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# ROVs Catalogue

I90 | I90 Plus | Monew | Crawler



## About DWTEK

DWTEK Co., Ltd., founded in 2008, is the first company in Taiwan specializing in underwater technology. DWTEK's product line includes ROVs, underwater connectors, and various subsea components.

Furthermore, DWTEK provides comprehensive support to the international offshore industry with ROV services, subsea inspections, surveys, IRM, vessel chartering and bunkering services.

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### ROVs

- Investigator 90 (I90)
- Investigator 90 Plus (I90+)
- Monev
- Crawler
- ROV Control Systems, ROV DVR, ROV Customization



2

### ROV-Related Products

- TMS
- Underwater Connectors
- Underwater Components (Thrusters, Cameras, Lights, Etc.)



3

### Offshore & Vessel Chartering Services

- ROV Services, Subsea Inspections, Survey, IRM
- Offshore Support Vessel (OSV)
- Crew Transfer Vessels (CTV)
- Vessel Bunkering

# 1. ROVs

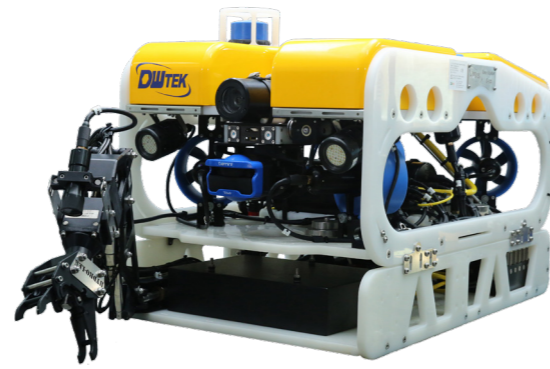
## I90 | Observation Class

### ✓ Features

Our versatile ROV system is an open platform that can be tailored with components to meet the specific needs of each mission. Smaller in size than a work-class ROV, it provides outstanding visual support, making it ideal for a wide range of underwater inspection tasks.

### ✓ Application

Offshore Wind Energy, O&G, Aquaculture, Nuclear, Civil Inspection, Academic&Research, Wreck inspection



Dimension (L x W x H)	1,100 x 700 x 490 mm
Weight in air	120 kg
Depth rating (Standard)	500 m
Depth rating (Optional)	1,000 m
Speed (knots)	3
Payload	27 kg
Available ports in the MCC Chamber	8 <small>If you have any further queries, please do not hesitate to contact DWTEK Co., Ltd (RS232/RS485)</small>
Available ports in the TLC Chamber	3 <small>If you have any further queries, please do not hesitate to contact DWTEK Co., Ltd (RS232/RS485)</small>
Hydraulic power units	N/A
(Propulsion) Horizontal thruster	DWT6537 x 4
(Propulsion) Vertical thruster	DWT6537 x 2
Thruster (Optional)	N/A
(Thrust)Forward/reverse	60 / 30 kgf
(Thrust)Lateral	33.5 kgf
(Thrust)Vertical	31 kgf
Manipulator	Up to 5 axis manipulator x 1 (Optional)
Wrist camera assembly	SD Camera x 1 (Optional)
Laser	Optional
CP Probe	Optional
Hydraulic units	TBD
Camera (Standard)	HD x 1 (Standard)
Camera (Optional)	Up to SD x 4 (Optional)
Lighting (Standard)	150W x 2 (Standard)
Lighting (Optional)	Optional

Automatic control	Optional
Heading Sensor	Standard
Altitude Sensor	Optional
Depth Sensor	Standard
Obstacle Avoidance Sonar	Optional
DVL	Optional
INS	Optional
USBL	Optional
Cable Tracking System	Optional
Data links	Optical Fiber
(Power)	
Input (VAC): 220V	
Single - Phase 50/60Hz	
Output (VDC): 300V(6Kw)	
(TMS)	
Type	Cage
Electro-optical tether	150m
Camera (Standard)	SD x 2
Camera (Optional)	Up to SD x 2
Lighting (Standard)	23W x 2
Lighting (Optional)	Up to 23W x 4
Optionals	USBL/ Current meter/ Sonar/ Depth
(LARS)	
Launch and Recovery Systems	Optional

