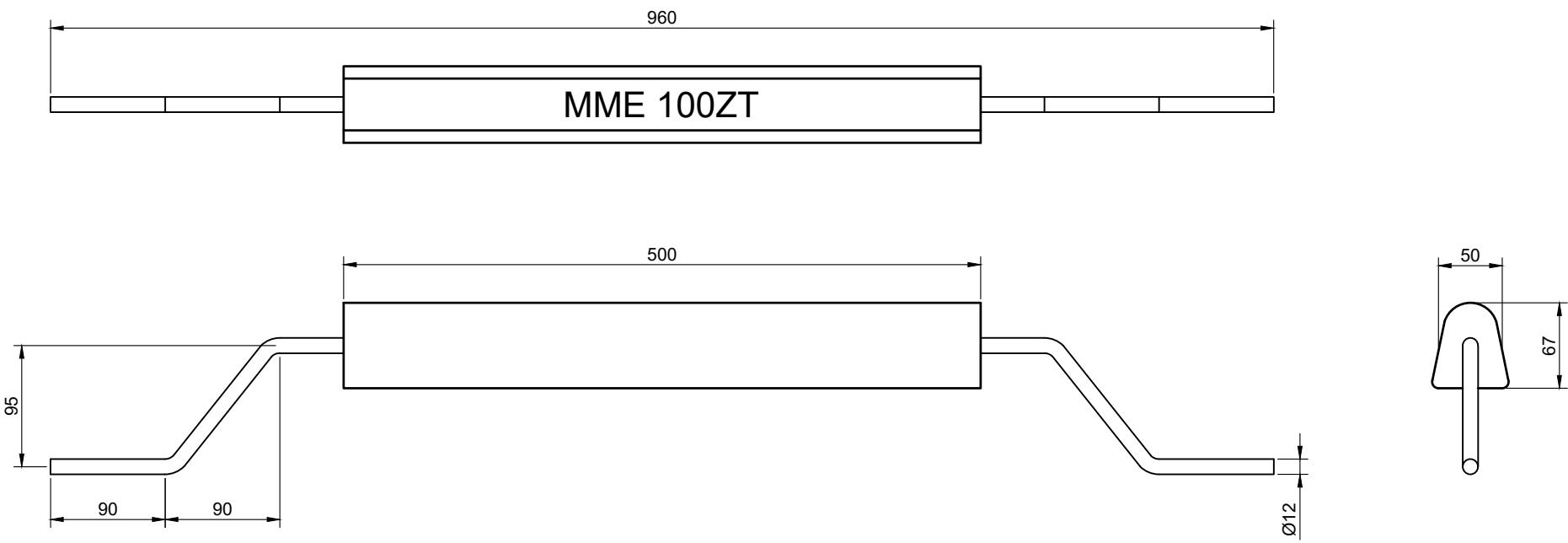
Minimum/maximum anode weight ±5%



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Zinc Alloy Anode
MME 89ZT

Dwg:	SAZ 0089-03	Revision:	0
Drawn:	ESM	Checked:	Approved:
14-04-21	14-04-21	14-04-21	Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc		Remainder
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 Ahr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Tank anodes available with Z-cracked (shown) or straight insert

Other insert arrangements available on request

Anode can also be provided backside coated

Insert material: Mild steel

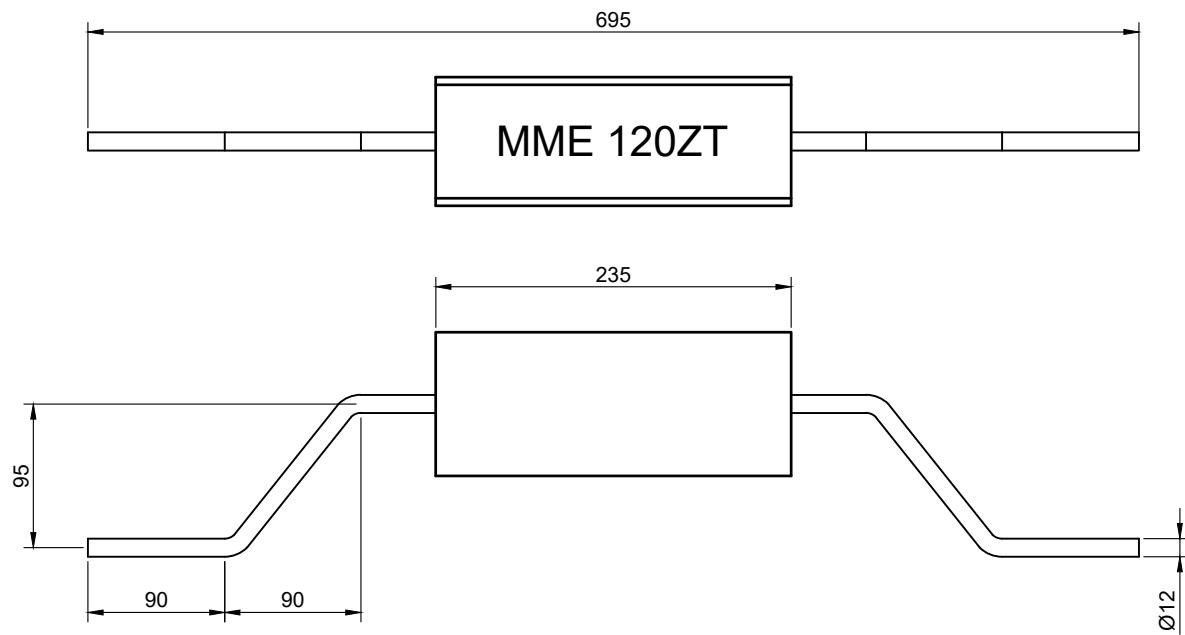
Minimum/maximum anode weight ±5%



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Zinc Alloy Anode
MME 100ZT

Dwg:	SAZ 0100-05	Revision:	0
Drawn:	ESM	Checked:	Approved:
19-04-21	PP	OT	Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc		Remainder
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHour/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Tank anodes available with Z-cracked (shown) or straight insert

Other insert arrangements available on request

Anode can also be provided backside coated

Insert material: Mild steel

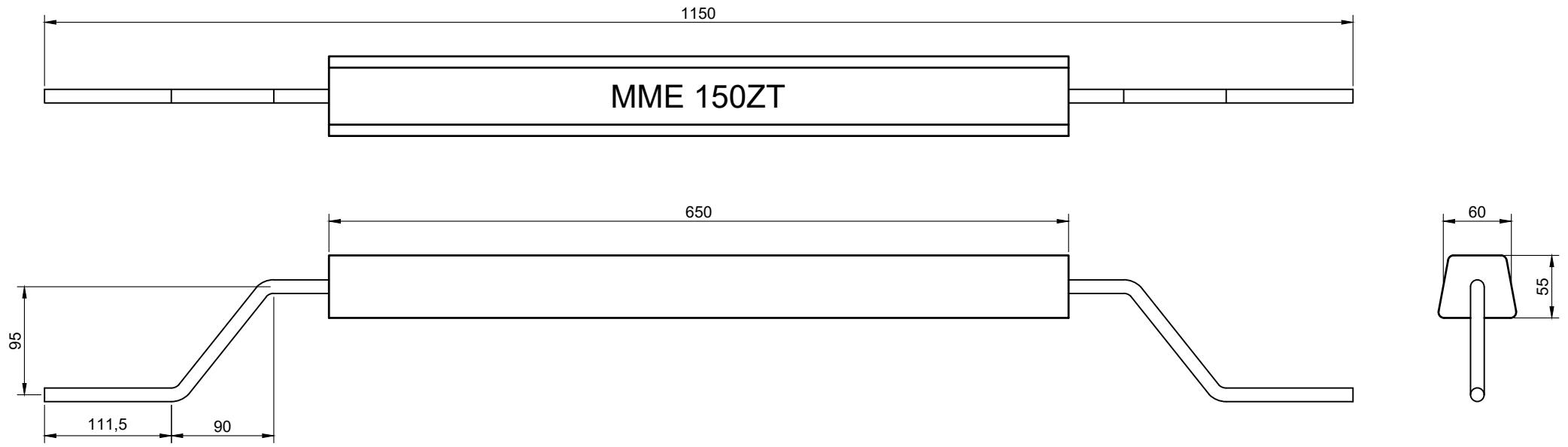
Minimum/maximum anode weight ±5%



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**Zinc Alloy Anode
MME 120ZT**

Dwg:	SAZ 0120-04		Revision:
Drawn:	Checked:	Approved:	
ESM	PP	OT	
19-04-21	19-04-21	19-04-21	Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc		Remainder
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Tank anodes available with Z-cracked (shown) or straight insert

Other insert arrangements available on request

Anode can also be provided backside coated

Insert material: Mild steel

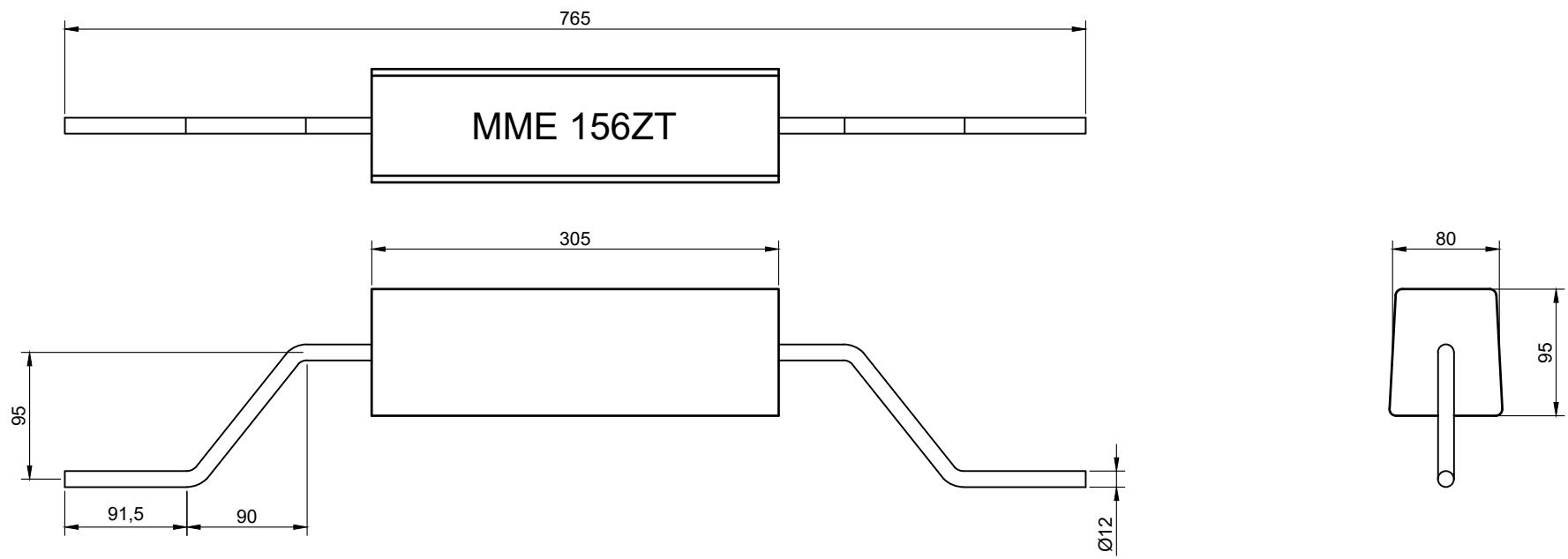
Minimum/maximum anode weight ±5%



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Zinc Alloy Anode MME 150ZT

Dwg:	SAZ 0150-05	Revision:	0
Drawn:	ESM	Checked:	Approved:
	19-04-21	19-04-21	OT
			Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc		Remainder
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHour/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Tank anodes available with Z-cracked (shown) or straight insert

