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YUXI®
SHIELD THE
FUTURE

Integrated solution of cathodic protection materials

Yuxi is a full line Cathodic Protection Materials manufacturer and supplier from Ningbo, China.

Strategically located on the East Coast, operating a six-acre state-of-the-art factory, Yuxi has proven itself as an uprising reference to quality products and efficient services throughout the world for the past decade, working with companies such as Saudi Aramco, China Petroleum, Saipem, Hongda, Koc, Knpc.

Clients can rely on Yuxi for the following high-end products and specialized engineering services:
Products: CP Anode, TRU, Junction Box, Test Station, Reference Electrodes, CP Accessories
Services: Design, Site Instruction, Commissioning, Evaluation

If you are looking for a certified cutting-edge company to team up for your next construction, Yuxi is the reliable partner to choose.

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Polypropylene Fiber Anti-Corrosion Tape
Corrosion Spool
Patching Piece
Terminal Lug
Hot Glue

MAGNESIUM ANODE-DURAMAG

Magnesium anode is the most common material used as sacrificial anode in cathodic protection system because of its higher driving voltage, easy installation and limited maintaincae. It is typically used for buried transmission oil&gas pipelines, and also can be used to protect structures in fresh water.

Our DuraMag anodes all manufactured and tested according to latest international standards, such as ASTM B843 and ASTM G97, it is available from both M1C (high potential) or AZ63B (Std potential) alloy with annual capacity 8,000 metric tons. In the past decade our anodes were widely used in North America, Europe, Middle East and Asia markets, and we have been approved vendor by Saudi Aramco since 2006.

Features:
High purity raw material.
Rigid process control.
Automatic production.
Advanced testing facilities.

Specification:

■ High Potential Magnesium Anode

Alloy: ASTM B843-M1C

Chemical composition:

Aluminum	Manganese	Copper	Silicon	Nickel	Fe	Single Impurity	Total Impurity	Remaining
0.01% Max	0.50-1.30	0.005% Max	0.05% Max	0.001% Max	0.01% Max	0.05% Max	0.30% Max	Magnesium

Electrochemical properties:

Open Voltage (-V)	Closed Voltage (-V)	Actual capacity A.h/kg	Efficiency %
1.70-1.75(-V) SCE	1.58-1.62(-V) SCE	1100	50%

■ Standard Potential Magnesium Anode

Alloy: ASTM B843-AZ63B

Chemical composition:

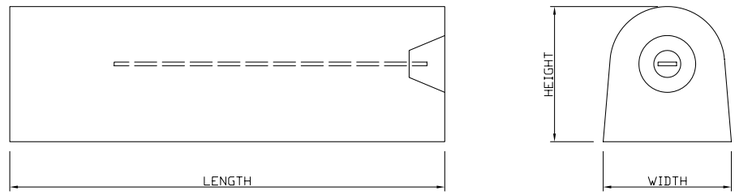
Aluminum	Manganese	Copper	Silicon	Nickel	Fe	Single Impurity	Total Impurity	Remaining
5.3-6.7% Max	2.5-3.5	0.005% Max	0.05% Max	0.001% Max	0.01% Max	0.05% Max	0.30% Max	Magnesium

Electrochemical properties:

Open Voltage (-V)	Closed Voltage (-V)	Actual capacity A.h/kg	Efficiency %
1.50-1.55(-V) SCE	1.45-1.50(-V) SCE	1230	55%

■ "D" Shape Anode

Dimension and Weight:

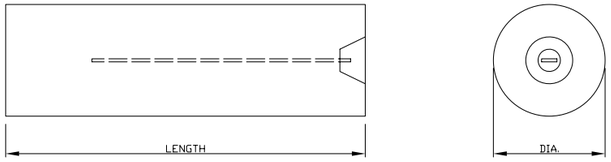


'D' Type	High Potential(-1.7V)				Standard Potential(-1.5V)				Item No.
	Width	Length	Height	Weight	Width	Length	Height	Weight	
YX-MG-5D2	70	310	76	2.3	70	305	76	2.3	1
YX-MG-9D2	70	545	76	4.1	70	540	76	4.1	2
YX-MG-9D2-1	63.5	705	67	4.1	63.5	640	67	4.1	3
YX-MG-20D2	70	1524	76	9.1	70	1495	76	9.1	4
YX-MG-14D2	70	850	76	6.36	70	815	76	6.36	5
YX-MG-17D2	63.5	1210	67	7.7	63.5	1188	67	7.7	6
YX-MG-5D3	89	190	95	2.3	89	180	95	2.3	7
YX-MG-9D3	89	345	95	4.1	89	325	95	4.1	8
YX-MG-17D3	89	645	95	7.7	89	610	95	7.7	9
YX-MG-35D5	140	498	146	14.5	140	472	146	14.5	10
YX-MG-48D5	140	750	146	21.8	140	710	146	21.8	11
YX-MG-17D4	102	525	108	7.7					12
YX-MG-60D4	112	1524	112	27.3	114	1485	114	27.3	13

*All dimensions and weights shown are nominal (mm/kg). actual dimensions/weight will be adjusted according to drawings

"R" Shape Anode

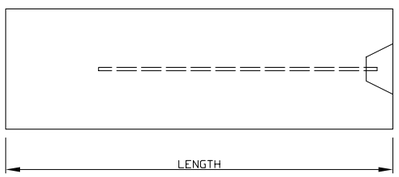
Dimension and Weight:

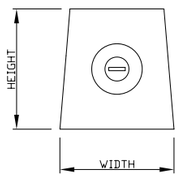


'R' Type	High Potential(-1.7V)			Standard Potential(-1.5V)			Item No.
	Diameter	Length	Weight	Diameter	Length	Weight	
YX-MG-R50	114	288	5.0	114	275	5.0	1
YX-MG-R77	114	440	7.7	114	410	7.7	2
YX-MG-R100	114	565	10.0	114	545	10.0	3
YX-MG-R145	146	405	14.5	146	475	14.5	4
YX-MG-R273	114	1524	27.3	114	1450	27.3	5

"S" Shape Anode

Dimension and Weight:





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

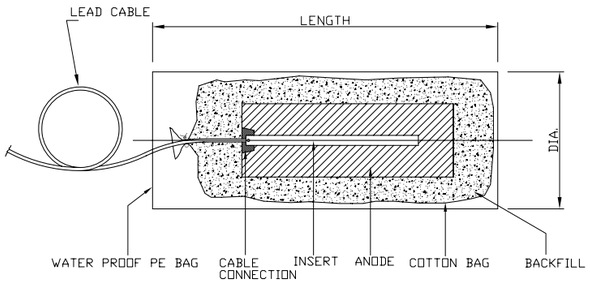
Pre-packaged Magnesium Anode

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

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

Backfill Element	
Gypsum	75%
Bentonite	20%
Sodium Sulphate	5%

Harmful Elements	
Cadmium (Cd)	≤1ppm
Arsenicum (As)	≤1ppm
Mercury (Hg)	≤1ppm
Phosphorus (Pb)	≤10ppm



Dimension and Weight:

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

*All dimensions and weights shown are nominal (mm).

AQUEOUS MAGNESIUM ANODE

Besides used in buried structure in soil, magnesium anode can also used to protect structure in aqueous environment, such as condensers, water tanks, cooling towers, heat exchangers, etc. However, magnesium anode is not recommended to use in salt water as it is so active that in salt water it can disappear very quickly.

Specification:

- **High Potential Magnesium Anode**
  Standard: ASTM B843

Chemical composition:

Aluminum	Manganese	Copper	Silicon	Nickel	Fe	Single Impurity	Total Impurity	Remaining
0.01% Max	0.50-1.30	0.005% Max	0.05% Max	0.001% Max	0.01% Max	0.05% Max	0.30% Max	Magnesium

Electrochemical properties:

Open Voltage (-V)	Closed Voltage (-V)	Actual capacity A.h/kg	Efficiency %
1.70-1.75(-V) SCE	1.58-1.62(-V) SCE	1100	50%

- **Standard Potential Magnesium Anode**
  Standard: AZ63B

Checimal composition:

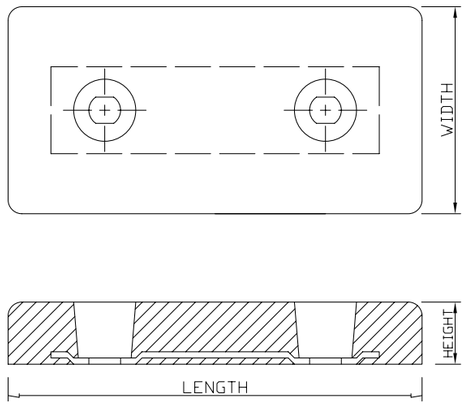
Aluminum	Zinc	Manganese	Silicon	Copper	Nickel	Fe	Total Impurity	Remaining
5.30-6.70	2.50-3.50	0.15-0.70	0.10% Max	0.02% Max	0.002% Max	0.003% Max	0.30% Max	Magnesium

Electrochemical properties:

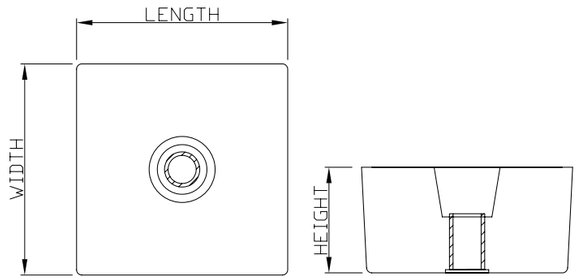
Open Voltage (-V)	Closed Voltage (-V)	Actual capacity A.h/kg	Efficiency %
1.50-1.55(-V) SCE	1.45-1.50(-V)	1230	55%

Dimension and Weight:

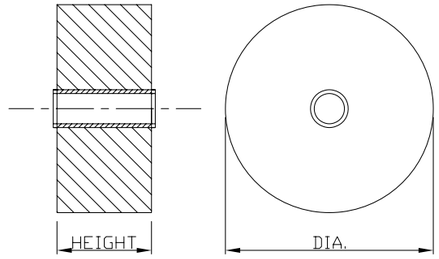
150X75X30, 0.5KGS
100X100X30, 0.5KGS (Single Bolt Hole)
100X100X50, 0.8KGS (Single Bolt Hole)
200X100X30, 1.0KGS
300X150X30, 2.4KGS
300X200X65, 6.5KGS



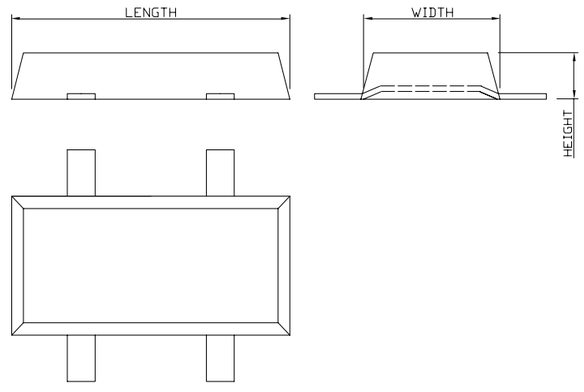
203X203X102MM, 6.8KGS
203X203X51MM, 3.4KGS



127MM DIA. X 51MM, 1.1KGS
127MM DIA. X 102MM, 1.2KGS



457X229X51MM, 10KGS
457X229X102MM, 20KGS



	Anode dimension				Hole dimension		Item No.
	Width	Length	Height	Weight	Width	Length	
YX-MG-2W7	200	200	50	3.5	Customised	Customised	1
YX-MG-3W5	300	150	30	2.3	Customised	Customised	2
YX-MG-4W40	457	229	100	40.5	Customised	Customised	3

MAGNESIUM RIBBON

Extruded magnesium anode ribbon is a flexible anode materials generally used in high resistivity water or soil. Due to the ribbon's greater surface area to weight ration, magnesium ribbon can provide higher current outputs when compared to other magnesium anodes.

Specification:

- Standard: ASTM B843

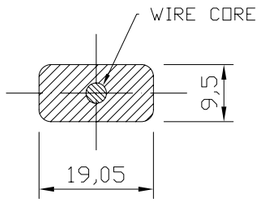
Chemical composition

Aluminum	Manganese	Copper	Silicon	Nickel	Fe	Zinc	Single Impurity	Total Impurity	Remaining
0.01% Max	0.50-1.30	0.02% Max	---	0.001% Max	0.03% Max	---	0.05% Max	0.30% Max	Magnesium

Electrochemical properties

Open Voltage (-V)	Closed Voltage (-V)	Actual capacity A.h/kg	Efficiency vv
1.70-1.75	1.58-1.62	1100	50%

Dimension and Weight	
Section	9.50 x 19.05
Diameter of core (mm)	3.0 – 3.4
Core eccentric (mm)	<1.60
Weight	0.36
Standard coil length	305
Coil weight (klength (mm)	110



ALUMINIUM SACRIFICIAL ANODE

Aluminium anode is a type of anode that can be used safely in all types of water, it has very high current capacity which makes it very attractive in terms of cost and weight saving. It is highly recommended for use in low-resistivity applications. However, they can also be used for effective corrosion protection to the structures in fresh and brackish water.

Yuxi anodes is produced from high purity base materials and designed for optimum performance under various environment. We manufacturing aluminium anode for cathodic protection in many applications, such as Ship hull, Ballast tank, Pile, Piers, Offshore platform, etc.

