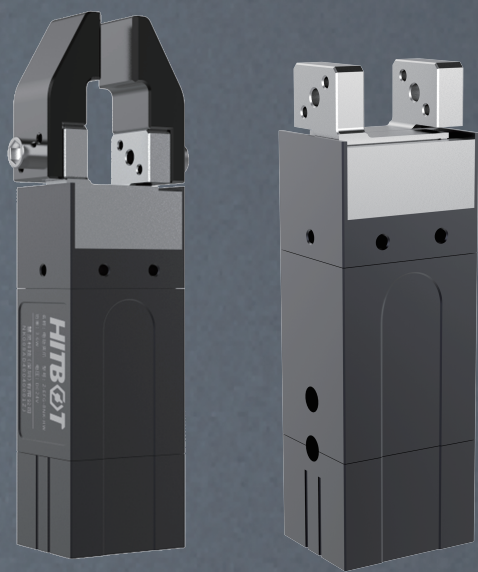




Product Brochure

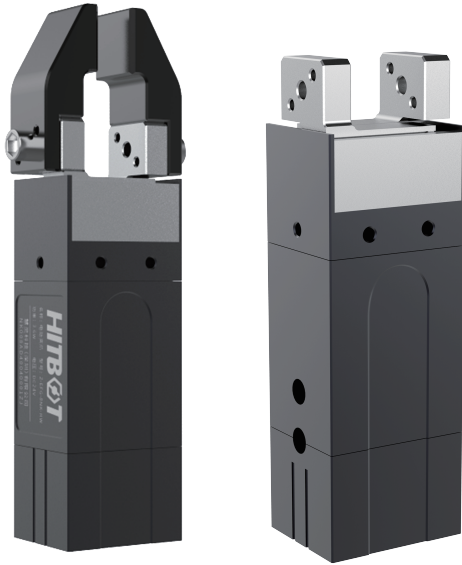
The most affordable or nothing.

Main category: Industrial robot arm / Collaborative robot arm /
Electric gripper / Intelligent actuator / Automation solutions



Z-EFG-8S

Electric 2-Fingers Parallel Gripper



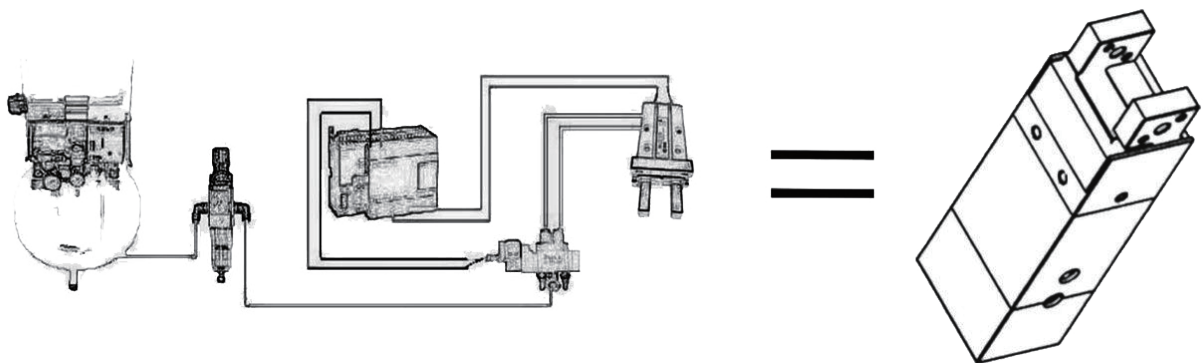
Product Features

- with servo motor
- The end can be replaced to adapt to various needs
- Pick up fragile and deformable objects such as eggs, test tubes, rings, etc.
- Apply for scenes without air source (e.g. laboratory, hospital)

Promoting a revolution in the replacement of pneumatic grippers by electric grippers

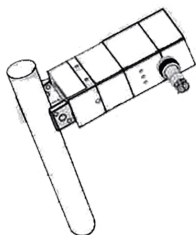
First electric gripper with integrated servo system in China

