4.3 Underwater Monitoring Equipment

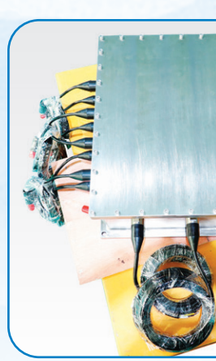
Underwater monitoring equipment is an integrated system designed to acquire marine environmental parameters in a long–term and continuous manner, serving as the "sentinel" for marine scientific research and engineering safety.

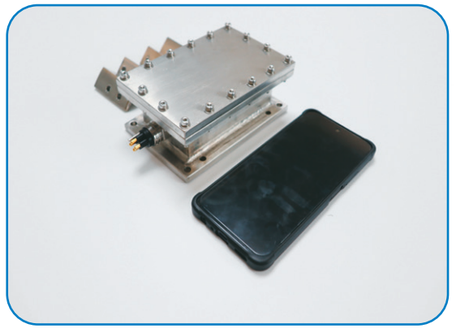
Engineered for long–term stability and low power consumption, the equipment connects to the seabed observation network via watertight connectors and cables, enabling real–time data transmission and remote control. It is widely applied in fields such as marine environmental monitoring, submarine geological disaster early warning, and marine ranch management.

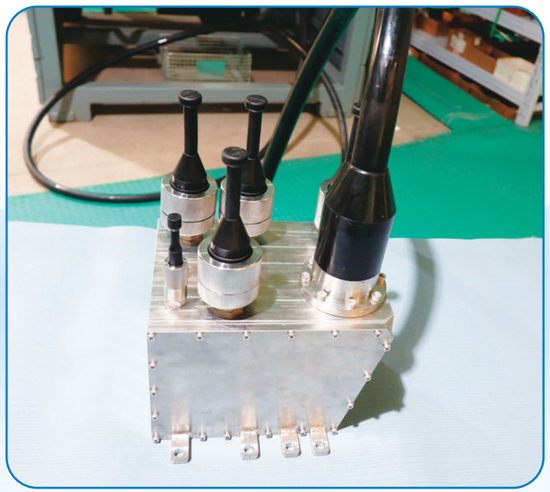
	Product Name: Main Unit Type Waterproof Enclosure Overall Dimensions: Length 450mm × Width 350mm × Height 210mm Display: 14–inch widescreen display, resolution 1920*1080 Mouse & Keyboard: Integrated keyboard and mouse Panel Configuration: 1 × 220V power indicator light 2 × 12–core wiring probes (for camera and LED lamp; cable length customizable) 2 × audio input interfaces、1 × 220V power input interface 1 × power switch、2 × LED dimming switches 1 × network cable input interface 1 × USB 3.0 data download interface Panel Configuration： 1.Lamp (+) 2.Lamp (–) 3.Camera (+) 4.Camera (–) 5.White–Orange 6.Orange 7.White–Green 8.Blue (Audio) 9.White–Blue (Audio) 10.Green 11.White–Brown 12.Brown
	Product Name: Waterproof Enclosure Overall Dimensions: Length 450mm × Width 350mm × Height 210mm Display: 14–inch widescreen monitor, resolution 1920×1080 Mouse: Touch Mouse Panel Configuration: 1 × 220V operating voltage indicator light 2 × 12–core wiring probes (for camera and LED light; cable length customizable) 2 × audio input ports、1 × 220V power input port 1 × power switch、2 × LED dimming switches 1 × network cable input port 1 × USB 3.0 data download port Aviation Connector Pinout： 1.Light (+) 2.Light (–) 3.Camera (+) 4.Camera (–) 5.White–Orange 6.Orange 7.White–Green 8.Blue (Audio) 9.White–Blue (Audio) 10.Green 11.White–Brown 12.Brown
	Product Name: Coaxial Waterproof Enclosure Overall Dimensions: Length 450mm × Width 350mm × Height 210mm Display: 14–inch widescreen monitor, resolution 1920×1080 Mouse: Touch Mouse Panel Configuration: 1 × 220V operating voltage indicator light 2 × 7–core wiring probes (for camera and LED light; cable length customizable) 2 × audio input ports 1 × 220V power input port、1 × power switch 2 × LED dimming switches、1 × network cable input port 1 × USB 3.0 data download port Aviation Connector Pinout： 1.Light (+) 2.Light (–) 3.Camera (+) 4.Camera (–), Coaxial Shield 5.Coaxial Inner Conductor

