

TOP NOTCH DEEP-SEA EQUIPMENT



VY250 ROV

Technical Specifications

VY250 Technical Specifications

1.Product Overview

The VY250 is independently developed and manufactured by Shandong Future Robotics Co., Ltd. Its core components achieve 100% domestic substitution. It has made breakthroughs in key technologies for deep-sea work-class ROVs, including high-pressure resistance, navigation and positioning, propulsion, communication transmission, and multi-equipment collaborative operation, enabling operations at a maximum water depth of 6000 meters seawater (msw).



Fig. 1: VY250 ROV + TMS axonometric drawing

2. Technical Specifications

2.1 Robot System

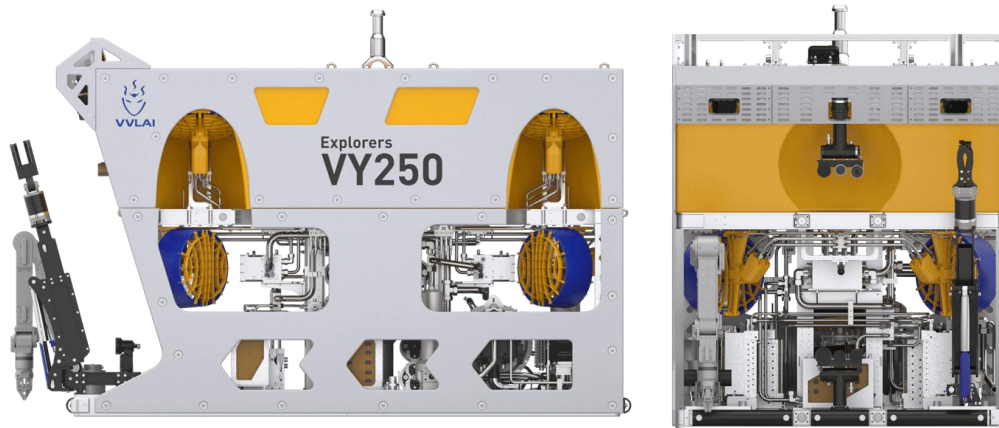


Fig.2:VY250 Side View / Front View

ROV system	
Basic Parameters & Dynamic Performance	
Power	250Hp (185kW)
ROV Depth Rating	3000msw
Dimensions (L×W×H)	3.70m×2.20m×2.30m
Weight in Air	5.5t
Spare Uplift	250kg (with manipulators and base level equipment fitted)
Weight in Water	250kg buoyancy reserved (lead weights can be added according to operation requirements)
Thrusters	4×THR.Y420 horizontal thrusters + 4×THR.Y420 vertical thrusters
Payload	410kg
Maximum Forward Speed	3.4 knots

Maximum Lateral Speed	2.2 knots
Maximum Vertical Speed	2.2 knots
Bollard Pull Forward/aft	1100kg
Bollard Pull Lateral	1050kg
Bollard Pull Vertical	1100kg
Tool Basket	
Extend	Tool Basket Kit
Manipulators	
7-axis manipulator(Right)	Master-Slave Controlled 7-Axis Manipulator
5-axis manipulator(Left)	On-Off Controlled 5-Axis Manipulator
Monitoring & Tools	
LED Lights	LED Lights × 8
PTZ	2× Electric Pan-Tilts
Camera	4× HD Color Cameras
	1× HD Color Zoom Camera
	1× Professional Low-Light Camera
	1× Wide-Angle Camera
	1× Mini Camera with LED Light
Sonar	1× Sonar

