

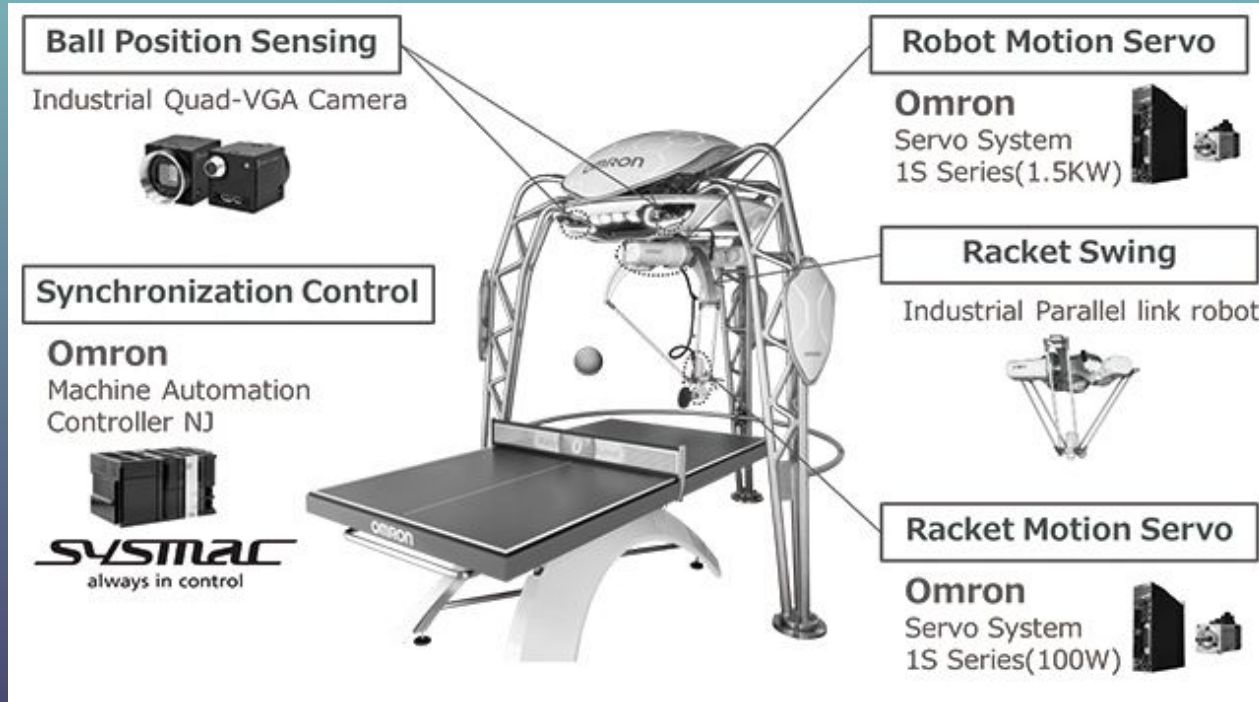
Robotics Hardware: Locomotion and Mechanical Design

NAME: MUHAMMAD ZULHAFIZ BIN ZULKIFLI
MATRIC NO: 1812661

I) Stationary Robots : Omron Forpheus



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1S Drives

Sysmac general purpose servo

Ratings: 230 VAC from 50 W to 1.5 kW, 400 VAC from 400 W to 15 kW

- ✓ 23-bit resolution encoder
- ✓ Fast and secure screw-less push-in in all connectors
- ✓ Pluggable connectors for easy pre-wiring and system maintenance
- ✓ Direct wiring of I/O signals
- ✓ Embedded relay for direct motor brake control
- ✓ Improved loop control for overshoot and quick setting time
- ✓ Safety function built-in:
 - ✓ Network Safe Torque Off: PLd (EN ISO 13849-1), SIL2 (IEC 61508)
 - ✓ Hardwired Safe Torque Off: PLc (EN ISO 13849-1), SIL3 (IEC 61508)



R88D-1SN-ECT 1S-series Servo Drive
Datasheet

PDF 3.46 MB

SYSMAC
always in control

Machine Automation Controller NJ/NX-Series

GSM_NJ_NX-series_DS_E_4_4

New controller that covers functions and high-speed processing required for machine control and safety, reliability and maintainability



NJ701-□□□□



NX501-□□□□

I) Stationary Robots : Omron Forpheus

Omron 100 W Servo Drive, 1 A, 1.8 A, 200 → 240 V ac

OMRON

RS Stock No.: 136-2809 | Mfr. Part No.: R88D1SN01HECT | Manufacturer: Omron



Available for back order.

1 units

Back Order

Price Each

MYR3,959.95

units

Per Unit

1 +

MYR3,959.95

Omron 1S Servo Motor, 750 W, 1 Phase, 230 V

OMRON

RS Stock No.: 214-7405 | Mfr. Part No.: R88M-1M75030H-BS2 | Manufacturer: Omron



Temporarily out of stock - back order for despatch
05/09/2022, delivery within 4 working days from
despatch date

1 units

Back Order

Price Each

MYR7,806.65

units

Per Unit

1 +

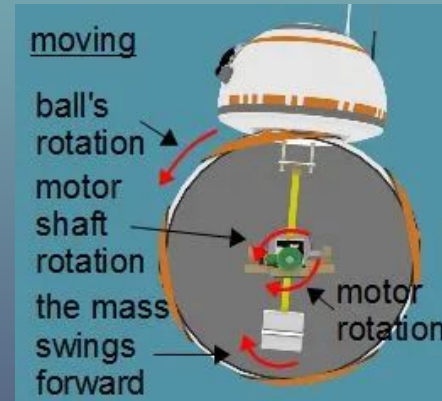
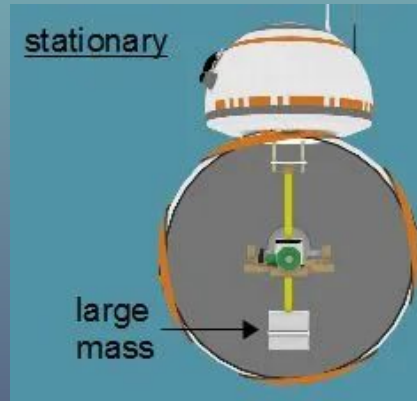
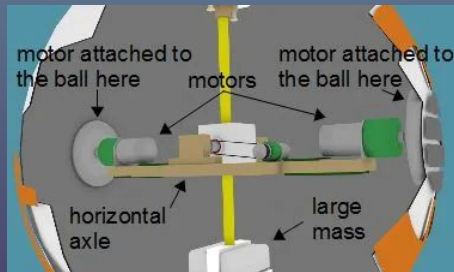
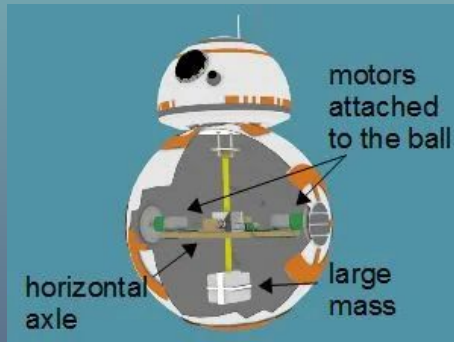
MYR7,806.65

