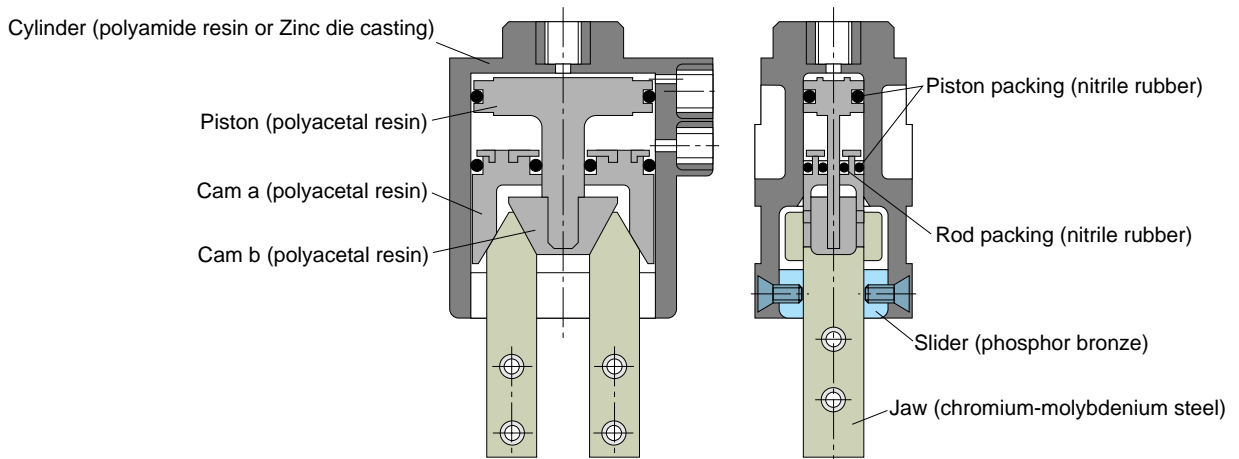


Parallel Type Gripper

Features

- Space saving, light-weight, and high cycling are achieved by compact oval cylinder.
- Plastic type is light-weight and die casting type is superior in durability.
- Due to side-sliding of proximity switch, adjustment to work piece enables operation or clamping to be confirmed by LED lightening (sensor type).

Construction



Gripper specification

Type	HP 15P	HP 20P	HP 20D	HP 30D
Operation type	Double acting			
Fluid admitted	compressed air (no lubrication)			
Service pressure range	42.6~100psi (0.3~0.7MPa)	35.5~127.8psi (0.25~0.9MPa)		
Service temperature range	14~140°F (-10~60°C) (No freezing)			
Port size	M5×0.8			
Cylinder cross sectional area	0.26in. ² (1.7cm ²)	0.51in. ² (3.3cm ²)	1.12in. ² (7.2cm ²)	
Jaw opening range	0.11in. (1.7mm)	0.20in. (5mm)	0.35in. (8.8mm)	
Repeated accuracy	±0.05 (Center of Jaw)			
Max-operation cycle	100 C.P.M.			

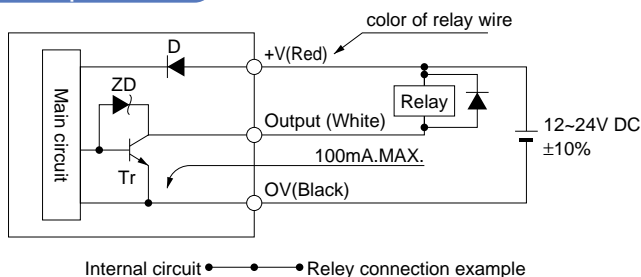
Option

Type	HC 15P	HC 20P	HC 20D	HC 30D
Mounting bracket (B)	○	○	—	—
Sensor (S)	○	○	○	○

Sensor specification

Power supply	12~24V DC
Power consumption	15mA or below
Output	NPN Transistor Open collector Max. input current 100mA Input voltage 30V DC or below
Operation indicator	Red LED(light up when Output is ON)
Operation ambient temperature	14~131°F (-10~+55°C)
Cable	0.08SQ 3 wire 1m

