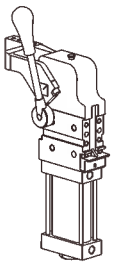
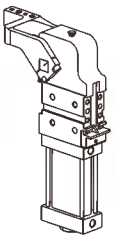
Compendium of JCK Series

4 Arm styles are available

4 Arm styles AM1, AM2, AM3 and AM4 each with 3 specifications R, C and L for uses in different situations.



Manual type



Standard type

Standard and Manual type are available

4 sides are to be mounted

With dimensions subject to DIN standard.

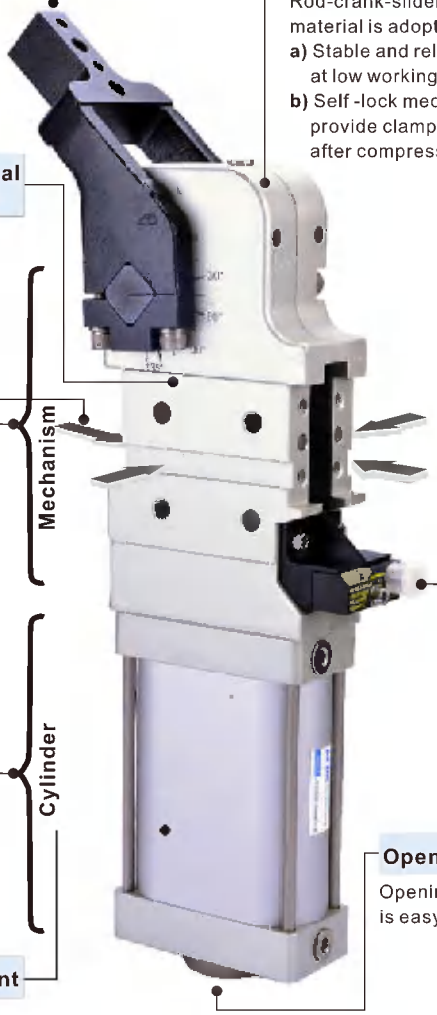
Designed as a whole

Mechanism and cylinder designed as a whole.

Mechanism

Cylinder

Oval-shaped cylinder which is space efficient

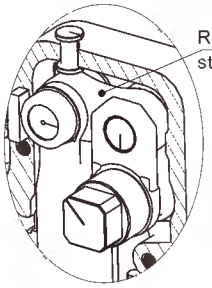


Rod-crank-slider structure

Rod-crank-slider structure made of high-strength, highly-wear-resisting material is adopted.

a) Stable and reliable structure which can produce large clamping force at low working pressure.

b) Self -lock mechanism is adopted at clamping position which can still provide clamping force even after compressed air is off.

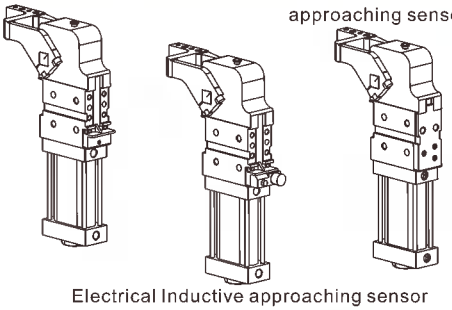


Rod-crank-slider structure

Electrical or Air inductive approaching sensor

No sensor

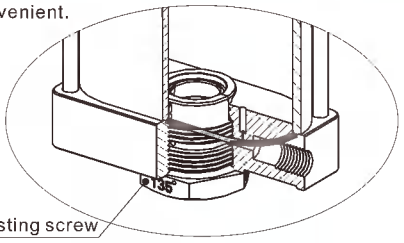
Air Inductive approaching sensor



Electrical Inductive approaching sensor (PNP/NPN type to be chosen)

Opening angle adjustment is easy and convenient

Opening angle adjustment by changing adjusting screw is easy and convenient.



Adjusting screw

Application

Power clamp cylinder

JCK Series——Standard type

Specification

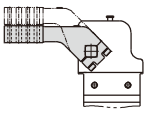
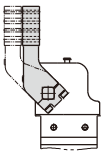
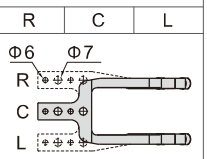
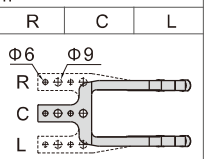
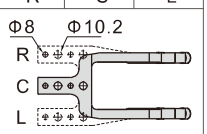
Model	JCK40	JCK50	JCK63	JCK80
Output torque (0.5MPa)	120N.m	160N.m	380N.m	800N.m
Acting type	Double acting			
Fluid	Air(to be filtered by 40 μ m filter element)			
Operating pressure	0.3~0.8MPa(43~116psi)			
Proof pressure	1.2MPa(175psi)			
Temperature	-10~60 ℃			
Opening angle	15°/30°/45°/60°/75°/90°/105°/120°/135°			
Minimum opening and closure time	1 second clamping, 1 second opening			
Position sensing	Electrical or air Inductive approaching sensor			
Cushion type	Air buffer			
Weight (135°) [Note1]	2.2kg	4.0kg	5.5kg	13.0kg
Port size [Note2]	1/8"	1/4"		

[Note1] This weight includes 15mm offset clamping arm;
[Note2] G thread is available.