2) Wheeled & Tracked Robots : BB-8



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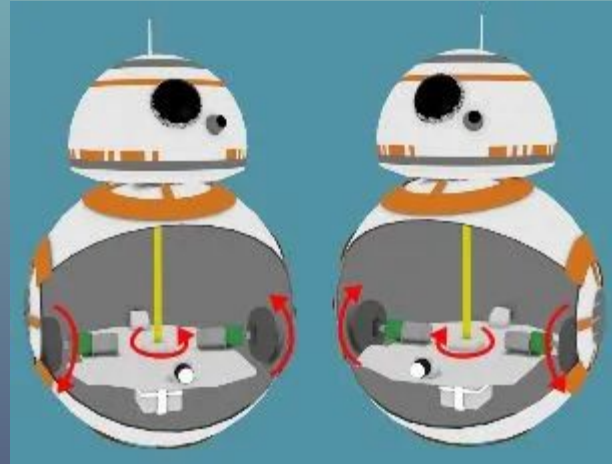
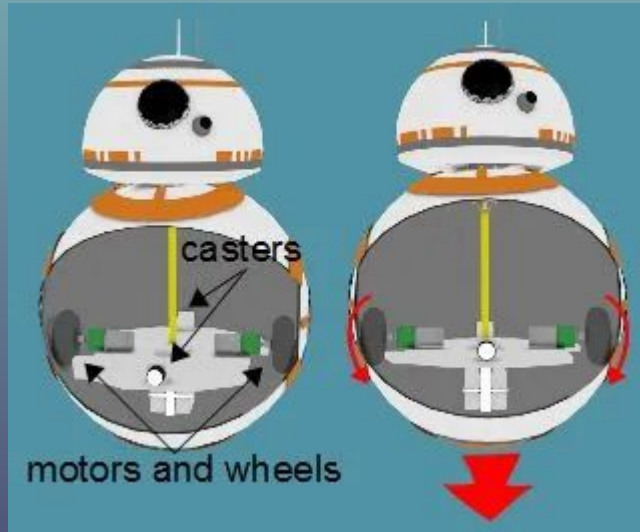
AXLE DRIVE AKA PENDULUM DRIVE



With an axle drive, an axle runs horizontally inside the ball across the middle halfway up. At one or both ends of the axle is a motor and the ball is attached to the motor's shaft. A large mass is suspended from the middle of the axle and is fixed to the axle. When the motors turn the ball, the ball rotates as expected. The large mass swings forward in the direction of the ball's motion. But you may have expected the mass to swing backward.

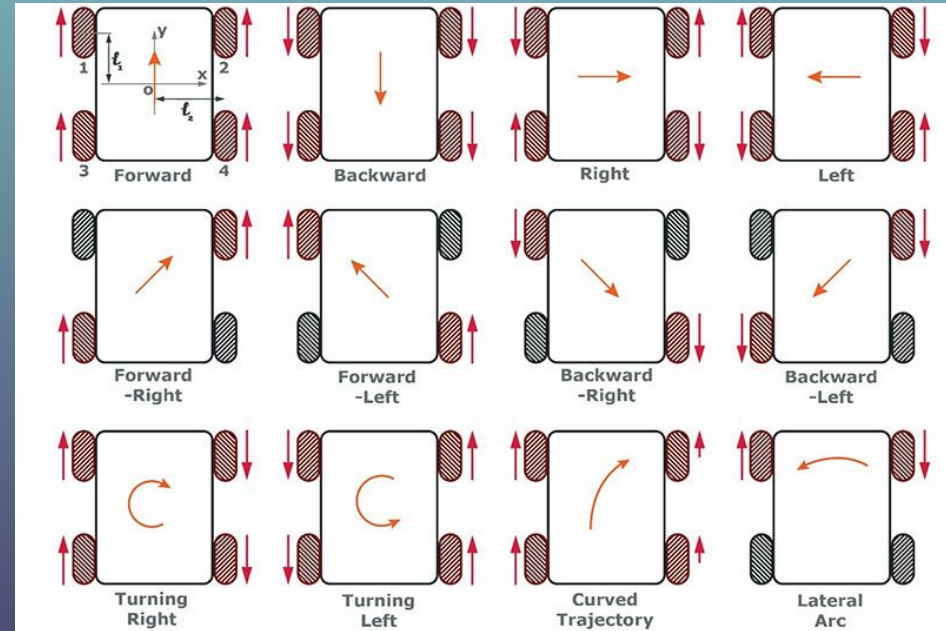
2) Wheeled & Tracked Robots : BB-8

THE HAMSTER DRIVE

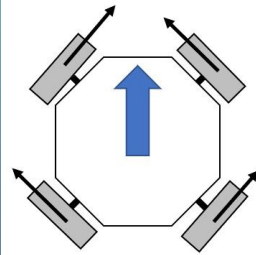
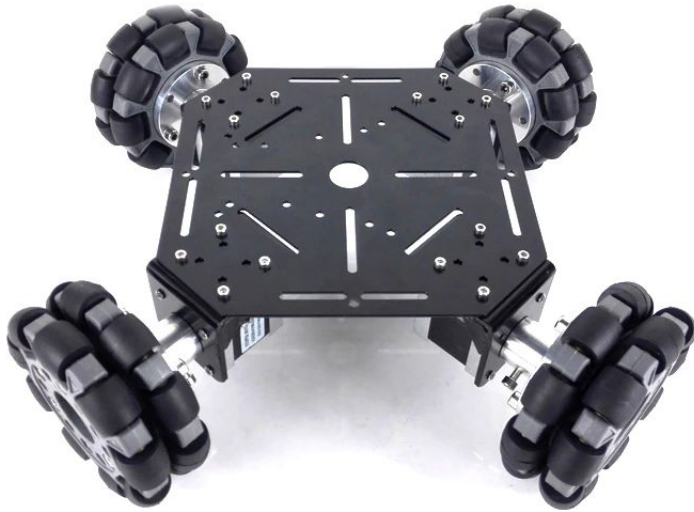


The hamster is typically a two wheeled vehicle that sits inside the ball, not physically attached to the ball in any way. Further support is usually given with casters or free turning balls extending out the front and back to contact the ball and help keep the two-wheeled hamster stable. Moving is done by rotating both wheels in the same direction.