Features:
DNV type approval
Longer performance
Honda and Total Approved
Highly cost-effective
Easy installation and replacement
Customized design

Specification:

Chemical composition:

Standard	Zinc	Indium	Cadmium	Silicon	Iron	Copper	Others	Aluminum
GALVALUM III	2.0-6.0%	0.01-0.02%	--	0.08-0.20%	0.13% Max	0.006% Max	0.10% Max	Remainder
DNV RP B401	2.5-5.75%	0.015-0.040%	0.002% Max	0.12% Max	0.09% Max	0.003% Max	0.10% Max	Remainder
GS EP COR 201	2.5-6.0%	0.015-0.030%	--	0.10% Max	0.09% Max	0.005% Max	0.10% Max	Remainder

Electrochemical properties:

Open Circuit Potential	Closed Circuit Potential	Actual Capacity	Current Efficiency	Consumption Rate Kg/(A.a)	Solubility property
a-1.05 to -1.18(V) Ag/Agcl	-1.05 to -1.12(V) Ag/Agcl	2300-2600	≥90	≤3.37	Surfaces dissolution uniformly

Dimension and Weight:

Ship Hull (Weld on type w/ single insert)

Type	Specification / mm	Steel insert / mm			N.W./kg	G.W./kg
	L x W x H	L	W	T		
YX-AL-V01	800 x 140 x 60	900	45	6	15.4	17.0
YX-AL-V02	800 x 140 x 50	900	45	6	13.4	15.0
YX-AL-V03	800 x 140 x 40	900	45	4	10.5	12.0
YX-AL-V04	600 x 120 x 50	700	40	4	9.0	10.0
YX-AL-V05	500 x 140 x 40	580	40	4	5.5	6.5
YX-AL-V06	400 x 100 x 40	580	40	4	4.6	5.5
YX-AL-V07	300 x 100 x 40	360	30	2	3.2	3.5
YX-AL-V08	250 x 100 x 40	310	30	2	2.2	2.5
YX-AL-V09	180 x 70 x 40	230	25	2	1.0	1.2

Ship Hull (Weld on type w/ double insert)

Type	Specification / mm	Steel insert / mm			N.W./kg	G.W./kg
	L x W x H	L	W	T		
YX-AL-D01	300 x 150 x 50	360	30	4	5.0	5.8
YX-AL-D02	300 x 150 x 40	360	30	4	3.8	4.6

Ballast Tank

Type	Specification / mm	Steel insert / mm			N.W./kg	G.W./kg
	L X (W1+W2) X H	L	W	Dia. / T		
YX-AL-B01	1500X(65+75)X70	1800	-	16	19.8	21.5
YX-AL-B02	500X(115+135)X130	800	50	6	20.5	23.0
YX-AL-B03	500X(110+130)X120	800	50	6	18.0	20.0
YX-AL-B04	1000X(58.5+78.5)X68	1300	-	16	12.0	13.2
YX-AL-B05	800X(56+74)X65	1100	-	16	9.0	10.0
YX-AL-B06	1150X(48+54)X51	1450	-	12	7.6	9.0

Remark: Insert of YX-AL-B01, YX-AL-B04, YX-AL-B05, YX-AL-B06 is solid rod

Marine Structure

Type	Specification / mm	Steel insert / mm			N.W./kg	G.W./kg
	L X (W1+W2) X H	L	Dia.	Stand-off		
YX-AL-S01	2300X(220+240)X230	2500	60	300	294.0	310.0
YX-AL-S02	1600X(200+210)X220	1800	60	300	181.0	190.0
YX-AL-S03	1500X(170+200)X180	1700	50	300	122.0	130.0
YX-AL-S04	900X(150+170)X160	1100	40	300	55.0	58.0

Port Structure

Type	Specification / mm	Steel Bar / mm		Flat bar / mm			N.W./kg	G.W./kg
	L X (W1+W2) X H	L	Dia.	L	W	T		
YX-AL-T01	1500X(148+178)X170	1800	25	1800	50	8	114.0	120.0
YX-AL-T02	850X(180+220)X180	1100	25	1100	60	8	80.0	85.0
YX-AL-T03	800X(200+280)X150	1050	25	1050	60	8	76.0	80.0
YX-AL-T04	700X(160+220)X180	950	22	950	60	8	68.5	72.5
YX-AL-T05	1250X(115+135)X130	1500	18	1500	40	8	52.0	56.0
YX-AL-T06	1000X(115+135)X130	1250	18	1250	40	8	42.6	46.0
YX-AL-T05	750X(115+135)X130	1000	16	1000	40	6	33.0	35.0
YX-AL-T06	500X(115+135)X130	750	16	750	40	4	22.0	23.0

Internal Storage Tank

Type	Specification / mm	Flat bar / mm			N.W./kg	G.W./kg
	L X (W1+W2) X H	L	W	T		
YX-AL-S08	750X(115+135)X130	900	16	8	32.0	35.0
YX-AL-S09	500X(115+135)X130	650	16	8	22.0	23.0
YX-AL-S010	500X(105+135)X100	650	16	6	15.0	16.0
YX-AL-S011	300X(105+135)X100	400	12	6	9.7	10.0

ZINC SACRIFICIAL ANODE

Zinc anode is primarily used for corrosion prevention in seawater of steel and aluminium equipment and structures such as ship hull, ballast tank, heat exchanger, condenser, pier, pilling, etc. It can also used as packaged anodes as grounding cells on electrical motors panels, conduits, and across insulators on pipelines to limit dangerously high voltages.

However, zinc anode is not recommend to use in freshwater. In freshwater zinc can form a passive film. This film insulates the anode and stops it from protection.

Zinc anode provides the lowest driving voltage in comparison with aluminium anode and magnesium anode. Therefore, it does not easily cause overprotection which leads to coating disbondment and hydrogen damage of high strength steel.

Yuxi zinc anode conforms to ASTM B418 and U.S. Millitary Specification, MIL-A-18001K standard, high purity zinc ingot 99.995% and other high quality raw materials with rigid production and inspection procedure to ensure our zinc anode meet or above the international standard requirement.

Specification:

Chemical composition:

	Al %	Cd %	Fe %	Pb %	Cu %	Zn %
ASTM B-418 type I	0.1 - 0.5	0.02 - 0.07	0.005 max	0.006 max	0.006 max	Balance
ASTM B-418 type II	0.005 max	0.003 max	0.0014 max	0.003 max	0.002 max	Balance
MIL-A-18001K	0.1 - 0.5	0.02 - 0.07	0.005	0.006	0.005	Balance

Electrochemical properties:

	Open Voltage (-V)	Closed Voltage (-V)	Capacity A.h/kg	Efficiency % min
ASTM B-418 type I	1.05 min	1.00 min	780	95%
ASTM B-418 type II	1.10 min	1.05 min	780	90 %

Ship Hull (Weld on type w/ double insert)

Type	Specification / mm	Steel insert / mm			N.W./kg	G.W./kg
	L X W X H	L	W	T		
YX-ZN-H11	300 X 150 X 50	360	30	4-5	13.7	14.5
YX-ZN-H12	300 X 150 X 40	360	30	4-5	10.7	11.5

Ship Hull (Bolt on type)

Type	Specification / mm	Steel insert / mm			N.W./kg	G.W./kg
	L X W X H	L	W	T		
YX-ZN-H13	300 X 150 X 50	250	50	4	11.6	12.0
YX-ZN-H14	300 X 150 X 40	250	50	4	8.6	9.0

Ballast Tank

Type	Specification / mm	Steel insert / mm				N.W./kg	G.W./kg
	L X (W1 + W2) X H	H	W	Dia./T	Stand Off		
YX-ZN-H13	500 X (115+135) X 130	800	50	6	60	53.5	56.0
YX-ZN-H14	1500 X (65+75) X 70	1800	-	16	40	48.3	50.0
YX-ZN-H14	500 X (110+130) X 120	800	50	6	60	48.0	50.0
YX-ZN-H14	1000 X (58.5+78) X 68	1300	-	16	40	31.8	33.0
YX-ZN-H14	800 X (56+74) X 65	1100	-	16	40	24.0	25.0
YX-ZN-H14	1150 X (48+54) X 51	1450	-	12	35	18.3	20.0
YX-ZN-H14	250 X (80+100) X 85	310	30	4	0	12.8	13.0
YX-ZN-H14	200 X (70+90) X 70	260	30	3	0	7.3	7.5

Remark: YX-ZN-T07, YX-ZN-T08 is flat stick anode; Insert of YX-ZN-T02, YX-ZN-T04, YX-ZN-T05, YX-ZN-T06 is solid rod

Port and Marine Structure

Type	Specification / mm	Steel insert / mm		Flat bar / mm			N.W./kg	G.W./kg
	L X (W1 + W2) X H	L	Dia.	L	W	T		
YX-ZN-I01	1000X(115+135)X130	1250	18	1250	40	8	111.6	115.0
YX-ZN-I02	750X(115+135)X130	1000	16	1000	40	8	83.0	85.0
YX-ZN-I03	500X(115+135)X130	750	16	750	40	6	55.0	56.0
YX-ZN-I04	500X(105+135)X100	750	16	750	40	6	38.6	40.0

Seawater Cooling System (Strip Type)

Type	Specification / mm	Steel insert / mm			N.W./kg	G.W./kg
	L X (W1 + W2) X H	L	W	T		
YX-ZN-E01	500X(115+135)X130	620	50	6	54.0	56.0
YX-ZN-E02	1000X(80+100)X80	1200	30	6	49.0	50.0
YX-ZN-E03	500X(105+135)X100	620	40	6	39.2	40.0
YX-ZN-E04	500X(80+100)X80	620	30	6	24.0	25.0
YX-ZN-E05	400X(110+160)X40	500	35	4	15.4	16.0
YX-ZN-E06	300X(140+160)X40	360	60	4	12.0	12.5
YX-ZN-E07	200X(90+110)X40	250	30	4	5.3	5.5

Seawater Cooling System (Disc Type)

Type	Specification / mm	Steel insert / mm			N.W./kg	G.W./kg
	Dia. X Height	Bolt Hole Diameter Diete	Insert Diameter	Insert Thickness		
YX-ZN-E08	300 x 60	50	22	4	29.8	30.0
YX-ZN-E09	360 X 40	50	26	4	28.3	28.5
YX-ZN-E10	300 X 40	50	22	4	19.8	20.0
YX-ZN-E11	200 X 50	40	16	4	19.8	10.5
YX-ZN-E12	180 X 50	35	14	4	10.3	8.5
YX-ZN-E13	120 X 100	35	14	4	8.3	7.5

Internal Storage Tank

Type	Specification / mm	Steel insert / mm			N.W./kg	G.W./kg
	L X (W1 + W2) X H	L	W	T		
YX-ZN-C01	750X(115+135)X130	900	16	10	82.0	85.0
YX-ZN-C02	500X(115+135)X130	650	16	10	55.0	56.0
YX-ZN-C03	500X(105+135)X100	650	16	8	39.0	40.0
YX-ZN-C04	300X(105+135)X100	400	12	8	24.6	25.0

Grounding Cell

Type	Specification / mm	Steel insert / mm		N.W./kg	G.W./kg
	L X W X H	L	Dia.		
YX-ZN-G01	1524x35.5x35.5	1016	6	13.50	14.0
YX-ZN-G02	1524x50.8x50.8	1016	6	27.50	28.0

ZINC RIBBON ANODE - FELXZINC

Zinc ribbon is an extrusion form anode, it is made from 99.995% high purity zinc ingot, and has more than 90% current efficiency with capacity at least 780 A.h/kg. Yuxi zinc ribbon has the excellent properties of flexibility which can be engineering in cold weather, and it also meet the highest industry standards such ASTM B418 and US MIL-A-18001k.

The typical application of zinc ribbon is:
AC Mitigation
Pipeline Cathodic Protection
Aboveground storage tank Cathodic Protection
Prestressed concrete pipeline Cathodic Protection
Grounding overhead structures

Specification:

Chemical composition

	AL %	Cd %	Fe %	Pb %	Cu %	Zn %
ASTM B-418 type I	0.1 - 0.5	0.02 - 0.07	0.005 max	0.006 max	0.006 max	Balance
ASTM B-418 type II	0.005 max	0.003 max	0.0014 max	0.003 max	0.002 max	Balance

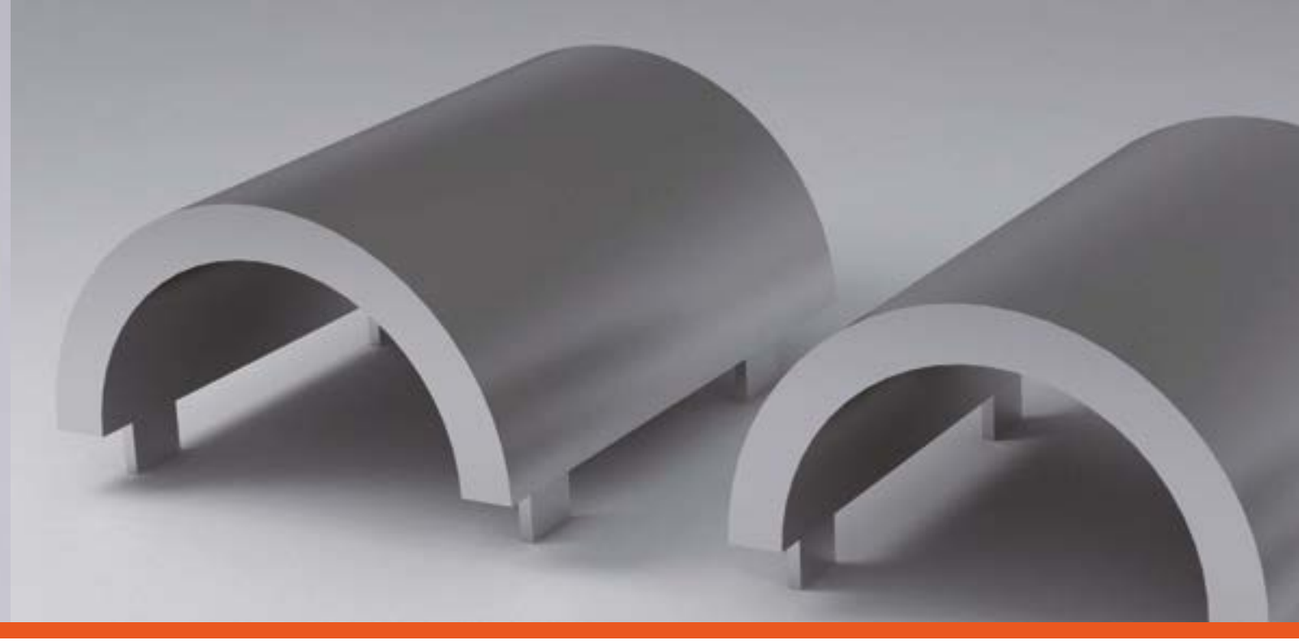
Electrochemical properties

	Open Voltage (-V)	Closed Voltage (-V)	Capacity A.h/kg	Efficiency % min
ASTM B-418 type I	1.05 min	1.00 min	780	95%
ASTM B-418 type II	1.10 min	1.05 min	780	90 %

Type	A (inch)(mm)	B (inch)(mm)	net weight (lbs/feet)(kg/m)	Core (inch)(mm)	A x B
YX-YZR-01	1(25.4)	1-1/4(31.75)	2.4(3.57)	0.185(4.70)	
YX-YZR-02	5/8(15.88)	7/8(22.22)	1.2(1.785)	0.135(3.43)	
YX-YZR-03	1/2(12.7)	9/16(14.28)	0.6(0.893)	0.130(3.30)	
YX-YZR-04	11/32(8.73)	13/32(10.32)	0.25(0.372)	0.115(2.92)	

Packing: Open coil in wooden case or pallet

*All dimensions and weights shown are nominal (mm). Net weight (lbs/feet)(kg/m)



ALUMINIUM AND ZINC BRACELET ANODE

Bracelet anodes are used to protect marine pipelines. Yuxi manufacturing using high purity raw material, water cooled metal mold to guarantee all anodes meet your rigid requirement. The anodes can be supplied in both square and tapped end with welded on type and bolted on type as well.