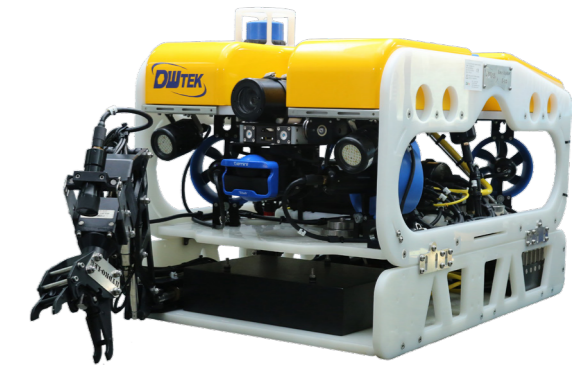
## I90 Plus | Observation Class

### ✓ Features

Building upon the I90, the I90+ offers an upgrade in size and torque, accommodating a more robust thruster developed in-house by DWTEK. This enhancement results in a more powerful and agile ROV.

### ✓ Application

Offshore Wind Energy, O&G, Aquaculture, Nuclear, Civil Inspection, Academic&Research, Military&Defense, Wreck inspection



Dimension (L x W x H)	1,100 x 700 x 530 mm
Weight in air	130 kg
Depth rating (Standard)	500 m
Depth rating (Optional)	1,000 m
Speed (knots)	3
Payload	25 kg
Available ports in the MCC Chamber	8 <small>If you have any further queries, please do not hesitate to contact DWTEK Co., Ltd (RS232/RS485)</small>
Available ports in the TLC Chamber	3 <small>If you have any further queries, please do not hesitate to contact DWTEK Co., Ltd (RS232/RS485)</small>
Hydraulic power units	N/A
(Propulsion) Horizontal thruster	DWT8537 x 4
(Propulsion) Vertical thruster	DWT8537 x 2
Thruster (Optional)	N/A
(Thrust)Forward/reverse	70 kgf
(Thrust)Lateral	60 kgf
(Thrust)Vertical	48 kgf
Manipulator	Up to 5 axis manipulator x 1 (Optional)
Wrist camera assembly	SD Camera x 1 (Optional)
Laser	Optional
CP Probe	Optional
Hydraulic units	TBD
Camera (Standard)	HD x 1 (Standard)
Camera (Optional)	Up to SD x 4 (Optional)
Lighting (Standard)	150W x 2 (Standard)
Lighting (Optional)	Optional

Automatic control	Optional
Heading Sensor	Standard
Altitude Sensor	Optional
Depth Sensor	Standard
Obstacle Avoidance Sonar	Optional
DVL	Optional
INS	Optional
USBL	Optional
Cable Tracking System	Optional
Data links	Optical Fiber
(Power)	
Input (VAC): 220V	
Single - Phase 50/60Hz	
Output (VDC): 300V(6Kw)	
(TMS)	
Type	Cage
Electro-optical tether	150m
Camera (Standard)	SD x2
Camera (Optional)	Up to SD x 2
Lighting (Standard)	23W x 2
Lighting (Optional)	Up to 23W x 4
Optionals	USBL/ Current meter/ Sonar/ Depth
(LARS)	
Launch and Recovery Systems	Optional

# 1. ROVs

## Monew | Work-Class

### ✓ Features

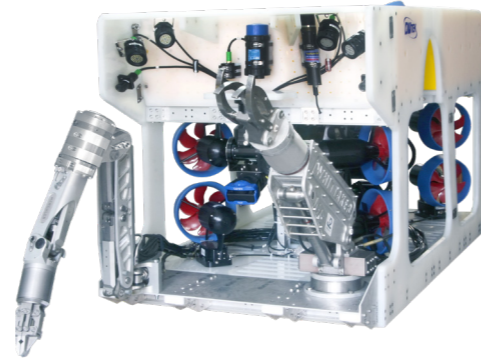
Engineered for heavy weather conditions and designed to withstand strong currents, the Monew features an open layout that accommodates a variety of components, including manipulators and sonars. It is capable of integrating the latest tools and instruments, making it a reliable and safe choice for extreme weather conditions. The Monew is suitable for a wide range of deep-water tasks.

