

# REEM<sup>®</sup>

## TECHNICAL SPECIFICATIONS

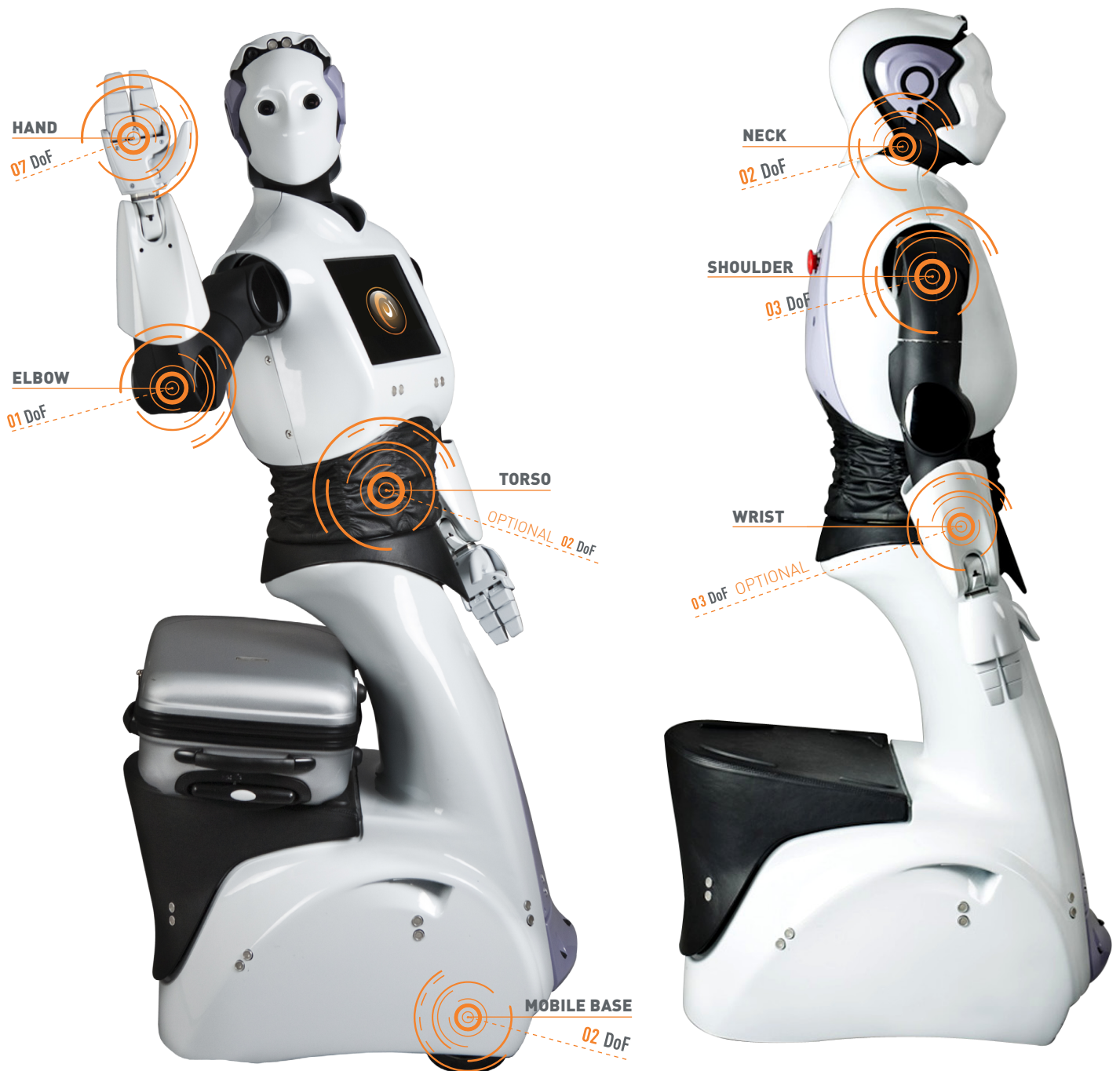
Simulation model available at:  
[wiki.ros.org/Robots/REEM](http://wiki.ros.org/Robots/REEM)

### GENERAL FEATURES

**Height** 170 cm  
**Width** 60 cm  
**Weight** 100 Kg

### DEGREES OF FREEDOM (DoF)

<b>Head</b>	2	<b>Mobile base</b>	2
<b>Arms</b>	4 (x2)		
<b>Hands</b>	7 (x2)		



### PAYLOAD

<b>Arm payload</b>	1 Kg
<b>Mobile base payload</b>	30 Kg

### CONNECTIVITY

<b>Wi-Fi</b>	802.11 a/b/g/n
<b>Ethernet</b>	1000 Base T

### ELECTRICAL FEATURES

<b>Power system</b>	2 Lithium-Ion batteries 48V
<b>Hot-swap system</b>	✓
<b>Battery autonomy</b>	8h, 24/7 using hot-swap system

### INTERFACES

<b>Ear LEDs</b>	8 RGB
<b>Screen</b>	12.1" / 1024 x 768
<b>Touchscreen</b>	Antivandalic projected capacitive touchscreen

### SENSORS

<b>Base laser</b>	20 m, 0.25°, 50 Hz
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### COMPUTERS

<b>Control computer</b>	Intel i7
<b>Multimedia computer</b>	Intel CPU

### SOFTWARE

<b>OS</b>	Ubuntu LTS 64-bits, RT Preempt
<b>Open source middleware</b>	ROS LTS

### AUDIO

<b>Speakers</b>	x2 (1 front, 1 back) / 5w rated power
<b>Microphones</b>	Hi-fidelity far-field, 2-microphone array with stereo output 50-8000 Hz

### VISION

	<b>Stereo camera</b>	<b>Back camera (optional)</b>
<b>Sensor type</b>	CMOS global shutter 1/3"	CMOS global shutter 1/3"
<b>Resolution</b>	1280 x 960	752 x 480
<b>Optics</b>	Lens 1/2" 4,5 mm/F1.4	2.5 mm mount M12 lens
<b>Max. frame rate</b>	70 fps	93 fps

### OPTIONALS

<b>Base laser</b>	50 m, 0.25°, 50 Hz
<b>Inclined laser</b>	5.6 m, 0.36°, 10 Hz
<b>Inclinometer</b>	2 axis sensor / +/- 90° range / 0.5 accuracy
<b>Optional DoF</b>	2 DoF Torso / 3 DoF Wrist (x2)