Specification:

Chemical composition

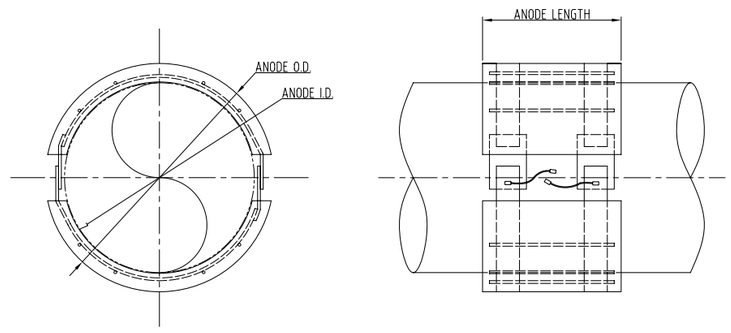
Standard	Zinc	Indium	Cadmium	Silicon	Iron	Copper	Others	Aluminum
GALVALUM III	2.0-6.0%	0.01-0.02%	--	0.08-0.20%	0.13% Max	0.006% Max	0.10% Max	Remainder
DNV RP B401	2.5-5.75%	0.015-0.040%	0.002% Max	0.12% Max	0.09% Max	0.003% Max	0.10% Max	Remainder
GS EP COR 201	2.5-6.0%	0.015-0.030%	--	0.10% Max	0.09% Max	0.005% Max	0.10% Max	Remainder

Electrochemical properties

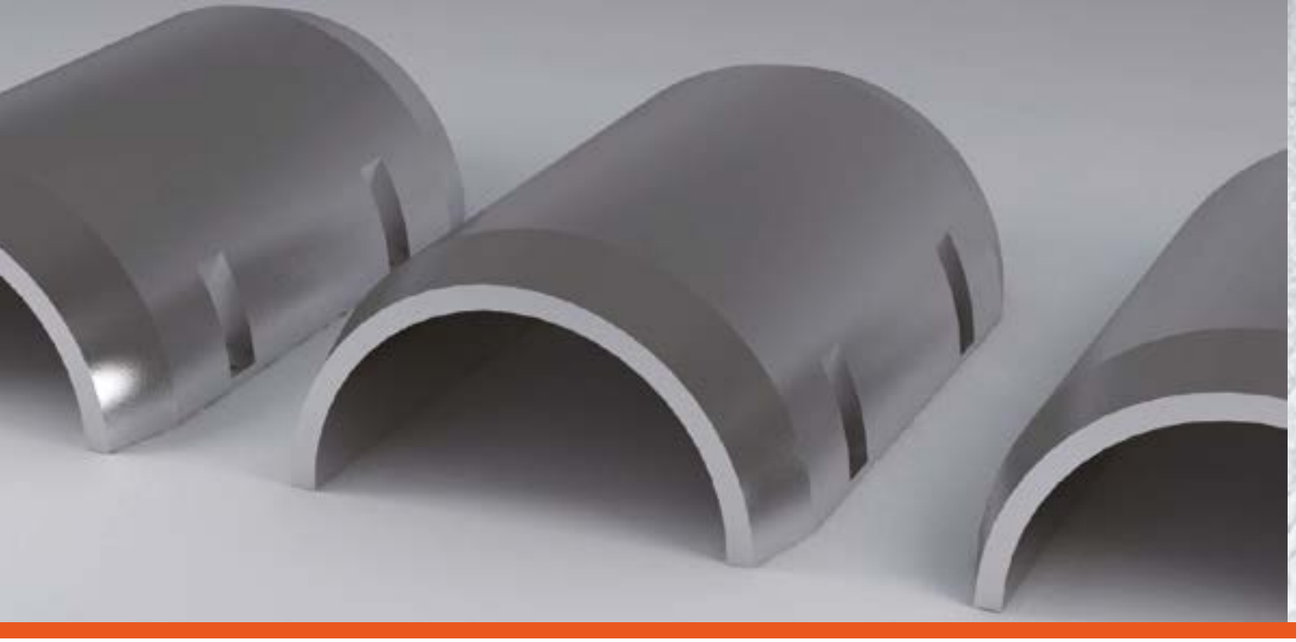
Open Circuit Potential	Closed Circuit Potential	Actual Capacity	Current Efficiency	Consumption Rate Kg/(A.a)	Solubility property
-1.05 to -1.18(V) SSC	-1.05 to -1.12(V) SSC	2300-2600	≥90	≤3.37	Surfaces dissolution uniformly

Square ended type

Dimension and Weight:

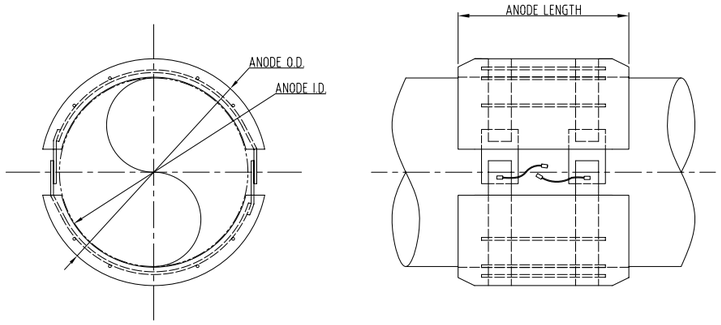


Anode I.D. (mm)	Type	Thickness (mm)	Gap (mm)	Length (mm)	Net W. (Kg)	Gross W. (Kg)
175	Square	40	50	495	28.5	30.0
220	Square	45	50	415	40.0	42.5
275	Square	50.8	55	550	62.5	68.0
325	Square	40	50	480	51.0	55.0
336	Square	30	50	802	55.0	57.0
406	Square	65	50	350	81.0	85.0
457	Square	51	50	550	125.0	128.0
510	Square	65	50	250	73.5	80.5
536	Square	38	50	714	104.5	108.0
610	Square	51	50	410	106.0	117.0
694	Square	40	50	320	54.5	58.0
698	Square	68	75	406	133.5	138.0



Tapped End Type

Dimension and Weight:



Anode I.D. (mm)	Type	Thickness (mm)	Gap (mm)	Length (mm)	Net W. (Kg)	Gross W. (Kg)
114	Tapped	38	50	305	11.0	12.5
141	Tapped	38	50	400	17.0	19.0
220	Tapped	65	50	410	44.0	46.0
275	Tapped	45	50	560	54.0	57.0
325	Tapped	50	50	500	68.0	75.0
408	Tapped	45	50	510	78.0	84.5

ALUMINIUM AND ZINC PRESSURE DIE CAST ANODE

Besides gravity casting aluminium anod zinc, Yuxi also manufacture a serious of small anodes by pressure die casting. These anodes are normally used on small vessels and other restricted locations where bigger anode can not apply. Typically application of this pressure die casting anodes are Commercial/Pleasure Craft, Pylons, Cary, Lobster, Buoys, Seachests and Crab Pots.

Specification:

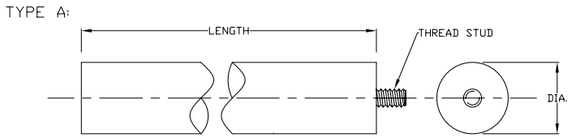
Chemical composition:

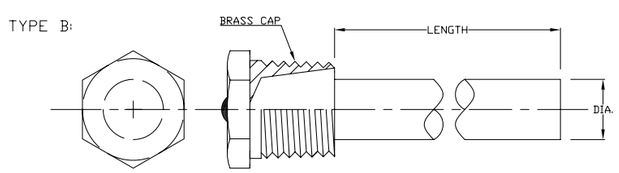
Anode	Zinc	Indium	Cadmium	Silicon	Iron	Copper	Others	Aluminum
Aluminium	2.0-6.0%	0.01-0.02%	--	0.08-0.20%	0.13% Max	0.006% Max	0.10% Max	Remainder

Anode	Zinc	Indium	Cadmium	Phosphorus	Iron	Copper	Others	Aluminum
Zinc	Remainder	--	0.02-0.07%	0.006% max	0.005% Max	0.005% Max	0.10% Max	0.1-0.5%

Pencil Anode

Dimension and Weight:

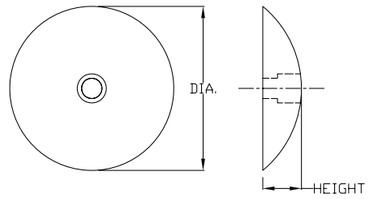




Part Number	Diameter (mm)	Lenght (mm)	Mounting Size	Weight (g)
YX-ZDC-A01	10	50	5/16 UNC	20
YX-ZDC-A02	10	65	5/16 UNC	30
YX-ZDC-A03	13	55	3/8 UNC	40
YX-ZDC-A04	16	65	3/8 UNC	90
YX-ZDC-A05	16	100	3/8 UNC	130
YX-ZDC-A06	20	105	1/2 UNC	180
YX-ZDC-A07	20	180	1/2 UNC	340
YX-ZDC-A08	25	80	7/8 UNC	250
YX-ZDC-A09	32	80	3/4 UNC	360
YX-ZDC-B01	6	65	1/8 NPT	20
YX-ZDC-B02	10	60	3/8 NPT	40
YX-ZDC-B03	10	75	3/8 NPT	60
YX-ZDC-B04	13	50	3/8 NPT	60
YX-ZDC-B05	13	80	3/8 NPT	80
YX-ZDC-B06	19	75	3/4 BSPT	210
YX-ZDC-B07	19	120	3/4 BSPT	270

Rudder Anode

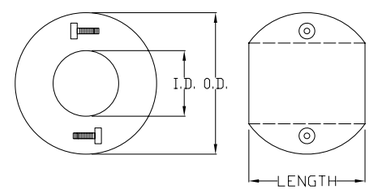
Dimension and Weight:



Part Number	Diameter (mm)	Height (mm)	Weight (g)
YX-ZDC-C01	50	10	130
YX-ZDC-C02	70	20	500
YX-ZDC-C03	90	20	850
YX-ZDC-C04	125	22	2150
YX-ZDC-C05	130	35	1900

Shaft Anode

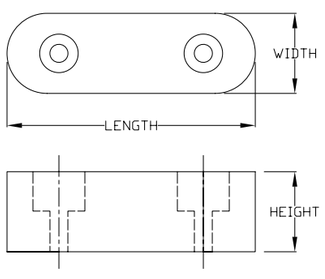
Dimension and Weight:



Part Number	Inner Dia. (mm)	Outside Dia. (mm)	Lenght (mm)	Weight (g)
YX-ZDC-D01	19.05	58	52	550
YX-ZDC-D02	22.10	58	52	500
YX-ZDC-D03	32.00	70	64	950
YX-ZDC-D04	35.00	70	64	900
YX-ZDC-D05	38.00	70	64	800
YX-ZDC-D06	45.00	84	68	1150
YX-ZDC-D07	50.80	64	68	1200

Oval Anode

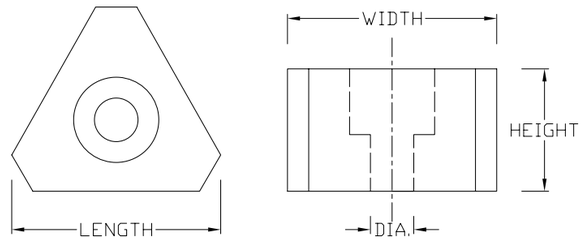
Dimension and Weight:



Part Number	Lenght (mm)	Width (mm)	Height (mm)	Weight (g)
YX-ZDC-E01	100	50	20	800
YX-ZDC-E02	110	65	30	1200
YX-ZDC-E03	110	50	30	1150
YX-ZDC-E04	150	60	25	1600
YX-ZDC-E05	150	50	40	2150
YX-ZDC-E06	180	45	30	1700

Propeller Anode Nut

Dimension and Weight:



Part Number	Lenght (mm)	Width (mm)	Height (mm)	Hole Dia. (mm)	Weight (g)
YX-ZDC-F01	26	26	16	8	38
YX-ZDC-F02	28	28	16	6	35
YX-ZDC-F03	33	33	20	6	90
YX-ZDC-F04	45	45	35	6	280
YX-ZDC-F05	50	50	35	6	350
YX-ZDC-F06	65	65	40	8	550
YX-ZDC-F07	70	70	45	8	680

*Other types of customized anode such as Trim tab anode, Stern bracket anode, Mechanical joint fitting anode, Engine anode is available upon on request.

WATER HEATER ANODES

Water heater anode rod or sacrificial anode is the important component part with only one purpose to protect metal tank from corrosion. Extruded Magnesium and Alumnium anodes have high surface and length ratios in relation to cross sectional size. This allows these anodes to deliver a greater amount of current per weight than cast anodes, therefore to deliver effective protection to structures in even highly resistive electrolytes.

