

Electric Parallel Gripper

PGIA Series



*The dimensions and mounting hole positions are the same as the original PGI model, with only the wiring direction changed.

Product Features

Based on the industrial requirements of “long stroke, high load, and high protection level” , DH-Robot ics independently developed the PGIA series of industrial electric parallel gripper. The PGI series is widely used in various industrial scenarios with positive feedback.

Long stroke reach to 80 mm. With the customization fingertips, it can stably grasp the medium and large objects below 3kg and suitable for lots of industrial scenes.

 High Protection Level

The protection level of PGIA-140-80 reaches to IP54, which is able to work under harsh environment with dust and liquid splash.

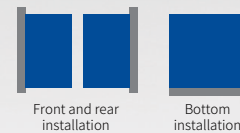
High Load

The maximum single-sided gripping force of PGIA-140-80 is 140 N, and the maximum recommended load is 3 kg, which can meet more diverse gripping needs.

PGIA-140-80

Electric Parallel Gripper

Integrated-Drive



Selection Method

Serie	Gripping Force	Stroke	Brake	Cable Direction	Communication Protocol	Cable Selection	Fingertip Selection
PGIA	140	80	O	F1	M1	L1	J0
140	80	O Without Brake W With Brake * ^③	F1 F2 F3 F4	M1 Modbus (RS485)+I/O (NN) M2 Modbus (RS485)+I/O (PP) M3 Modbus (RS485)+I/O (NP) M4 Modbus (RS485)+I/O (PN)	L1 1m Direct Cable Outlet L3 3m Direct Cable Outlet L5 5m Direct Cable Outlet L10 10m Direct Cable Outlet Robot Cable * ^④	J0 Without Fingertip J1 Standard Fingertip	

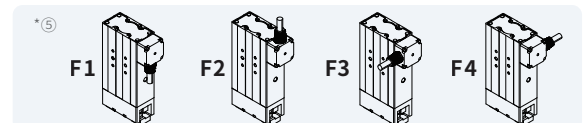
*① I/O(NN): NPN/NPN I/O(PP): PNP/PPN I/O(NP): NPN/PPN I/O(PN): PNP/PPN

*② It is recommended that no more than 4 units of DH-Robotics products be accessed on a single 485 bus, otherwise 485 communication anomalies may occur.

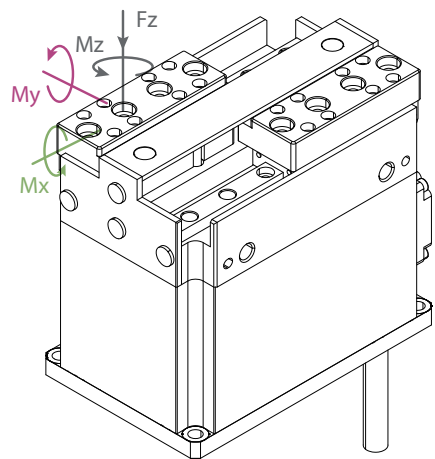
(3) When selecting a model with a brake, the gripper can maintain a certain gripping force after power-off, preventing materials from falling. "Power-off" here refers to cutting off the 220V power supply, at which point the gripping force will decrease to 85% of the powered-on level.

*4	C01	SIASUN	DOBOT CR	UR CB	C02 JAKA
	Elite CS	Hanwha A	DOBOT Nova	UR E	

Note: The RS485 module option has been removed from the selection parameters. Please purchase separately if needed.



TECHNICAL SPECIFICATIONS



Product Parameter	PGIA-140-80
Gripping force(per jaw)	40~140 N
Recommended workpiece weight* ^②	3 kg
Stroke	80 mm
Repeat accuracy (positioning)	± 0.02 mm
Weight	1 kg
Dimensions (L xW x H)	97mm*62mm*86mm
Noise emission	< 50 dB
Driving method	Rack and Pinion Crossed Roller Guide
Working Environment	
Communication interface	Standard: Modbus RTU (RS485)、Digital I/O(2 inputs 2 outputs) Optional: TCP/IP、USB2.0、CAN2.0A、PROFINET、EtherCAT * ^③
Nominal voltage	24 V DC ± 10%
Nominal & Max. current	0.7 A (Rated) / 1.6 A (Peak)* ^④
Max power	40 W
IP protection class	IP 54
Recommended operating environment	0~40℃, under 85% RH
Overseas standards	CE, FCC, RoHS

✓ Build-in Controller	✓ Gripping Force Adjustable	✓ Position Adjustable	✓ Speed Adjustable	✓ Drop Detection	✓ Self-locking Mechanism
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*^② The shift in the center of gravity of the object being gripped can also affect the load, depending on factors such as the shape of the object, the material of the contact surface, friction, and the acceleration of movement. If you have any questions, please feel free to contact us.