### ✓ Application

Offshore Wind Energy, O&G, Nuclear, Military&Defense, Marine Inspection & Repairment



Dimension (L x W x H)	2,100 x 1,300 x 1,200 mm
Weight in air	800 kg
Depth rating (Standard)	1,000 m
Depth rating (Optional)	3,000 m
Speed (knots)	>3
Payload	180 kg (No manipulator)
Available ports in the MCC Chamber	4 <small>If you have any further queries, please do not hesitate to contact DWTEK Co., Ltd (RS232/RS485)</small>
Available ports in the TLC Chamber	0 <small>If you have any further queries, please do not hesitate to contact DWTEK Co., Ltd (RS232/RS485)</small>
Hydraulic power units (Propulsion)	Optional
Horizontal thruster	DWT135D4 x 8
Vertical thruster	DWT135D4 x 3
Thruster (Optional)	N/A
(Thrust)Forward/reverse	254 kgf
(Thrust)Lateral	254 kgf
(Thrust)Vertical	273 kgf
Manipulator	Up to 5 axis or 7 axis manipulators x2 (Optional)
Wrist camera assembly	SD Camera x 1 (Optional)
Laser	Optional
CP Probe	Optional
Hydraulic units	TBD
Camera (Standard)	HD x1 (Standard), PTZ module
Camera (Optional)	Up to SD x 4 (Optional)
Lighting (Standard)	80W x 2 (Standard)
Lighting (Optional)	Up to 80W x 4 (Optional)



Automatic control	Optional
Heading Sensor	Standard
Altitude Sensor	Optional
Depth Sensor	Standard
Obstacle Avoidance Sonar	Optional
DVL, INS, USBL	Optional
Cable Tracking System	Optional
Data links	Optical Fiber
(Power)	
Input (VAC): 380 - 440 V	
Three - Phase 50/60 Hz	
Output Power	
• TMS: 300V/10kw	
• ROV	
1. Thruster: 550VDC, 40kw (Standard: 4 horizontal, 3 vertical) / 55kw (Full-Option:8 horizontal, 3 vertical)	
2. Electronics: 300VDC, 3kw	
3. Manipulator: 300VDC, 3kw	
Total Power (including TMS): Maximum 100 hp	
(TMS)	
Type	Top-Hat
Electro-optical tether	200 m
Camera (Standard)	SD x2 (standard)
Camera (Optional)	Up to SD x 4 (Optional)
Lighting (Standard)	23W x2 (Standard)
Lighting (Optional)	Up to 23W x 4 (Optional)
Optionals	USBL/ Current meter/ Sonar/ Depth
(LARS)	
Launch and Recovery Systems	Optional

## Crawler | Special-Application

### ✓ Features

Our versatile crawler ROV can move vertically or obliquely on onshore, nearshore, offshore, and seabed environments. It can crawl or fly over obstacles such as rocks, fishnets, and marine litter, offering exceptional adaptability for diverse underwater scenarios.