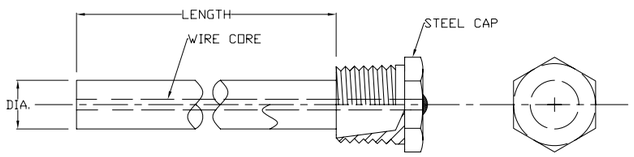
YUXI supply extruded anodes in high potential (Mg-Mn alloy), standard potential (AZ31 alloy) and Alumnium alloy as well. Our extruded and cast anodes are typically suitable for all kinds of water storage tanks or in pre-polarization of offshore structure and so on.

Specification:

Chemical and Electrochemical Properties:

Alloy	AZ31B	Mg-Mn	Aluminium
Aluminium	2.50-3.50%	0.01% Max	Balance
Manganese	0.20-1.00%	0.50-1.30%	--
Zinc	0.60-1.40%	--	4.00-5.00% Max
Calcium	0.04% Max	--	--
Silicon	0.10% Max	--	0.25% Max
Copper	0.01% Max	0.02% Max	--
Nickel	0.001% Max	0.001% Max	--
Fe	0.005% Max	0.03% Max	0.25% Max
Sn	--	--	0.05-0.25% Max
Other impurity(each)	--	0.05% max	--
Total impurity	0.30% Max	0.30% Max	0.15% Max
Remaining	Magnesium	Magnesium	

Note: Customized alloy is available upon on request.



Magnesium Extrusion					
Part No.	Diameter (mm)	Core (mm)	Length (mm)	Steel Cap	Weight (kg)
AP6240Y-11	12.7	3.4	864	1/2″ NPT	0.29
AP6240BC	12.7	3.4	762	1/2″ NPT	0.26
AP6240BD	12.7	3.4	1270	1/2″ NPT	0.40
AP6241BH	12.7	3.4	610	1/2″ NPT	0.22
AP6241BK	12.7	3.4	391	1/2″ NPT	0.15
AP15894A	21.33	3.4	534	3/4″ NPT	0.36
AP15894B	21.33	3.4	636	3/4″ NPT	0.43
AP15894C	21.33	3.4	737	3/4″ NPT	0.50
AP15894D	21.33	3.4	1042	3/4″ NPT	0.70
AP15894E	21.33	3.4	1144	3/4″ NPT	0.77
AP12702B	22.86	3.4	818	3/4″ NPT	0.67
AP12702C	22.86	3.4	868	3/4″ NPT	0.70
AP12702D	22.86	3.4	1072	3/4″ NPT	0.86
AP12702E	22.86	3.4	1300	3/4″ NPT	1.03

Aluminium Extrusion					
Part No.	Diameter (mm)	Core (mm)	Length (mm)	Steel Cap	Weight (kg)
AP12938	15.88	3.4	1060	1/2″ NPT	0.62
RH9004	19.05	3.4	1067	3/4″ NPT	0.93
YX-AM2NE2A	20.00	3.4	540	3/4″ NPT	0.53
YX-AM2NE3A	20.00	3.4	765	3/4″ NPT	0.73
YX-AM2NE4A	20.00	3.4	950	3/4″ NPT	0.90
YX-AM2NE5A	20.00	3.4	1120	3/4″ NPT	1.05
YX-49560-01A	21.30	3.4	241	3/4″ NPT	0.29
YX-49560-02A	21.30	3.4	584	3/4″ NPT	0.64
YX-49560-03A	21.30	3.4	889	3/4″ NPT	0.95
YX-49560-04A	21.30	3.4	1105	3/4″ NPT	1.17

Note: Customized size available upon on request.

PURE IRON ANODE

Pure iron anode is mostly used for the protection of copper alloys of heat exchanger, fresh water facility, desalination plant (evaporator, brine heater) and condenser(used for marine and platform).

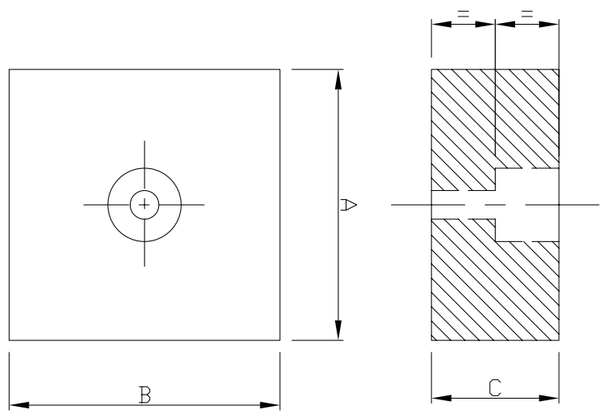
YUXI pure iron anode is produced and machined by high grade base material and rigorous test and inspection procedure to make sure all products meet or above the contract requirement.

Specification:

Carbon	Silicon	Manganese	Phosphorus	Sulphur	Aluminium	Cadmium	Nickel	Copper	Iron
0.01% Max	0.50-1.30	0.02% Max	- -	0.001% Max	0.03% Max	- -	0.05% Max	0.30% Max	Remainder

Dimension and Weight

100X100X30, WEIGHT 2.0KGS
150X150X30, WEIGHT 5.0KGS
160X160X50, WEIGHT 9.5KGS
200X200X50, WEIGHT 14.0KGS
100MM IDA. X 50MM, WEIGHT 2.5KGS
150MM DIA. X 30MM, WEIGHT 4.0KGS



HIGH SILICON CAST IRON ANODE

HSCI anodes have been used for many decades to protect buried and submerged structures from corrosion. This anodes can operate effectively in a variety of electrolytes, from soil and freshwater to brackish and salt water environments. Under normal conditions, a thin film of silicon dioxide will develop on its surface, this film protects the anodes from metal pitting and makes them ideally suited for deep groundbed application.

Yuxi started to manufacturing HSCI anode since 2005, and in 2010 Yuxi had a joint venture business with former UK Silicon anode manufacturer Jennings foundry (former Durichlor 51 Anode supplier) to develop the casting technology together. Until today, Yuxi offers both stick and tubular anode for the industry with various available.

Specification:

Chemical and Electrochemical Properties

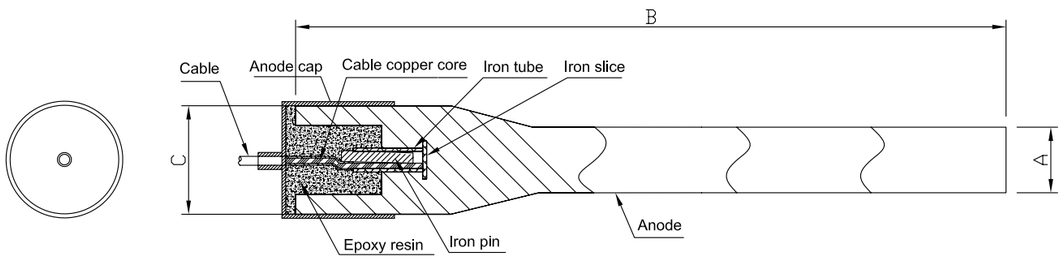
	Grade 1 (SiFe Alloy)	Grade 3 (SiFeCr Alloy)	BS1591
Carbon	0.65-1.10%	0.70-1.10	1.40max
Manganese	1.50 max	1.50 max	0.50max
Silicon	14.20-14.75	14.20-14.75	14.25-15.25
Chromium	0.50 max	3.25-5.00	0.50max
Molybdenum	0.50 max	0.20 max	N/A
Copper	0.50 max	0.50 max	N/A
Sulphur	N/A	N/A	0.10max
Phosphorus	N/A	N/A	0.25max
Iron	Balance	Balance	Balance

Current density in soil/fresh water	Current density in salt water	Consumption Rate in soil/fresh water	Consumption Rate in salt water
10Amp / square.meter	30-50Amp / square meter	0.15kg/A.y	0.5kg/A.y

Stick type HSCI Anode:

Serial No.	Specification (mm)		Surface (m2)	Nominal Weight (Kg)
	A X B	C		
YS-R01	38 x 1220	63	0.15	10.50
YS-R02	38 x 1524	63	0.19	13.00
YS-R03	51 x 1220	76	0.20	18.00
YS-R04	51 x 1524	76	0.25	22.00
YS-R05	76 x 1220	102	0.30	40.00
YS-R06	76 x 1524	102	0.37	49.00

Cable Connection:



Tubular HSCI Anode:

Thanks for the progress of cast technology, tubular anode was invented after some years of stick anode. And now the tubular anode is very well recognized by CP designers and engineers and became the most popular for deep wells. The tubular anode has the following advantage against stick type.

> Low resistance center connection is typically for tubular anode to compensate for end effect, because more current discharges from the anode end than the middle.
> More economics because of higher utilization than traditional stick anode, tubular anode can use 85-90% of its mass weight while stick anode only 60-70%.
> More surface area per kilogram which reduce the anode current denisty.
> Tubular anode can be casted to 2134mm long while stick anode only limited to 1524mm, that brings the advantage of lower resistance than stick type.
> Easy transportation and handling due to more surface area per unit weight, for a certain current requirement the weight of tubular anode is much smaller than stick anode.

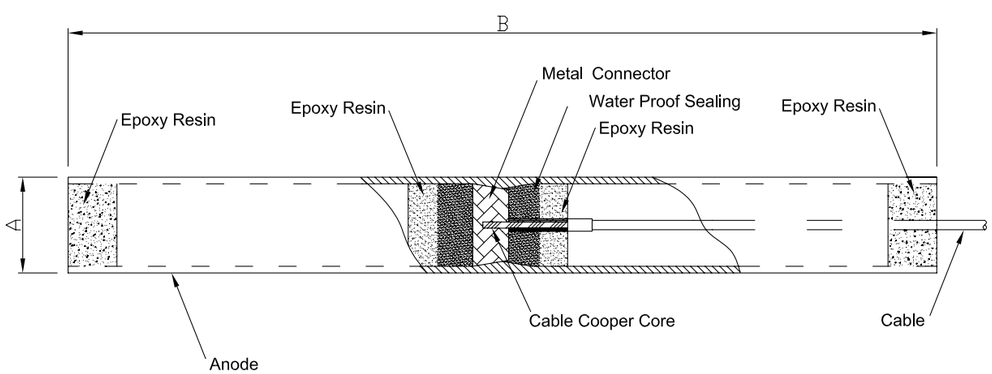
Yuxi manufacture a full line of tubular anodes using improved centrifugal casting technique, this helps us to bring our anode quality to a new level compare to gravity casting.

> More dense and homogenous structure
> Stipple effect increase surface area
> Level 1 X-Ray detection AS per ASTM E186/E446
> More impact resistance due to higher density

Dimension and Weight:

Part No.	Dimension A X B	Weight (kg)
YS-T01	58 x 1524	15
YS-T02	58 x 1524	21
YS-T03	71 x 1524	20.5
YS-T04	71 x 2133	29
YS-T05	96 x1524	28
YS-T06	96 x 2133	39
YS-T07	124 x 1524	36
YS-T08	124 x 2133	50
YS-T09	124 x 1524	57
YS-T10	124 x 2133	80

Cable Connection:



Tubular Anode Center Connector:

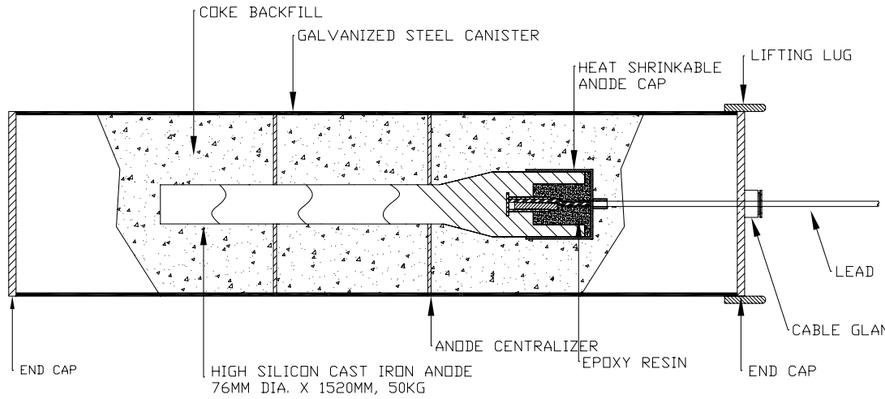
Inspection and Testing:

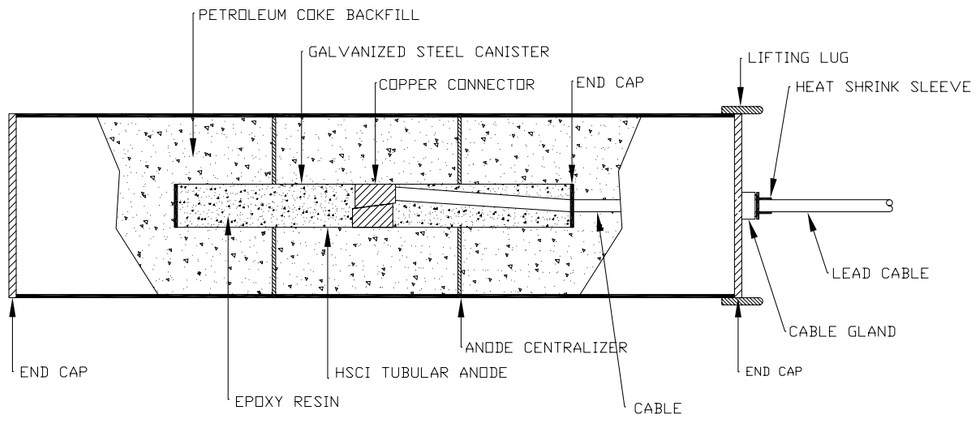
- Chemical Analysis by spectrometer
- Dimension and Weight Check
- X Ray Detection
- Mechanical Impact Testing

Canister HSCI Anode:

HSCI anode can be buried directly in the groundbed, and besides that canister type anode is produced to easy installation for a deep well.

Canister material	Galvanized Steel Sheet
Canister Size	203mm dia. at length 1524mm, 2000mm, 3000mm
Eye bolt for easy installation	Yes
Cable	HMWPE, XLPE/PVC, Kynar/ HMPVWE





MIXED METAL OXIDE ANODE

MMO anodes has the advantage of low consumption rate and high current capacity, the consumption rate of the MMO anode is counted only milligrams per ampere year, and also as a result of this low consumption rate, the metal dimensions remain nearly constant during the design life of the anode, therefore providing a consistently low resistance performance. So this type of anodes became widely used for the impressed current CP in groundbed and marine structures.