Ordering code

JCK □ 63 × 135 AM1R K G

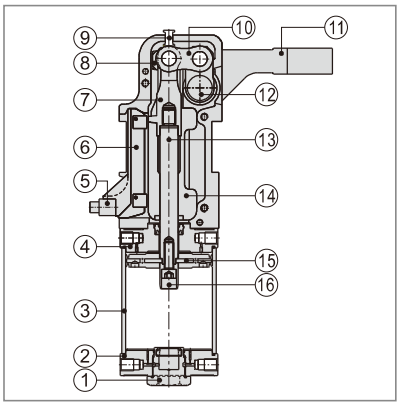
① ② ③ ④ ⑤ ⑥ ⑦

①Model	②Clamping arm position	③Bore size	④Opening angle	⑤Clamping arm [Note2]	⑥Sensor switch[Note3]	⑦Thread type
JCK: Power clamp cylinder (Double acting)	Blank: horizontal  V: Vertical 	40(circular)	15 30 45 60 75 90 105 120 135 [Note1]	Blank: No clamping arm AM1: Offset 15mm  AM3: Offset 45mm   Blank: No clamping arm AM1: Offset 15mm  AM3: Offset 45mm   AM2: Offset 15mm  AM4: Offset 45mm  	Blank: No sensor switch K: With electrical sensor switch(PNP) KN: With electrical sensor switch(NPN KA: With air sensor switch	G: G
		50(oval) 63(oval) 80(oval)				

[Note1] Please refer to the right table for details of max. opening angle.
[Note2] Please refer to the drawing for detailed dimensions of clamping arm.
[Note3] K/KA type sensor switch can be ordered separately and please refer to relative contents.
KA type sensor switch cann't be ordered separately and 80 size no KA type.

Bore size	Arm position	Arm type	Maximum opening angle
40	horizontal	AM1	135°
		AM3	105°
	Vertical(V)	AM1	120°
		AM3	105°
50 63 80	horizontal	AM1、AM3 AM2、AM4	135°
	Vertical(V)	AM1、AM3 AM2、AM4	105°

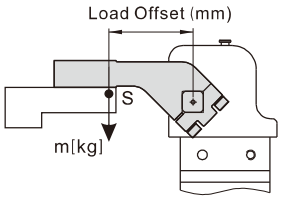
Inner structure and material of major parts



NO.	Item	Material
1	Adjusting screw	Free machining steel
2	Back cover	Aluminum alloy
3	Aluminum barrel	Aluminum alloy
4	Front cover	Aluminum alloy
5	Sensor switch	
6	Sensor switch fix	Plastic
7	Y knuckle	Alloy steel
8	Strengthen steel plate	Alloy steel
9	Retaining pin	Carbon steel
10	Connecting rod	Alloy steel
11	Clamping arm	Cast steel
12	Pivot	Alloy steel
13	Piston rod	Carbon steel
14	End cap	Aluminum alloy
15	Piston	NBR
16	Cushion body	Aluminum alloy

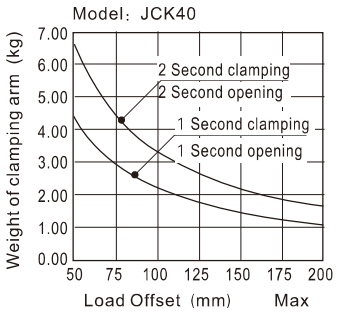
How to select product

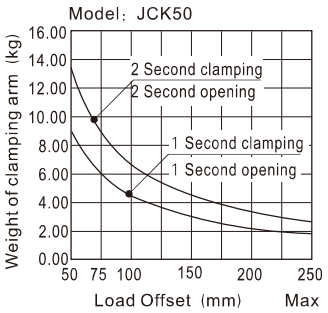
1. Please design appropriate fixture according to “Allowable Arm Load-Load Offset curve” diagram.

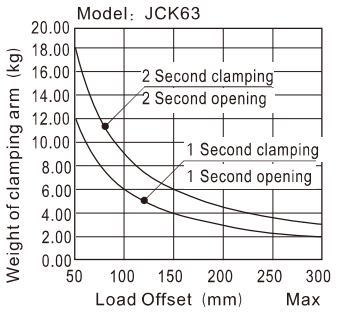


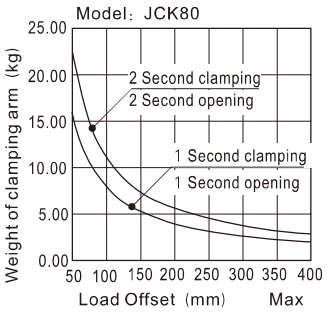
Bore size	Maximum load torque	
	1 second period	2 second period
40	2.2Nm	3.3Nm
50	4.5Nm	6.7Nm
63	6.0Nm	9.0Nm
80	8.0Nm	11.2Nm

S: distance from pivot point to center of mass of clamping arm
m: weight of clamping arm





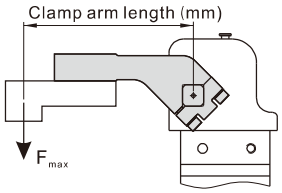




Attention: Please use with speed control valve.