### ✓ Application

Offshore Wind Energy, Marine Inspection&Repairment, Military&Defense



Dimension (L x W x H)	1,300 x 1,160 x 923 mm
Weight in air	350 kg
Depth rating (Standard)	300 m
Depth rating (Optional)	TBD
Speed (knots)	3
Payload	30 kg
Available ports in the MCC Chamber	4 <small>If you have any further queries, please do not hesitate to contact DWTEK Co., Ltd (RS232/RS485)</small>
Available ports in the TLC Chamber	3 <small>If you have any further queries, please do not hesitate to contact DWTEK Co., Ltd (RS232/RS485)</small>
Hydraulic power units (Propulsion)	N/A
Horizontal thruster	DWT8537 x 2
Vertical thruster	DWT8537 x 4
Thruster (Optional)	N/A
(Thrust)Forward/reverse	40 kgf
(Thrust)Lateral	N/A
(Thrust)Vertical	80 kgf
Manipulator	TBD
Wrist camera assembly	TBD
Laser	TBD
CP Probe	TBD
Hydraulic units	TBD
Camera (Standard)	HD x 1 (Standard)
Camera (Optional)	Up to SD x 4 (Optional)
Lighting (Standard)	150W x 2 (Standard)
Lighting (Optional)	23W LED x 2 (Optional)

Automatic control	Optional
Heading Sensor	Standard
Altitude Sensor	Optional
Depth Sensor	Standard
Obstacle Avoidance Sonar	Optional
DVL	Optional
INS	Optional
USBL	Optional
Cable Tracking System	Optional
Data links	Optical Fiber
(Power)	
Input (VAC): 220 V	
Single - Phase 50/60Hz	
Output (VDC): 300V(6kW)	
(TMS)	
Type	Cage
Electro-optical tether	200 m
Camera (Standard)	SD x2 (Standard)
Camera (Optional)	Up to SD x 4 (Optional)
Lighting (Standard)	23W x 2 (Standard)
Lighting (Optional)	Up to 23W x 4 (Optional)
Optionals	USBL/ Current meter/ Sonar/ Depth
(LARS)	
Launch and Recovery Systems	Optional

# 1. ROVs

## Observation Class

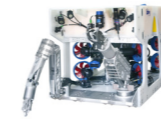


I90



I90 Plus

## Work-Class



Monev

## Special-Application



Crawler

<b>Dimension (L x W x H)</b>	1,100 x 700 x 490 mm	1,100 x 700 x 530 mm	2,100 x 1,300 x 1,200 mm	1,300 x 1,160 x 923 mm
<b>Weight in air</b>	120 kg	130 kg	800 kg	350 kg
<b>Depth rating (Standard)</b>	500 m	500 m	1,000 m	300 m
<b>Depth rating (Optional)</b>	1,000 m	1,000 m	3,000 m	TBD
<b>Speed (knots)</b>	3	3	>3	3
<b>Payload</b>	27 kg	25 kg	180 kg (no manipulator)	30 kg
<b>Available ports in the MCC Chamber</b> <small>If you have any further queries, please do not hesitate to contact DWTEK Co., Ltd (RS232/RS485)</small>	8	8	4	4
<b>Available ports in the TLC Chamber</b> <small>If you have any further queries, please do not hesitate to contact DWTEK Co., Ltd (RS232/RS485)</small>	3	3	0	3
<b>Hydraulic power units</b>	N/A	N/A	Optional	N/A
<b>(Propulsion) Horizontal thruster</b>	DWT6537 x 4	DWT8537 x 4	DWT135D4 x 8	DWT8537 x 2
<b>(Propulsion) Vertical thruster</b>	DWT6537 x 2	DWT8537 x 2	DWT135D4 x 3	DWT8537 x 4
<b>Thruster (Optional)</b>	N/A	N/A	N/A	N/A
<b>(Thrust)Forward/reverse</b>	60 / 30 kgf	70 kgf	254 kgf	40 kgf
<b>(Thrust)Lateral</b>	33.5 kgf	60 kgf	254 kgf	N/A
<b>(Thrust)Vertical</b>	31 kgf	48 kgf	273 kgf	80 kgf
<b>Manipulator</b>	Up to 5 axis manipulator x 1(Optional)	Up to 5 axis manipulator x 1(Optional)	Up to 5 axis or 7 axis manipulators x 2 (Optional)	TBD
<b>Wrist camera assembly</b>	SD Camera x 1 (Optional)	SD Camera x 1 (Optional)	SD Camera x 1 (Optional)	TBD
<b>Laser</b>	Optional	Optional	Optional	TBD
<b>CP Probe</b>	Optional	Optional	Optional	TBD
<b>Hydraulic units</b>	TBD	TBD	TBD	TBD
<b>Camera (Standard)</b>	HD x 1 (Standard)	HD x 1 (Standard)	HD x 1 (Standard), PTZ module	HD x 1 (Standard)
<b>Camera (Optional)</b>	Up to SD x 4 (Optional)	Up to SD x 4 (Optional)	Up to SD x 4 (Optional)	Up to SD x 4 (Optional)
<b>Lighting (Standard)</b>	150W x 2 (Standard)	150W x 2 (Standard)	80W x 2 (Standard)	150W x 2 (Standard)
<b>Lighting (Optional)</b>	Optional	Optional	Up to 80W x 4 (Optional)	23W LED x 2 (Optional)
<b>Automatic control</b>	Optional	Optional	Optional	Optional
<b>Heading Sensor</b>	Standard	Standard	Standard	Standard
<b>Altitude Sensor</b>	Optional	Optional	Optional	Optional
<b>Depth Sensor</b>	Standard	Standard	Standard	Standard
<b>Obstacle Avoidance Sonar</b>	Optional	Optional	Optional	Optional
<b>DVL</b>	Optional	Optional	Optional	Optional
<b>INS</b>	Optional	Optional	Optional	Optional
<b>USBL</b>	Optional	Optional	Optional	Optional
<b>Cable Tracking System</b>	Optional	Optional	Optional	Optional
<b>Data links</b>	Optical Fiber	Optical Fiber	Optical Fiber	Optical Fiber