Yuxi manufacture all range of MMO anodes used for Cathodic Protection, including rods, tubes, ribbons, plates and meshes. The anodes are made using titanium substrates which are coated with a mixed metal oxide catalyst, the catalyst is applied by multiple thermal process to form an extremely chemical resistant bond, this MMO coating can enhance the conductive properties of the anode and while the titanium is inherently stable, therefore brings superior performance.

Anode types:

> Solid rod anode
> Tubular anode
> Ribbon anode
> Mesh anode
> Piggyback wire anode
> Plate/Disc anode

MMO anode can be used effectively in all types of environments, such as directly buried in soil, fresh water and salt water. There are two types of catalyst, one is iridium-tantalum system which typically used for soil and fresh water, and the other adding ruthenium into iridium-tantalum formulation for salt water application. The recommended current density in soil, coke breeze, fresh water is 100Amps/m2 and in salt water is 600Amps/m2.

Solid Rod Anode:

The rod anodes always assembled with junction box with a mounting thread to protect the tanks or vessels.

Part No.	Diameter	Lenght
YX-MMO-R1	6 mm	Up to 1500mm
YX-MMO-R2	12 mm	Up to 1500mm
YX-MMO-R3	16 mm	Up to 1500mm
YX-MMO-R4	20 mm	Up to 1500mm

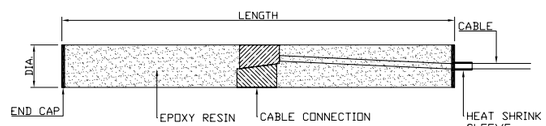
Note: Customized size available upon on request.

Tubular Anode:

Tubular type is the most common MMO anodes used in cathodic protection, the titanium hollow tubes conforms to ASTM B338 grade I standard. This type of anodes always made in strings consisting several pieces of MMO tubes used for deep well cathodic protection system. The cable type and size can be XLPE/PVC, HMWPE, Kynar/HMWPE, etc. from 6sqmm (10AWG) to 35sqmm (2AWG).

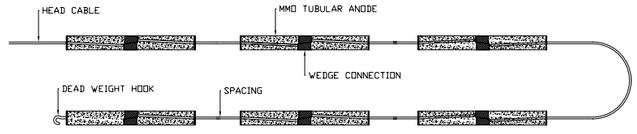
Part No.	Dimension	Current Density	Current Output	Design Life
YX-MMO-T1	16mm dia. X 500mm	100Amps/m2	2.5 Amps in soil	20 Years
		600Amps/m2	15 Amps in seawater	20 Years
YX-MMO-T2	16mm dia. X 1000mm	100Amps/m2	5 Amps in soil	20 Years
		600Amps/m2	30 Amps in seawater	20 Years
YX-MMO-T3	19mm dia. X 500mm	100Amps/m2	3 Amps in soil	20 Years
		600Amps/m2	15 Amps in seawater	20 Years
YX-MMO-T4	19mm dia. X 1000mm	100Amps/m2	6 Amps in soil	20 Years
		600Amps/m2	32.5 Amps in seawater	20 Years
YX-MMO-T5	25mm dia. X 500mm	100Amps/m2	4 Amps in soil	20 Years
		600Amps/m2	23.5 Amps in seawater	20 Years
YX-MMO-T6	25mm dia. X 1000mm	100Amps/m2	8 Amps in soil	20 Years
		600Amps/m2	48Amps in seawater	20 Years
YX-MMO-T7	32mm dia. X 500mm	100Amps/m2	5 Amps in soil	20 Years
		600Amps/m2	30 Amps in seawater	20 Years
YX-MMO-T8	32mm dia. X 1000mm	100Amps/m2	10 Amps in soil	20 Years
		600Amps/m2	60 Amps in seawater	20 Years
YX-MMO-T19	32mm dia. X 1220mm	100Amps/m2	12 Amps in soil	20 Years
		600Amps/m2	74 Amps in seawater	20 Years

Cable Connection:



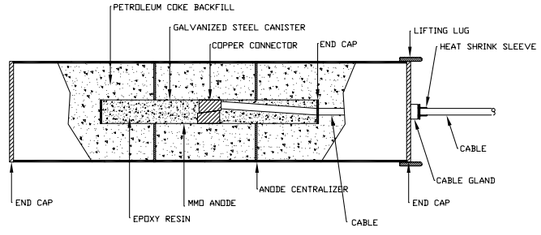
String anode for deep well application:

Anode Dimension	Application	Number of anode	Spacing	Head cable	Cable	Centrilizer
e.g. 25mm x 1000mm	e.g. soil	e.g. 5nos.	e.g. 1000mm	e.g. 15meters	e.g. Kynar/HMWPE	e.g. 150mm



Canister MMO Anode:

Anode Dimension	Application	Head cable	Cable	Centrilizer
e.g. 25mm x 1000mm	e.g. soil	e.g. 15meters	e.g. Kynar/HMWPE	e.g. 150mm x 1500mm



Ribbon Anode:

Yuxi's MMO ribbon anodes are manufactured using titanium substrate which meets ASTM B265 Grade 1 Standard and coated with Mixed Metal Oxide (Ir/Ta).

Nominal Specification:

Width	Thickness	Std coil length	Std coil weight	Current output in fine sand	Design life
6.35mm	0.635mm	152.4meters	2.8kgs	42mA/meter	50 Years

Titanium Conductor Bar:

Width	Thickness	Std coil length	Std coil weight	Substrate	Design life
12.7mm	0.9mm	152.4meters	7.8kgs	ASTM B265 Grade I	50 Years

Mesh Anode:

MMO anode ribbon mesh Anode is a key component for Cathodic Protection systems in reinforced concrete structures. Yuxi's ribbon mesh products are based on ASTM B265 Grade I titanium and have been tested by CC Technologies / DNV in accordance with NACE TM0294 standard with all specification passed.

Part No.	Width	Coil Length	Expanded thickness	Diamond dimensions	Current Output 110mA/m2	Design life
YX-MMO-M1	10mm	76meter	1.3mm	2.5x4.6mm	2.8mA/m	100 Years
YX-MMO-M2	12.7mm	76meter	1.3mm	2.5x4.6mm	3.5mA/m	100 Years
YX-MMO-M3	19mm	76meter	1.3mm	2.5x4.6mm	5.3mA/m	100 Years
YX-MMO-M4	25mm	76meter	1.3mm	2.5x4.6mm	7mA/m	100 Years
YX-MMO-M5	1.22m	76meter	2.0mm	34x76mm	25mA/m	100 Years

Piggyback Wire Anode:

MMO Piggyback Wire anode is an ideal CP product to replace the conventional anodes used to protect tank bottom, underground vessel, pipeline. YUXI's sock anode are made from high grade titanium wire with Mixed Metal Oxide catalyst, and can last for more than 50 years.

Application:

> Tank bottom
> Underground vessels
> Pipelines

Material Specification:

> Substrate: ASTM B348 Grade I / II
> Catalyst: Mixed Metal Oxide
> Cable: HMWPE, XLPE/PVC, Kynar/HMWPE, etc.
> MMO wire to cable connection: Crimp
> Connection: 5meters to 10meters each

Advantages:

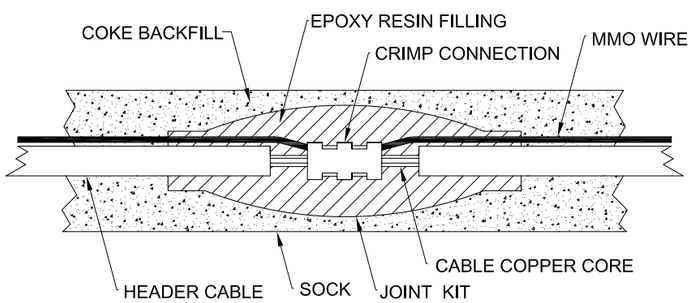
> Easy handling and installation
> Cost effective
> Up to 50 years life time
> Customized anode output and life

General Specification:

MMO wire diameter	1.0 mm	1.5 mm	3.0 mm
Titanium substrate	ASTM B348 Grade I / II		
Mixed Metal Oxide Catalyst	Ir-Ta		
Current output for 20 years life	67mA/m	89mA/m	195mA/m
Current output for 30 years life	45mA/m	65mA/m	130mA/m
Current output for 50 years life	28mA/m	41mA/m	78mA/m
Backfill	Calcium Petroleum Coke		
Sock Material	Porous non-woven fabrics		
Sock Dimension	38 mm Diameter		
Length per reel	150 Meters (Customized length at request)		

Customized roll length and output is available at request

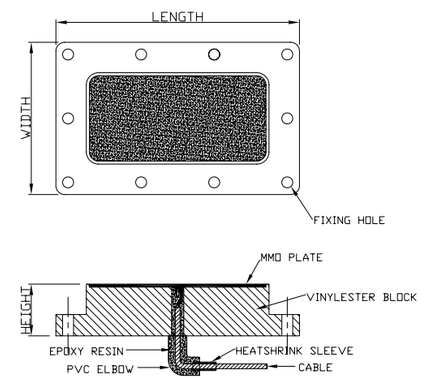
General Specification:



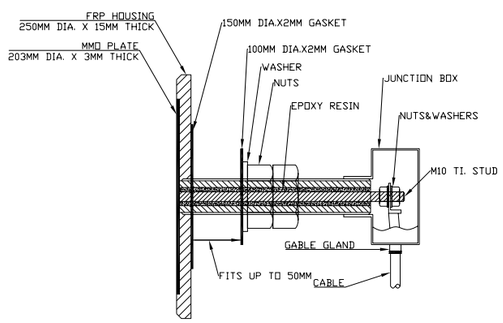
MMO Plate/Disc Anode:

Yuxi supplies several kinds of plate/disc anode, and they are mainly used on ships or vessels. The anode contains a rectangular or circular MMO plate embedded in a FRP housing, and the junction box on the other side provides the protection of the cable connection.

Rectangular Plate Anode:



Circular Disc Anode:



GRAPHITE ANODE

Graphite anode is a traditional anode used for impressed current cathodic protection. The best performance of this anodes are in dry soil environment.

The anodes are composed of high quality petroleum coke which is mixed with coal tar binders and then extruded into various diameter rods. But the anodes are inherently have a substantial amount of porosity, so linseed oil and wax treatment have been used to improve anode performance.

Yuxi offers a number of high quality graphite anode with linseed oil, wax or resin treated. The anode to cable connection can be standard end connection or center connection, the center connection provides low resistance and compensate of end effect.

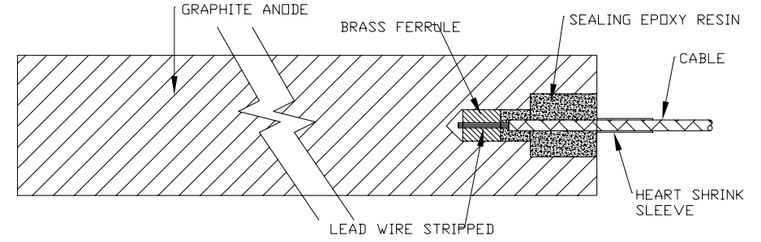
Specification:

Characteristic	Data
Carbon	≥99.8%
Ash	≤0.20%
Porosity	≤0.1%
Resistivity	≤0.0005ohm/cm
Density	≥1.8g/cm
Current Density (in Carbonaceous Backill)	0.5-1.0 Amp/square feet
Consumption rate (in Carbonaceous Backill)	0.5-2.0 lbs/Amp.Year

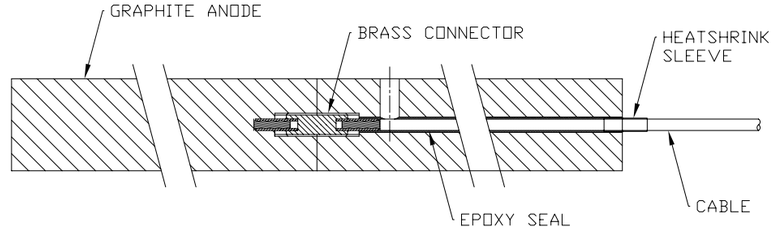
Dimension and Weight

Part No.	Dimension	Connection	Weight
YX-G01E	3"(76mm) Dia. x 30" (760mm)	End	13.5 lb (6.2 kg)
YX-G01C	3" (76mm) Dia. x 30" (760mm)	Center	13.5lb (6.2 kg)
YX-G02E	3 Inch"Dia. x 60" (1524mm	End	27 lb (12.3 kg)
YX-G02C	3 Inch" Dia. x 60" (1524mm	Center	27 lb (12.3 kg)
YX-G03E	4" (102mm) Dia. x 60" (1524mm)	End	52.5lb (23.8kg)
YX-G03C	4"102mm) Dia. x 60" (1524mm)	Center	52.5lb (23.8kg)
YX-G04E	4" (102mm) Dia. x 80" (2030mm)	End	70 lb (31,8 kg)
YX-G04C	4" (102mm) Dia. x 80"(2030mm)	Center	70 lb (31,8 kg)

End Connection:



End Connection:



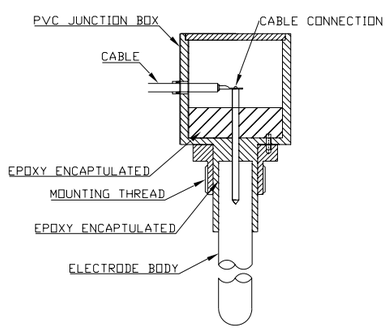
MMO AND PLATINIZED PROBE ANODE

Probe anode is designed to use in heater treaters, condenser water boxes, pressure vessels and other process tanks. The electrolyte can be fresh water, brackish and salt water.

Yuxi manufacture probe anode with catalyst either mixed metal oxide or platinum. One end of the anode is the effective rod or tube with a mounting thread on top to fit your structure, the other end of the anode is a junction box with cable lead.