Other insert arrangements available on request

Anode can also be provided backside coated

Insert material: Mild steel

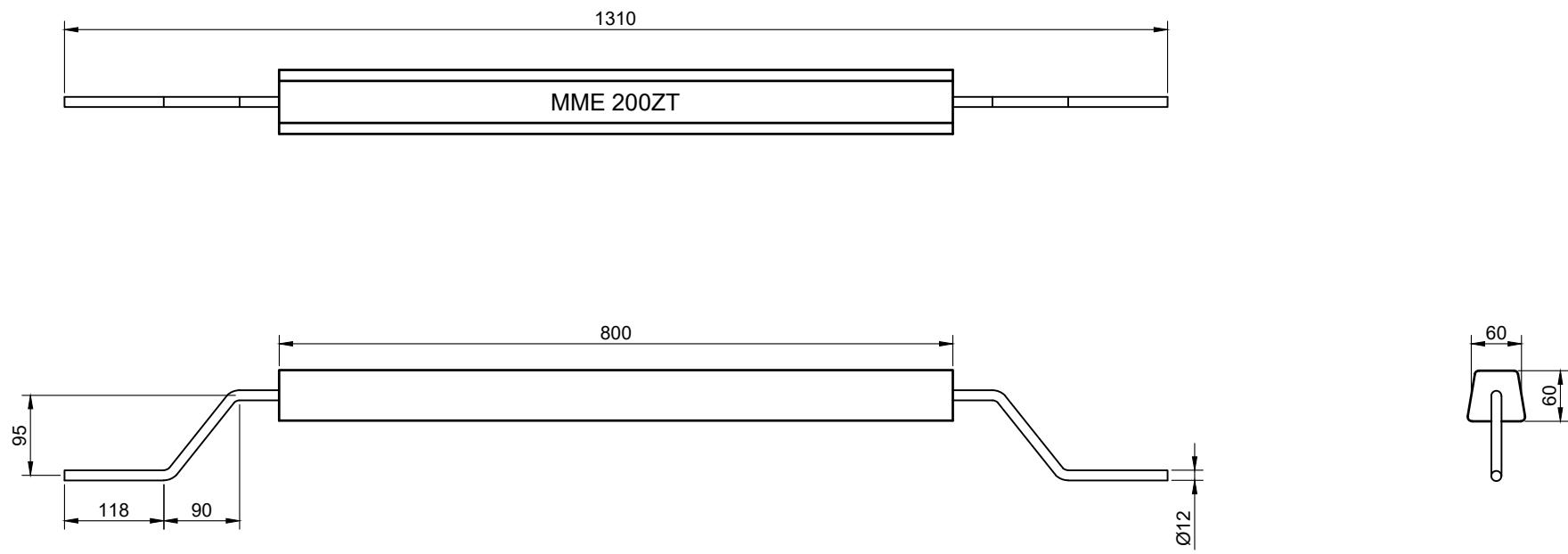
Minimum/maximum anode weight ±5%



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**Zinc Alloy Anode
MME 156ZT**

Dwg:	SAZ 0156-02	Revision:	0
Drawn:	ESM	Checked:	Approved:
19-04-21	19-04-21	19-04-21	Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc		Remainder
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHour/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Tank anodes available with Z-cracked (shown) or straight insert

Other insert arrangements available on request

Anode can also be provided backside coated

Insert material: Mild steel

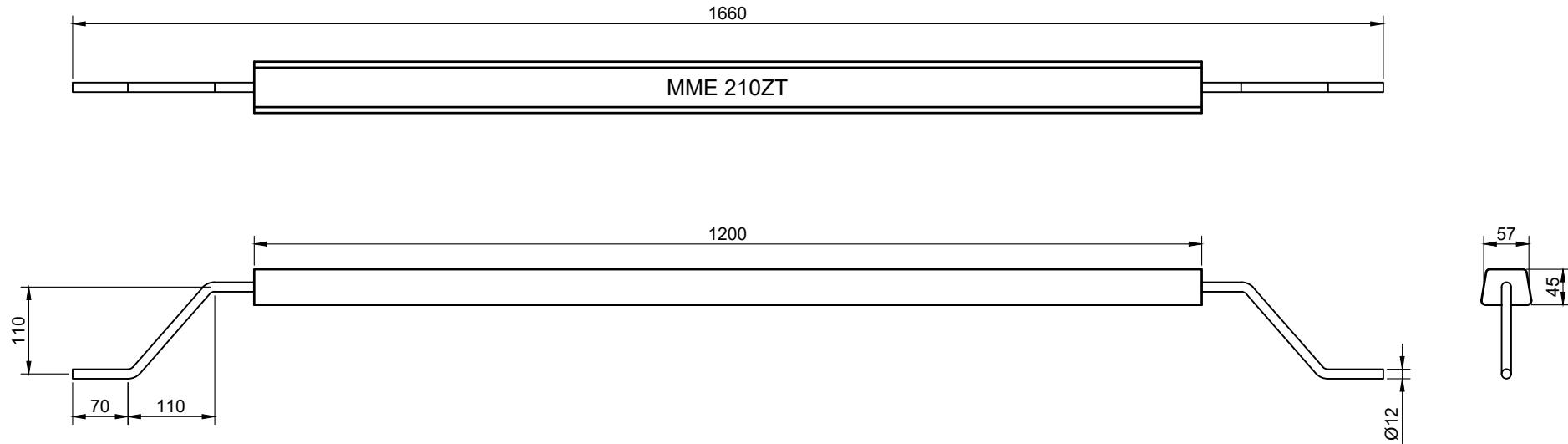
Minimum/maximum anode weight ±5%



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**Zinc Alloy Anode
MME 200ZT**

Dwg:	SAZ 0200-02	Revision:	0
Drawn:	ESM	Checked:	Approved:
20-04-21	20-04-21	20-01-21	Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc		Remainder
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 Ahr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Nett Weight: 21.0 Kg
Gross Weight: 22.5 Kg



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www.mme-group.com

Zinc Alloy Anode
MME 210ZT

Dwg:	SAZ 0210-02		Revision: 0
Drawn:	Checked:	Approved:	
ESM	PP	OT	
20-04-21	20-04-21	20-01-21	Paper: A4

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

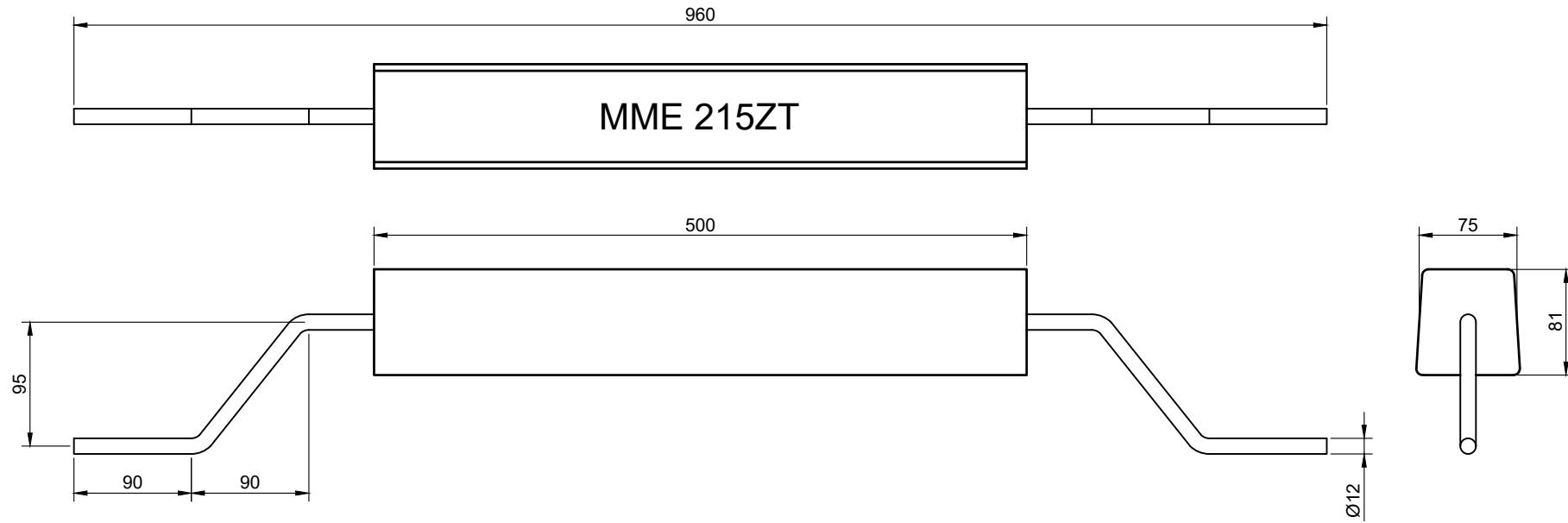
Tank anodes available with Z-cracked (shown) or straight insert

Other insert arrangements available on request

Anode can also be provided backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc		Remainder
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Tank anodes available with Z-cracked (shown) or straight insert