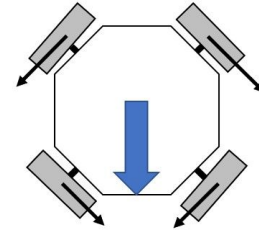
2) Wheeled & Tracked Robots: 4WD Omni Omni-Directional



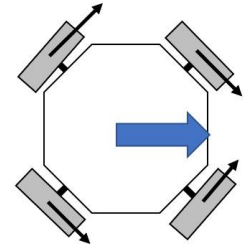
2) Wheeled & Tracked Robots: 4WD Omni-Directional



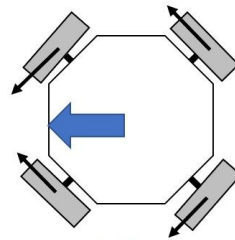
Forward



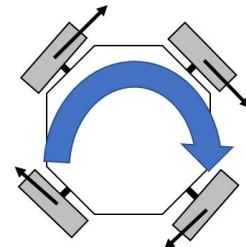
Backward



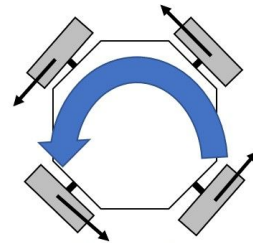
Right



Left



Rotate_R



Rotate_L

2) Wheeled & Tracked Robots: 4WD Omni-Directional



100mm Double Plastic Plate Omni Wheel

★★★★★ 1 Ratings

Brand: NEXUS Robot

[Login to view ProMaker's Insider Price!](#)

RM200.00

10 or more RM184.00

30 or more RM160.00

Cashback: RM6.00

CytronCash Balance: [Login](#)

Availability: 10

- 1 +

 **ADD TO CART**

Product Code: WL-OW-D100

Warranty Period: 12 months



Mecanum wheel 152mm (RIGHT)

★★★★★ 3 Ratings

Brand: NEXUS Robot

[Login to view ProMaker's Insider Price!](#)

RM250.00

10 or more RM240.00

30 or more RM200.00

Cashback: RM7.50

CytronCash Balance: [Login](#)

Availability: 4

- 1 +

Accessories you may need

 Enter desired quantity before clicking 'Add to Cart' button



10mm Key Hub for 152mm Mecanum Wheel

RM45.00

- 0 +



Mecanum wheel 152mm (LEFT)

RM250.00

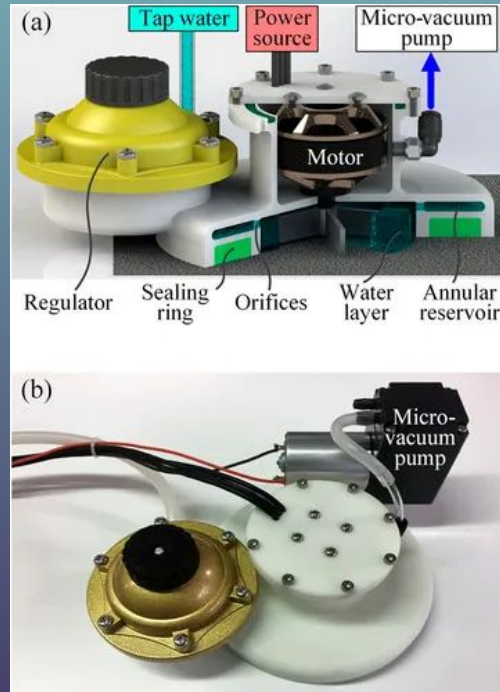
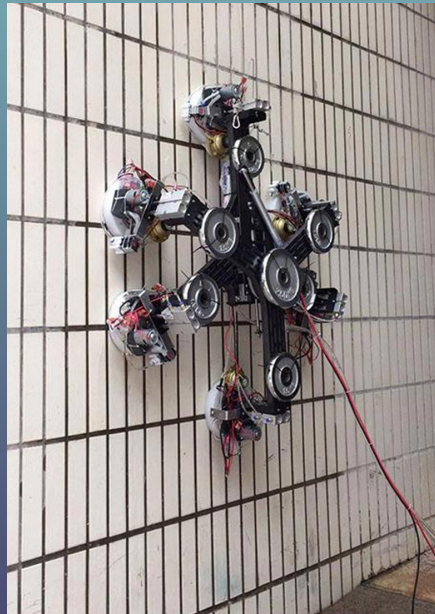
2) Wheeled & Tracked Robots : Wall Climbing (Metal vs Wall vs Glass)



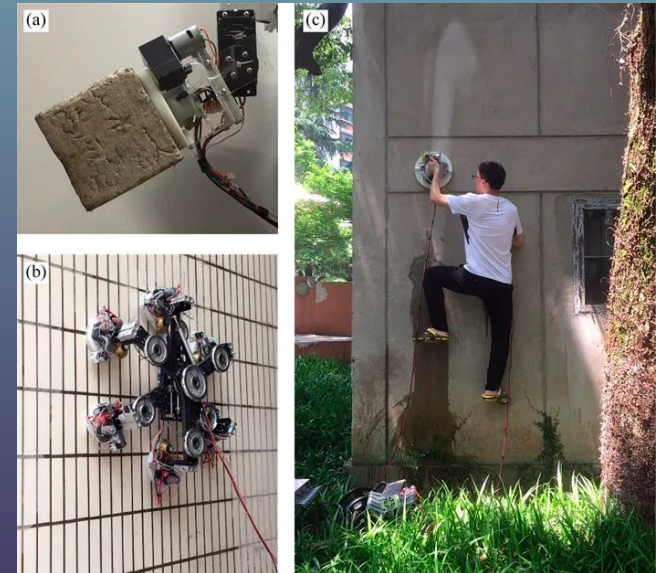
The wall-climbing robot has the following characteristics:

- (1) A wired remote control is applied, which is able to set the multi-pole mobile speed by pressing different keys. This helps to reduce the work intensity of manual measurement and further improves the inspection accuracy.
- (2) A length adjustment mechanism is designed and the length of crawl can be changed appropriately in accordance with the requirement.
- (3) The payload capacity is strong. Either track is installed with 66 permanent magnetic units. All of them are fixed by an aluminum plate to avoid the rust suction.
- (4) Small size and light weight with large adhesion force make the robot portable and stable. It is convenient for operators to navigate in the field.