Specification	
Catalyst	Mixed Metal Oxide/ Platinum
Diameter	As request, e.g. 20mm
Effective Area	As request, e.g. 500mm
Current Output	As request, e.g. 20amp
Life Time	As request, e.g. 20year
Junction Box	Stainless Steel or PVC
Cable	As request, e.g. HMWPE 16mm 5meters
Mounting Thread	As request, e.g. 1" BSP

Standard Drawing:



TRANSFORMER RECTIFIER

The most common type of power supply used for impressed current cathodic protection is a transformer/rectifier, commonly referred to simply as a rectifier. A rectifier converts the AC power supply voltage to the required output voltage and then converts it to DC. Rectifiers are either supplied in ventilated cases to allow convective air cooling or are immersed in transformer oil. Rectifiers are normally powered by an AC power system. The rectifier input is an AC voltage from the commercial electrical power grid or an engine-generator. A transformer with tap adjustments in the secondary side provides a method to reduce and adjust the output voltage level and to isolate the DC circuit from the input power system. A rectifying circuit next converts the adjusted AC voltage to produce a DC voltage output.

The basic units of a rectifier consist of:

> AC Supply
> Circuit Breaker
> Transformer
> Rectifying Elements
> Meters
> DC Output Terminals
> Fuses
> Surge Protection

Ningbo Yuxi acquire an electronic manufacture-CHANGLIAN with more than 40years of history in 2014, this factory has 20 years of experiences in manufacturing Transformer Rectifier, so far China's first Rectifier made by Changlian for Sinopec is still in operating in Ningbo. This acquisition enable Yuxi have the full capability to supply high end electronic equipment for the industry it served, most important is the Transformer Rectifier.

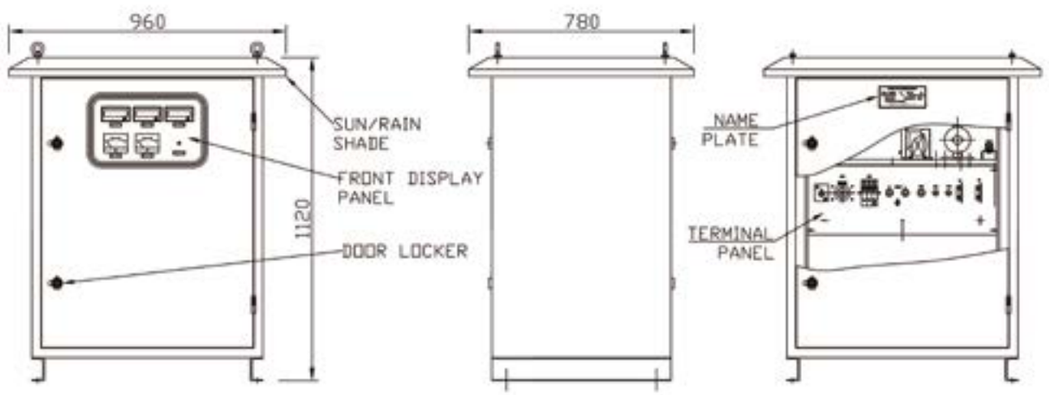
Product Line:

> YX-DJ-1 Air Cooled Type
> YX-DJ-2 Oil Cooled Type
> YX-FPS-1 Explosion Proof Type
> YX-HPS-1B HFS Type
> YX-SFS-1 Solar Type

Product Line:

YX - DJ - 1

YX-DJ-1 is normal air cooled type rectifier used in non-hazardous area, this TR has been provided with automatic switching function of operation mode, and function of anti-jamming and anti-lightning to increase reliability greatly. The TR has adopted key-press operation .Multimeters can be shown by multiple digital meters at the same time. Operation and control are simple and intuitive. The TR can be connected with computer to transmit parameters and working state remotely and control operation mode and potential given value remotely, which has realized intelligent management.



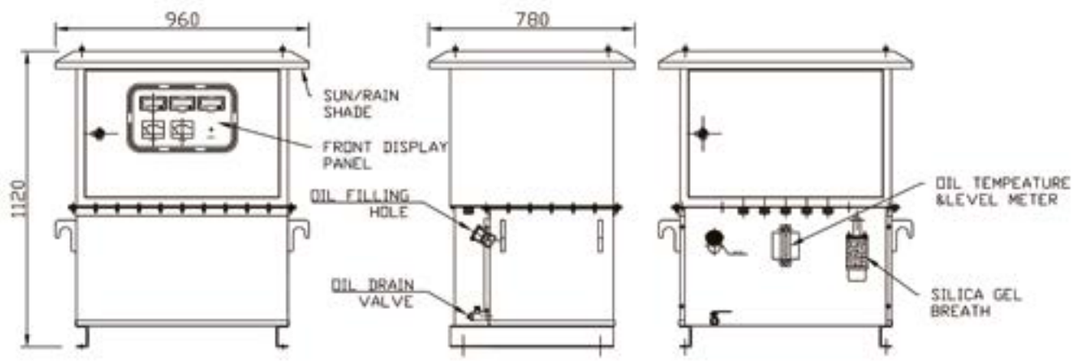
Product Specification:

AC Input	Single phase AC220V±10% or Three phase 380V ±10% | Frequency 47.5Hz~63Hz
DC Output Current	0 - 50A
Current Limiting	55 - 66A
Constant Current	0 - 50A
DC Output Voltage	0 - 50V (continuous adjustment)
Set Potential	0 - ± 3V
Precision of Constant Potential	≤ ± 5mV
Precision of Constant Current	≤± 1 %
Input Impedance	≥10MΩ
Working Style	Constinuous
Cooling	Air Cooling
Ripple	≤ 3 %
Fuses	AC Input Fuses, DC Output Fuses, Rectifier Fuses MCBs, Surge Arrester, Lightning Protector
Control	Manual / Automatic
Meters	Digital DC Ampere Meter, Digital DC Voltage Meter, Digital Potential Meter
Oil	Oil level sensing device, Oil temperature indicator
Terminals	DC Output (positive) - 2nos
	DC Output (negative) - 2nos
	AC Input (220V) - 1nos
	Reference electrode grounding - 1nos
	Reference electrode - 1nos
Resist of AC Interference	≥ 24V
Enclosure	Outdoor type, Standard Painted Sheet Steel
Protection	≥ IP55 grade
Dimension (approx.)	1120 mm x 960 mm x 780 mm
Weight (approx.)	80 kg
Ambient temperature range	- 30º to + 60º
Relative Humidity	≥ 90 %

Product Line:

YX - DJ - 2

YX-DJ-2 Oil-cooled transformer rectifier adopts thyristor primary regulator, transformer decompression and rectification technology of secondary rectifying tube. The TR is provided with smooth output regulation, small loss and high efficiency. Transformer, rectifying unit and filtering unit are equipped in oil box, and control components are equipped in control box. The degree of protection of enclosure is IP65.



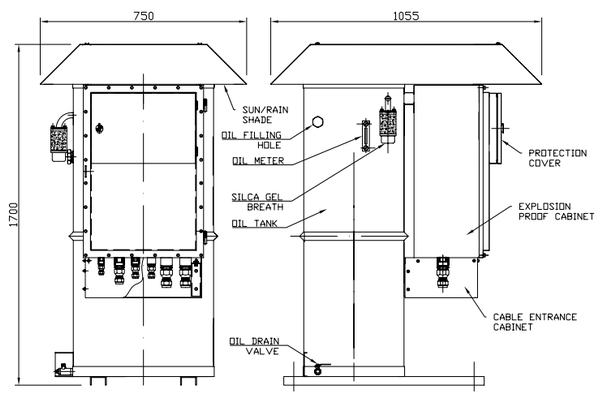
Product Specification:

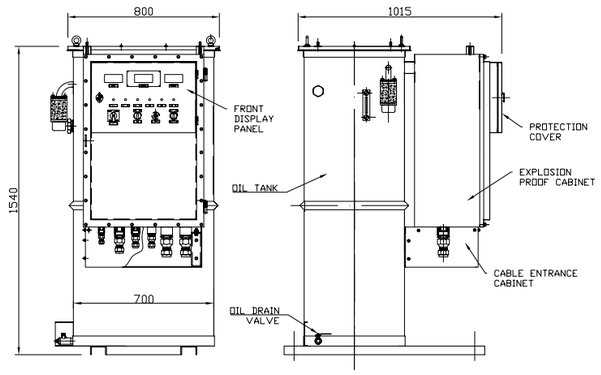
AC Input	Three phase 380V ±10% | Frequency 50 ± 10 %
DC Output Current	0 - 400A
Current Limiting	102 - 110 % Rated Current Output
Constant Current	0 - 400A
DC Output Voltage	0 - 20V (continuous adjustment)
Set Potential	0 - ± 3V
Precision of Constant Potential	≤ ± 5mV
Precision of Constant Current	≤± 1 %
Input Impedance	≥10MΩ
Dielectric Strenght	1500V, 50Hz, 1 minute without breakdown
Working Style	Constinuous
Cooling	Oil Cooling
Ripple	≤ 5 %
Fuses	AC Input Fuses, DC Output Fuses, Rectifier Fuses MCBs, Surge Arrester, Lightning Protector
Control	Manual / Automatic
Meters	Digital DC Ampere Meter, Digital DC Voltage Meter, Digital Potential Meter
Oil	Oil level sensing device, Oil temperature indicator
Terminals	DC Output (positive) - 2nos
	DC Output (negative) - 2nos
	AC Input (380 V) - 1nos
	Reference electrode grounding - 1nos
	Reference electrode - 1nos
Resist of AC Interference	≥ 24V
Enclosure	Outdoor type, Standard Painted Sheet Steel
Protection	≥ IP65 grade
Dimension (approx.)	1120 mm x 960 mm x 780 mm
Weight (approx.)	90 kg
Ambient temperature range	- 30° to + 60°
Relative Humidity	≥ 90 %

Product Line:

YX - FPS - 1

YX-FPS-1 is oil cooling, explosion proof type rectifier built for Zone 1 & 2 areas according to the 94/9/EC (ATEX) directive. It is used in the place in which there are requirements for explosion-proof to protect metal structures and equipments, such as pipelines, cables, tanks and piers and so on by impressing current.





Product Specification:

AC Input	Three phase 380V ±10% | Frequency 50 ± 10 %
DC Output Current	0 - 400A
Current Limiting	102 - 110 % Rated Current Output
Constant Current	0 - 400A
DC Output Voltage	0 - 20V (continuous adjustment)
Set Potential	0 - ± 3V
Precision of Constant Potential	≤ ± 5mV
Precision of Constant Current	≤± 1 %
Input Impedance	≥10MΩ
Dielectric Strength	1500V, 50Hz, 1 minute without breakdown
Working Style	Constinuous
Cooling	Oil Cooling
Ripple	≤ 5 %
Fuses	AC Input Fuses, DC Output Fuses, Rectifier Fuses MCBs, Surge Arrester, Lightning Protector
Control	Manual / Automatic
Meters	Digital DC Ampere Meter, Digital DC Voltage Meter, Digital Potential Meter
Oil	Oil level sensing device, Oil temperature indicator
Terminals	DC Output (positive) - 2nos
	DC Output (negative) - 2nos
	AC Input (380 V) - 1nos
	Reference electrode grounding - 1nos
	Reference electrode - 1nos
Resist of AC Interference	≥ 24V
Enclosure	Outdoor type, Explosion Proof
Protection	Exod II BT3, IP65
Dimension (approx.)	1055 mm x 750 mm x 1645 mm
Weight (approx.)	90 kg
Ambient temperature range	- 30° to + 60°
Relative Humidity	≥ 90 %

JUNCTION BOX FOR CATHODIC PROTECTION

Yuxi manufacture a serious type of junction box required for a cathodic protection system. Our junction box is designed to use reliably for onshore and marine environments in safe and hazardous areas, it is typically meet NEMA 4X or IP66 protection grade, and we can also manufacture explosion-proof junction box upon on request, the enclosure including sheet steel, stainless steel, cast aluminium and other non-metallic materials. The configuration of internal circuit can include connections, meters, shunts, resistors, remote monitoring, and other electronic parts. All junction boxes can be available with or without support frame, conduits, pipes. We can also offer custom junction box that is made according to design specifications.

Type:

> Standard Junction Box
> Shunt Junction Box
> Shunt & Resistor Junction Box
> Bond Junction Box
> Explosion-Proof Junction Box
> Customized Junction Box

Enclosures:

> Galvanized Steel
> Painted Steel
> Stainless Steel
> Cast Aluminium
> Non-Metallic

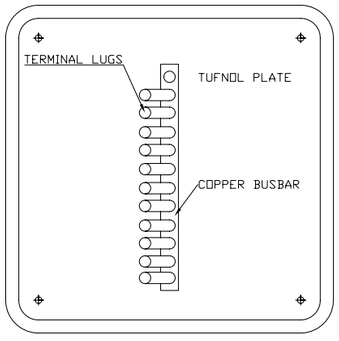
General Technical Data:

Enclosure	Galvanized Steel, Painted Steel, Stainless Steel, Cast Aluminium, Fiberglass, Non-Metallic
Dimensions	300 x 200 x 150 mm, 400 x 300 x 150 mm
	500 x 400 x 150 mm, 600 x 400 x 150 mm
	700 x 600 x 150 mm, 800 x 600 x 150 mm
	Customized size available upon on request
Finish	Polished
Cooling	Natural Air
Grade of Protection	IP66, NEMA 4X / Explosion Proof
Classification	Non Hazardous / Hazardous
Mounting Type	Wall / Stand - off Mounted with SS full bolts, nuts & washers
Internal Components	Lugs, Shunts, Resistors, Select Switch, Ammeter
Door	Hinged on left side
Security	Lockable door
Internal Terminal	Anode lead M10 ST grade 316L / Brass terminals c/w lock nuts, washers
	Power feed lead M5 ST grade 316L / Brass terminals c/w lock nuts, washers
Identification	Tag plates and name plate supplied with SS316L with screw stes
Ambient Temperature	Up to 55 degrees centigrade
Climate	Onshore or Marine corrosive environment
Humidity	95 % at 43 degree centigrade
Cable Entry	1 / 2 nos. of conduits with hubs or cable glands
Documentation	Drawing, Certificate of Conformity and Factory Acceptance Report

Type of box:

Standard Junction Box

This type of box has the compression lugs only, it is designed to house wire connections which do not require shunts or resistors. It is designed to provide a termination point for multiple anodes cables before outing to a cathodic protection transformer rectifier.