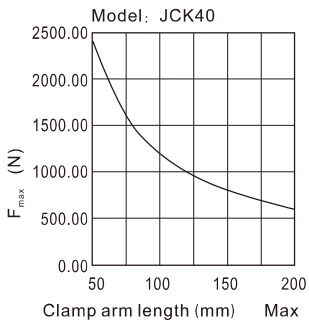
2. Please choose appropriate clamping position according to “Torque-Clamping Arm Length curve” diagram.

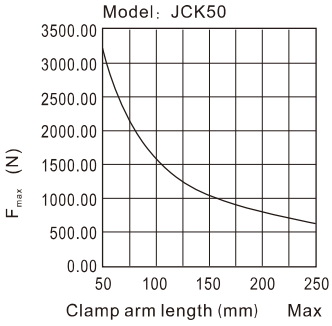
Note: For clamping force is produced by elbow mechanism, maximum torque is only reached at final clamping arm position.

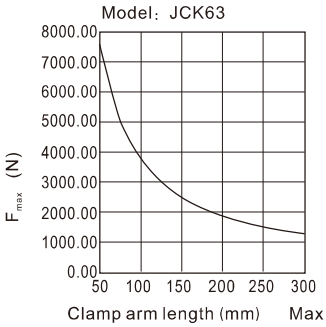


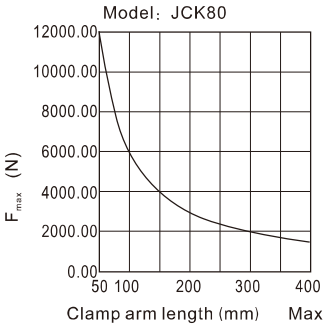
Bore size	Maximum holder torque
40	380Nm
50	800Nm
63	1500Nm
80	2500Nm

Bore size	Maximum clamp torque					
	0.3MPa	0.4MPa	0.5MPa	0.6MPa	0.7MPa	0.8MPa
40	72Nm	95Nm	120Nm	143Nm	167Nm	191Nm
50	99Nm	132Nm	165Nm	198Nm	230Nm	264Nm
63	230Nm	307Nm	384Nm	460Nm	537Nm	614Nm
80	482Nm	643Nm	803Nm	964Nm	1124Nm	1285Nm







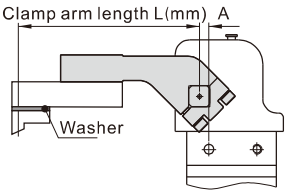


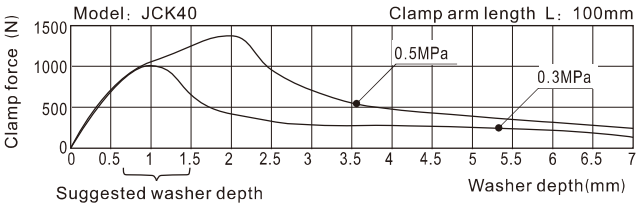
3. Please choose appropriate washer according to “Torque-Spacer thickness curve” diagram.

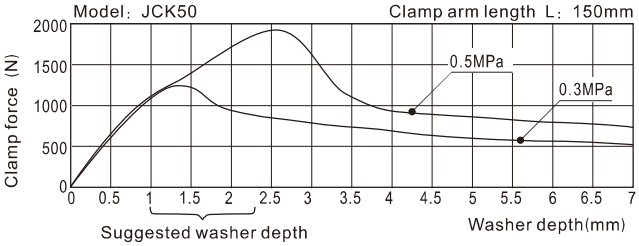
Note: Inserted washer exceeding maximum clamping torque position may lead to self-lock failure. Take safety issue into account when considering thickness of spacer inserted.

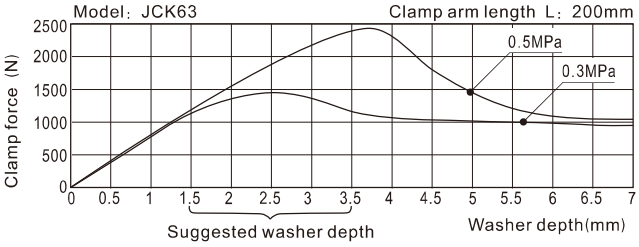
Besides, clamping arm length L represents distance from pivot point to clamping position. For distance from mounting base locating hole to pivot A, please refer to the following table.