Highly Integrated

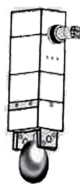


- Perfect replacement for air compressor + filter + solenoid valve + throttle valve + pneumatic gripper
- Multiple cycles service life, consistent with the traditional Japanese cylinder

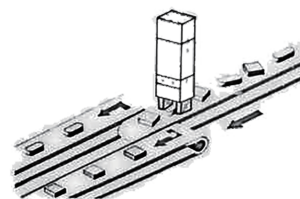
Application Scenes



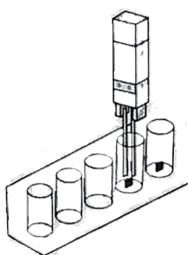
Fragile scene (e.g. test tube)



Fragile scene (e.g. eggs)



Sorting out things that are arranged in a mess



Gripping in narrow scene



Deformable scene (e.g. rings)



Gripping fragile items at high frequency

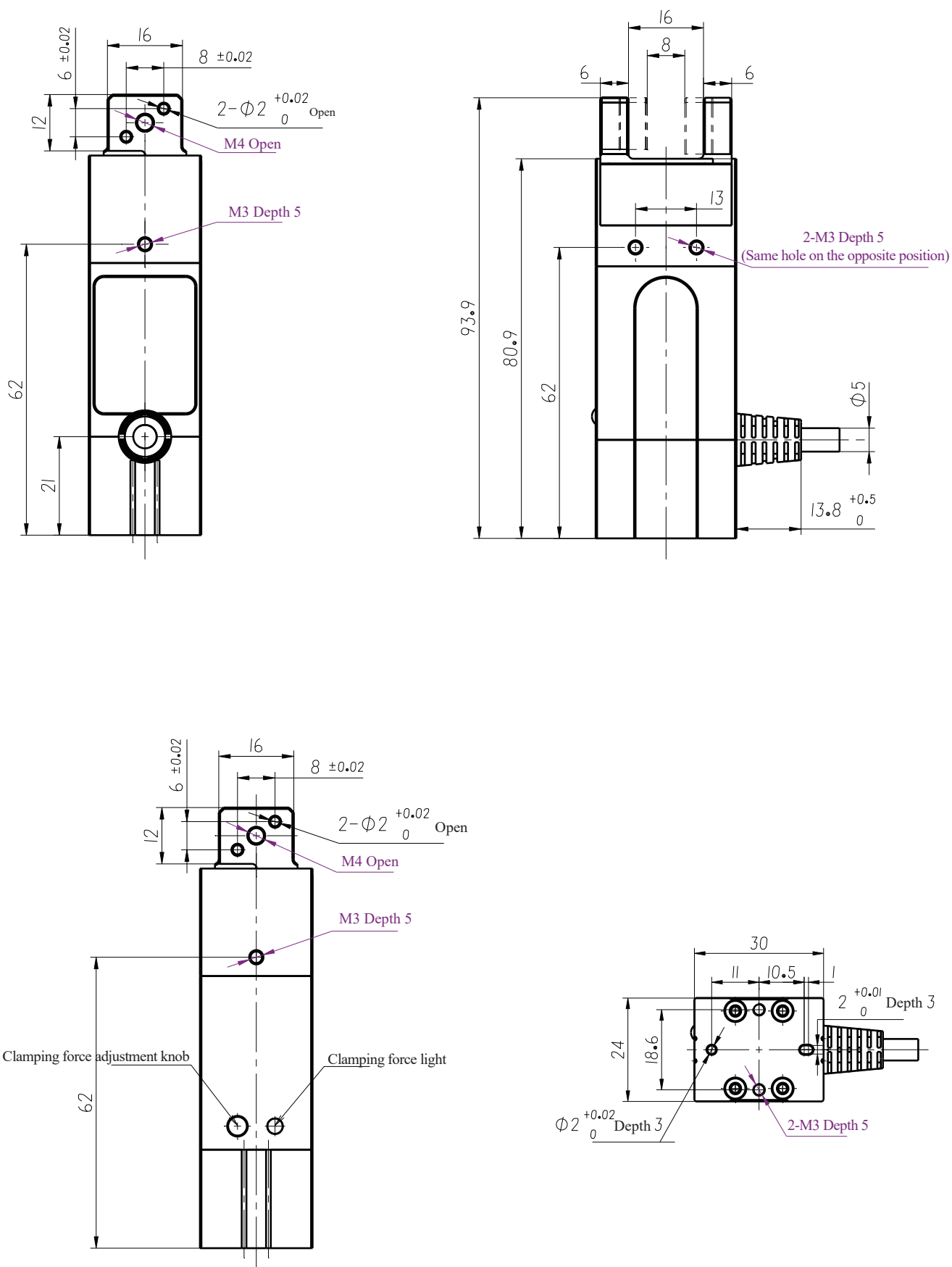


Apply for scenes without air source (e.g. laboratory, hospital)

Specification Parameters

Model No. Z-EFG-8S	Parameter
Total stroke	8mm
Gripping force	8-20N (Adjustable)
Backlash	Single-sided 0.2mm
Recommended gripping weight	0.3kg
Transmission mode	Gear rack + Cross roller guide
Grease replenishment of moving components	Every six months or 1 million movements / time
One-way stroke motion time	0.1s
Weight	0.25kg
Dimensions	30*24*93.9mm
Operating voltage	24V±10%
Rated current	0.2A
Maximum current	0.6A
Protection class	IP20
Motor type	Servo motor
Operating temperature range	5-55°C
Operating humidity range	RH35-80 (No frost)
Adjustable stroke	Non-adjustable
Controller placement	Built-in

Dimension Installation Diagram



Wire Sequence Description (NPN)

Grey Wire	Black Wire	Function	Description	Remarks
Red	Pink	+24V	Power supply	Connected required
Black	Grey	GND	Power supply	Connected required