# 1. ROVs

## Observation Class

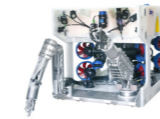


I90



I90 Plus

## Work-Class



Monev

## Special-Application



Crawler

<b>Power</b>	Input (VAC): 220V Single - Phase 50/60Hz Output (VDC): 300V(6Kw)	Input (VAC): 220V Single - Phase 50/60Hz Output (VDC): 300V(6Kw)	Input (VAC): 380 - 440 V Three - Phase 50/60 Hz	Input (VAC): 220 V Single - Phase 50/60Hz Output (VDC): 300V(6kW)	
			Output Power • TMS: 300V/10kw • ROV 1. Thruster: 550VDC, 40kw (Standard: 4 horizontal, 3 vertical) / 55kw (Full-Option: 8 horizontal, 3 vertical) 2. Electronics: 300VDC, 3kw 3. Manipulator: 300VDC, 3kw  Total Power (including TMS): Maximum 100 hp		
<b>TMS</b>	<b>Type</b>	Cage	Cage	Top-Hat	Cage
	<b>Electro-optical tether</b>	150m	150m	200 m	200 m
	<b>Camera (Standard)</b>	SD x 2	SD x 2	SD x 2 (Standard)	SD x 2 (Standard)
	<b>Camera (Optional)</b>	Up to SD x 2	Up to SD x 2	Up to SD x 4 (Optional)	Up to SD x 4 (Optional)
	<b>Lighting (Standard)</b>	23W x 2	23W x 2	23W x 2 (Standard)	23W x 2 (Standard)
<b>Lighting (Optional)</b>	Up to 23W x 4	Up to 23W x 4	Up to 23W x 4 (Optional)	Up to 23W x 4 (Optional)	
<b>Optionals</b>	USBL/Current meter/Sonar/Depth	USBL/Current meter/Sonar/Depth	USBL/Current meter/Sonar/Depth	USBL/Current meter/Sonar/Depth	
<b>LARS</b>	<b>Launch and Recovery Systems</b>	Optional	Optional	Optional	Optional

# 1. ROVs



## ROV Control Systems

### 1. Console Terminal

- 1U 17" LCD Monitor
- 5U Main Console
- 3U Industrial PC
- 6KW Power Supply
- Hand Controller