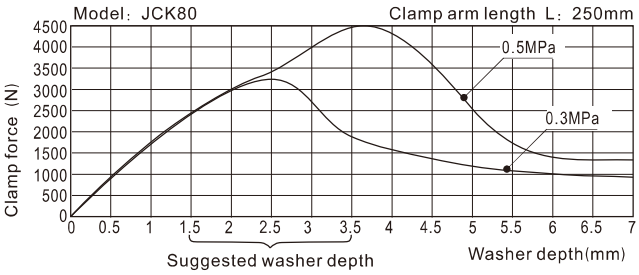
Bore size	A(mm)
40	12
50	10
63	10
80	15





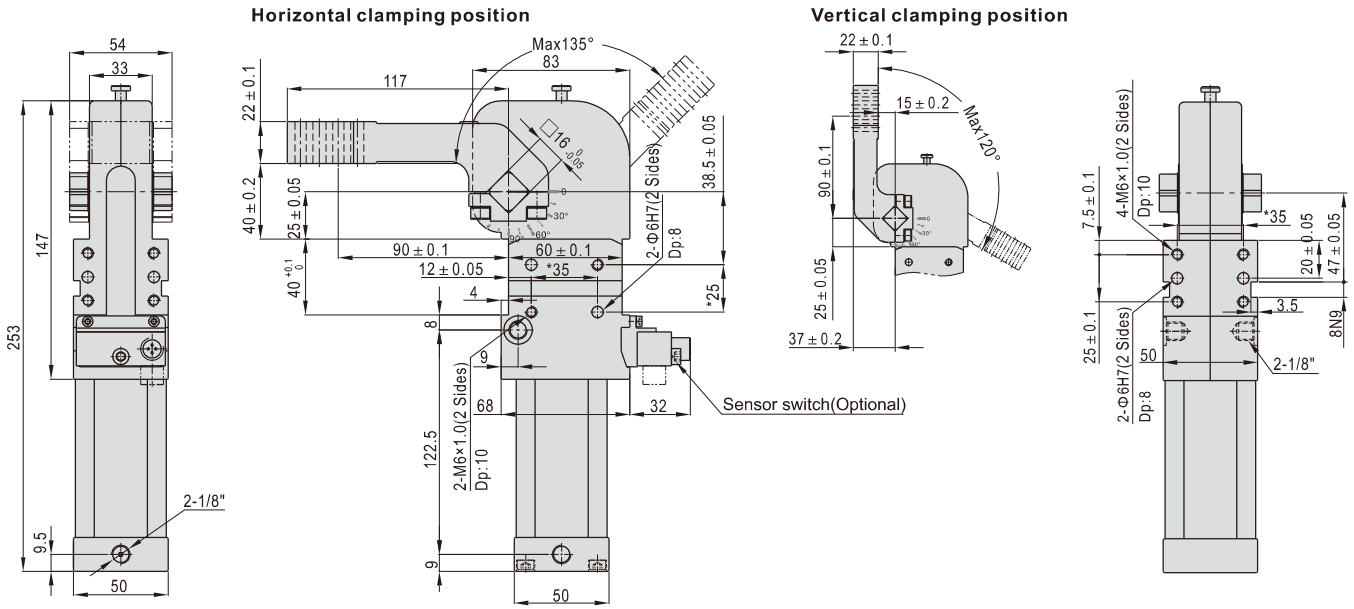






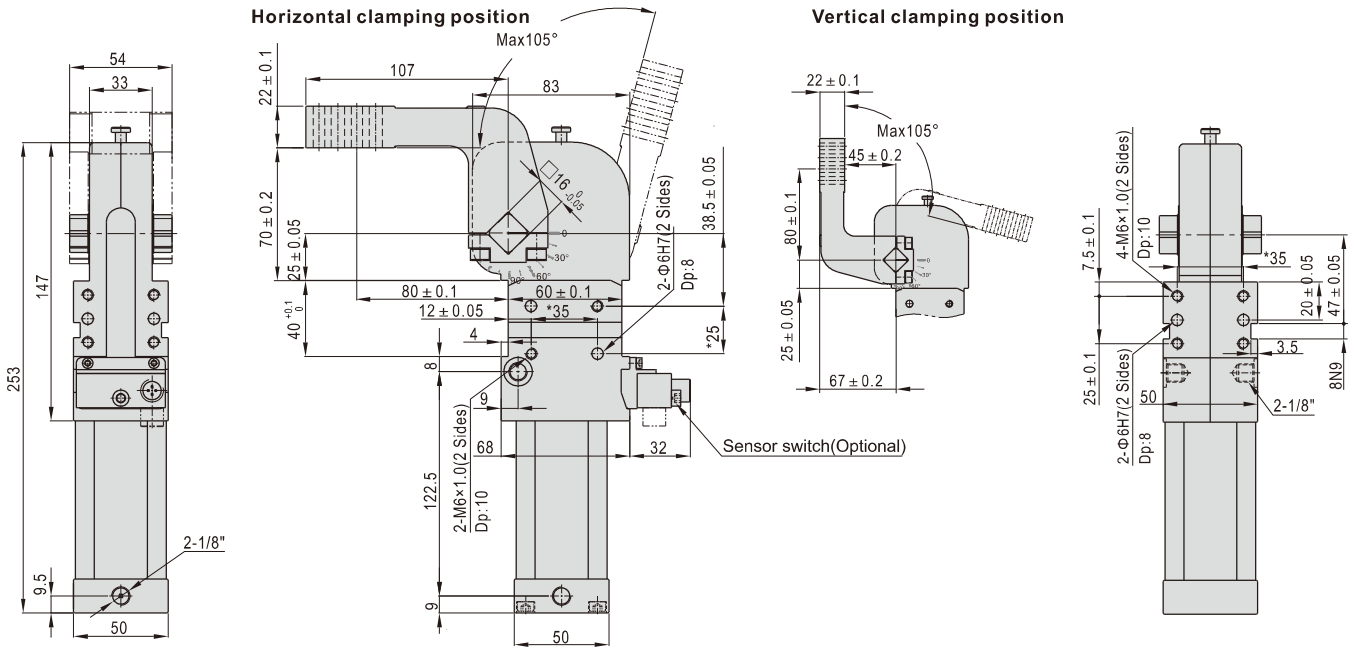