Green	Orange	Control signal (control clamping or loosening)	· If the logic level of the controller is 24V, it can be connected directly to the I/O port. The internal is an optocoupler in series to pull up a 2.2K resistor to the internal 24V · If the output is NPN type I/O, it can be directly connected to I/O. · If the controller output is PNP type, please choose PNP type gripper	Connected required
Yellow	Yellow	Signal output	· Selective connection, read-only and display the status of LED · Output 0V when in motion, output open-drain when motion ends	Selective connection

* Notes

1. The potentiometer is located next to the indicator light on the side of the gripper.
2. The factory default potentiometer is 3 gears.

Wire Sequence Description (PNP)

Grey Wire	Black Wire	Function	Description	Remarks
Red	Pink	+24V	Power supply	Connected required
Black	Grey	GND	Power supply	Connected required
Green	Orange	Control signal (control clamping or loosening)	· If the logic level of the controller is 24V, it can be connected directly to the I/O port. The internal is an optocoupler in series with a 2.2K resistor · If the logic level of the controller is 24V PNP, it can be directly connected to the I/O port · If the controller output is NPN type, please choose NPN type gripper	Connected required
Yellow	Yellow	Signal output	· Selective connection, read-only and display the status of LED · Output 0V when in motion, output open-drain when motion ends	Selective connection

* Notes

1. The potentiometer is located next to the indicator light on the side of the gripper.
2. The factory default potentiometer is 3 gears.

Caution

Among the wires that must be connected are, +24V, GND, control signal (control direction, clamping or loosening).