Other insert arrangements available on request

Anode can also be provided backside coated

Insert material: Mild steel

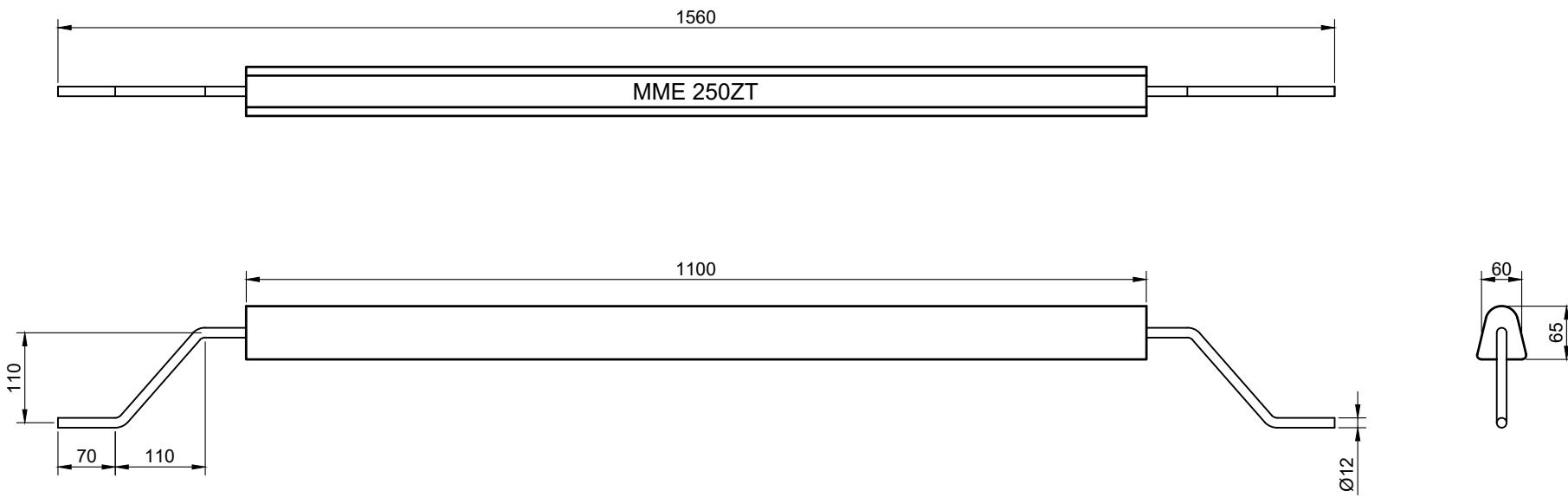
Minimum/maximum anode weight ±5%



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Zinc Alloy Anode
MME 215ZT

Dwg:	SAZ 0215-01	Revision:	0
Drawn:	ESM	Checked:	Approved:
20-04-21	20-04-21	20-01-21	Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc		Remainder
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHour/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Nett Weight: 25.0 Kg
Gross Weight: 26.5 Kg



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Zinc Alloy Anode MME 250ZT

Dwg:	SAZ 0250-02		Revision:
Drawn:	Checked:	Approved:	
ESM	PP	OT	
20-04-21	20-04-21	20-01-21	Paper: A4

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

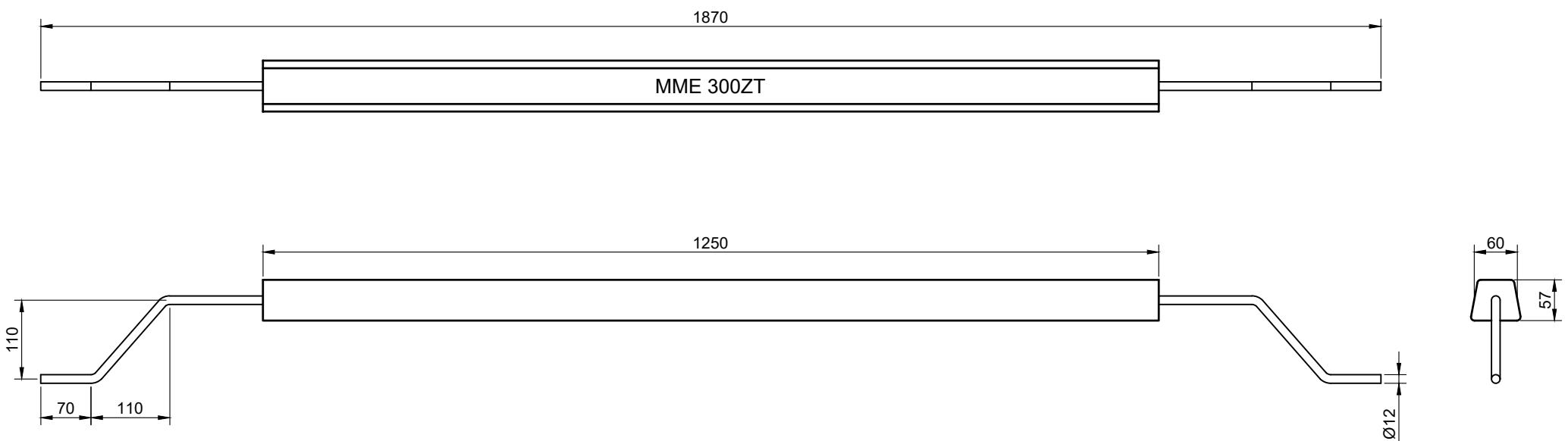
Tank anodes available with Z-cracked (shown) or straight insert

Other insert arrangements available on request

Anode can also be provided backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc		Remainder
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 Ahr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Nett Weight: 30.0 Kg
Gross Weight: 31.8 Kg



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Zinc Alloy Anode MME 300ZT

Dwg:	SAZ 0300-01		Revision:
Drawn:	Checked:	Approved:	
ESM	PP	OT	
20-04-21	20-04-21	20-01-21	Paper: A4

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

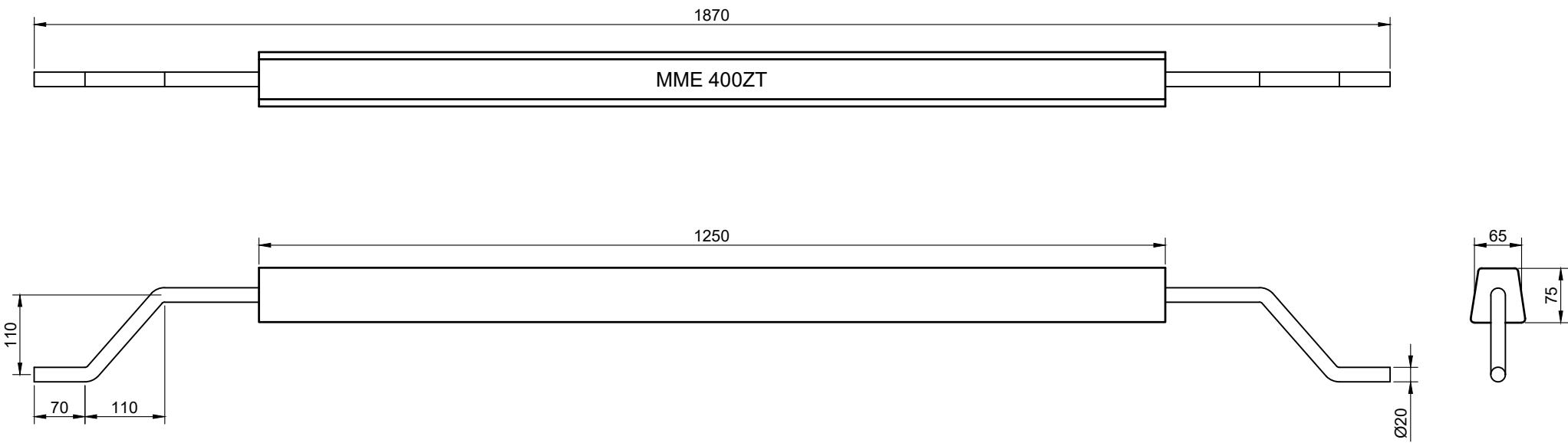
Tank anodes available with Z-cracked (shown) or straight insert

Other insert arrangements available on request

Anode can also be provided backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc		Remainder
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 Ahr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Nett Weight: 40.0 Kg
Gross Weight: 44.8 Kg



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**Zinc Alloy Anode
MME 400ZT**

Dwg:	SAZ 0400-01	Revision:	0
Drawn:	ESM	Checked:	Approved:
20-04-21	PP	OT	
20-04-21	20-04-21	20-01-21	Paper: A4

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

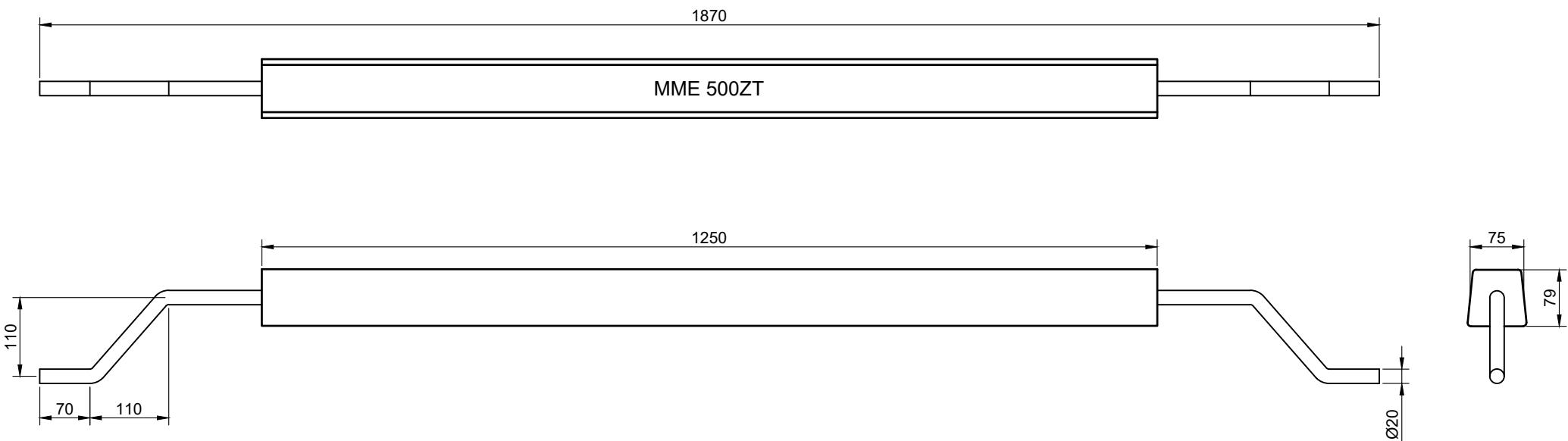
Tank anodes available with Z-cracked (shown) or straight insert