*^③ Requires external communication convertor or customization, please contact sales or technical support.

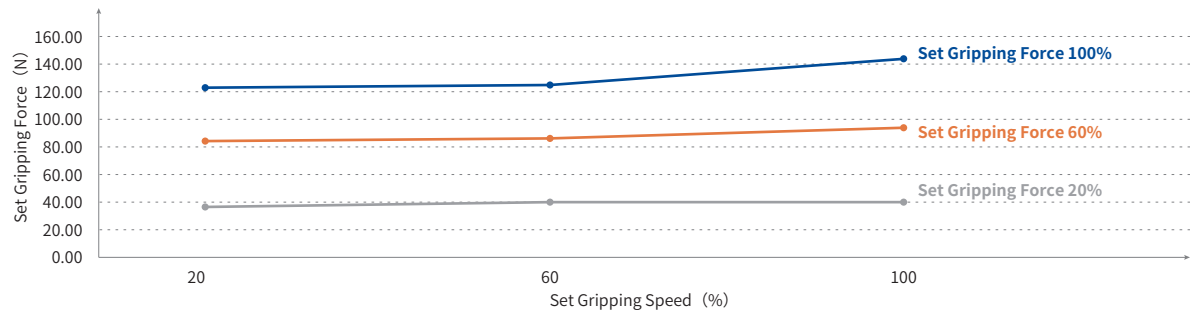
*^④ When selecting the power supply, please select according to the peak current. If the current is lower than the parameter, it will cause the product can not work normally.

Gripping CT Reference Table

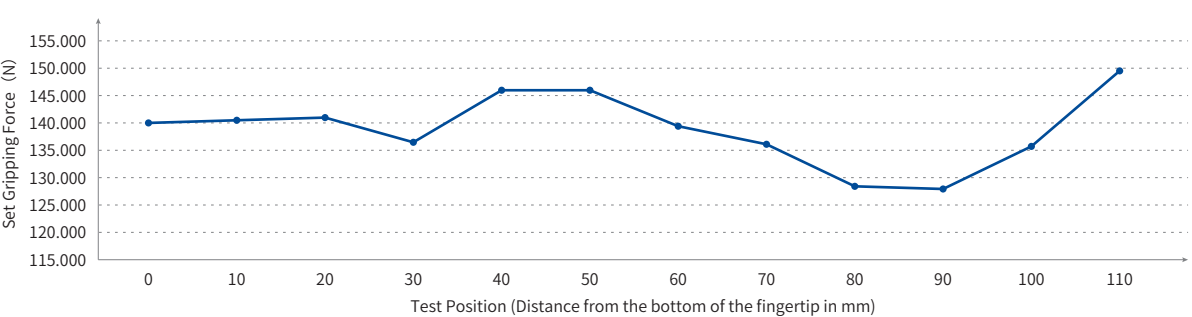
Test Type	Gripping Time (ms) [Impact, gripped object, target position set to 0, 50% force, 100% speed]				Gripping Time (ms) [Impact, gripped object, target position set to 0, 100% force, 100% speed]			
	Side Avoidance 3mm	Side Avoidance 5mm	Side Avoidance 10mm	Full Stroke Clamping	Side Avoidance 3mm	Side Avoidance 5mm	Side Avoidance 10mm	Full Stroke Clamping
PGIA-140-80	185	244	387	1239	140	181	262	776

Test Type	Opening Time (ms) [50% force, 100% speed to position]				Opening Time (ms) [100% force, 100% speed to position]			
	Side Avoidance 3mm	Side Avoidance 5mm	Side Avoidance 10mm	Full Stroke Clamping	Side Avoidance 3mm	Side Avoidance 5mm	Side Avoidance 10mm	Full Stroke Clamping
PGIA-140-80	189	243	383	1240	187	215	298	777

