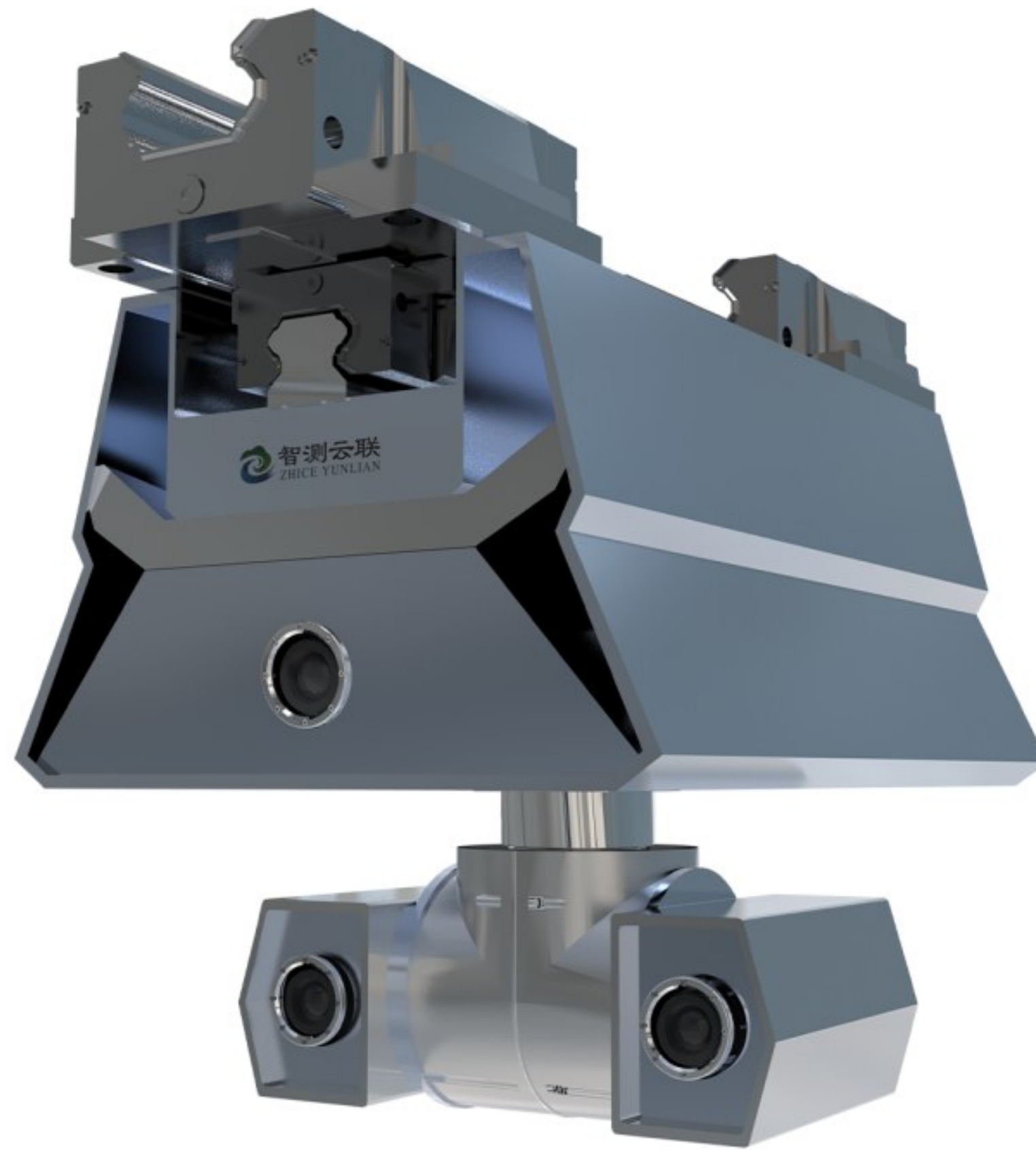


INTELLIGENT RAIL-MOUNTED INSPECTION ROBOT

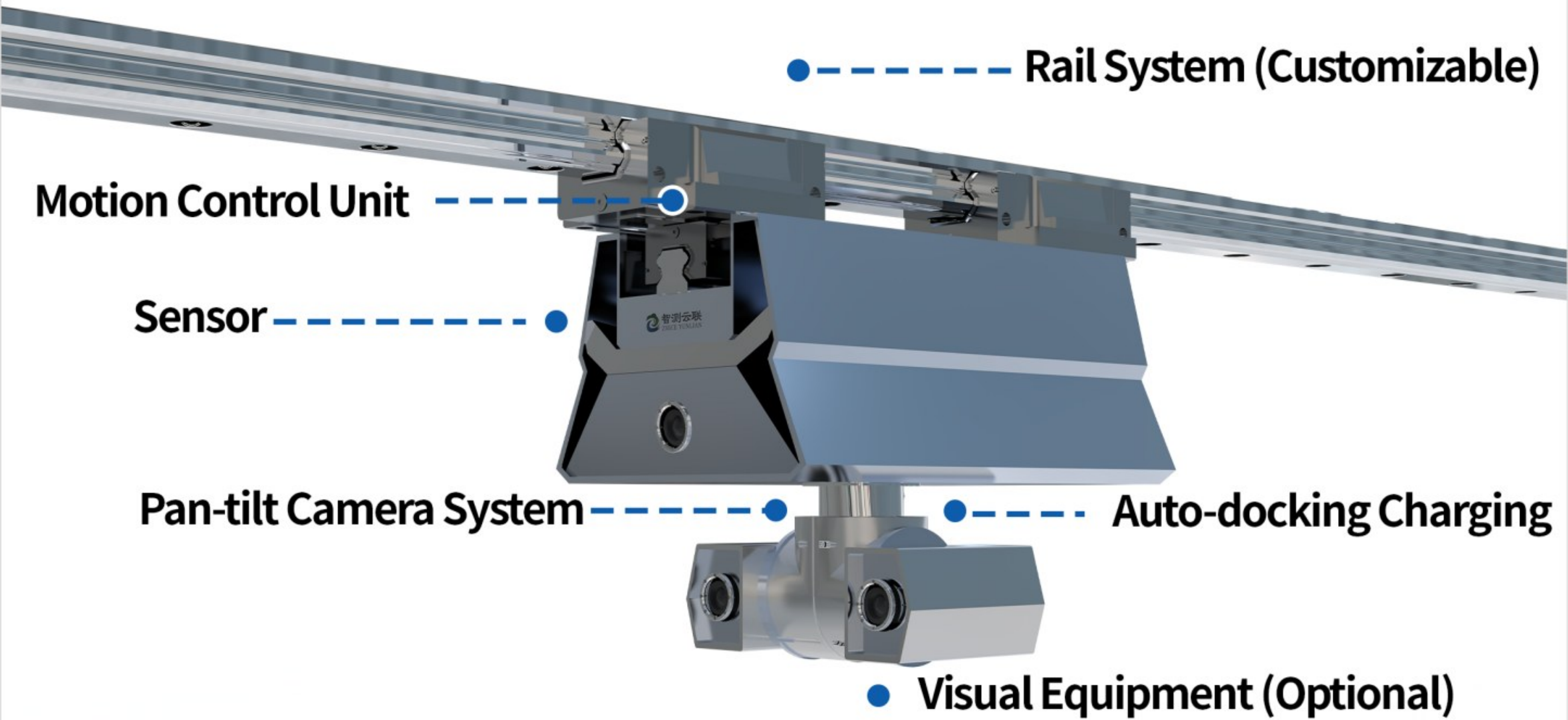


Product Introduction

- Zhice Yunlian intelligent rail-mounted inspection robot is a high-end industrial-grade solution specially designed for harsh scenarios such as high temperature, high dust, toxic gas and high-altitude operations in steel, chemical, power and other industries.
- The robot runs fully autonomously along pre-installed overhead rails. Equipped with high-precision cutting-edge sensors and integrated with AI visual analysis technology, it carries out 24-hour non-stop and blind-spot-free inspection of key equipment and areas.
- It can accurately identify hidden dangers without manual exposure to hazardous environments, realizing the leap from "manual inspection" to "intelligent prediction". It greatly improves work safety level and O&M efficiency in industrial scenarios, and acts as a high-end intelligent guardian for stable operation of industrial systems.