2.2 The Compact Top-Cap TMS

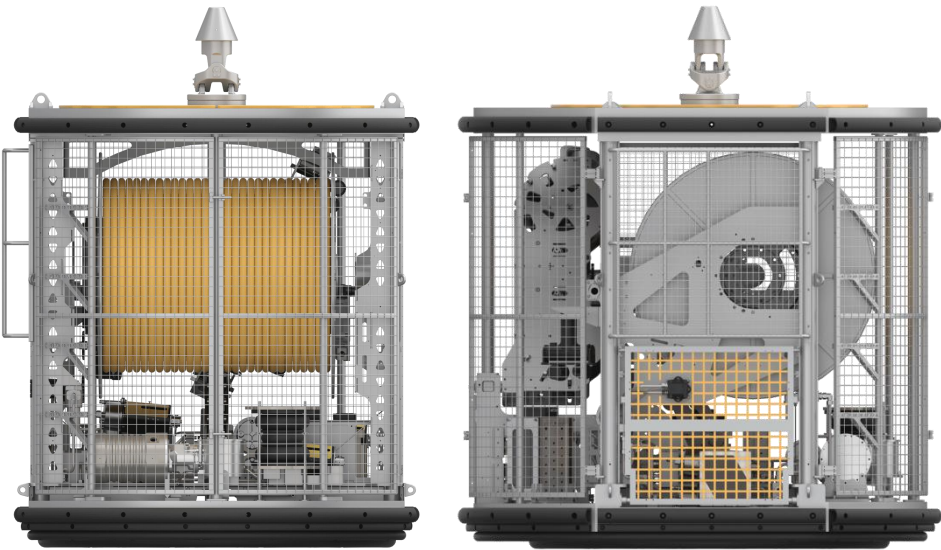


Fig.3: TMS

TMS	
Main Technical Parameters	
Depth Rating	3000msw
Diameter	2.4m
Height	2.3m (excluding warhead); 2.7m (including warhead)
Weight in Air (including cable)	3.6t
Weight in Seawater	2.5t
Cable Capacity	500m
Total Power	17kW
Telemetry/Sensor Capacity & Interfaces	
Sensors	Depth gauge; other customizable interfaces (including INS, USBL, etc.)
PTZ	1× Electric 2-Axis Pan-Tilt

Cameras	4× HD Color Cameras
Light	4× LED Lights

2.3 Control & Power System

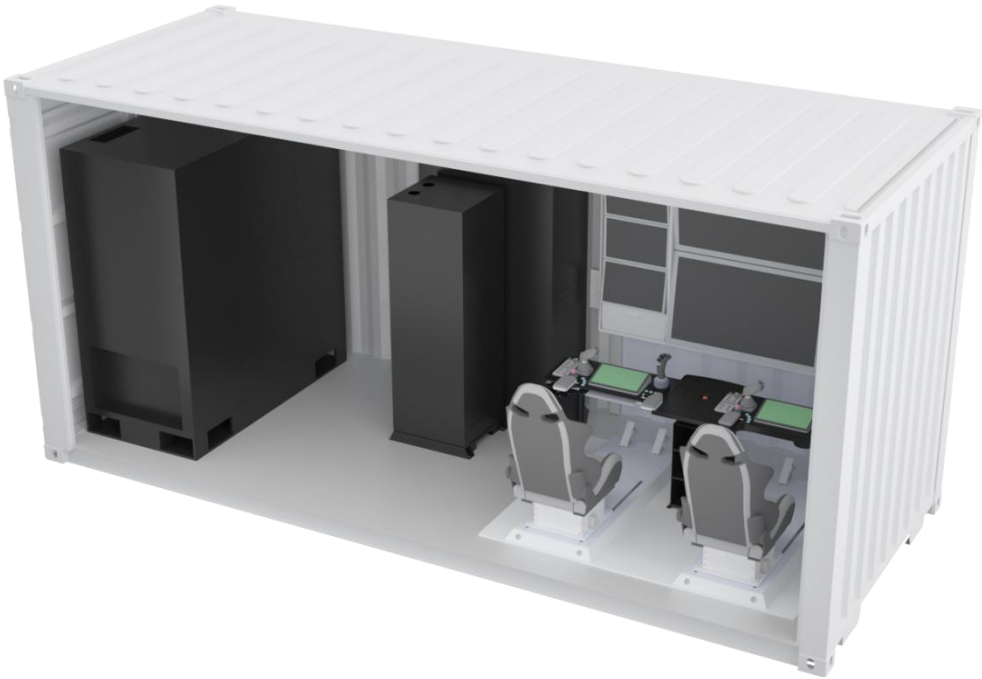


Fig. 4:Deck Support Unit

Control & Power System	
Main Technical Parameters	
Container	20-foot A60 international standard container. Internal components adopt a modular design and can be installed independently
Control Cabin	Dimensions: 6.1m×2.45m×2.9m (L×W×H); Weight: 6t; System Composition: Cabin, ROV+TMS control system, ROV+TMS power supply system, refrigeration system, dehumidification system, alarm system, emergency escape system, etc.
ROV+TMS Control System	System Composition: 2 pilot seats, with all necessary control devices for operating ROV, TMS and PDU (Power Distribution Unit) integrated in the console • 2 touch controllers • 2 48" video monitors

