

DOBOT Atom - Max

The DOBOT Atom Max is a cutting-edge 41-DoF humanoid robot designed for advanced robotics research and industrial applications, featuring dexterous 12-DoF hands, a 60FPS Full HD vision system, and Intel RealSense D455 depth sensing. Its optional Embodied AI Set provides high-precision URDF models, an open-source training framework, and multi-modal data tools to accelerate development. The Atom Max adds VR/MR teleoperation with markerless tracking and dual control modes (full-body/segmented), all powered by a 1500 TOPS AI module for real-time edge computing. With sub-millimeter precision and 360° environmental awareness, it significantly lowers the barrier for AI robotics innovation while supporting complex tasks from precision assembly to dynamic locomotion research.

Binocular Camera

Full HD mixed reality teleoperation

3D LiDAR

Robosense Airy

Stereo Speakers

5W

7 DoF Bionic Arm

Shake suppression, control silk slip

Fully Internal Cable Routing

Unrestricted movement

Straight-Knee Walking

End-to-End Neural Network for Human-like Gait

RGB-D Camera

Realsense D455

360° Microphone

50 m² high fidelity sound pickup

Quick Replaceable Battery

15Ah

1500 TOPS AI Computing Module

Intel i9 + Graphics card with 16GB 256bit GDDR6

Vision + 5-Finger Dexterous Operation Closed Loop

Redirection Technology, accurately reproducing human operations

Single-Leg DoF

Hip joint x 3 + knee joint x 1 + ankle joint x 2

Packing List		Optional Accessories	
DOBOT Atom - Max	1	Lifter	1
Battery Pack	1	Teleoperation Kit	1
Battery Charger	1	Embodied AI Data Toolchain	1
Wrist-mounted Camera	1	Plastic hands	1
Remote Controller	1	-	-
Tool Kit	1	-	-

Product Specifications

Configuration	Atom D	Max
Height	≈650 mm	≈1650 mm
Weight (without dexterous hands/jaws)	≈26 kg	≈58 kg
Full-body Degrees of Freedom (without dexterous hands/jaws)	16	29
Head Degree of Freedom	2	2
Single Arm Degrees of Freedom (without dexterous hand/gripper)	7	7
Waist Degree of Freedom	0	1
Single Leg Degree of Freedom	0	6
Single Arm Span (without dexterous hand/gripper)	600 mm	600 mm
Single Arm Weight (without dexterous hand/gripper)	≈6.5 kg	≈6.5 kg
Single Arm Rated Load	3.5 kg	3.5 kg
Single Arm Max Load	5 kg	5 kg
Single Arm Repetitive Positioning Accuracy	± 0.05 mm	± 0.05 mm
Maximum End Speed of Arm	1.5 m/s	1.5 m/s
Audio Devices	-	360°microphone x1 + neodymium strong magnetic speaker x 2
Maximum Walking Speed	-	1.5 m/s
Joint Assembly Actuators Hollow Alignment	Yes	Yes
Basic Computing Module	intel i5	intel i5
1500 TOPS AI Computing Module	Optional	Intel i9 (24 cores 32 threads)+ Graphics card with 16GB256bit GDDR6 (FP32 GPUcomputing power: 41.15 TFLOPS)
Battery Life	2h	2h
Battery Charge	Power Supply	≈1h
End Actuator	Optional	6 DoF dexterous hand x 2
Head Sensor	RGB-D Camera x 1 + Full HD Binocular Camera x 1	RGB-D Camera x 1 + Full HD Binocular Camera x 1
Wrist Sensor	Optional	RGB-D Camera x 2
Waist Sensor	0	RGB-D Camera x 2
Head LiDAR	0	3D LiDAR x 1
SDK Support	Supported	Supported
Warranty	1 Year	1 Year
Onsite Training	Not available	Available

*The related specifications and configurations are subject to adjustment. Please refer to the actual product.



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DOBOT Atom Humanoid Robot

DOBOT's First Humanoid Robot

Discover the Dexterous Manipulation & Straight-Knee Walking Embodied AI Humanoid Robots

DOBOT Atom is designed for flexible, repetitive industrial and commercial tasks, such as handling materials on varying assembly lines, operating multiple beverage equipment in coffee shops, and retrieving medication in pharmacies at night. It is suited for scenarios with unfixed equipment positions, diverse product specifications, high operational similarity, and a need to maneuver through narrow spaces.