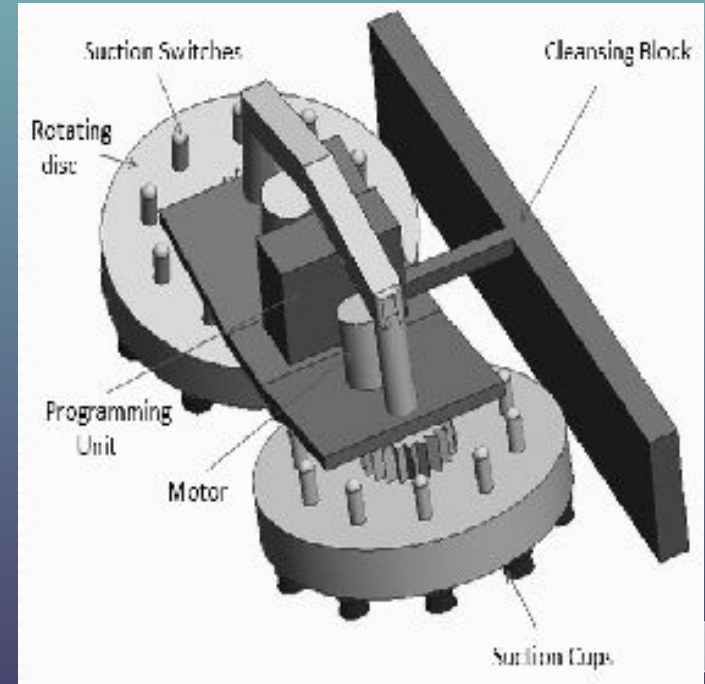
2) Wheeled & Tracked Robots : Wall Climbing (Metal vs Wall vs Glass)



This robot has suction devices attached to each of its six arms. A ring of quickly moving water in each suction device allows this bot to climb up walls.



2) Wheeled & Tracked Robots : Wall Climbing (Metal vs Wall vs Glass)



2) Wheeled & Tracked Robots : Wall Climbing (Metal vs Wall vs Glass)

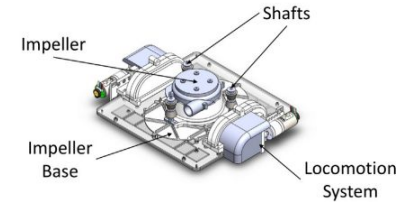
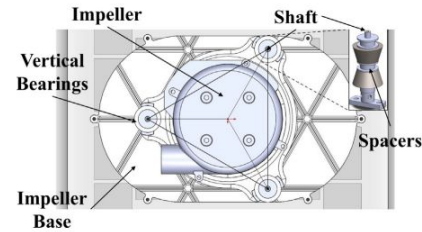
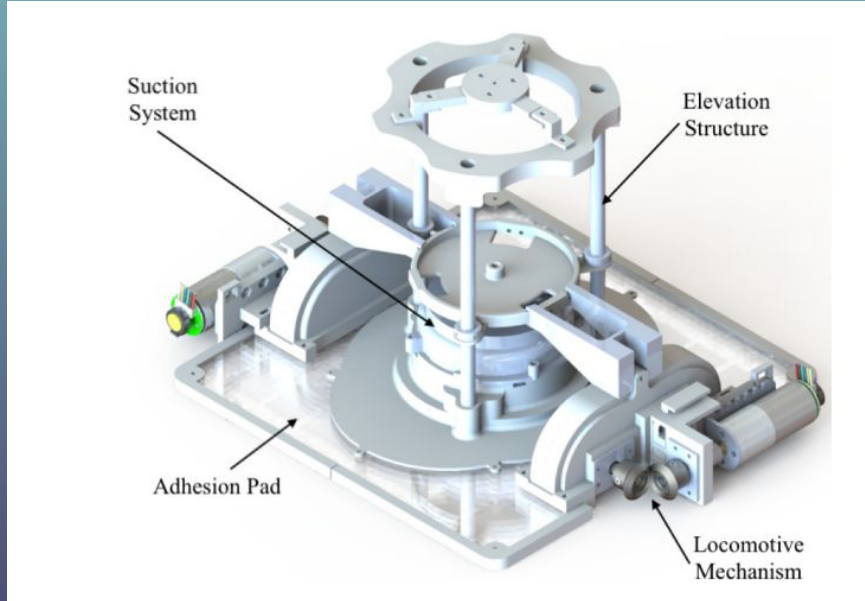


Fig. 6. Roller bearings base for the slip ring of the pad, working like a passive rotational system.

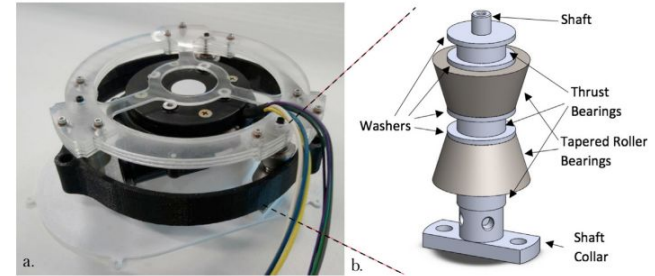


Fig. 7. a. Roller ring mechanism for free rotation of the pad; b. Bearing parts system.

2) Wheeled & Tracked Robots : Wall Climbing (Metal vs Wall vs Glass)



NEMA 17HS4401 Bipolar Stepper Motor

★★★★★ 86 Ratings

Brand: China

[Login](#) to view ProMaker's Insider Price!

RM39.00

10 or more RM35.88

30 or more RM31.20

Cashback: RM1.17

CytronCash Balance: [Login](#)

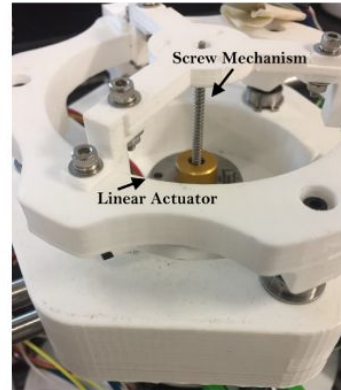
Availability: 28

1

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Product Code: MO-STEP-17

Warranty Period: 12 month



a.