Other insert arrangements available on request

Anode can also be provided backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±5%



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc		Remainder
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 Ahr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Nett Weight: 50.0 Kg
Gross Weight: 54.8 Kg



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Zinc Alloy Anode MME 500ZT

Dwg:	SAZ 0500-01		Revision:
Drawn:	Checked:	Approved:	
ESM	PP	OT	
20-04-21	20-04-21	20-01-21	Paper: A4

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Tank anodes available with Z-cracked (shown) or straight insert

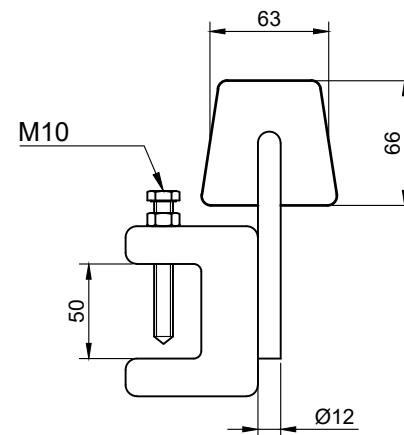
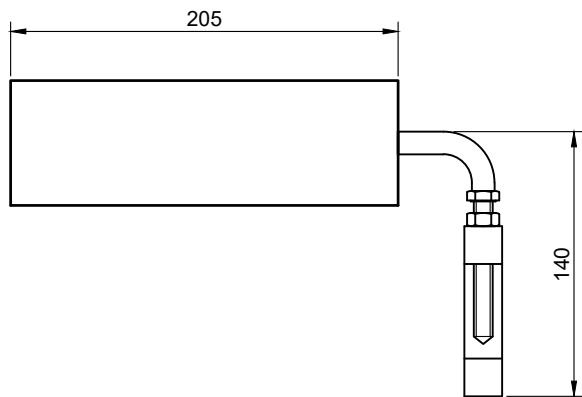
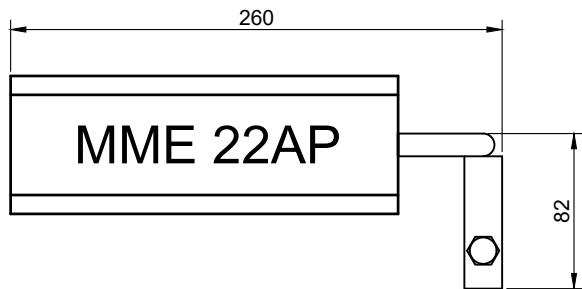
Other insert arrangements available on request

Anode can also be provided backside coated

Insert material: Mild steel

Minimum/maximum anode weight ±2.3 Kg

ALUMINIUM PITGUARD ANODES



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Insert material: Steel

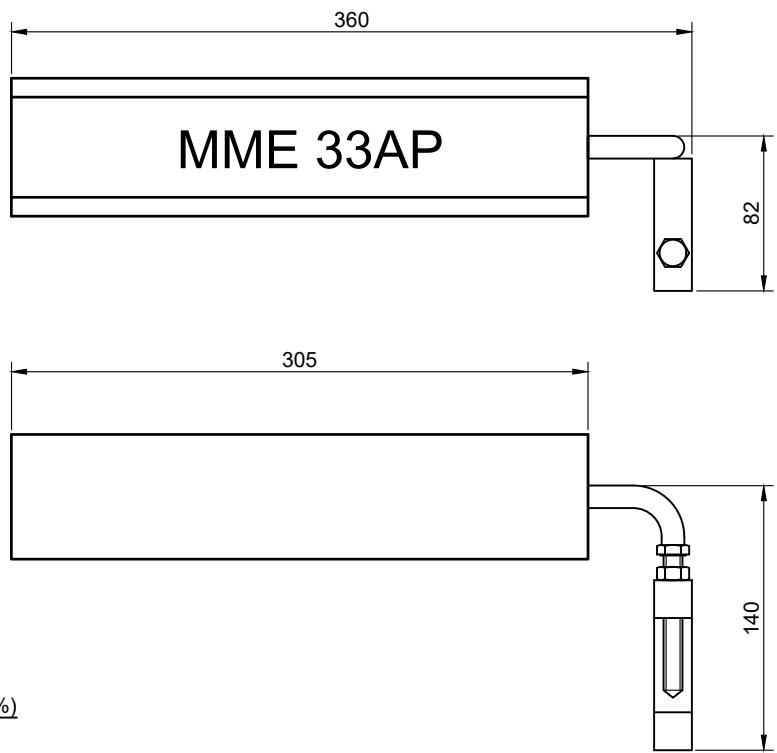
Minimum/maximum anode weight ±5%



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Aluminium Alloy Anode MME 22AP

Dwg:	SAA 0022-01	Revision:	0
Drawn:	ESM	Checked:	Approved:
	25-03-21	25-03-21	OT
			Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

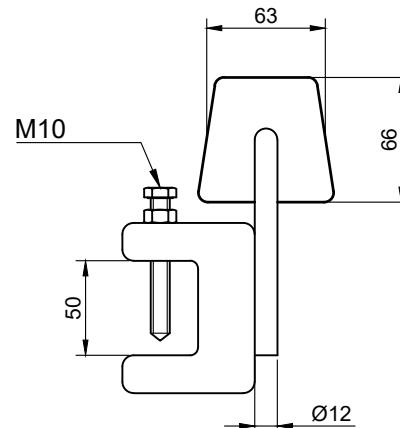
Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Insert material: Steel

Minimum/maximum anode weight ±5%



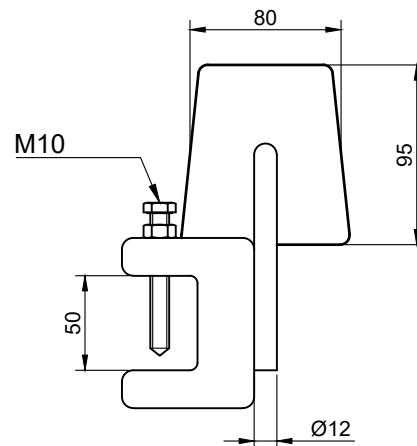
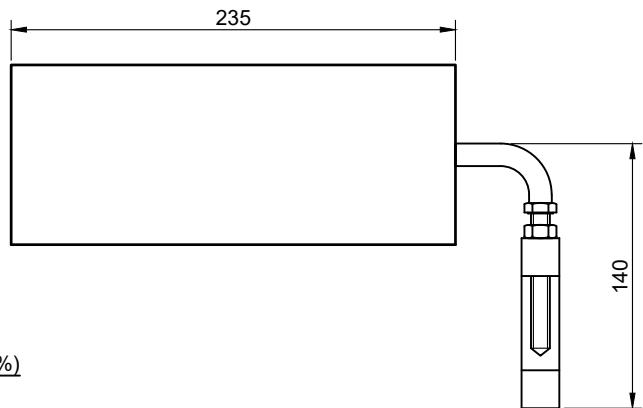
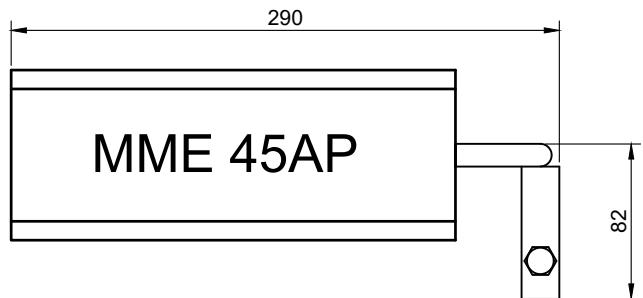
Nett Weight: 3.3 Kg
Gross Weight: 4.3 Kg



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www.mme-group.com

Aluminium Alloy Anode MME 33AP

Dwg:	SAA 0033-01	Revision:	0
Drawn:	ESM	Checked:	Approved:
	25-03-21	PP	OT
			Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Insert material: Steel

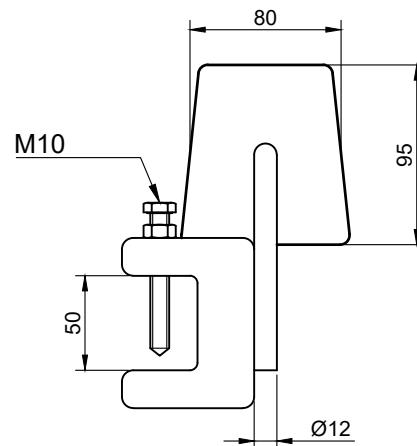
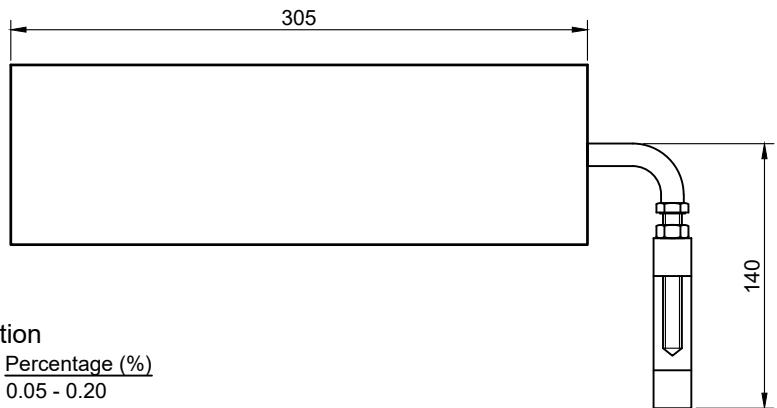
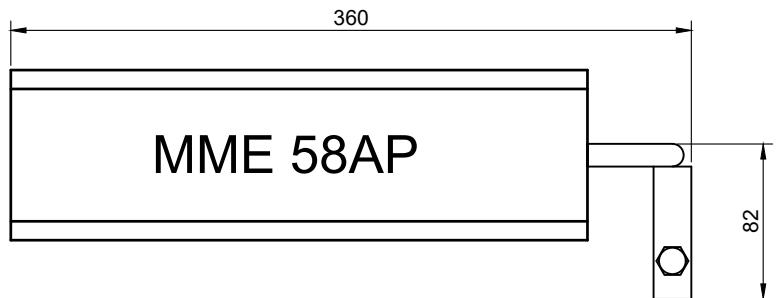
Minimum/maximum anode weight ±5%



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www.mme-group.com

Aluminium Alloy Anode MME 45AP

Dwg:	SAA 0045-02	Revision:	0
Drawn:	ESM	Checked:	Approved:
	25-03-21	PP	OT
			Paper: A4