Dimensions

JCK40AM1



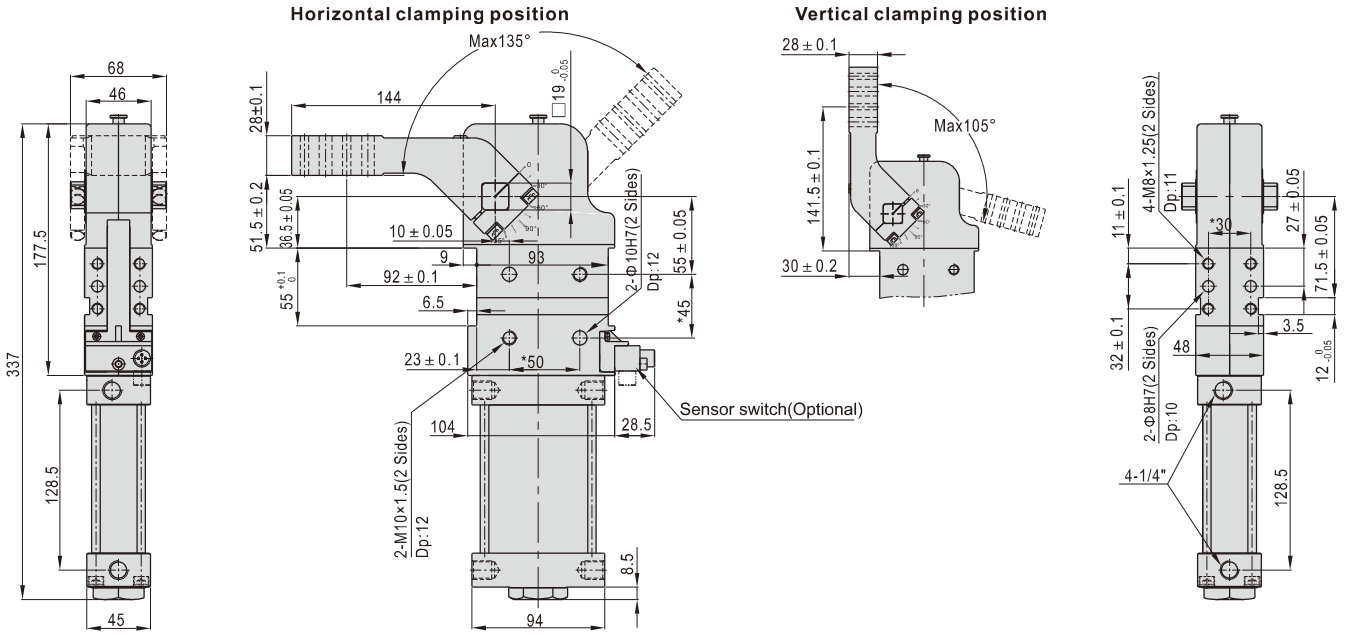
With * dimension: pin hole position tolerance: ±0.02. Thread hole position tolerance: ±0.1.

