

# NAO V6

We are using an unmodified version of the robot NAO V6.

The information was taken from the documentation of the manufacturer<sup>12</sup>.

Image of the robot shown in Figure 1.

Field	Specification
Robot name	Maxtronics (Aldebaran), NAO V6
Height of the robot	57.3 cm
Weight of the robot	5.4 kg
Number of degrees of freedom and type of motors on each kinematic chain of the robot	25, (5 per leg, 6 per arm, 1 in the hip - shared between legs, 2 in the head); Brush DC Coreless; Type 1: 22NT Z13 (HipYawPitch, HipRoll, AnkleRoll); Type 2: 17N (WristYaw, Hand); Type 3: 16GT (HeadYaw, ElbowYaw, HeadPitch, ShoulderRoll, ElbowRoll); Type 4: DCX 16S (ShoulderPitch); Type 5: 22NT Z20 (HipPitch, KneePitch, AnklePitch);
Actuator model name and Wattage	<b>Wattage not disclosed by the manufacturer.</b> Continuous torque: Type 1: 17.8 mNm max; Type 1: 4.9 mNm max; Type 1: 6.2 mNm max; Type 1: 2.6 mNm max; Type 1: 17.8 mNm max;
Type of sensors used (incl. type of camera(s) and specific manufacturer part number)	<b>(Most part types are not disclosed by the manufacturer)</b> 2 x 2D CAMERAS (vertically aligned with minimal overlap): OV5640, Pixels (H×V) 2592 x 1944, YUY, RGB, Rolling Shutter/ frame exposure, Field of view 67.4° DFOV (56.3° HFOV, 43.7° VFOV); 4 x microphones in trapezoid arrangement; 1 x Gyrometer (3 axes); 1 x Accelerometer (3 axes); 1 x IMU (3 axes); 2 x Sonar: range 0.20 m to 0.80 m; 8 x Force sensitive resistors: 4 in each foot; Joint movement encoders: Magnetic Rotary Encoder (MRE), hall-effect sensor, Precision: 12 bits / 0.1°;
Computing unit(s)	custom proprietary embedded computer; CPU: ATOM E3845, 2 MB cache, 1.91 GHz; RAM: 4 GB DDR3; Flash: 32 GB eMMC memory; Connectivity: WLAN (IEEE 802.11a/b/g/n), LAN (1×RJ45 - 10/100/1000 BASE T); USB 2.0;
Materials (e.g., Torso aluminium, legs and arms CFRP)	Shell and all bearing parts are manufactured of hard plastic (probably ABS).
Electronics (e.g., CM730 for communicating with servos)	Internal hardware architecture is not disclosed by the manufacturer; Known: Communication between the main computer in the robot's head and the chessboard (motor control) is realized using USB.
Battery (e.g., 3S1P 2200mAh LiPo)	Lithium-Ion; Nominal voltage: 21.6V; Capacity: 2.9Ah.
Open Source link if applicable	–
Other specs (Jerseys if already available)	–

<sup>1</sup>[http://doc.aldebaran.com/2-8/family/nao\\_technical/index\\_dev\\_naov6.html](http://doc.aldebaran.com/2-8/family/nao_technical/index_dev_naov6.html)

<sup>2</sup>[https://maxtronics.com/wp-content/uploads/nao-v6-datasheet\\_en\\_2025.pdf](https://maxtronics.com/wp-content/uploads/nao-v6-datasheet_en_2025.pdf)



Figure 1: NAO V6