Aluminium alloy specification

Components	Impurities	Percentage (%)
Silicon		0.05 - 0.20
Zinc		3.50 - 5.00
Titanium		0.01 - 0.05
Bismuth		0.05 - 0.15
Indium		0.02 - 0.05
Aluminium	Remainder	
Copper	0.01 max	
Iron	0.15 max	
Others each	0.02 max	
Others total	0.05 max	

Electrochemical capacity: 2700 Ahr / Kg nominal

Solution potential: -1100 mV vs. Ag / AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Insert material: Steel

Minimum/maximum anode weight ±5%

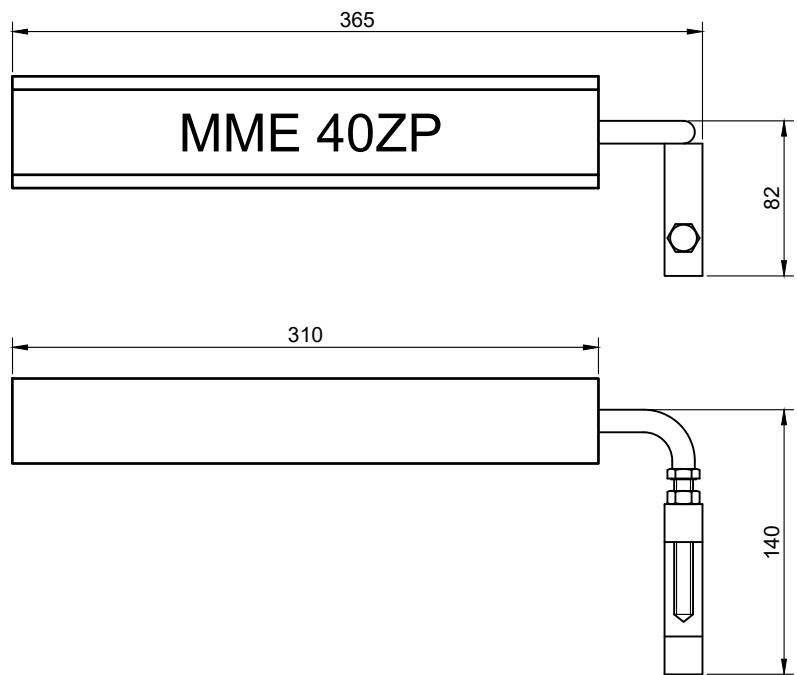


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Aluminium Alloy Anode MME 58AP

Dwg:	SAA 0058-01	Revision:	0
Drawn:	ESM	Checked:	Approved:
	25-03-21	PP	OT
			Paper: A4

ZINC PITGUARD ANODES



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

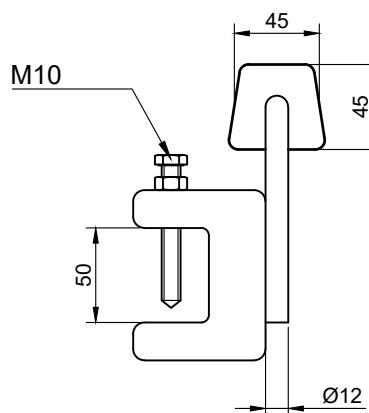
Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Insert material: Steel

Minimum/maximum anode weight ±5%



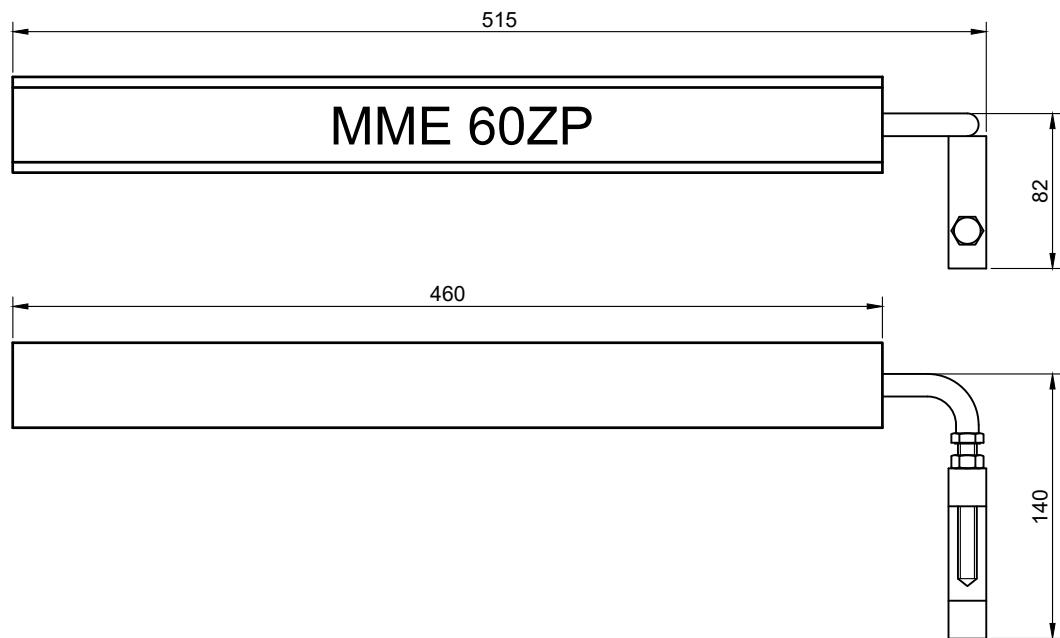
Nett Weight: 4.0 Kg
Gross Weight: 5.0 Kg



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Zinc Alloy Anode MME 40ZP

Dwg:	SAZ 0040-04	Revision:	0
Drawn:	ESM	Checked:	Approved:
	12-04-21	12-04-21	OT
			Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

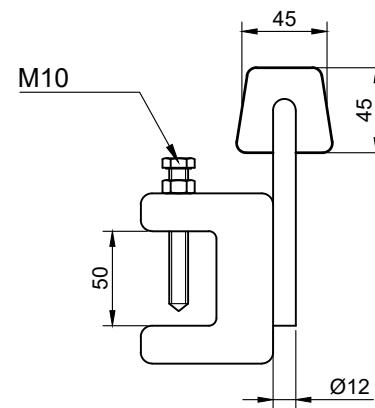
Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Insert material: Steel

Minimum/maximum anode weight ±5%



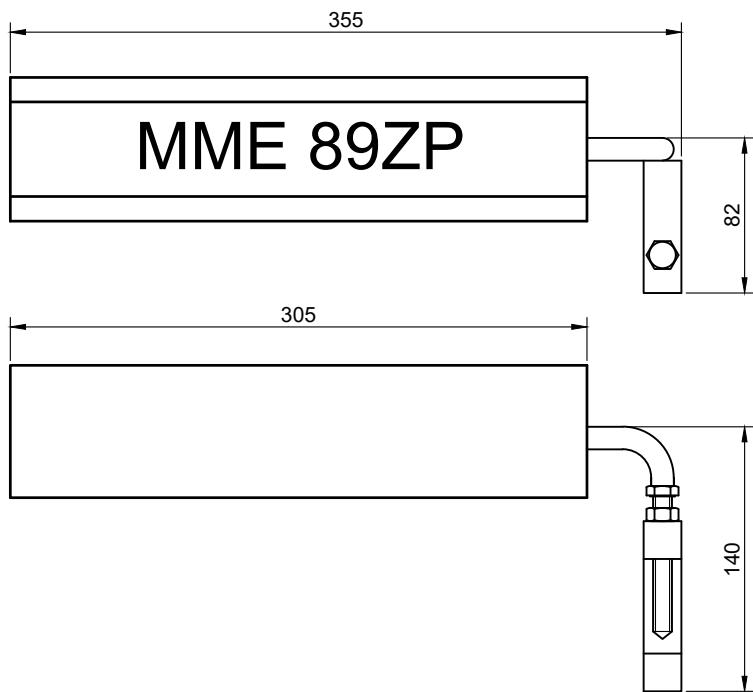
Nett Weight: 6.0 Kg
Gross Weight: 7.2 Kg



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Zinc Alloy Anode
MME 60ZP

Dwg:	SAZ 0060-03	Revision:	0
Drawn:	ESM	Checked:	Approved:
	12-04-21	12-04-21	OT
			Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

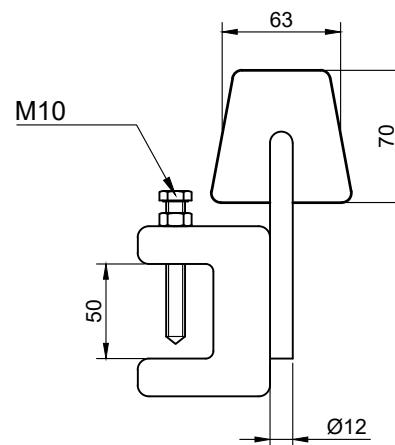
Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Insert material: Steel

Minimum/maximum anode weight ±5%



Nett Weight: 8.9 Kg
Gross Weight: 10.4 Kg



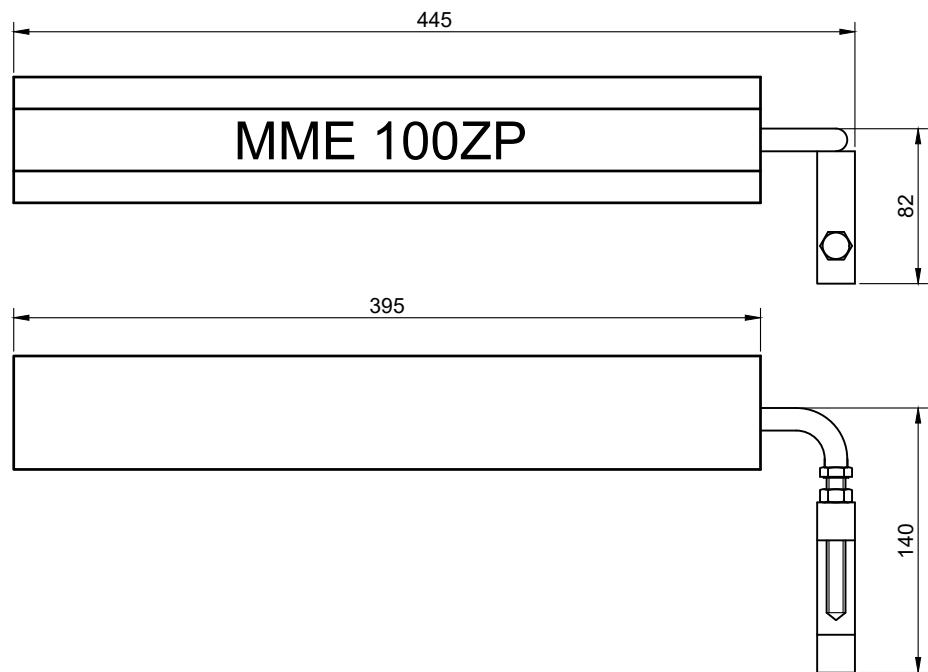
Cathodic Protection Division
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E-mail: sales@mme.nl
www.mme-group.com