JCK40AM3



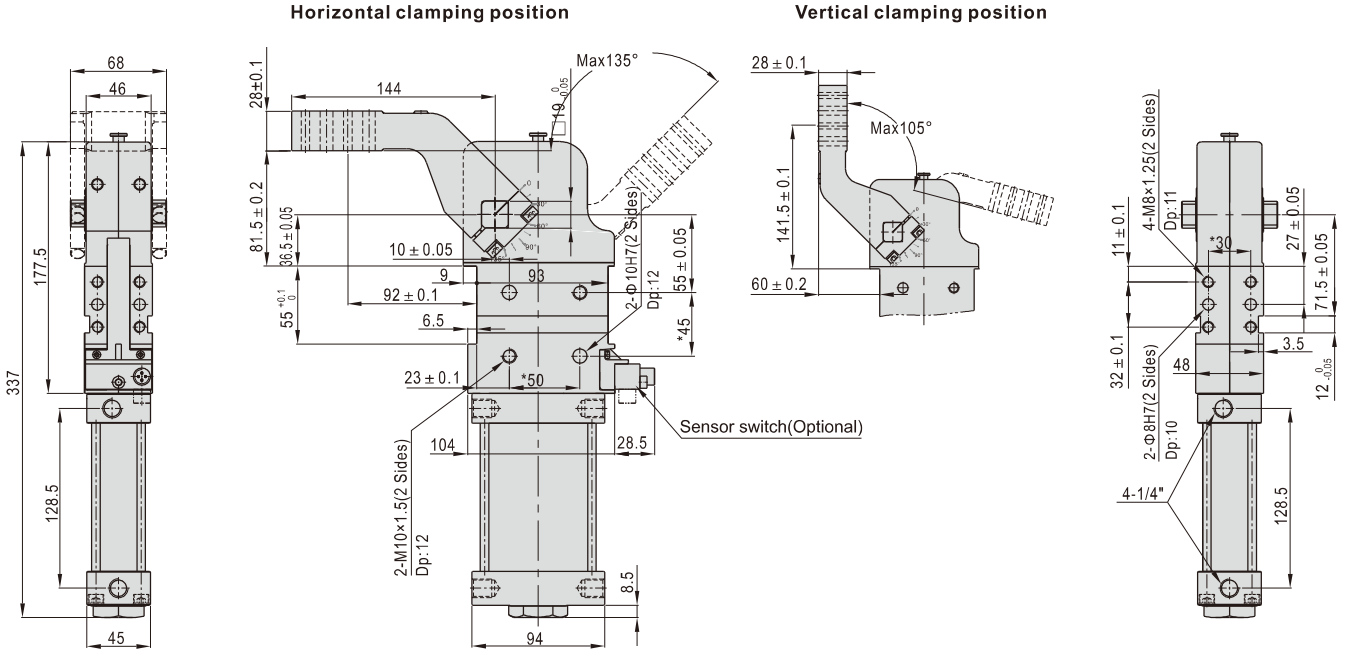
With * dimension: pin hole position tolerance: ±0.02. Thread hole position tolerance: ±0.1.

JCK50AM1(2)



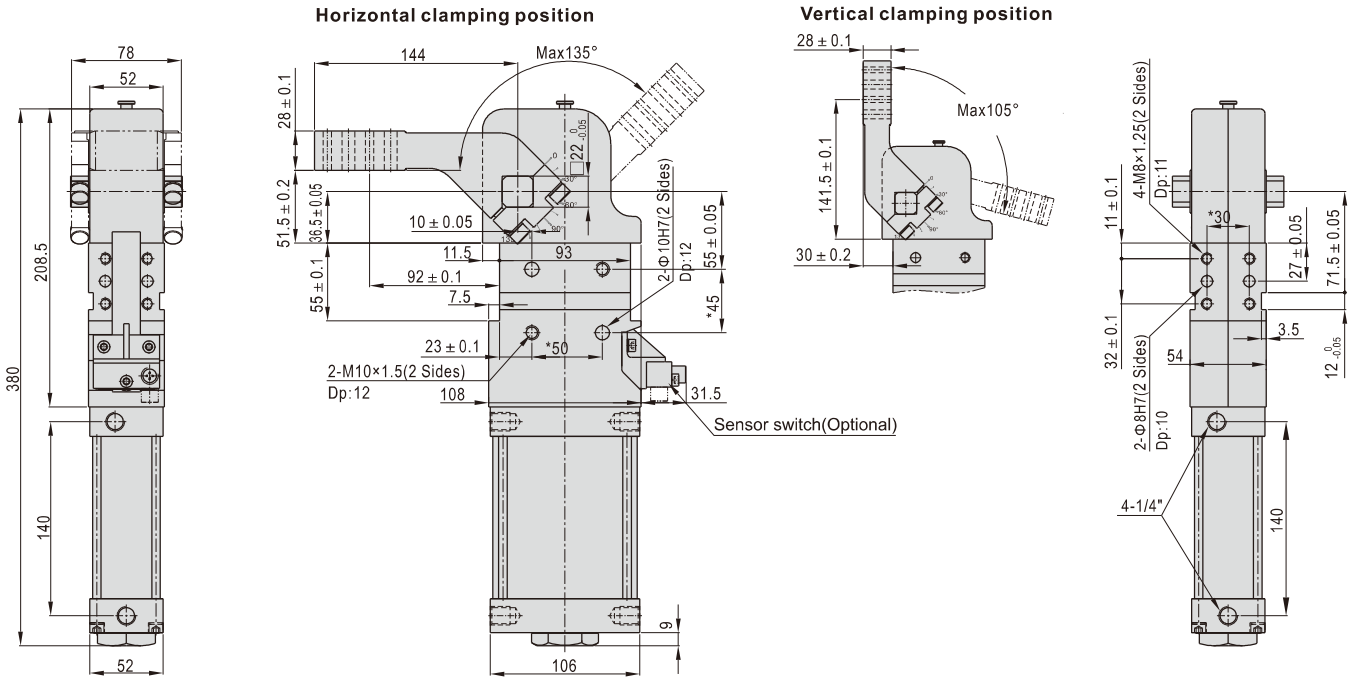
With * dimension: pin hole position tolerance: ±0.02. Thread hole position tolerance: ±0.1.