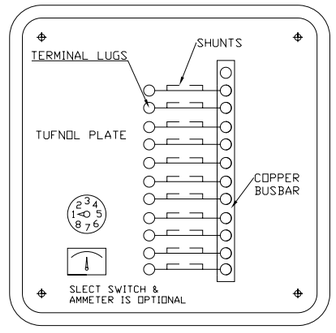


Enclosure	As requested
Protection Grade	Non Hazardous or Explosion-Proof
Number of Circuits	As quested
Anode Lead Lug Size	As quested
Power Feed Lug Size	As quested
Type of Entry	Conduit or Cable gland

Type of box:

Shunt Junction Box

This type of box has terminals for each individual anodes and Shunts for anode current reading, this type of design allows current to be measured on each anode to monitor performance and to identify potential problems. All shunts within this design is pre-calibrated in order to make sure your reading is accurate. Select switch and Ammeter is also available for your easy operation.



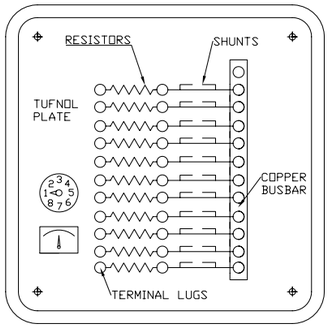
Enclosure	As requested
Protection Grade	Non Hazardous or Explosion-Proof
Number of Circuits	As quested
Anode Lead Lug Size	As quested
Power Feed Lug Size	As quested
Shunt	Amps required
Type of Entry	Required / Not required
Type of Entry	Conduit or Cable gland

Select switch and Ammeter is also available for you easy operation.

Type of box:

■ Shunt & Resistor Junction Box

Resistance values of anodes on any given impressed current cathodic protection system are often different due to varying lead wire length and electrolyte conditions. This type of junction box assembled with shunts and resistors in order to compensate these different resistance levels and also ensure uniform current output. The shunts is pre-calibrated and resistor is adjustable type, an option of select switch and ammeter is also available for your easy operation.

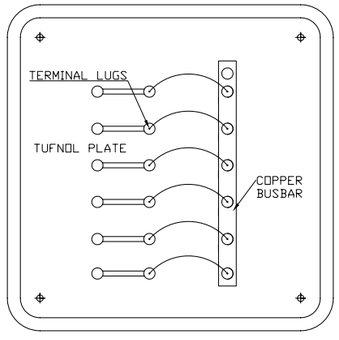


Enclosure	As requested
Protection Grade	Non Hazardous or Explosion-Proof
Number of Circuits	As quested
Anode Lead Lug Size	As quested
Power Feed Lug Size	As quested
Shunt	Amps Required
Resistor	Amps and Watts required
Select Switch and Ammeter	Required / Not Required
Type of Entry	Conduit or Cable gland

Type of box:

■ Bond Junction Box

This type of box is designed to provide a location for the purpose of cathodically interconnecting multiple structures, such as pipelines on both sides of an insulating flange.

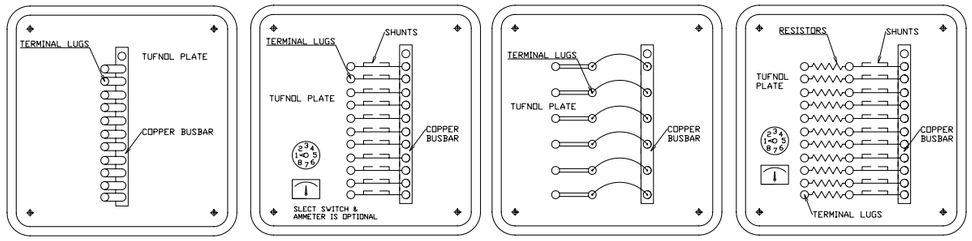


Enclosure	As requested
Protection Grade	Non Hazardous or Explosion-Proof
Number of Circuits	As quested
Anode Lead Lug Size	As quested
Power Feed Lug Size	As quested
Type of Entry	Conduit or Cable gland

Type of box:

Explosion-Proof Junction Box

In some particular circumstances, the junction box is operating in hazardous areas and so explosion proof junction box is needed, this type of box is available all types and Circuit configuration as per above description.



Enclosure	Cast Aluminium
Protection Grade	Explosion-Proof
Number of Circuits	As quested
Anode Lead Lug Size	As quested
Power Feed Lug Size	As quested
Shunt	Amps Required
Resistor	Amps and Watts required
Select Switch and Ammeter	Required / Not Required
Type of Entry	Conduit or Cable gland

Customized Junction Box

Yuxi custom junction boxes are available with all the common electrical cabinet materials including steel, stainless steel, and non-metallic materials. The cabinets can be selected to meet non-hazardous or hazardous areas, and the internal components can be assembled as per design specification.

CATHODIC PROTECTION TEST STATION

Measurement of potential between buried structure and a reference electrode is the most frequent test performed in operation of a cathodic protection system. Test station is a simple method to monitoring this potential in order to ensure that adequate current is supplied to buried metallic structures.

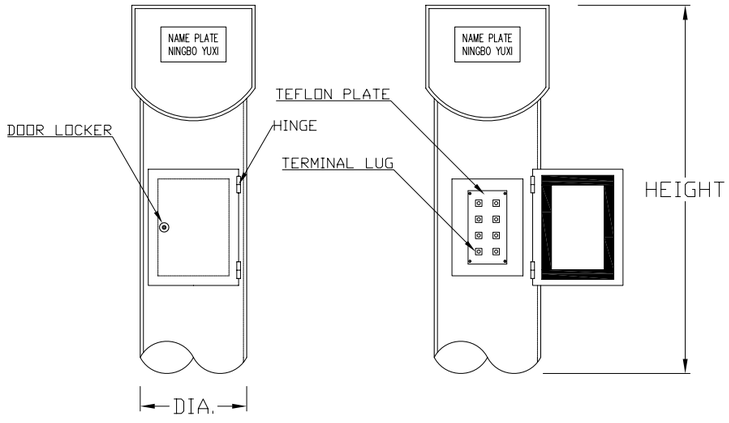
Yuxi produce a range of test stations with numerous colors, shapes and test lead configurations, and they can be made from high impact strength molded plastic, cast iron and concrete as well. Most of the time, the test stations are installed in wild field, so its reliability and maintenance is very critical to a complete cathodic protection system. Our test termination is composed of corrosion resistant nickel plated brass lugs to guarantee long term accurate reading, and all parts is easy to be removed with standard replacement.

General Specification:

Material	Cast Iron, Sheet Steel, Concrete and Molded Plastic
Number of Terminals	5 -10 nos.
Conduit	1500 - 2000 mm
Color	Black, Orange, Blue and Gray
Locking Device	Available on Cast Iron and Concrete type
Identification	Tag plates and name plate supplied with SS316L with screw sets
Ambient Temperature	Up to 55 degree centigrade
Climate	Onshore corrosive environment
Humidity	95 % at 43 deegre centigrade
Documentation	Drawing, Certificate of Confirmity and Factory Acceptance Report

Type:

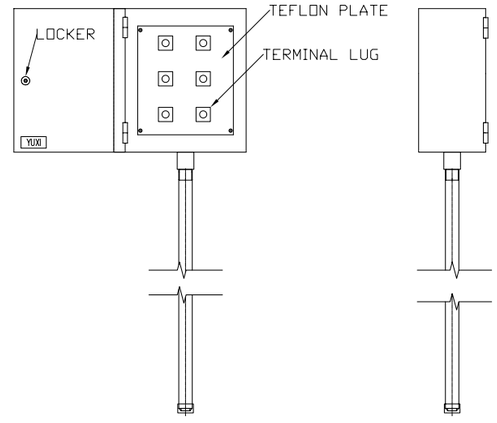
- **Cast Iron Test Station**



Diameter	76.2 mm / 3", 102 mm / 4"
Height	1500 - 3000 mm
Terminal	Up to 10 nos.
Color	Orange/Gray/White/Red/Blue
Door Locker	Available

Type:

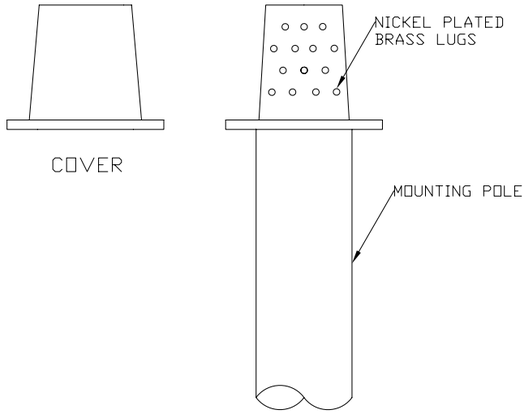
- **Sheet Steel Test Station**



Terminal Box	400 x 250 x 150 mm"
Height	50 mm diam. x 1500 mm
Terminal	Up to 10 nos.
Color	Orange/Gray/White/Red/Blue
Door Locker	Available

Type:

- **Molded Plastic Test Station**



Diameter	50 mm / 2"
Height	1500 - 3000 mm
Terminal	Up to 10 nos.
Color	Orange/Gray/White/Red/Blue
Door Locker	N / A

REFERENCE ELECTRODE

Routine potential monitoring is an important part of cathodic protection maintenance program, an accurate, reliable, and consistent reference electrode is crucial for the potential monitoring.

Yuxi offers high level reference electrode which comply to the highest industry standards, our reference electrodes including Copper/Copper Sulfate, Silver/Silver Chloride, High Purity Zinc, both of them is available in buried and portable type.

Type:

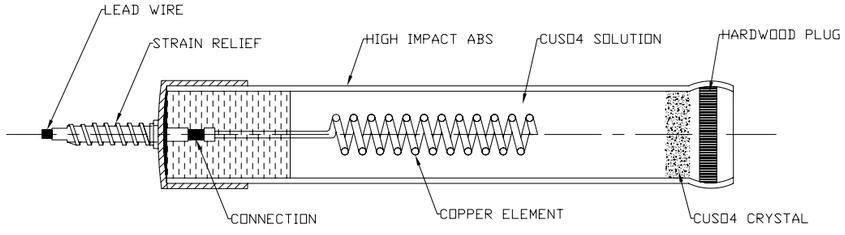
- **YXRE01 - Portable CSE**

Copper sulfate reference electrodes (CSE) are the most commonly used reference electrode for measuring potentials of underground structures and also for those exposed to fresh water. It is not suitable for use in a chloride electrolyte as the chloride ions will migrate through the porous plug and contaminate the CSE. The electrode is composed of a copper rod, immersed in a saturated solution of copper sulfate, held in a non-conducting cylinder with a porous plug at the bottom. The copper ions in the saturated solution prevent corrosion of the copper rod and stabilize the reference electrode.

YXRE01 is a portable type Copper/Copper Sulfate reference electrode used for buried structure and structure in fresh water.

Specification:

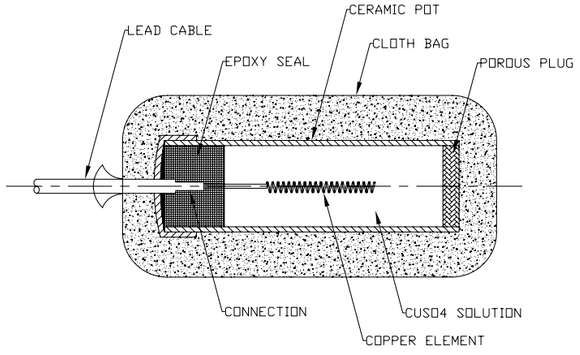
Size	25 mm diam. x 150 mm long
Lead wire	10 m 6mm RHH-RHW black wire
Material	Ceramic Pot and Cotton bag
Stability	±5 millivolts with 0.3 microamps load



Type:

YXRE02 - Buried CSE

Permanent buried CSE provide accurate and reliable potential measurements on buried metallic structures.

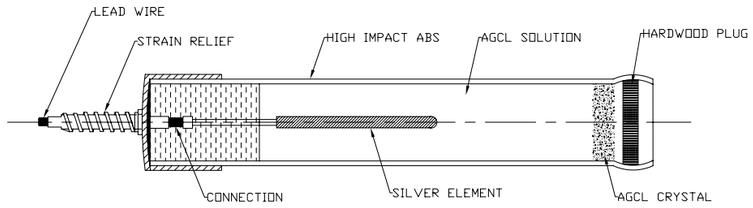


Size	200 mm diam. x 300 mm long
Lead Wire	10 m 6mm RHH - RHW black wire
Material	High Impact ABS
Stability	±5 millivolts with 0.3 microamps load
Working Temperature	0°C to 55°C

Type:

YXRE03 - Silver Chloride SSC

Silver-silver chloride (Ag-AgCl) reference electrodes are used for measurements in seawater. The Ag-AgCl electrode is also used in concrete structures. There are two types; in one the silver electrode is exposed to seawater and in the other the electrode is immersed in a potassium chloride (KCl) solution contained in a cylinder with a porous plug. YXRE03 provide reliable, consistent and accurate potential monitoring with long life performance.

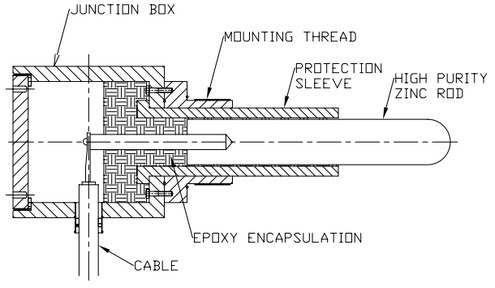


Size	25 mm diam. x 150 mm long
Lead Wire	10 m 6mm RHH - RHW black wire
Material	Hight Impact ABS
Stability	±5 millivolts with 0.3 microamps load
Working Temperature	0°C to 55°C

Type:

- **YXRE04 - Zinc Reference Electrode**

Zinc is sometimes used as a reference electrode since the potential of zinc is relatively stable. Zinc is actually a pseudo-reference electrode since the potential of zinc can change as the environment changes. Zinc is not stable in carbonates or at high temperatures. For underground use, the zinc electrode is packaged in a cloth bag containing the same backfill as used around zinc anodes. In water, zinc electrodes are used bare.YXRE04 is zinc electrode made from 99.995 high purity zinc.