Zinc Alloy Anode MME 89ZP

Dwg:	SAZ 0089-02	Revision:	0
Drawn:	ESM	Checked:	Approved:
	13-04-21	13-04-21	OT



Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

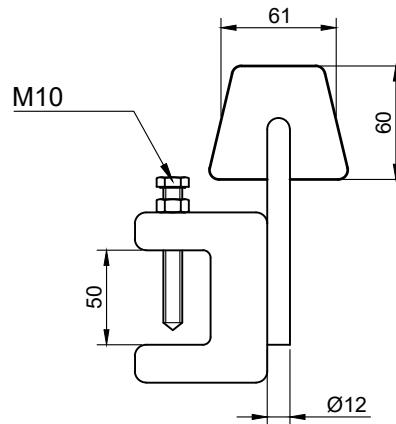
Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Insert material: Steel

Minimum/maximum anode weight ±5%



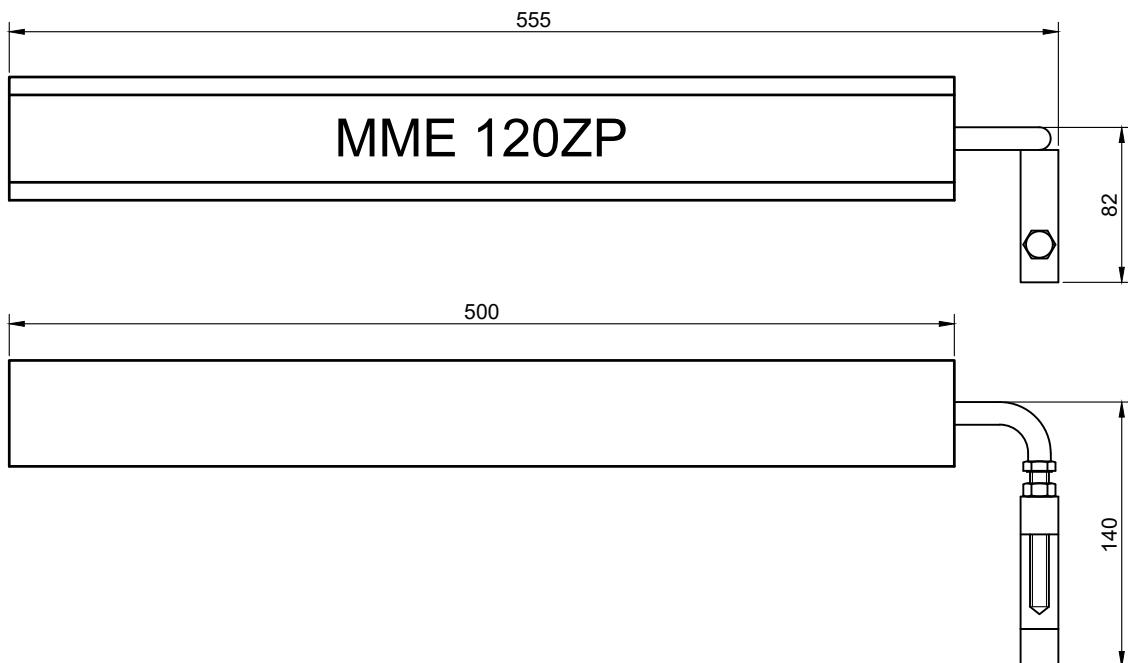
Nett Weight: 10.0 Kg
Gross Weight: 11.5 Kg



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www.mme-group.com

Zinc Alloy Anode MME 100ZP

Dwg:	SAZ 0100-04	Revision:	0
Drawn:	ESM	Checked:	Approved:
	13-04-21	13-04-21	OT
			Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

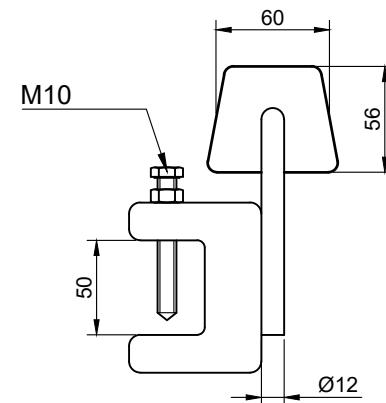
Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Insert material: Steel

Minimum/maximum anode weight ±5%



Nett Weight: 12.0 Kg
Gross Weight: 13.2 Kg

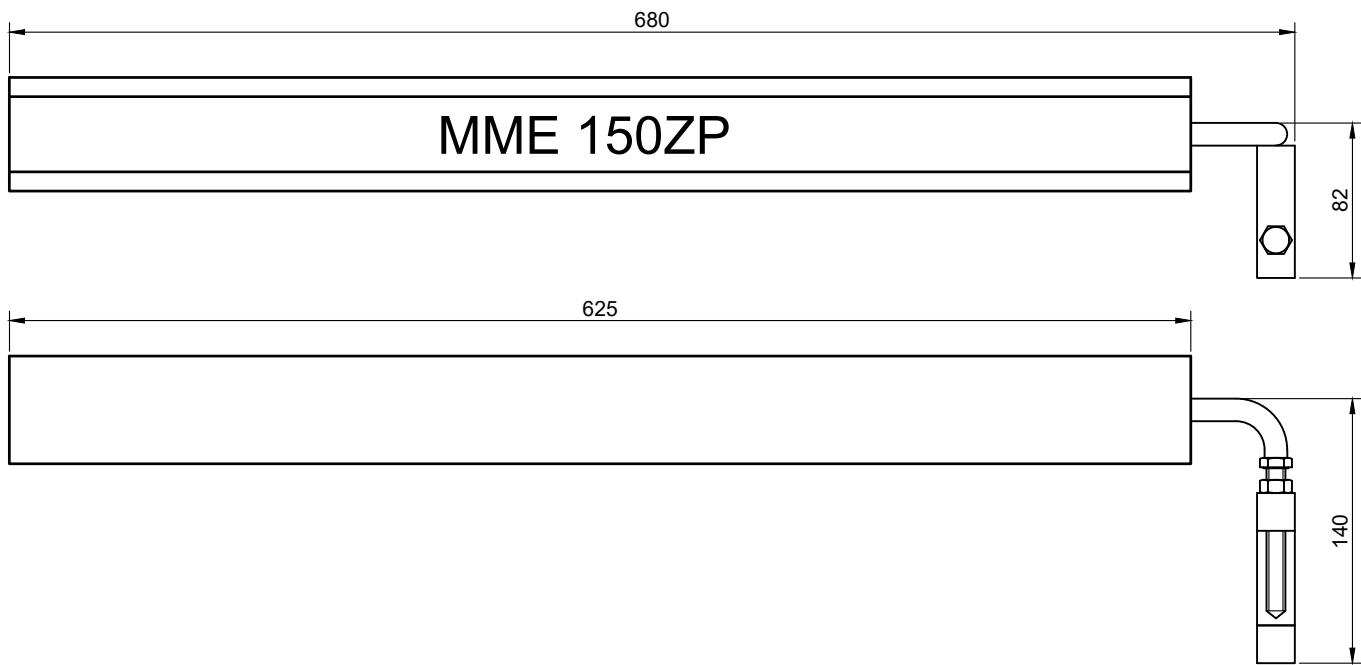


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Zinc Alloy Anode MME 120ZP

Dwg:	SAZ 0120-03	Revision:	0
Drawn:	ESM	Checked:	Approved:
	13-04-21	13-04-21	OT

Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

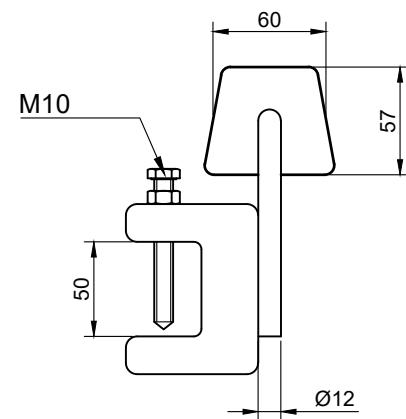
Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Insert material: Steel

Minimum/maximum anode weight ±5%



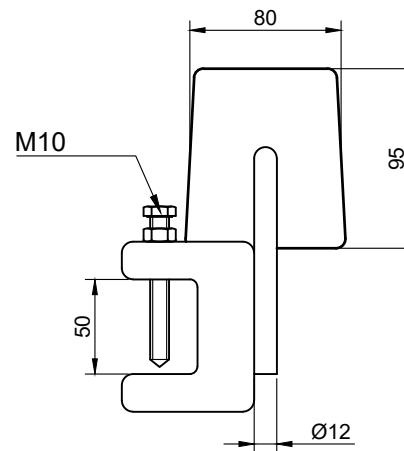
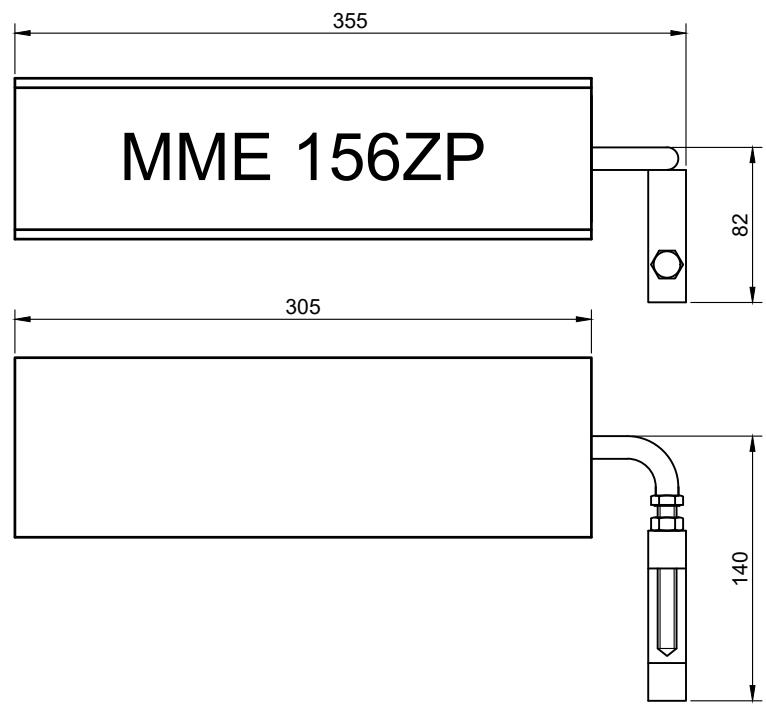
Nett Weight: 15.0 Kg
Gross Weight: 16.2 Kg



