

### RetroBuoy Jr.

#### General

RetroBuoy Jr. is a modular impressed current anode array rated at 150 Amperes for 20 years in its standard configuration. Anodes (3) are held within a buoyant module stabilised on the sea floor by a SeaMat gravity base.

#### Buoyancy module (Item 2)

Material	PE injection-molded shell/ vacuum-filled syntactic foam
Buoyancy	36 lb/ft <sup>3</sup> [ 576 kg/m <sup>3</sup> ]
Depth rating	1000 ft [ 304 m ]
Dimensions	Ø 12.75" x 60" long [ Ø 324 x 1525 mm long ]

#### Tether system (Item 3)

Primary tether	1" Plasma 12 strand synthetic rope
Tensile strength	110,000 lb [ 500 kN ]
Water absorption	0% Hygroscopic
Quantity	1 per buoyancy module
Tether fitting	Ø 4" [ 100 mm ] Delrin

#### Standard Feeder Cable (Item 4)

Type	HDPE/DGSWA/Polyethylene 3-core cable
Each core	2 AWG [ 33 mm <sup>2</sup> ] XLPE/XLPE
Filler	HDPE
Cable securing (Item 5)	Provided by strain relief cable grip

#### MMO Anode / cable connection

Method	Tin alloy expanding compression fitting (internal)
Sealing	Flexible resins (2 stage)
Testing	Helium leak test at 20 PSI [ 138 kPa ]
Cable OD per core	0.423" [ 10.7 mm ]

#### Overall weights & dimensions\*

Dimensions (W x D x H)	103" x 103" x 125" [ 2630 x 2630 x 3180 mm ]
Weight (Air)	3530 lb [ 1600 kg ]
Weight (Water)	1700 lb [ 770 kg ]

\*Excluding feeder cable

#### MMO Anode elements (Item 1)

Base material	Titanium tube – Grade ASTM B338 Grade 1 or 2
Outside diameter	1.25" [ 31.75 mm ]
Wall thickness	0.035" [ 0.9 mm ]
Length	48" [ 1220 mm ]
Coating	Mixed metal oxide activation coating comprising Iridium Dioxide / Tantalum Pentoxide, proprietary application method.
Current density	265 mA/in <sup>2</sup> [ 40 mA/cm <sup>2</sup> ] – Deepwater derating

#### Gravity base (Item 6)

Type	Gravity base and stabilization provided by RetroMat (see RetroMat Technical Datasheet). Blocks held together by 5/8" [ 16 mm ] polypropylene rope
Mat Size	Subject to location, typically 13 blocks (shown below) Block size - 20" x 20" x 12" [ 500 x 500 x 300 mm ] Block volume - 1.5 ft <sup>3</sup> [ 0.042 m <sup>3</sup> ]
Steel grade	ASTM A36 [ EN 10025 S355 ]

#### Welding

All welding conducted in accordance with Steel Structural Welding Code – AWS D1./D1.1M:2006 [ EEMUA 158 ]

Cathodic protection (Item 7)	Anode type	Aluminium (sacrificial)
	Dimensions	Ø 7" x 4.5" [ Ø 180 x 114 mm ]
	Core	Ø 1/2" x 4-5/8" [ Ø 12.7 x 118 mm ] Steel insert
	Net weight	17 lb [ 7.7 kg ]
	Quantity	4

#### Continuity

Electrical continuity throughout RetroMat provided by 3/4" [ 19 mm ] wire rope

#### Lifting (Item 8)

4 Padeyes