Product Structure



Application Scenarios



Iron & Steel Metallurgy



Energy & Chemical Industry



Power Facilities



Urban Infrastructure



Product Specifications

Category	Item	Parameter
Basic Parameters	Overall Weight (kg)	40
	Rail Type	I-beam / C-steel / customized rail
	Rail Width (mm)	100~500 (adjustable)
	Max Climbing Angle (°)	60
Motion Performance	Travel Speed (m/s)	0~0.5
	Positioning Accuracy (mm)	±5
	Min Turning Radius (mm)	1000
Battery & Charging	Endurance Time (hour)	≥8
	Charging Method	Automatic wireless charging
Detection System	Visual Equipment	HD visible light camera + infrared thermal imaging
	Sensor	LiDAR, multi-gas detection, temperature & humidity, noise
Pan-tilt Performance	Temperature Measurement Range (°C)	-20 ~ 550
	Temperature Measurement Accuracy (°C)	±2
	Rotation Range	360° horizontal / ±90° vertical
	Pan-tilt Weight (kg)	5 (lightweight design)
	Anti-interference Grade	EMC Level 4

Product Cleaning Instructions

If dust accumulates on the device, gently wipe the surface with a soft cloth dampened with biodegradable mild detergent.

Do not use solvent-based reagents. Wipe carefully to avoid scratching the device surface.



Camera System (Fully Customizable)

Wide-angle Camera (Basic)

Material: aluminum alloy
Operating temperature: -25° to 70°
Stabilization axis: 3-axis
Working voltage: 7V
Control angle: roll -45°~45°, pitch 0°~90°, pan -100°~100°
Angle jitter: $\pm 0.1^\circ$
Control signal: PWM, SBUS, serial communication
File storage: SD card
Video output resolution: 1080P
Lens: 2.4mm
Video output resolution: 1080P-25fps
Image resolution: 1080P-25fps
Image format: JPEG
Working modes: photo, video
Crosshair aiming system
(real-time ground-station aiming)

Telephoto Camera

Image sensor: 1/2.5-inch CMOS
Lens: FOV21.5
Aperture: F/3.0
Equivalent focal length: 120mm
Camera focal length: 14.46mm, equivalent 120mm
Focus range: 10m to infinity
Digital zoom: 5-30x
ISO range: 100-6400 (video), 100-6400 (photo)
Shutter speed: 1/8000s to 2s
Maximum video resolution: 3840×2160@30fps
Maximum video bitrate: 100Mbps
Effective pixels: 13 million
Maximum photo size: 4000×3000
Image format: JPEG
Shooting modes:
single shot (8MP/12MP),
timed shot (8MP/12MP, 1/2/5/10/30/60s)

AI Wide-angle Camera

Image sensor: 1/2-inch CMOS, 48 megapixels
Digital zoom: 1-5x
Lens: FOV79°, aperture F/1.6
Focal length: 4.71mm
Equivalent focal length: 24mm; focus range: 1m to infinity
ISO range: 100-26500 (video), 100-6400 (photo)
Shutter speed: 1/8000s to 2s
Frame rate:
3840×2160@30fps / @25fps / @24fps;
2720×1528@050fps / @030fps / @25fps / @024fps;
1920×1080@60fps / @50fps / @30fps / @25fps / @24fps
Video format: MP4, maximum bitrate 100Mbps
Effective pixels: 48 million
Maximum photo size: 8064×6048
Shooting modes:
single shot (8MP/12MP/48MP),
timed shot (8MP/2MP, 1/2/5/10/30/60s)
Image format: JPEG
File system: FAT32 / exFAT
AI functions: front-end recognition, back-end recognition,
visual tracking

Thermal Imaging Sensor

Frame rate: 30Hz
Resolution: 640×480@30fps
Focal length: 19mm
Equivalent focal length: 80mm; DFOV: 30.7
Aperture: F1.1
Focus range: 7.6m to infinity
Color palettes:
white-hot / black-hot / jungle / iron-red / rainbow / polar
/ glow / gold / red-hot / medical / gold
Image format: JPEG (8-bit), R-JPEG (16-bit)
Video bitrate: 6Mbps
Video format: MP4
Photo modes: single shot,
timed shot (JPG 2/3/5/7/10/15/20/30/60s)
Infrared wavelength: 8μm to 14μm