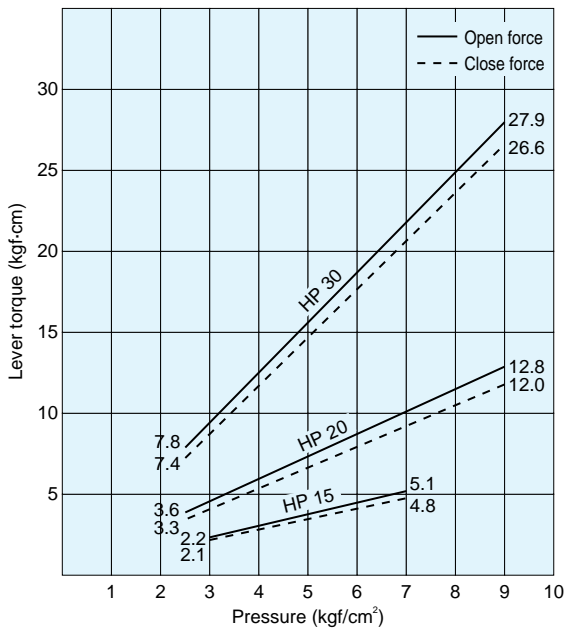
Input / Output circuit



Code

- D : protection diode for reversed power supply
- ZD : Zener diode for surge voltage absorption
- Tr : output transistor

Selection



Lever torque (theoretical value)

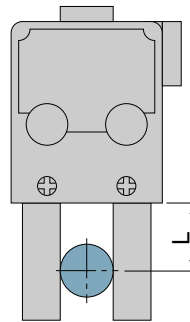
Theoretical grip force can be calculated by the following formula.

$$F = \frac{M}{L}$$

F : Theoretical grip force (kgf)

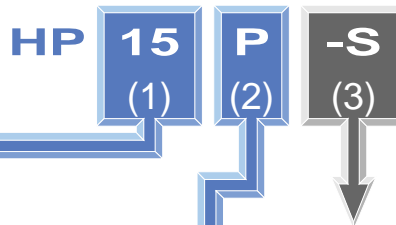
M : Lever torque(kgf-cm)

L : Distance between jaw fulcrum to grip point (cm)



Caution) The graph represents theoretical calculations. Actual grip force varies according to the material and shapes of work pieces and fingers. The standard grip force is 40 to 60% of the theoretical value.

Model designation (Example)



(1)Cylinder cross sectional area

Code	15	20	30
Cylinder cross sectional area	0.26in ² (1.7cm ²)	0.51in ² (3.3cm ²)	1.12in ² (7.2cm ²)

(3)Option

Code	B	S
Option	With bracket	With sensor

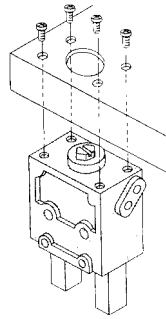
(2)Body material

Code	P	D
Body material	Plastic	Die casting

*Enter only when necessary.