JCK50AM3(4)



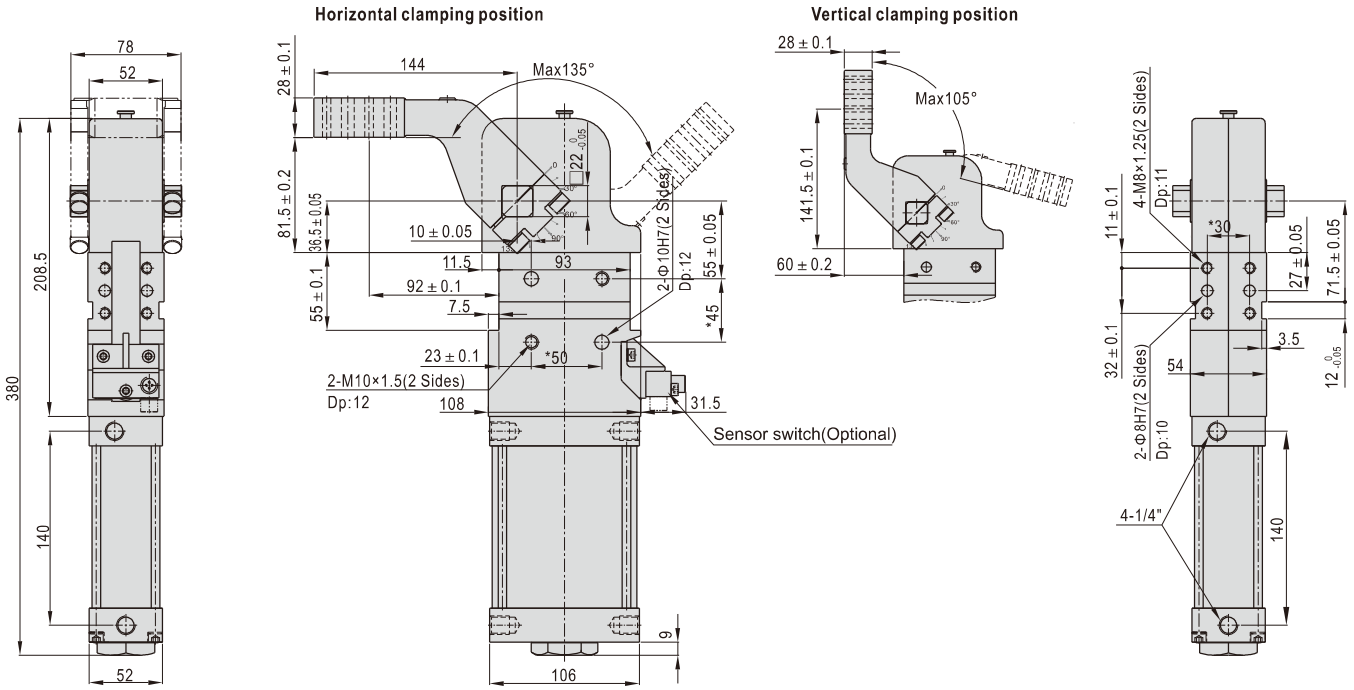
With * dimension: pin hole position tolerance: ±0.02. Thread hole position tolerance: ±0.1.

JCK63AM1(2)



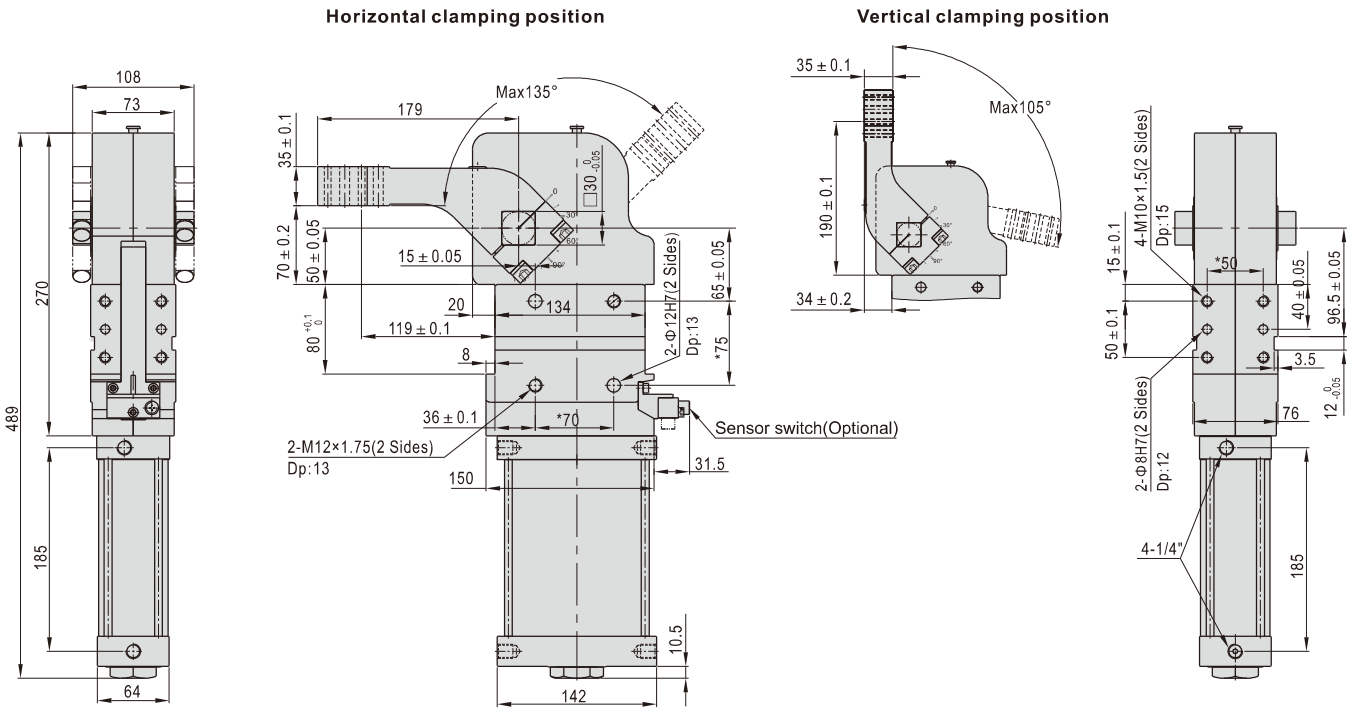
With * dimension: pin hole position tolerance: ±0.02. Thread hole position tolerance: ±0.1.