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Zinc Alloy Anode
MME 150ZP

Dwg:	SAZ 0150-04	Revision:	0
Drawn:	ESM	Checked:	Approved:
	13-04-21	13-04-21	OT
			Paper: A4



Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc	Remainder	
Copper	0.005 max	
Iron	0.005 max	
Lead	0.006 max	
Others total	0.10 max	

Electrochemical capacity: 780 AHr/Kg nominal

Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Text on anode is indicative and will not always be identical to this drawing

Insert material: Steel

Minimum/maximum anode weight ±5%



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www.mme-group.com

Zinc Alloy Anode MME 156ZP

Dwg:	SAZ 0156-01	Revision:	0
Drawn:	ESM	Checked:	Approved:
	13-04-21	13-04-21	OT
			Paper: A4

ZINC PENCIL ANODES

type	Dimensions in mm			Thread	Plug type	Nett Weight gr.
	A	B	C			
MME ZP10-50	50	Ø10	1/4 W	BP1	26	
MME ZP10-100	100	Ø10	1/4 W		54.3	
MME ZP12-50	50	Ø12	1/4 W	BP2	38.4	
MME ZP12-100	100	Ø12	1/4 W		79.2	
MME ZP16-50	50	Ø16	3/8 W	BP3	67.3	
MME ZP16-100	100	Ø16	3/8 W		139.6	
MME ZP20-50	50	Ø20	3/8 W	BP4	108	
MME ZP20-100	100	Ø20	3/8 W		221.1	
MME ZP25-50	50	Ø25	3/8 W	BP5	171.6	
MME ZP25-100	100	Ø25	3/8 W		348.3	

Thread weight
1/4" tread: 5.5 g
3/8" tread: 13 g

Zinc alloy specifications acc. US Mil. Spec-A-18001K

Components	Impurities	Percentage (%)
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc		Remainder
Copper		0.005 max
Iron		0.005 max
Lead		0.006 max
Others total		0.10 max

Electrochemical capacity: 780 AHour/Kg nominal

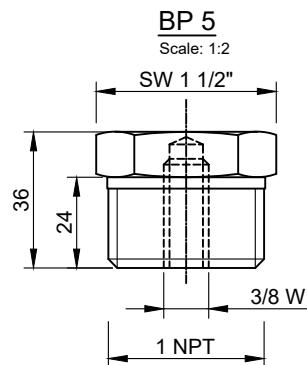
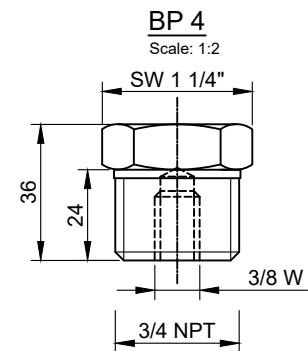
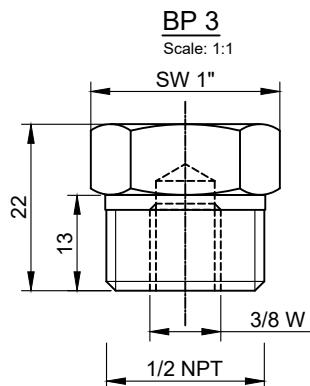
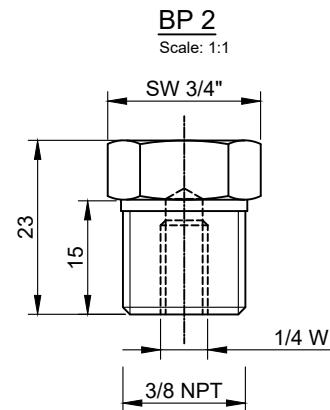
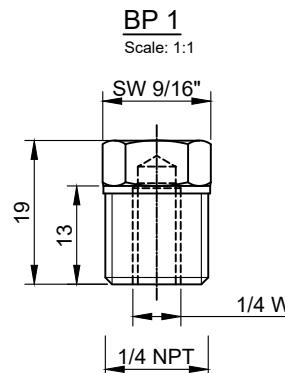
Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm

All data is subject to change without prior notice

Plugs for pencils are made of brass



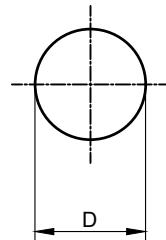
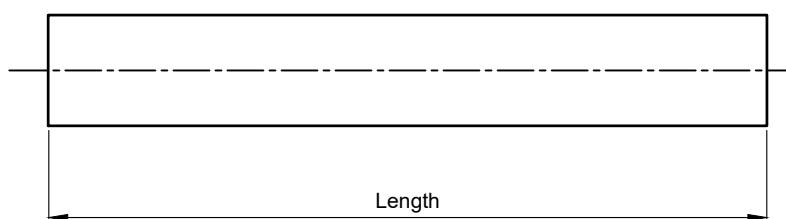
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Zinc Alloy Anode MME ZP

Dwg:	SAZ 0004-06	Revision:	0
Drawn:	ESM	Checked:	PP
	26-03-21	Approved:	OT
	26-03-21		26-03-21
		Paper:	A4

ZINC ROD ANODES

Type	Dimensions in mm		Weight in kg
	D	Length	
MME ZR20 - 500	20	500	1.12
MME ZR20 - 600	20	600	1.35
MME ZR25	25	500	1.75
MME ZR30	30	500	2.52
MME ZR40	40	500	4.49
MME ZR50	50	500	7.01
MME ZR60	60	500	10.09
MME ZR70	70	500	13.74
MME ZR80	80	500	17.94
MME ZR90	90	500	22.71
MME ZR100	100	500	28.04
MME ZR125	125	500	43.81
MME ZR150	150	500	63.09



Zinc alloy specifications acc. US Mil. Spec-A-18001K

<u>Components</u>	<u>Impurities</u>	<u>Percentage (%)</u>
Cadmium		0.025 - 0.07
Aluminium		0.10 - 0.5
Zinc		Remainder
	Copper	0.005 max
	Iron	0.005 max
	Lead	0.006 max
	Others total	0.10 max

Electrochemical capacity: 780 AHR/Kg nominal
Solution potential: -1050mV vs. Ag/AgCl reference cell nominal (in seawater)

Other specifications are available on request.

Note: All dimensions and weights are nominal. Dimensions in mm
All data is subject to change without prior notice



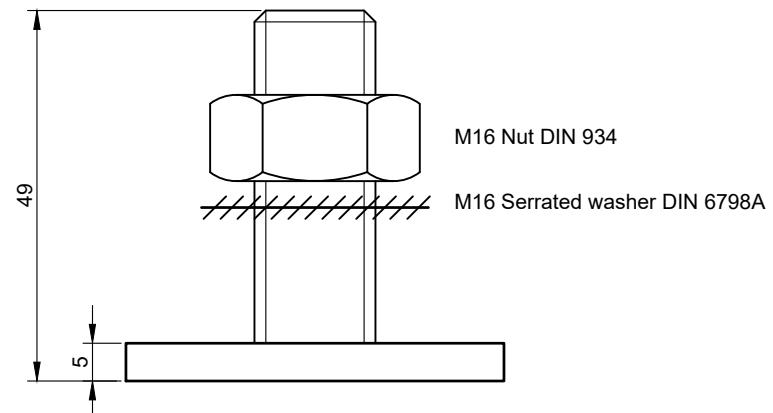
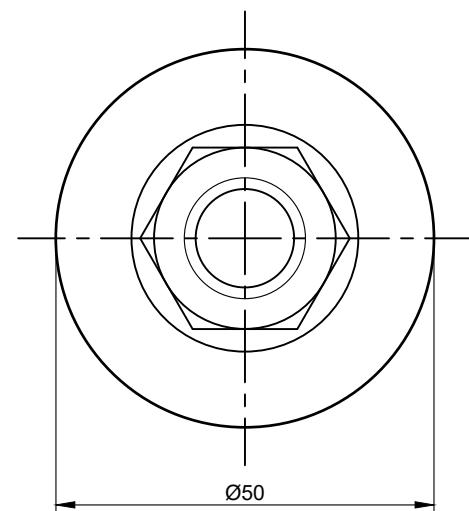
Cathodic Protection Division
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E-mail: sales@mme.nl
www.mme-group.com

Zinc Alloy Anode MME 7R

Dwg: SAZ 0631-01			Revision: 0
Drawn: ESM 26-03-21	Checked: PP 26-03-21	Approved: OT 26-03-21	 Paper: A4

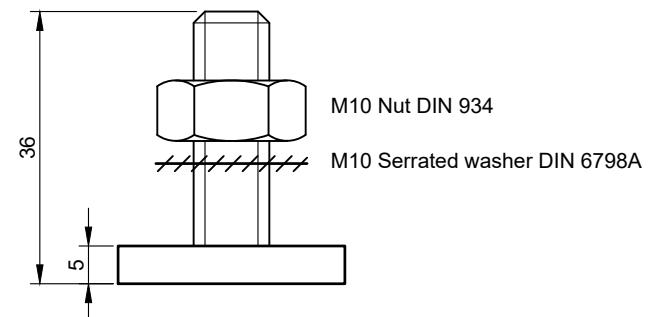
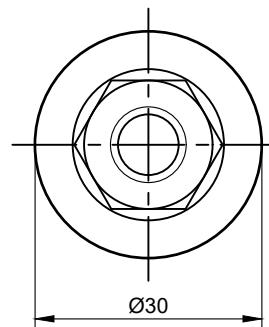
MOUNTING MATERIAL

M16 Stud assembly



Note: All dimensions are nominal. Dimensions in mm
All data is subject to change without prior notice
To be used for bolt-on anodes
Available in mild steel and stainless steel