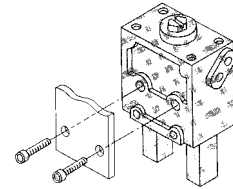
Mounting of gripper

(1) Mount on the top of gripper



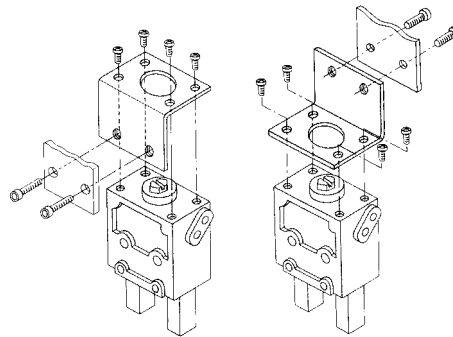
possible for all Grippers

(2) Mount from the side of die casting body type gripper



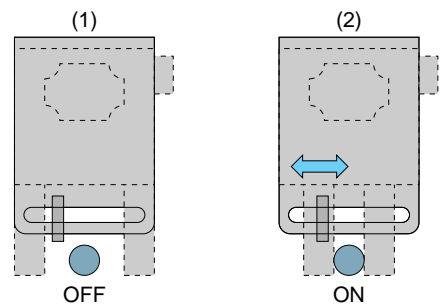
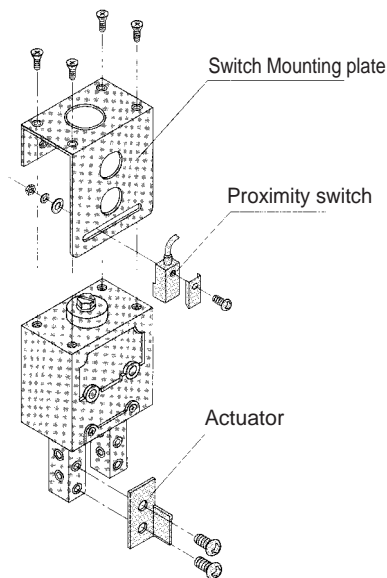
HC 20D-HC 30D

(3) Use of mounting bracket (option)



HC 15P-HC 20D

Mounting and adjustment of sensor



The sensor can be slid in the direction of the arrow. Adjust the location of the sensor so that the sensor is turned OFF in the state (1) and turned ON in the state (2).

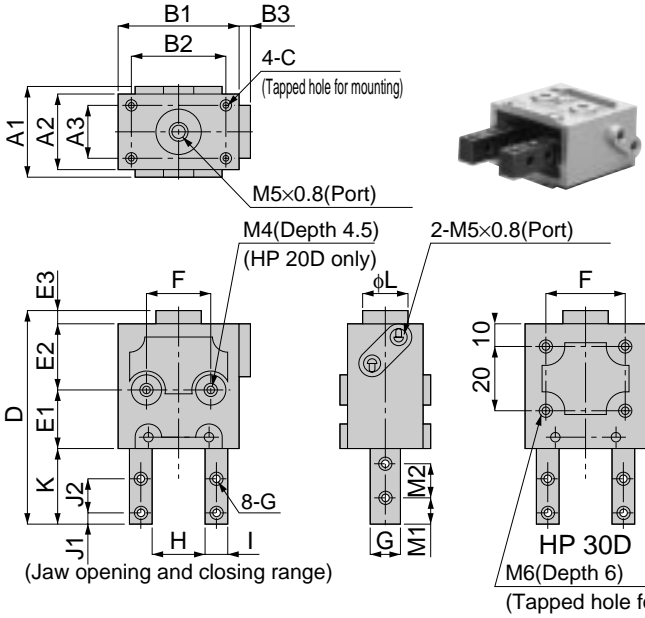
⚠ Safety instruction

1. Use clean and low moisture air as supply air to the grippers.
2. Making clamping of gripper as slow and gentle as possible yields accurate motion and stable cycling.
3. Avoid lateral loading to the jaw during operation.
4. Attach light-weight and short finger tool to the jaw.