Type	Buried Type	Bare Type
Size	Zinc rod 30 mm diam. x 200 mm long Overall 150 mm diam. x 300 mm long	Zinc rod 30 mm diam. x 100 mm long Overall 100 mm diam. x 250 mm long
Lead Wire	10 m 6mm2 RHH - RHW black wire	10 m 6mm2 RHH - RHW black wire
Material	Cotton Bag	High Impact ABS
Stability	±10 millivolts with 0.3 microamps load	±10 millivolts with 0.3 microamps load
Working Temperature	0°C to 55°C	0°C to 55°C

Type:

- **YXRE05 - Polarization Test Probe / IR Free Electrode**

Polarization Test probe is also known as IR Free reference electrode, it is a cathodic protection potential measurement probe for buried steel pipeline with long term performance, high stability and most important it eliminate the IR drop. It is applicable to detect and monitor the cathodic protection potential of the underground or submerged buried steel pipeline. Through special structure of the probe, it can eliminate 90% IR drop in soil instrument. If coordinated with intelligent potential measuring instrument, it can almost eliminate all IR drop of the soil medium and the result of detection will be more accurate. This product conforms to NACE TM0494.

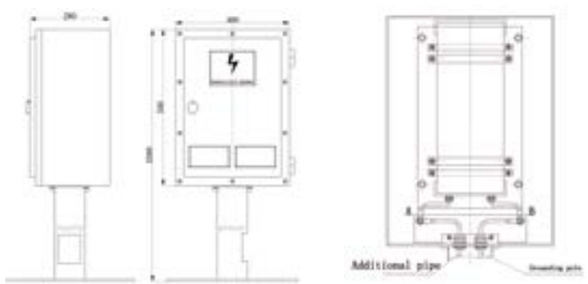
Stable Potential	70 ± 5 mV (CSE)
Dimension	75 mm diam. x 280 long
Internal Resistence	< 1 m Ω
Life	> 20 years
IR Drop Elimination	> 90 %

DECOUPLER

Decoupler is a AC interference protection product, which sets Embedded-type line flowing and surge protection in one. It is mainly used in long-distance buried pipeline engineering. As following situations: high-tension transmission line tower and communication tower and their ground system which is near the pipeline; public passage between high-tension transmission line and pipeline; cross of pipeline and transmission line or electrified railway-parallel pipe; the installation of the decoupler can reduce the influence of DC, AC and stray current or thunder flow on the buried pipelines.

Specification:

Operating Environment	- 45ºC to + 65ºC
Relative Humidity	20 % - 90 % RH
The insulation resistance between the terminals and the box	not less than 20M Ω
The maximum lightning shock (8/20 us) current	not less than 100KA
The maximum fault current	not less than 3500A
DC current leak	not more than 1mA
The AC (50Hz) steady-state current	not less than 45A
DC steady-state current	not less than 5A
IP protection grade	IP65



CATHODIC PROTECTION BACKFILL

Sacrificial Anode System

Zinc and magnesium anodes used in cathodic protection applications in soil are sometimes supplied prepackaged with a prepared backfill material in a cloth or cardboard container. The special backfill prevents direct soil contact to reduce localized corrosion of the anode, prevents passivation of the anode caused by reactions with soil salts, provides a low-resistivity environment around the anode, and expands when wet to fill the hole and eliminate air voids.

Specification:

Chemical composition

Anode	Hydrated Gypsum	Bentonite Clay	Sodium Sulfate
Magnesium	75 %	20 %	5 %
Zinc	50 %	50 %	- -

Impressed Current System

Carbon is used as a backfill material around impressed current anodes for underground CP applications. The purpose of the backfill material is to:
> Reduce the resistivity of the environment surrounding the anode to increase the amount of current the anode can discharge.
> Extend the anode surface area, thus increasing the amount of current the anode can discharge.
> Reduce consumption of the anode since the carbon becomes the part of the anode consumed before the anode itself.
Yuxi offers carbon backfill both at calcined petroleum or metallurgical coke, each being the product of its respective industry.

The typical composition of carbon backfill is:

	Carbon	Ash	Moisture	Sulfur	Volatile Matter	Density
Calcined	99.35 %	0.6 %	0.05 %	0.9 %	Nil at 950º C	74 lbs/feet3
Metallurgical	90.0 %	8.0 %	6.0 %	0.8 %	0.5	45 lbs/feet3

CATHODIC PROTECTION CABLE

Sacrificial Anode System

Yuxi offers sacrificial anode cable including PVC/PVC, XLPE/PVC, all cable supplied with copper conductor and meets industry standards.

Nominal Conductors Area	Nominal Jacket Thickness	Nominal Insulation Thickness	Nominal Cable Weight	Nominal Overall Diameter	Max Conductor DC Resistance	Number of Wires & Diameter before stranding
6 mm2	1.4 mm	0.7 mm	95 kg/km	7.0 mm	3.08	1 x 2.76 mm
10 mm2	1.4 mm	0.7 mm	144 kg/km	8.0 mm	1.83	7 x 1.37 mm
16 mm2	1.4 mm	0.7 mm	201 kg/km	9.0 mm	1.15	7 x 1.7 mm
25 mm2	1.4 mm	0.9 mm	304 kg/km	10.6 mm	0.727	7 x 2.2 mm
35 mm2	1.4 mm	0.9 mm	400 kg/km	11.6 mm	0.524	7 x 2.56 mm
50 mm2	1.4 mm	1.0 mm	525 kg/km	13.1 mm	0.387	7 x 3.0 mm
70 mm2	1.5 mm	1.1 mm	741 kg/km	15.0 mm	0.268	14 x 2.56 mm
95 mm2	1.5 mm	1.1 mm	980 kg/km	16.8 mm	0.193	19 x 2.56 mm

Impressed Current System

In impressed current CP systems, all wiring and connections must be made to totally isolate the metal from the electrolyte. Unlike a galvanic anode system where exposed wire and connections are protected by the anode, any exposed metal in an impressed current CP system is part of the anode. Thus, exposed metal will corrode rapidly. Only cable having approved cathodic protection dielectric insulation can be used. Types of insulation found on CP cables include:

> High-Molecular-Weight Polyethylene (HMWPE)
> Kynar/HMWPE

HMWPE Cable

Conductor: Standard copper conductor conform to IEC 60228.
Insulation: High Molecular Weight Polyethylene conform to ASTM D1248, Type 3, Class C, Category 5.
High voltage test(3500V, 5minutes): Without Puncture.

Nominal Conductors Area	Max Conductor DC resistance at 20deg	Number of Wires & Diameter before stranding	Nominal Insulation Thickness	Nominal Cable Weight	Nominal Overall Diameter
6 mm2	3.08 Ohm/km	7 x 1.04 / mm	2.30 mm	92 kg/km	7.80 mm
10 mm2	1.83 Ohm/km	7 x 1.35 / mm	2.70 mm	148 kg/km	9.60 mm
16 mm2	1.15 Ohm/km	7 x 1.70 / mm	2.70 mm	209 kg/km	10.70 mm
25 mm2	0.727 Ohm/km	7 x 2.14 / mm	2.70 mm	308 kg/km	11.90 mm
35 mm2	0.524 Ohm/km	19 x 1.53 / mm	2.70 mm	406 kg/km	13.20 mm
50 mm2	0.387 Ohm/km	19 x 1.78 / mm	3.17 mm	551 kg/km	15.50 mm
70 mm2	0.268 Ohm/km	19 x 2.14 / mm	3.17 mm	761 kg/km	17.20 mm
95 mm2	0.193 Ohm/km	19 x 2.52 / mm	3.17 mm	1023 kg/km	19.10 mm
120 mm2	0.153 Ohm/km	37 x 2.03 / mm	3.17 mm	1265 kg/km	21.00 mm

KYnar/HMWPE Cable

Kynar/HMWPE cable is a special designed cathodic protection cable, it provides high performance to withstand corrosive gases in brackish and salt water conditions. YUXI's Kynar/HMWPE cable have the following specifications:

Conductor: Standard copper conductor conform to IEC 60228.
Insulation: Irradiated Polyvinylidene Fluoride(PVDF).
Sheathing Jacket: High Molecular Weight Polyethylene conform to ASTM D1248, Type 3, Class C, Category 5.
High voltage test(3500V, 5minutes): Without Puncture.

Nominal Conductors Area	Nominal Jacket Thickness	Nominal Insulation Thickness	Nominal Cable Weight	Nominal Overall Diameter	Max Conductor DC Resistance at 20deg	Number of Wires & Diameter before stranding
6 mm2	1.65 mm	0.51 mm	92.5 kg/km	7.44 mm	3.08 Ohm/km	7 x 1.04 mm
10 mm2	1.65 mm	0.51 mm	142 kg/km	8.34 mm	1.83 Ohm/km	7 x 1.34 mm
16 mm2	1.65 mm	0.51 mm	205 kg/km	9.42 mm	1.15 Ohm/km	7 x 1.70 mm
25 mm2	1.65 mm	0.51 mm	318 kg/km	11.7 mm	0.727 Ohm/km	19 x 1.35 mm
35 mm2	1.65 mm	0.51 mm	413 kg/km	12.17 mm	0.524 Ohm/km	19 x 1.57 mm
50 mm2	1.65 mm	0.51 mm	545 kg/km	13.47 mm	0.387 Ohm/km	19 x 1.83 mm

Besides above type of cable, Yuxi also offers customized type upon on request.

THERMAL WELDING SYSTEM

Thermal Welding System is an efficient and cost effective method of making large or small numbers of high quality electrical connections. It is a simple, self-contained system that adopt high temperature chemical reaction with powdered copper oxide and aluminums in a mould to form permanent electrical connections.

Typical applications:

> Earthing for power plants and sub-stations
> Telecommunications
> Transmission and power distributions lines
> Cathodic protection
> Rail connections

Advantages:

> No external power or heat required
> High quality electrical connections
> Completely portable
> Easy for operation
> Cost effective
> Highly conductive

Welding metal and powder:

Part no.	Size	Package per box
RT - WLD 15#	15 grams	20 Pcs
RT - WLD 25#	25 grams	20 Pcs
RT - WLD 32#	32 grams	20 Pcs
RT - WLD 45#	45 grams	20 Pcs
RT - WLD 65#	65 grams	20 Pcs
RT - WLD 90#	90 grams	20 Pcs
RT - WLD 115#	115 grams	20 Pcs
RT - WLD 150#	150 grams	20 Pcs
RT - WLD 200#	200 grams	20 Pcs
RT - WLD 250#	250 grams	20 Pcs

CABLE JOINT

The cable joint is designed in an overall prefabricated type, liquid silicone rubber material for better insulation, tracking resistance, high temperature, acid and alkali resistance. Applicable for various kinds of cables, making the installation process simpler, quicker & safer for installations.

The power cable jointing kits can be Straight Through for XLPE to XLPE or PILC to PILC Cable and can be Transition Cable Joint type for connection of XLPE to PILC Cable. The voltage grade is from 1.1 kV onwards. The cable jointing system works properly in underground cable even with water stagnation in the ground.

Dimension:

Single core type	Three core Type	Insulation OD (mm)	Conductor Section(mm2)	
			6/10KV	8.7/15KV
YX-CP-CK1	YX-CP-CI	17.5-24.0	70-120	50-120
YX-CP-CK2	YX-CP-CII	22.1-33.2	150-240	150-240
YX-CP-CK3	YX-CP-CIII	27.9-42.0	300-400	300-400

Product Type	Voltage Rating(max)	Connector Size Range	Max Cable O.D.(mm)	Max Conn O.D.(mm) Sleeve type
YX-CP-CK4	5kv	10-2AWG(6-30mm)	19	10
YX-CP-CK5	5kv	Up to 2AWG(30mm)	16	10
YX-CP-CK6	5kv	2 3/0AWG(35-80mm)	25	16
YX-CP-CK7	5kv	3/0AWG-400 kcmil (90-200mm)	40	25

HEAT SHRINK CAP

Heat shrink end caps are perfect for situations that call for extra protection against abrasion, moisture, chemicals and corrosion. They're most commonly used to insulate and seal off wire and splice terminations in automotive, electrical and networking applications. End caps are typically used in conjunction with heat shrink tubing. They take over where the tubing leaves off.

Features:
Applicable for pressure up to 1 bar,
Resistance against chemical and UV,
Easy to install,
Minimum Shrink Temperature: 110ºC.

Product Dimension:

Order Ref. Number	D(mm)		l(mm)		Recovered Length±10%		Recovered wall ±10%	
	a(Min)	b(Max)	a(Min)	b(Max)	L(mm)	F(mm)	Dw (mm)	lw(mm)
YX-HSC-01(85/42-15/5)	85	42	15	5	130	45	2.5	2.8
YX-HSC-02(60/30-45/10)	60	30	45	10	130	45	2.5	4.5
YX-HSC-03(100/52-20/8)	100	52	20	8	150	65	3.0	3.0
YX-HSC-04(100/50-20/8)	100	50	20	8	210	70	3.0	3.0
YX-HSC-05(150/92-14/5)	150'	92	14	5	150	55	3.5	3.5
YX-HSC-05(160/92-60/20)	160	92	60	20	150	50	3.2	3.0
YX-HSC-06(160/92-100/45)	160	92	100	45	150	50	3.5	3.5

OTHER MATERIALS

As a integrated cathodic protection materials supplier, Yuxi not only supply the above mentioned Anodes, Equipments and Accessories, but can also supply most of the other materials related to a cathodic protection project. The other materials including but not limited as below:

1. Surge Arrester For Cathodic Protection
2. Solar Power For Cathodic Protection
3. Thermoelectric Generators For Cathodic Protection
4. Soil Resistance Tester
5. Insulating Flange Kit
6. Insulation Joint
7. Insulating Support Frame
8. Warning Tape
9. Viscoelastic Anti-Corrosion Tape
10. Polypropylene Fiber Anti-Corrosion Tape
11. Corrosion Spool
12. Patching Piece
13. Terminal Lug
14. Hot Glue

For detail product specification please contact our sales representative, we will keep our commitment to provide you superior quality products and services.