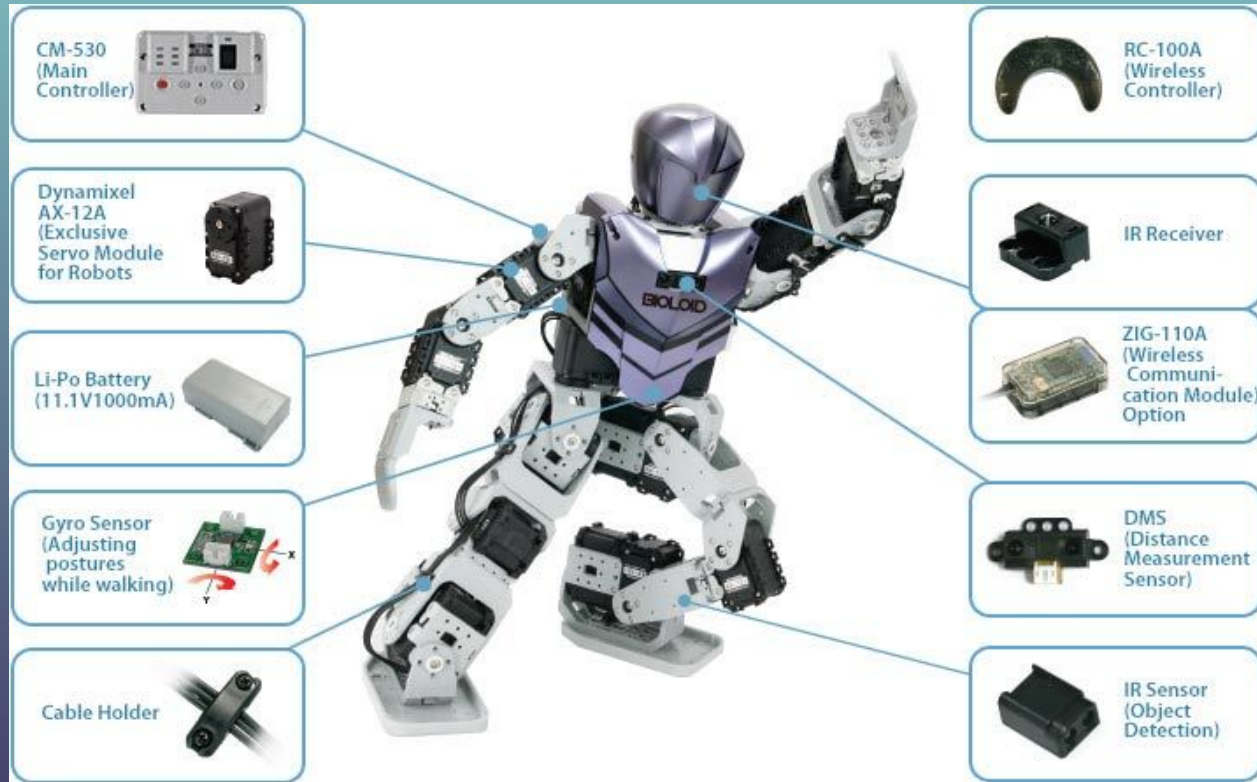
b.

Fig. 8. a. Printed parts and lifting system; b. Linear actuator using uni-polar stepper motor.

3) Legged Robots : BLOLOID Humanoid Robot



3) Legged Robots : BIOLOID Humanoid Robot



3) Legged Robots : BLOLOID Humanoid Robot

902-0003-001

ROBOTIS



[Enlarge](#)

Images are for reference only
See Product Specifications



☐ Compare Product

Mouser No: 184-902-0003-001

Mfr. No: 902-0003-001

Mfr.: ROBOTIS

Customer No:

Customer No

In Stock: 32

Stock: 32 Can Dispatch Immediately

On Order: 88 Expected 3/5/2022

Factory Lead Time: 5 Weeks ?

Enter Quantity: Minimum: 1 Multiples: 1

Buy

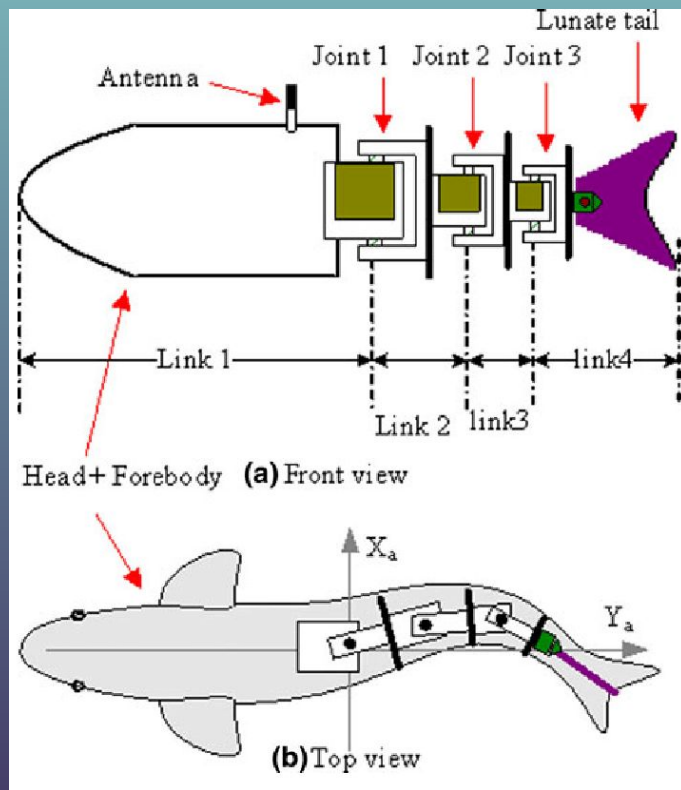
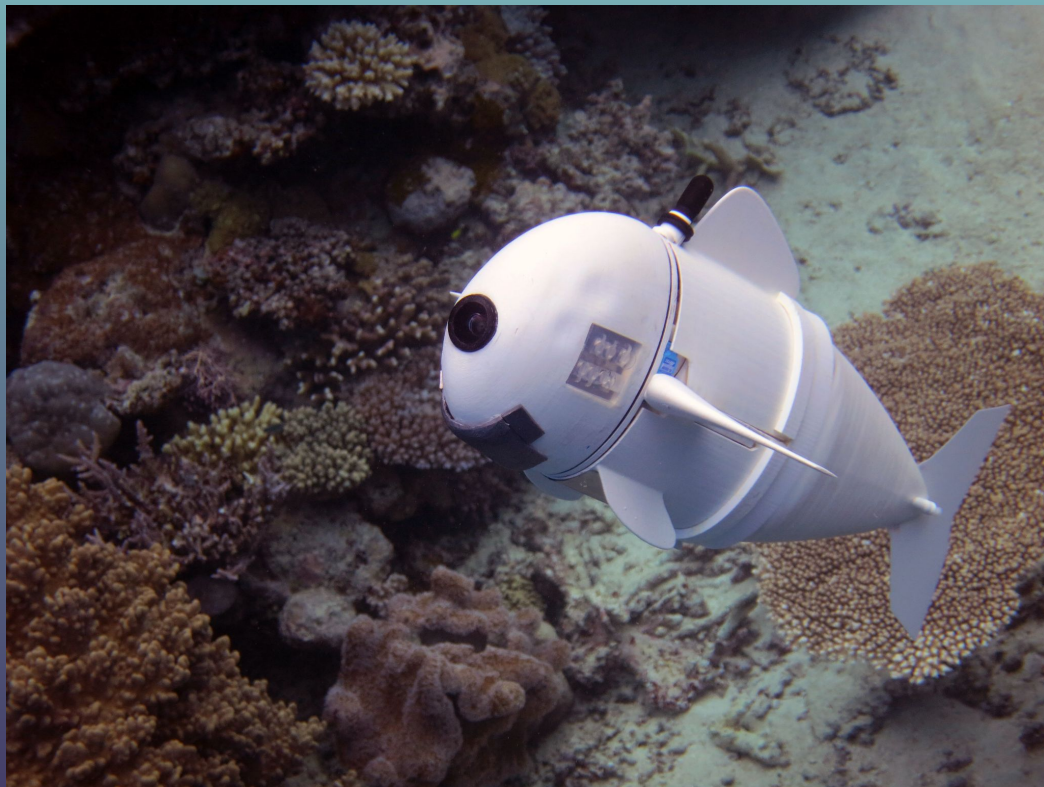
Pricing (MYR)