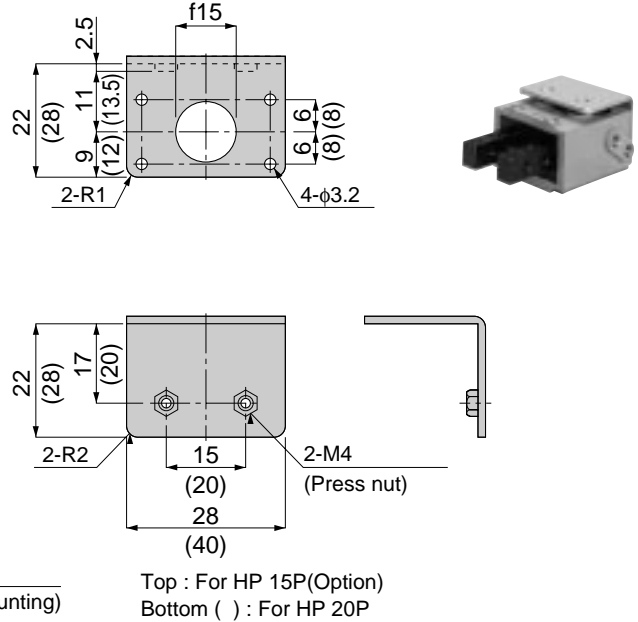
HP 15-20-30

Parallel Type Gripper

Main body



Bracket

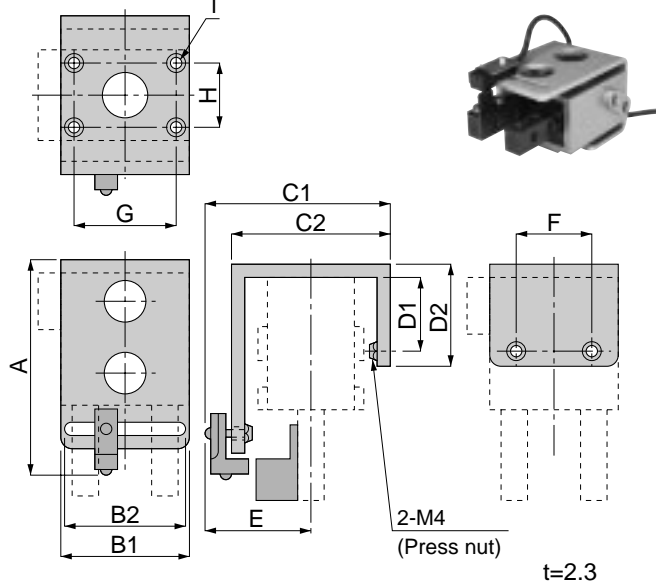


unit:mm

Model	A1	A2	A3	B1	B2	B3	C	D	E1	E2	E3	F	G	H	I	J1	J2	K	fL	M1	M2	N	Mass (g)
HP 15P	22	18	12	28.5	22	5	M3(Depth4.5)	54.5	17.5	17	4	15	M3(Through)	8~11	6 ^{-0.05} _{-0.10}	2.5	7	16	15	6	7	8 ^{-0.05} _{-0.10}	55
HP 20P	27	24	16	40.5	32	3	M3(Depth4.5)	67.5	20.5	20	4	20	M4(Through)	12.5~17.5	8 ^{-0.05} _{-0.10}	4	10	23	15	9	10	10 ^{-0.05} _{-0.10}	110
HP 20D	-	-	-	-	-	3.5	M4(Depth8)	68	20	20	4.5	20	M4(Through)	12.5~17.5	8 ^{-0.05} _{-0.10}	4	10	23	15	9	10	10 ^{-0.05} _{-0.10}	180
HP 30D	-	32	22	60	50	5	M6(Depth12)	95	29.5	30	4.5	32	M5(Through)	20~28	12 ^{-0.05} _{-0.10}	6	12	31	20	12	12	14 ^{-0.05} _{-0.10}	525

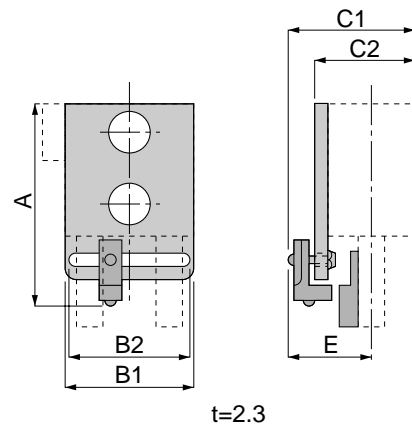
HP 15-20

Parallel Type Gripper
with Sensor 15 · 20 Type



HP 30

Parallel Type Gripper
with Sensor 30 Type



unit:mm

Model	A	B1	B2	C1	C2	D1	D2	E	F	G	H	I
HP 15P-S	51	28	20	39	32	19	24	25.5	15	22	12	4-φ3.2 φcounter sinking
HP 20P-S	67	40	32	43	36	22	27	25	20	32	16	4-φ3.2 φcounter sinking
HP 20D-S	65			36	29	-	-					
HP 30D-S	86	60	50	41	34	-	-	28	-	-	-	-