### 2. Control Container

- 16ft / 20ft
- DNV-GL Certification
- Monitors
- Industrial Panel Computer
- Joysticks (20ft)



## ROV DVR

- Project Management
- Various Data and a Logo Overlay
- Import and Export Excel Files
- Up to 5 Real-Time SD and HD Camera Inputs
- Network Video Sharing
- Event Creation



## ROV Customization

- Appearance Design
- Internal Chamber Design
- Component Design
- Wiring Layout (Chamber, Component)
- Software Design (ROV DVR)



# 2. ROV-Related Products



## Tether Management System (TMS)



### Cage

- I-90 series



### Top Hat

- Monew Only

## Underwater Components



### Underwater Connectors

- Wet Series
- Dry Series
- Specials
- Accessories
- Customization



### Thrusters

- Direct Drive
- Magnetically Coupling Brushless
- Shaft Drive



### Cameras

- 4K (Fiber)
- SD (CVBS)
- AHC (AHD)
- HD (Fiber, Coaxial, Ethernet)



### Lights

- 23W
- 50W
- 80W
- 150W



### Latch & Bullet

- 20mm
- 22mm
- 30mm
- 35mm



### Servo

- 7 Nm
- 50 Nm



### Sensor

- Depth, Heading
- Pitch, Roll



### Pan Tilt Zoom (PTZ)

- 50 Nm



### Laser

- Green/Red Light
- Point/Line Types



### Cable Reel

- Stainless-Steel
- Adjustable Speed
- Slip Ring Upon Request



### Winch

- 5 Ton



### Sheave Wheel

- Load Limit: 500 KG

# 3. Offshore & Vessel Chartering Services



General Visual Inspections (GVI , Tool: Camera)		Non-destructive Testing (NDT Tools)	
Foundation (FDN) Weld	Damage to the Structure	CP Readings (CP Probe)	Ultrasonic Thickness Measurements (UT Gauge)
Paint Coating	Cathodic Protection (Anode/ICCP)	Flood Member Detections (FMD System)	Eddy Current Testing (Pulsed EC Probe)
Scour Protection	Cable Entry Inspection (J Tube)	Other Inspections	
Marine Growth	Grout Inspection	Marine Growth Removal (Rotation Brush)	Scour Monitoring (Multibeam Survey)
		Grout and Paint Coating Inspections (Sensor)	Subsea Cable Depth of Burial (Cable Tracker)

## Our Advantages One-Stop Services

We are a comprehensive subsea service and product provider, offering technical expertise and personnel solutions from the initiation to the completion of subsea projects. Our capabilities span the entire spectrum:



### Technical Mastery

We excel in designing, manufacturing, customizing, and supplying subsea engineering products, including components, ROVs, and underwater connectors. Our expertise also extends to customizing ROV systems.



### ROV Pilots

We invest in the cultivation of local talents and the training of our own ROV pilot team (trained according to the IMCA R002 guideline).



### Offshore Support and Vessel Chartering

We provide mission support services for offshore operations, including ROV services, subsea inspections, survey, IRM, vessel chartering. Our comprehensive capabilities enable our clients to expedite project timelines while effectively managing costs.



## Vessel Chartering



### Offshore Support Vessel (OSV): Sunny Bright

- 24 Hours Operation
- Taiwan Flag
- DP1
- Hybrid Vessel
- CR & BV Certifications



## Crew Transfer Vessels (CTV): Prosperous 1, Prosperous 2

- Taiwan Flag
- CR Certification



## Vessel Bunkering



### Taiwan-Qualified Vessel Capable Of Supporting Ship Bunkering

- Bunkering





- ✓ ROV Sales & Rental Services
- ✓ Underwater Products  
(Underwater Connectors & Components, Etc)
- ✓ Offshore Services
- ✓ Vessel Chartering



## CONTACT US

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- DWTEK
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- DWTEK - ROV manufacturer