Qty.	Unit Price	Ext. Price
1	RM203.91	RM203.91

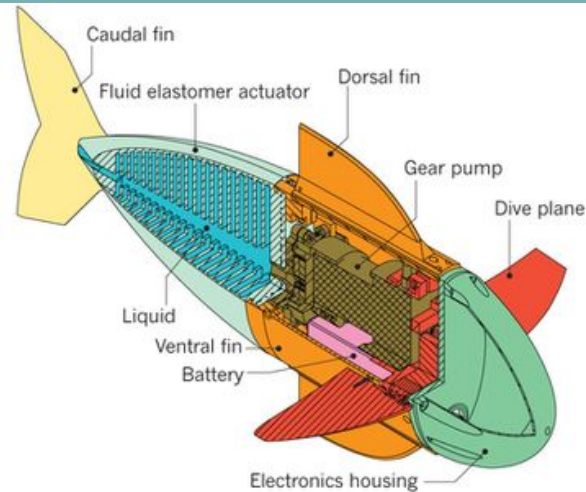
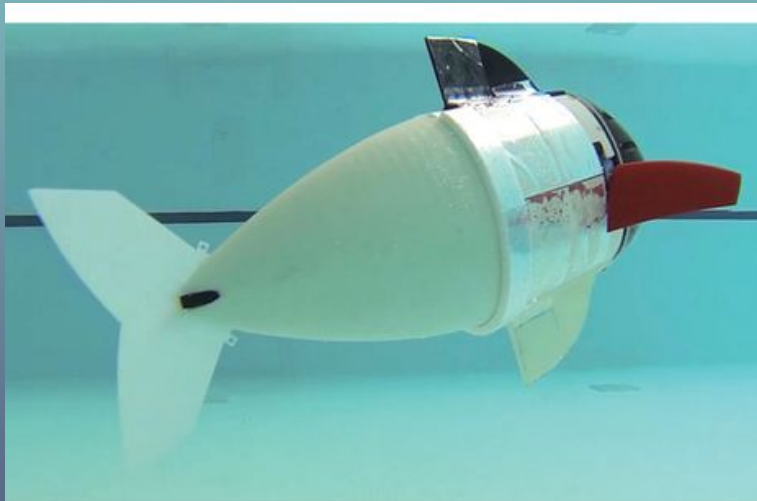
Specifications

Product Attribute	Attribute Value	Search Similar
Manufacturer:	ROBOTIS	<input type="checkbox"/>
Product Category:	Stepper Motors	<input checked="" type="checkbox"/>
RoHS:	Details	
Product Type:	AC, DC & Servo Motors	<input type="checkbox"/>
Type:	Actuator	<input type="checkbox"/>
Voltage Rating:	12 V	<input type="checkbox"/>
Resolution:	1023 steps / rev	<input type="checkbox"/>
Brand:	ROBOTIS	
Length:	50 mm	
Series:	AX	
Factory Pack Quantity:	1	
Subcategory:	Motors & Motor Drives	
Unit Weight:	54.360 g	