JCK63AM3(4)



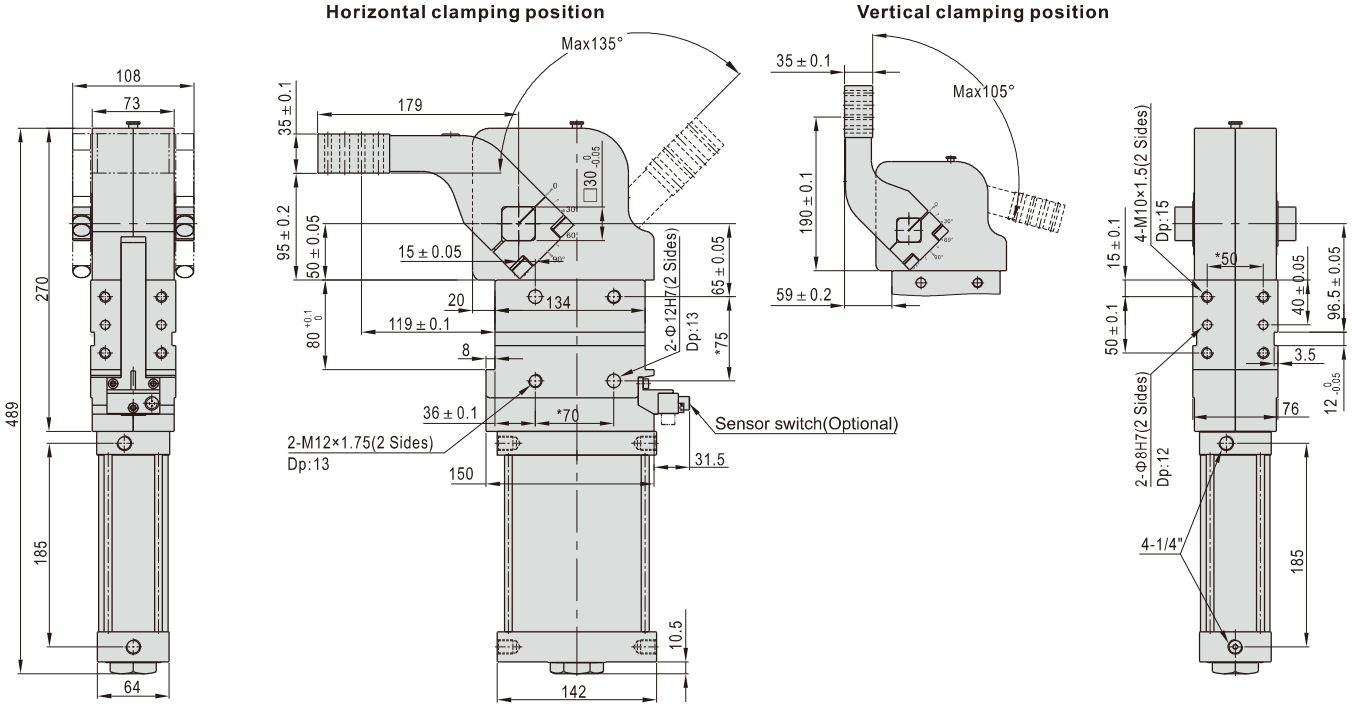
With * dimension: pin hole position tolerance: ±0.02. Thread hole position tolerance: ±0.1.

JCK80AM1(2)



With * dimension: pin hole position tolerance: ±0.02. Thread hole position tolerance: ±0.1.

JCK80AM3(4)



With * dimension: pin hole position tolerance: ±0.02. Thread hole position tolerance: ±0.1.