	• 6 22" video monitors • Operating Software: Switchable between English and Russian
ROV+TMS Power Supply System	System Composition: 1 set of integrated independent power distribution cabinet, including circuit breakers, contactors, overload relays, signal transformers, and terminals and isolation points for all high-voltage connections Input: 380-440VAC, 50/60Hz, customizable according to customer requirements

2.4 13T LARS

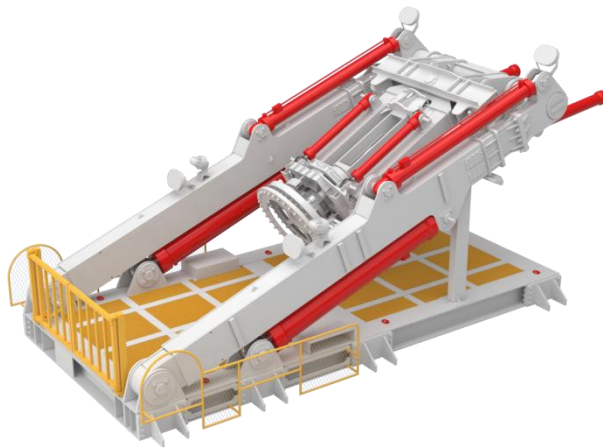


Fig 5:LARS System

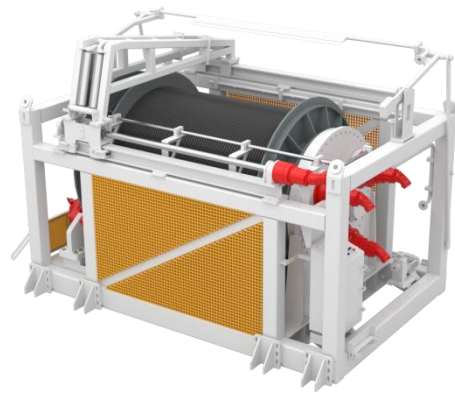


Fig.6:Cable Winch

13t LARS

Main Technical Parameters of A-Frame

SWL	13t
Operating Sea State	LR5
Minimum Distance Between Two Legs	3090mm
Operating Dimensions (L×W×H)	8300mm×4640mm×11500mm
Transportation Dimensions (L×W×H)	9550mm×4640mm×4300mm
Self-Weight	20000 kg

Main Technical Parameters of Winch

Rated Pull Force	13t (outer layer); 17t (inner layer)
Type	Hydraulic Driven Winch
Cable Storage Capacity	3300m
Dimensions (L×W×H)	4700mm× 3500mm × 3500mm

Weight	≤22t (excluding armored cable weight)
Line Speed	Average speed 30m/min
Configuration	Including: Electro-optical slip ring, armored cable

2.5 HPU Power Station



Fig.7:HPU Power Station



Fig.8: LARS Control Console

HPU	
Hydraulic Power Unit	
System Power	2 × 110kW,380VAC,50/60Hz
Dimensions (Approx.) (L×W×H)	2935mm× 1910mm× 2339mm
Weight (Approx.)	4400kg (excluding oil weight)
Hydraulic Connectors	Quick-connect fittings
Main Technical Parameters of Control cantainer	
Control Devices	A-Frame: Rotation of docking head Locking control device Swing of docking head Lifting/lowering of gantry Winch: Cable winding/unwinding

	Automatic cable arrangement/manual cable arrangement, Remote control/local control HPU Power Station: Motor start/stop emergency stop button reset
Displays	System pressure gauge HPU operation status HPU fault status



Provide World-class
Integrated Solutions for Deep-sea Equipment

山东未来机器人股份有限公司
SHANDONG FUTURE ROBOT CO., LTD

Add: No.52,Chuangye Rd,Hi-tech Zone,Weihai,China

Tel: 0631-5326187 Mob: 13082680120 Fax: 0631-5326187

Email: robot2@vvlai.com www.vvlai.cn www.vvlai.com



WeChat



WeChat Channels