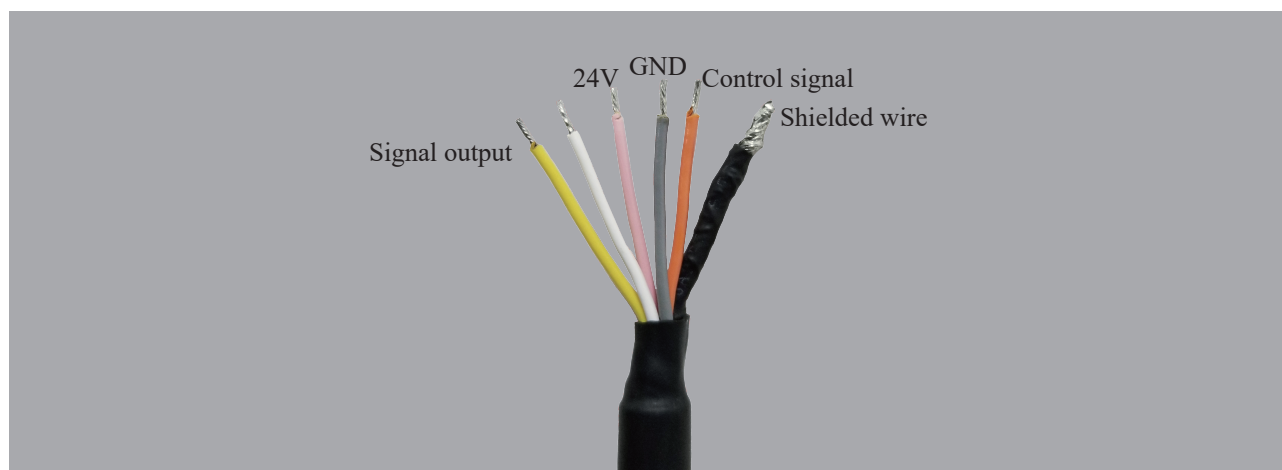
Working Process

1. Adjust the clamping force: adjust the knob according to the required force.
2. Connect the power wire and signal wire, and power on the gripper, at this time, the indicator light is on , the gripper is in a forceless state.
3. Input a valid signal to the gripper control signal (orange wire) (NPN and PNP levels are different) , the gripper is opened, when there is no signal or the signal is invalid the gripper is closed.

Indicator Knob Diagram

Gear	Color	Clamping force
4	Yellow	20N
3	Green	16N
2	Blue	12N
1	Light blue	8N
Invalid area	Red	Invalid

Z-EFG-8S Output Wire Physical Diagram



FAQ

1. There is a requirement for the concentricity of rotation, so when the two sides of the gripper are close, does it stop at the middle position each time?

Answer: Yes, there is a symmetry error of $<0.1\text{mm}$, and the repeatability is $\pm 0.02\text{mm}$.

2. Does the gripper include the fixture part?

Answer: No. Users need to design their own fixture part according to the actual clamped items. In addition, Hitbot provides a few fixture libraries, please contact our staff for more details.

3. Where is the drive controller and do I need to pay extra money for it?

Answer: It is built-in, no extra charge, the amount of the gripper already includes the cost of controller.

4. Is it possible to have a single finger movement?

Answer: No, single finger movement grippers are still under development, please contact our staff for more details.

5. What is the operating speed of Z-EFG-8S?

Answer: Z-EFG-8S takes 0.1s for a full stroke in one direction and 0.2s for a round trip.

6. What is the gripping force of Z-EFG-8S and how to adjust it?

Answer: 8-20N, adjustable by knob.

7. How to adjust the stroke of Z-EFG-8S?

Answer: Z-EFG-8S does not support adjusting stroke.

8. Is the electric gripper waterproof ?

Answer: IP protection class 20.

9. What kind of motor is used in Z-EFG-8S?

Answer: Servo motor.

10. Is it possible to use Z-EFG-8S or Z-EFG-20S jaws for gripping items larger than 20mm?

Answer: Yes, 8mm and 20mm refer to the effective stroke, not the size of the object to be clamped. Z-EFG-8S can be used to clamp objects with the maximum to minimum size difference within 8mm. The Z-EFG-20S can be used for clamping objects with the maximum to minimum size difference within 20mm.

11. If it keeps working, will the motor of the electric gripper overheat?

Answer: After professional testing, the surface temperature of Z-EFG-8S will not exceed 60 degrees when clamping continuously at a temperature of about 30 degrees.