4) Swimming Robots : Fish Robot



4) Swimming Robots : Fish Robot



4) Swimming Robots : Fish Robot

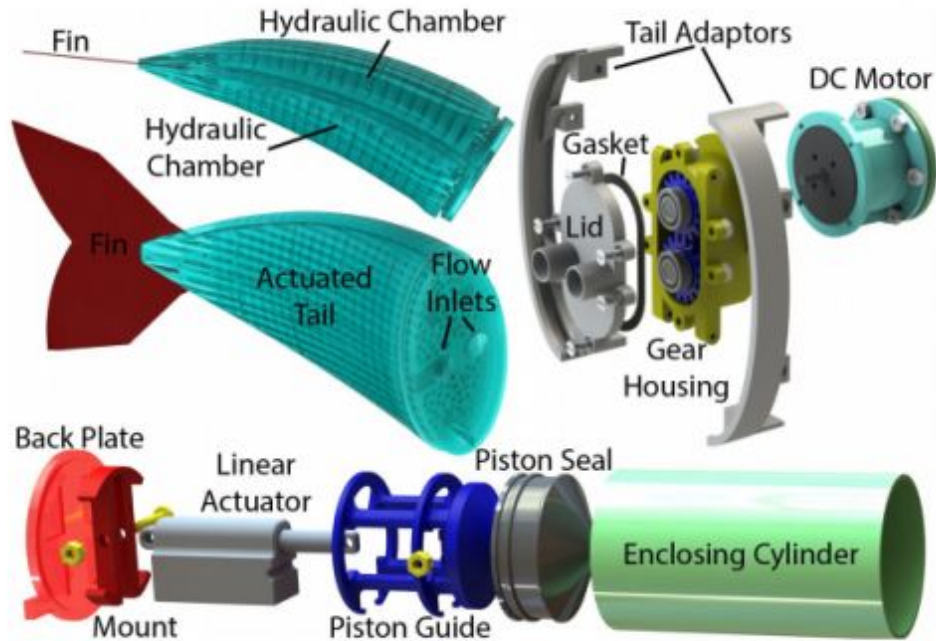
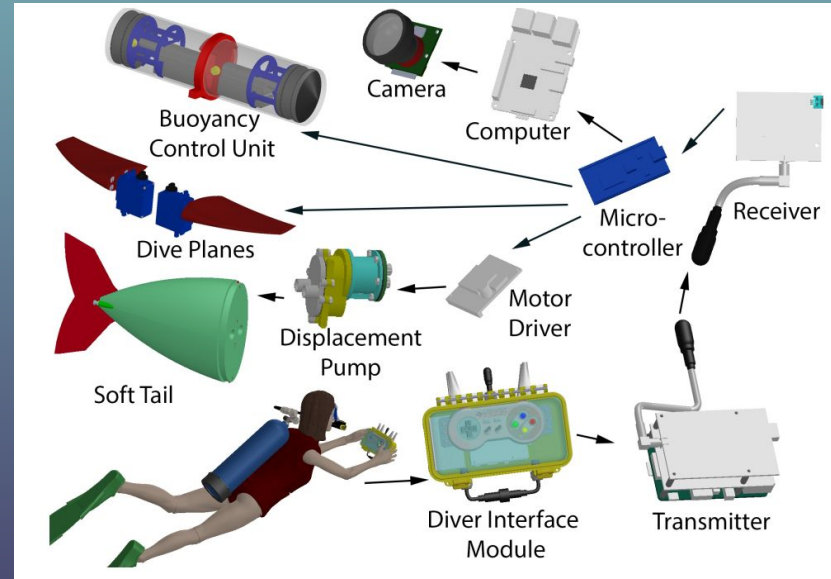
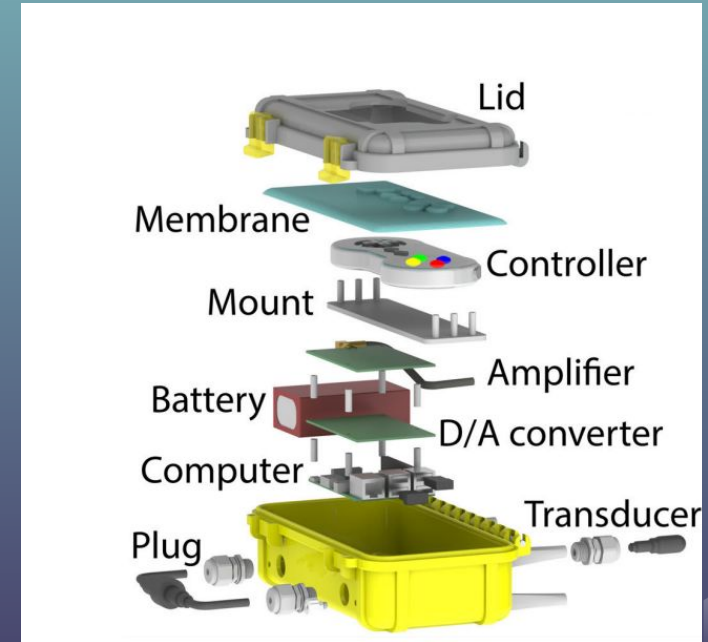
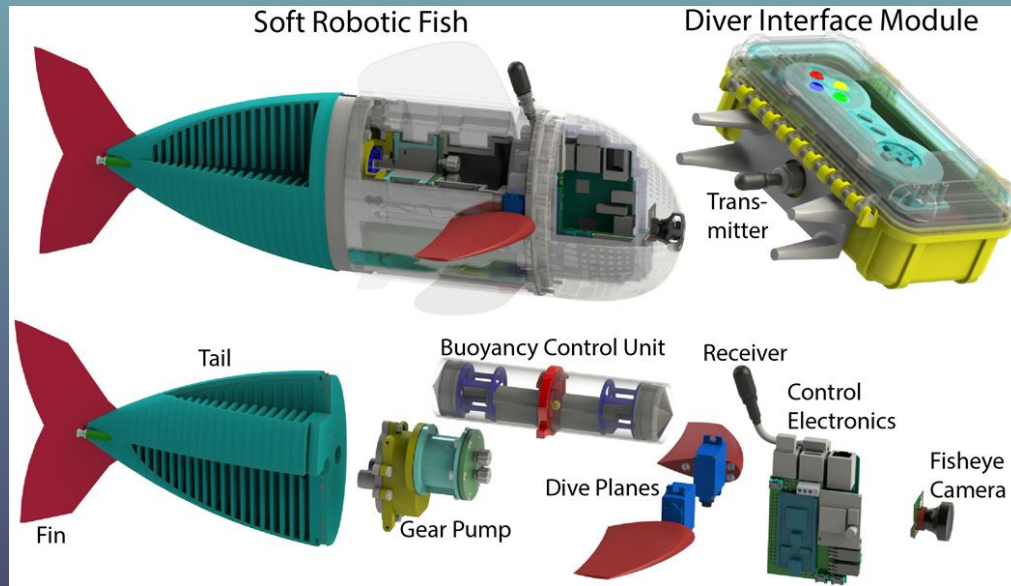


Fig. 7. Soft Tail, Pump, and BCU. Top left: Soft fish tail in actuated state (two views). Top right: Custom external gear pump in an exploded view. Bottom: One of two identical BCU modules in an exploded view.



4) Swimming Robots : Fish Robot



4) Swimming Robots : Fish Robot



SAVOX

SW2210SG-BE -
Waterproof
Premium, High
Voltage, Brushless,
Digital Servo 0.11
sec / 500oz @ 7.4V
-Black Edition

\$107.99 ~~\$133.99~~

QUANTITY

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☐ HS-5646WP
HITEC
Digital
Waterproof

HS-5646WP HITEC DIGITAL WATERPROOF RC SERVO MOTOR



Price	RM176.00 RM220.00
Product SKU	HS-5646WP
Size (L x W x H)	11 cm x 3 cm x 7 cm
Points Needed	22000
Availability	39