M10 Stud assembly

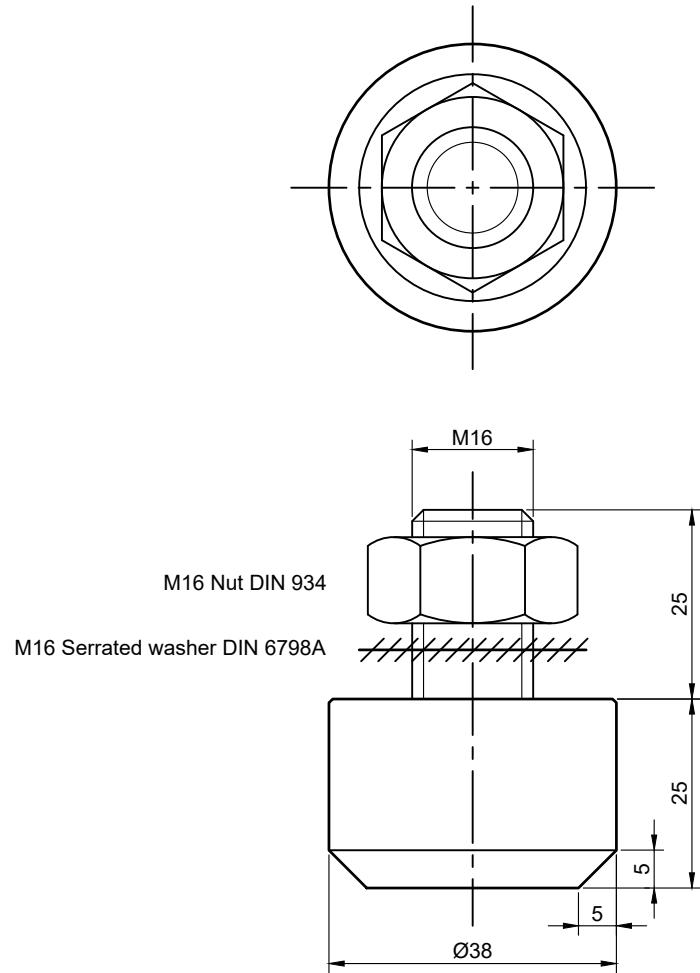


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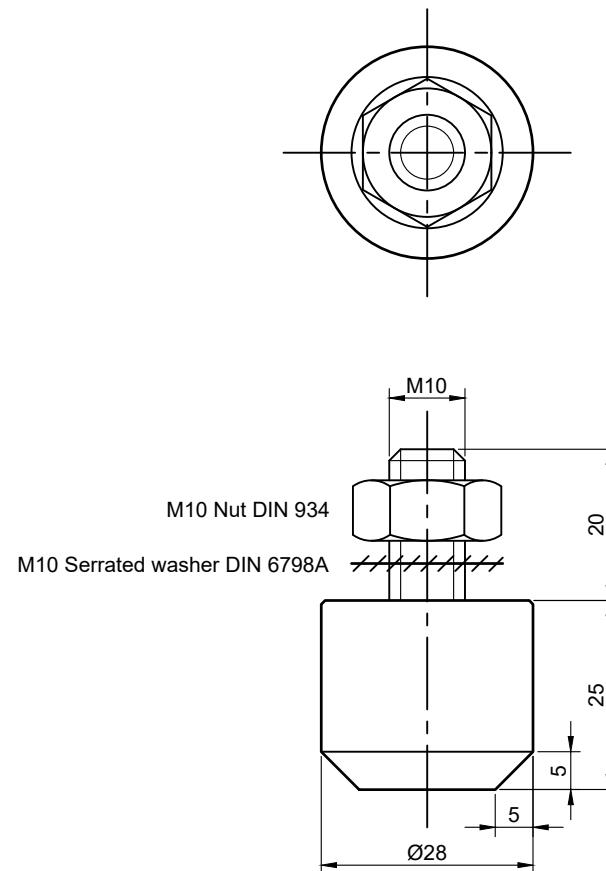
Studs Assembly type A M10 & M16

Dwg:	Studs Assembly type A		Revision: 0
Drawn:	Checked:	Approved:	
ESM	PP	OT	
25-05-21	25-05-21	25-05-21	Paper: A4

M16 Stud assembly



M10 Stud assembly



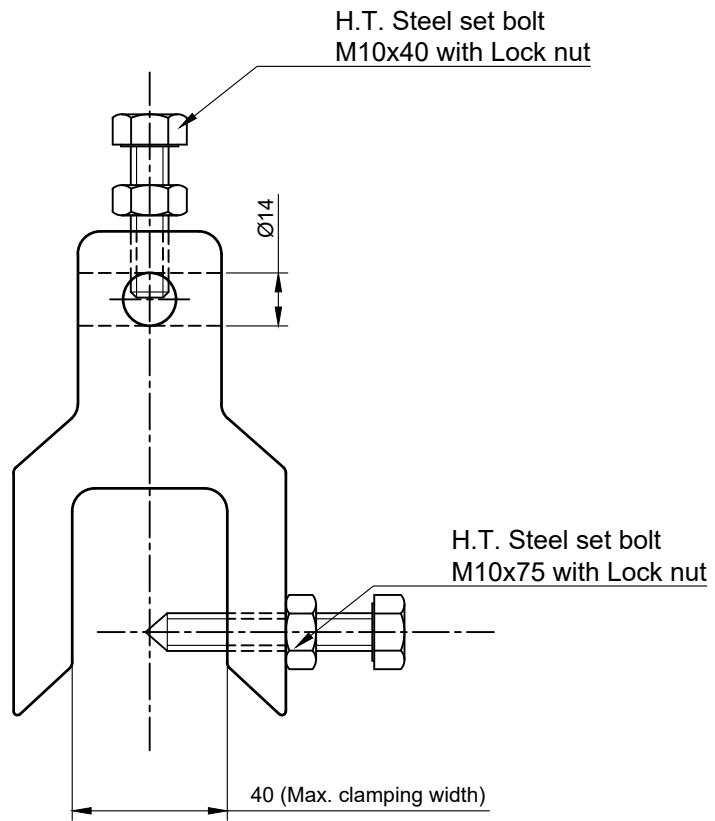
Note: All dimensions are nominal. Dimensions in mm
All data is subject to change without prior notice
To be used for bolt-on anodes
Available in mild steel and stainless steel



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Studs Assembly type B M10 & M16

Dwg:	Studs Assembly type B		Revision: 0
Drawn:	Checked:	Approved:	
ESM	PP	OT	
25-05-21	25-05-21	25-05-21	Paper: A4



Nett Weight: 0.95 Kg
Gross Weight: 0.95 Kg



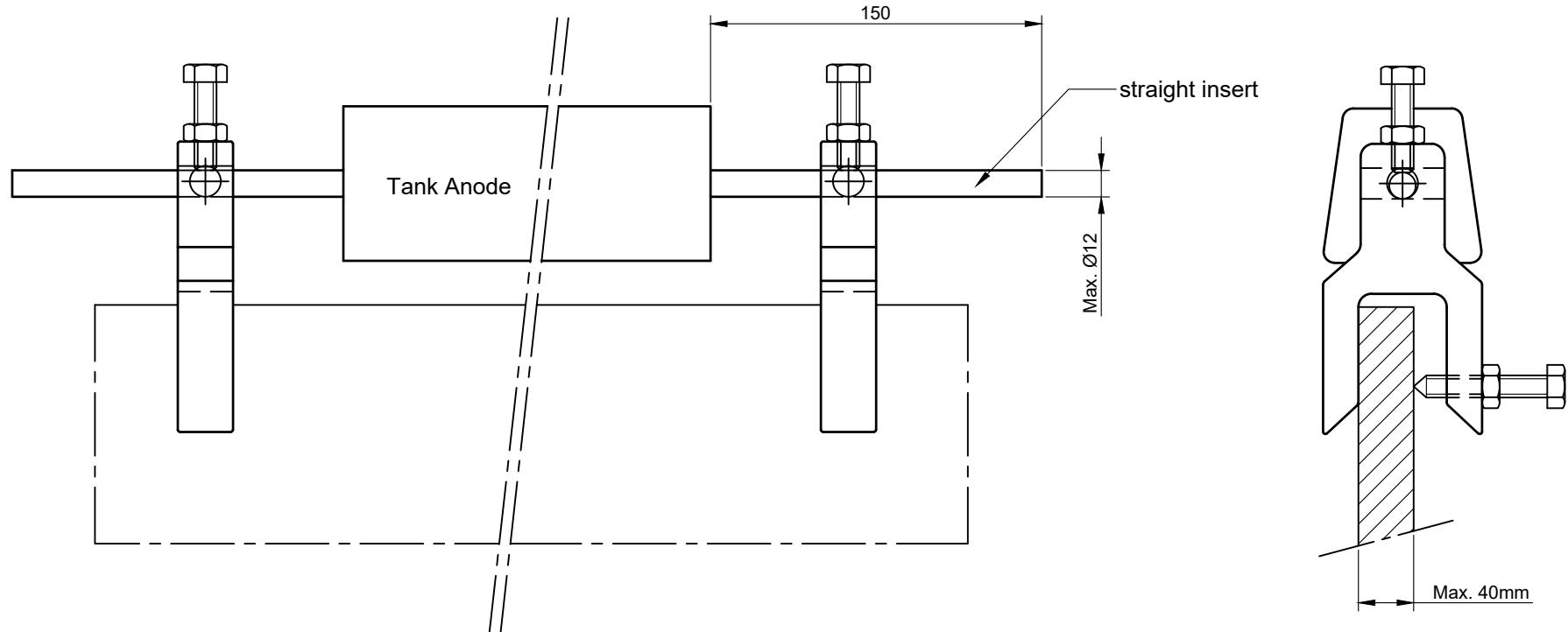
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**"M" - Clamp
Mild Steel**

Dwg: M - Clamp			Revision: 0
Drawn:	Checked:	Approved:	
ESM	PP	OT	
25-05-21	25-05-21	25-05-21	Paper: A4

Note: All dimensions and weights are nominal. Dimensions in mm
For installing tank anodes without welding
2pcs per installed tank anode required

Tank anode arrangement with M-clamps



All our tank anodes are also available with straight inserts for this type of installation!

Note: All dimensions and weights are nominal. Dimensions in mm
For installing tank anodes without welding
Two m-clamps per installed tank anode required



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"M" - Clamp Installation Tank Anode With Straight Insert

Dwg:	M - Clamp Installation		Revision:
Drawn:	Checked:	Approved:	
ESM	PP	OT	
25-05-21	25-05-21	25-05-21	Paper: A4



Inspection, Testing and Corrosion Specialist

MME Group has a large, professional and fully owned foundry for the manufacturing of sacrificial anodes for the marine, offshore, renewable energy and civil engineering industries.

A Longer Life



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