4.4 High–pressure Sealed Chamber and Junction Box

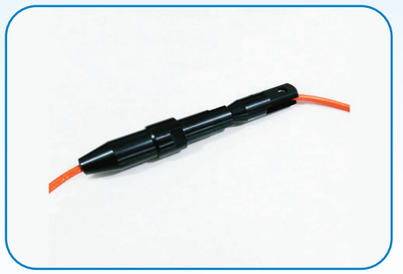
High–pressure sealed chambers and junction boxes serve as the safety fortress for underwater electronic equipment, used to house and protect sensitive electronic components, battery packs and wiring terminals.They are manufactured from high–strength metals such as titanium alloy and 316L stainless steel, or engineering plastics. With precision machining and O–ring sealing technology, a dry internal environment is established to withstand the high pressure of deep seawater.Their design takes into account pressure balance, installation space and heat dissipation requirements, acting as critical infrastructure to ensure the safe and reliable operation of internal circuits in underwater systems.







4.5 Cable Fixing Fittings



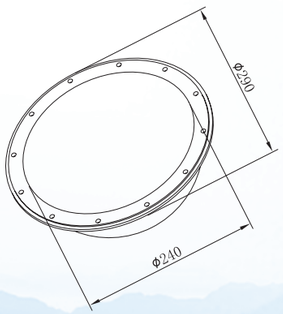
This heavy–duty cable fixing fitting is specially designed for harsh hoisting and vertical laying scenarios, aiming to solve the problem of safe fixation of high–tensile cables on steel wire rope locks.

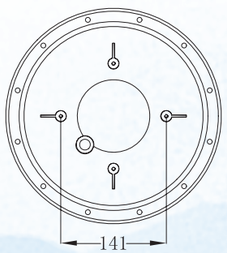
It is capable of providing an ultimate tensile force up to 2 tons (20 kN), while ensuring zero damage to the internal conductors and insulation layers of the cable. With optimized interface design, it features easy installation and firm connection, effectively preventing slipping and rotation during hoisting.

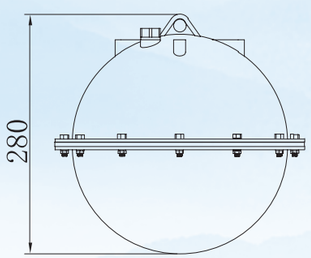
4.6 Buoyancy Sphere

The buoyancy sphere is a high–performance buoyancy unit specially designed for deep sea and complex marine environments. It is integrally molded with high–strength and lightweight engineering plastics, such as pressure–resistant polyethylene or reinforced composite materials, featuring excellent pressure resistance, corrosion resistance and anti–UV aging performance.Its hydrodynamic profile effectively reduces resistance and vortex–induced vibration during underwater movement, and enhances stability under ocean current impact.

The product supports modular integration. Its interior can be equipped with high–energy–density battery modules or solar panels to realize self–sustaining power supply. A standard mounting interface is arranged on the top, which can be fitted with watertight connectors to ensure reliable transmission of power and data signals.With precise buoyancy–to–weight ratio design, it can effectively offset the gravity load of underwater equipment and cables, achieving neutral or positive buoyancy. It is widely applied in ROV towed bodies, submarine cable laying, deep–sea observation station construction and underwater hoisting operations, serving as a key auxiliary component to ensure the safety and efficiency of deep–sea operations.







Technical Parameters:
Water pressure resistance: 0.8MPa
Buoyancy: Net buoyancy 8 kg
Product weight: 1.25 kg
Inner mounting thread: M5 × 4
Housing material: Polycarbonate
Seal ring material: Neoprene Rubber