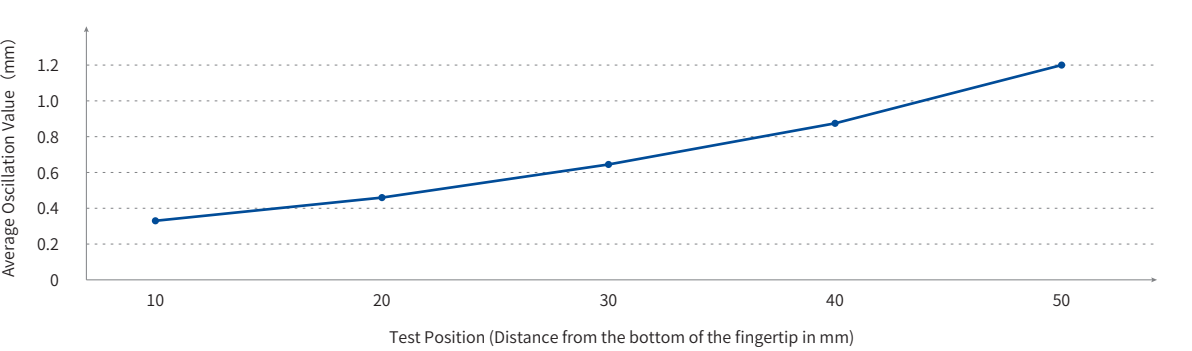
Actual Output Reference Curve for Different Force and Speed



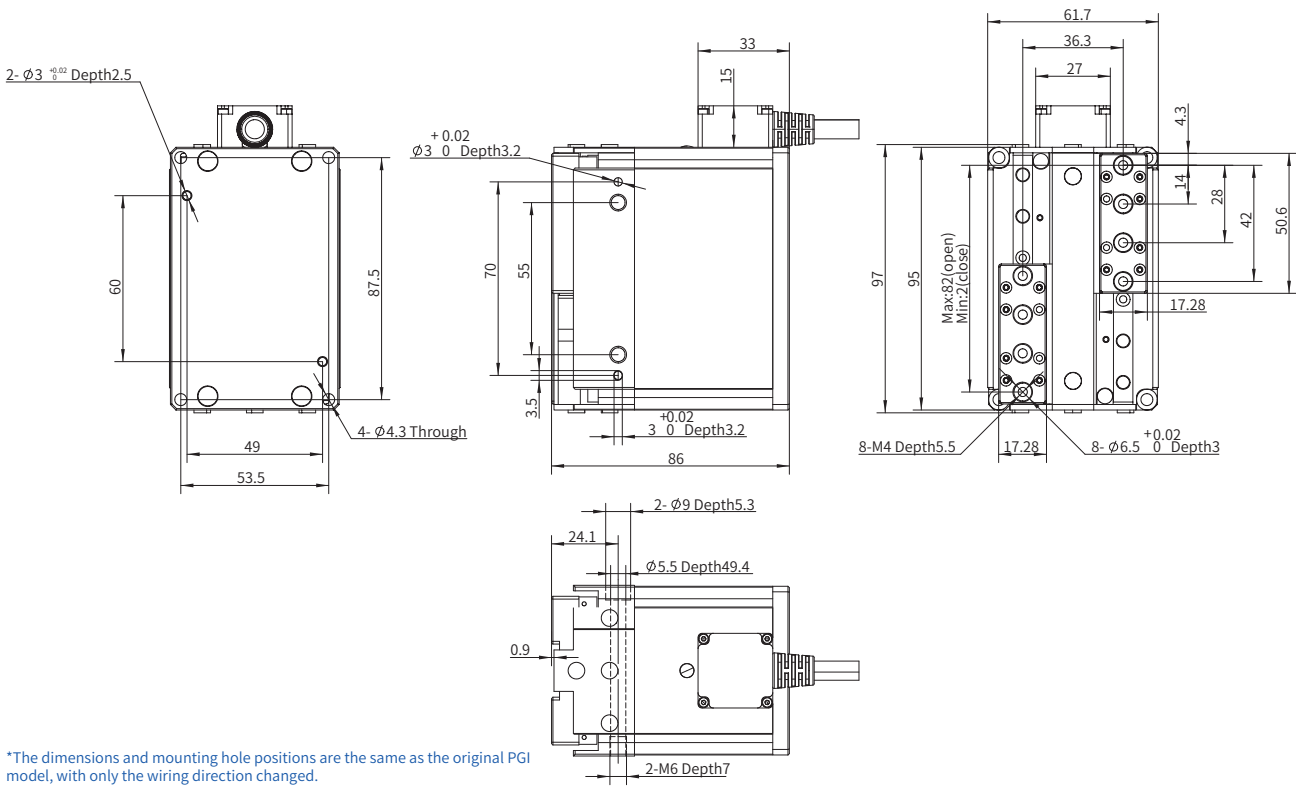
Gripping Distance Force Decay Reference Curve



Gripping Distance Oscillation Reference Curve



Technical Drawings



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