The Universal, Full-Size Embodied AI Humanoid Robots – DOBOT Atom

Full-Size Bionic Design

DOBOT Atom stands 1.65 m tall and weighs 58 kg, featuring 41 degrees of freedom and a 1:1 bionic hand design. Its 7-DOF industrial arms offer ±0.05 mm repeatability, enabling human-like precision, dexterity, and joint-motion replication within a 700–1000 mm working range—ready for real industrial tasks.



Neuro-Driven Dexterity(NDS)

NDS uses a Transformer-based architecture and human-like dual-eye RGB vision to achieve autonomous manipulation across 28+ degrees of freedom. With coordinated visual and five-finger dexterous control plus millisecond-level motion suppression, it delivers smooth, high-frequency control at up to 200 Hz.



Anthropomorphic Walking(AWS)

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Advanced AI On-Device Computing Power

Equipped with an embodied intelligence operating model and 1500 TOPS of powerful computing power, it enables customers to achieve integrated data collection, training, and inference deployment in specific scenarios. Professional model tutorials are provided, significantly reducing deployment time. No extensive pre-programming is required, driving a new paradigm of embodied intelligence powered by data + models.



DOBOT Atom D - Data Collection

The DOBOT Atom D - Data Collection is optimized for large-scale data tasks, featuring 7-DoF dual arms and a 2-DoF head with customizable end-effectors (dexterous hands/grippers and wrist cameras). It integrates an Intel RealSense D455 depth camera (6m range) and a 60fps Full HD binocular camera that minimizes VR/MR motion sickness while ensuring high-quality imaging. The system supports Ethernet connectivity for efficient external data collection and processing.

Binocular Camera

Full HD mixed reality teleoperation

RGB-D Camera

Realsense D455

Stereo Speakers

5W

7 DoF Bionic Arm

Shake suppression, control silk slip

Fully Internal Cable Routing

Unrestricted movement

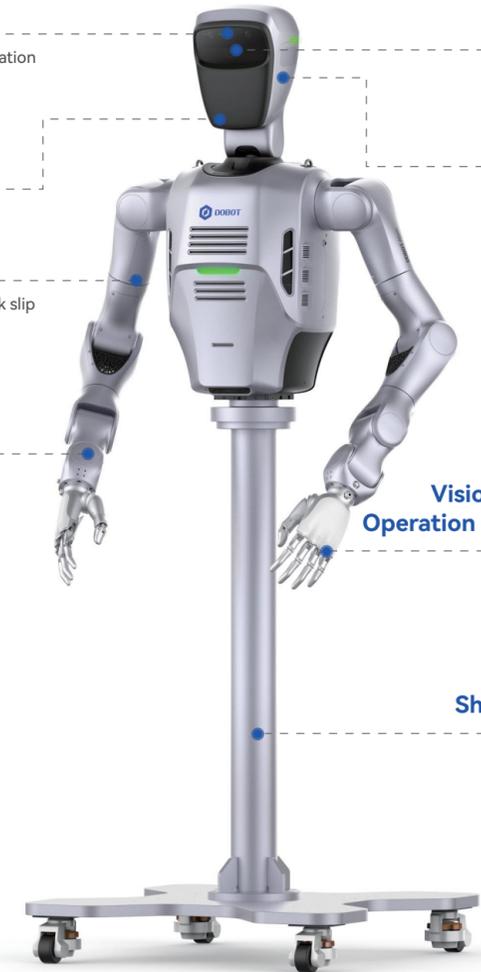
360° Microphone

50 m² high fidelity sound pickup

Vision + 5-Finger Dexterous Operation Closed Loop (Optional)

Redirection Technology, accurately reproducing human operations

Shifting Frame (Optional)



Packing List		Optional Accessories	
DOBOT Atom - D	1	Shifting Frame	1
Battery Pack	1	Teleoperation Kit	1
Battery Charger	1	Embodied AI Data Toolchain	1
Remote Controller	1	Dexterous Hand	1
Tool Kit	1	Wrist-mounted Camera	1
Flange Adapter	1	AI Computing Module	1