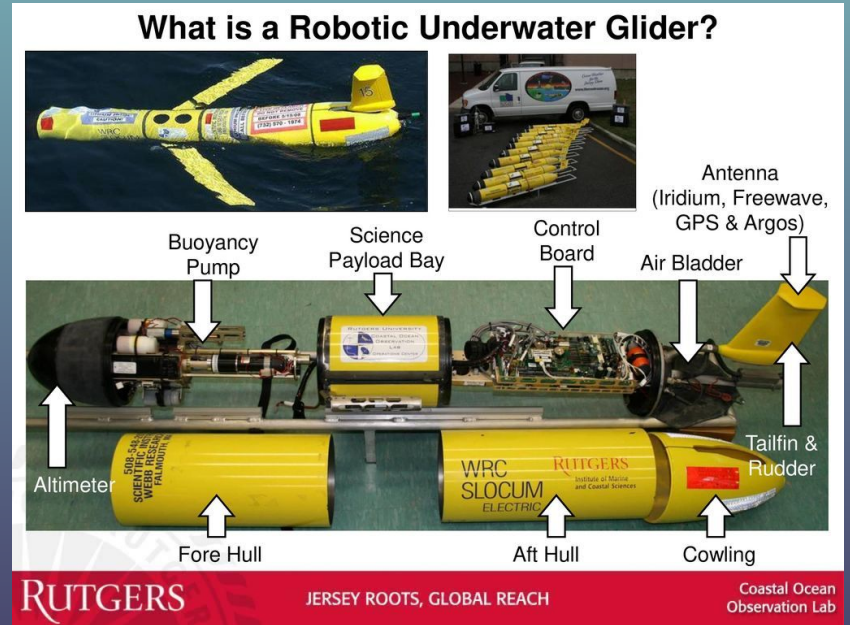
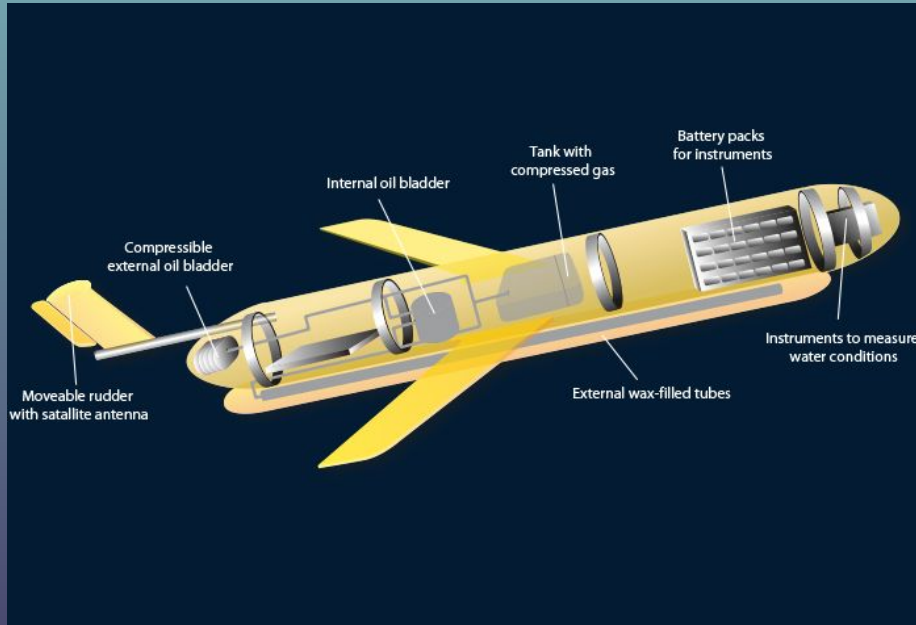
Quantity

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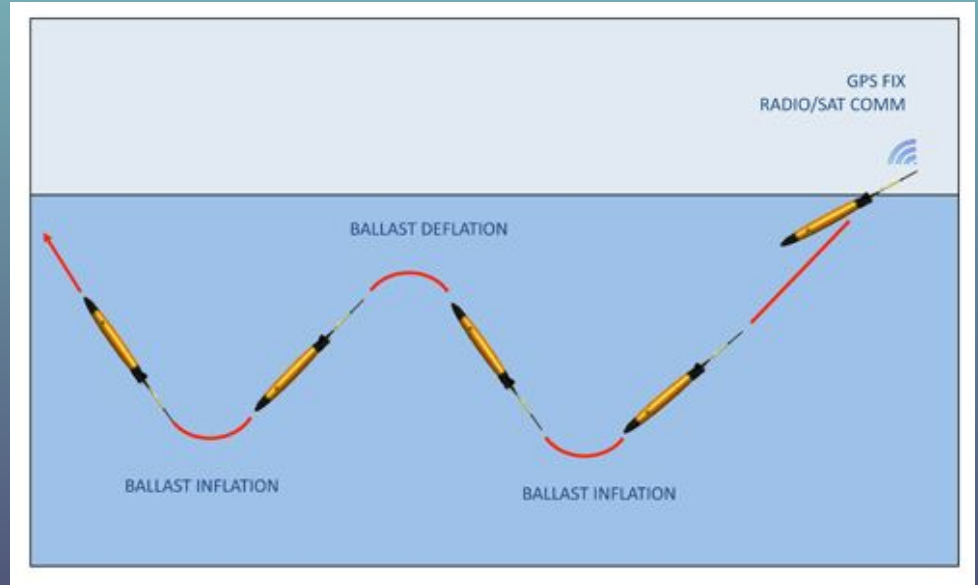
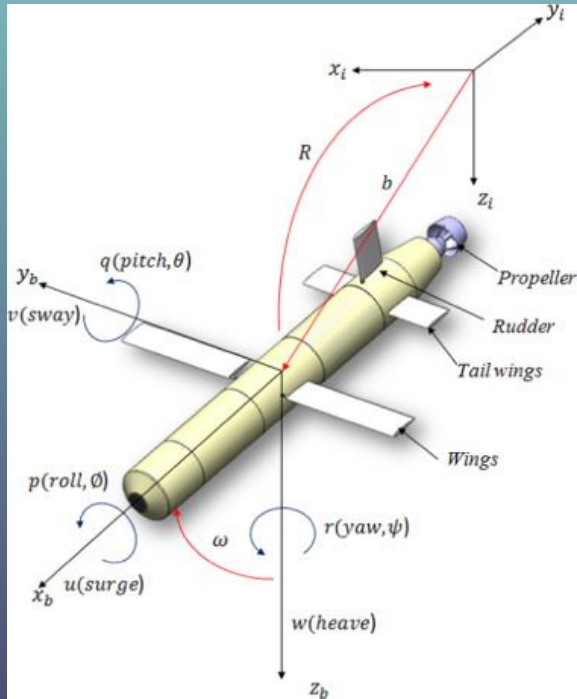
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4) Swimming Robots : Underwater Glider Robot




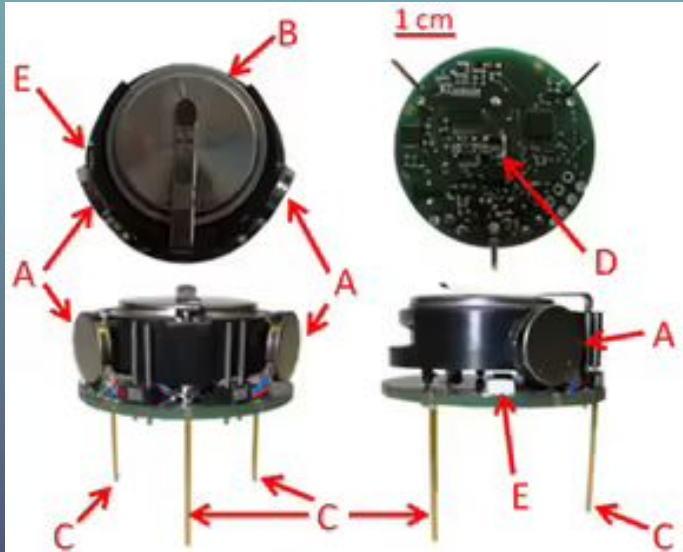
4) Swimming Robots : Underwater Glider Robot



5) Others : Kilobot



5) Others : Kilobot



Mini Disc Vibrating Motor 1027

★★★★★ 32 Ratings
Brand: China

RM4.50

10 or more RM4.14
100 or more RM3.60
Cashback: 3%
CytronCash Balance: [Login](#)

Availability: ● 150

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Product Code: MO-VIB-1027
Warranty Period: 12 months

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