

## MJ2-1 Series

### Basic Limit Switch

#### ◆ Features

- ✓ Sealed actuator variants for better oil resistance
- ✓ High temp. resistant phenolic enclosure types (T385J)
- ✓ Fire resistant phenolic enclosure types (T200HF)

#### ◆ Recognition(s)

- ✓ CE – EN61058-1
- ✓ UL – UL-508
- ✓ CCC – GB14048.5-2008
- ✓ VDE – 0630/04.86
- ✓ RoHS Compliant
- ✓ Reach Unaffected



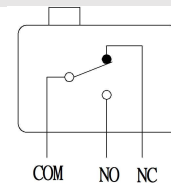
#### ◆ Characteristics

| Positive Opening                              | Electrical Contact | Terminal Type                                                           | Contact Form(s)          |                                                                                                                                       | Poles & Throws |                            | Actuation Sequence(s) |                  |
|-----------------------------------------------|--------------------|-------------------------------------------------------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------|-----------------------|------------------|
| No                                            | 3 Points           | Screw                                                                   | Form C                   |                                                                                                                                       | SPDT           |                            | Break(1) Make(2)      |                  |
| Operating Temp.                               |                    | AC Rated                                                                | DC Rated                 | IP                                                                                                                                    | Oil Resist     | Dust Resist                | Water Resist          | Operating Speed  |
| -15 to 80 C                                   |                    | 15A 125V-250V,<br>20A 125V-250V                                         | 0.5A 125V,<br>0.25A 250V | 40                                                                                                                                    | Yes or No      | No                         | No                    | 0.01mm to 1m/sec |
| -15 to 150 C (phenolic)                       |                    |                                                                         |                          |                                                                                                                                       |                |                            |                       |                  |
| Operation Frequency                           |                    | Contact Resistance                                                      |                          | Insulation Resistance                                                                                                                 |                | Vibration                  |                       |                  |
| Mechanically: 240/min<br>Electrically: 20/min |                    | 15mΩ max. (initial)                                                     |                          | 100MΩ min. (500VDC)                                                                                                                   |                | 1.5mm amplitude at 10-55Hz |                       |                  |
| Storage Humidity                              |                    | Service Life (min.)                                                     |                          | Dielectric Strength                                                                                                                   |                |                            |                       |                  |
| 85% RH max                                    |                    | Mechanically: 20,000,000 operations<br>Electrically: 500,000 operations |                          | 1000VAC, 50/60Hz for 1 minute between non-continuous terminals<br>2000VAC, 50/60Hz for 1 minute between current-carry part and ground |                |                            |                       |                  |

#### Recommended tightening forces

| Purpose               | Screw type | Tightening    |
|-----------------------|------------|---------------|
| Mounting              | M4         | 1.18~1.37 N·m |
| Panel Mount Screw Nut |            | 2.94~4.92 N·m |
| Screw terminal        |            | 0.25±0.05 N·m |

#### Circuitry



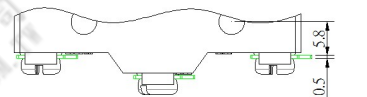
#### ◆ Materials

| Actuation touch part                                               | Electrical contact point | Enclosure                                                         |
|--------------------------------------------------------------------|--------------------------|-------------------------------------------------------------------|
| Nylon, Stainless Steel, Teflon, POM, Nickel plated copper or brass | Silver 99.9%             | PBT plastic with glass fiber, or Phenolic resin (T385J or T200HF) |

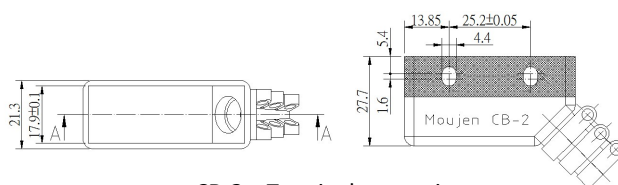
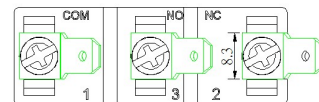
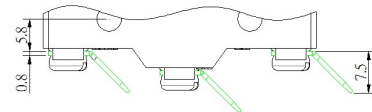
# ◆ Nomenclature

| Series:      | Actuator:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Terminal:                                                               | Enclosure Material:                                                            | Amps:                                                                             |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|--------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| <b>MJ2 –</b> | <b>1704 –</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>PH –</b>                                                             | <b>20</b>                                                                      |                                                                                   |
|              | <p>1300=Nickel plated copper Pin plunger<br/> 1305=Nickel plated copper Pin plunger, tall<br/> 1306=Nickel plated copper Plunger, short<br/> 1307=Nickel plated copper Plunger, tall, panel mount<br/> 1308=SUS303 Roller metal plunger, panel mount<br/> 1309=SUS303 Cross roller metal plunger, panel mount<br/> 1326=Teflon Plunger, short<br/> 1327=Teflon Plunger, tall, panel mount<br/> 1328=Teflon Roller metal plunger, panel mount<br/> 1329=Teflon Cross roller metal plunger, panel mount</p> <p>1500=Cat whisker metal lever<br/> 1503=POM Roller metal lever, r31.9mm, 1-way action<br/> 1504=POM Roller metal lever, r53.8mm, 1-way action<br/> 1506=Simulated roller metal lever, r28.1mm<br/> 1523=SUS303 Roller metal lever, r31.9mm, 1-way act<br/> 1524=SUS303 Roller metal lever, r53.8mm, 1-way act</p> <p>1701=Straight metal Lever, r63.5mm<br/> 1702=Straight metal Lever, r38.2mm<br/> 1703=POM Roller metal lever, r48.5mm<br/> 1704=POM Roller metal lever, r26.6mm<br/> 1705=POM Roller metal lever, r37.2mm<br/> 1706=Straight metal Lever, r28.7mm<br/> 1707=Straight metal Lever, r53mm<br/> 1708=PBT plastic lever, Red push lever type<br/> 1723=Nickel plated brass Roller metal lever, r48.5mm<br/> 1724=Nickel plated brass Roller metal lever, r26.6mm<br/> 1725=Nickel plated brass Roller metal lever, r37.2mm</p> <p><b>With Oil Resist Boot Seals</b></p> <p>1315=Nickel plated copper Pin plunger, tall<br/> 1316=Nickel plated copper Plunger, short<br/> 1317=Nickel plated copper Plunger, tall (no panel mount)<br/> 1336=Teflon Plunger, short<br/> 1337=Teflon Plunger, tall</p> <p>1513=POM Roller metal lever, r31.9mm, 1-way action<br/> 1514=POM Roller metal lever, r53.8mm, 1-way action<br/> 1516=Simulated roller metal lever, r28.1mm<br/> 1533=SUS303 Roller metal lever, r31.9mm, 1-way act<br/> 1534=SUS303 Roller metal lever, r53.8mm, 1-way act</p> <p>1711=Straight metal lever, r63.5mm<br/> 1712=Straight metal lever, r38.2mm<br/> 1713=POM Roller metal lever, r48.5mm<br/> 1714=POM Roller metal lever, r26.6mm<br/> 1733=Nickel plated brass Roller metal lever, r48.5mm<br/> 1734=Nickel plated brass Roller metal lever, r26.6mm</p> | <p><i>Blank</i>=Screw<br/> A=Quick (250, t=6.37mm)<br/> S=Soldering</p> | <p><i>Blank</i>=Plastic<br/> PH=Phenolic (T385J)<br/> FR=Phenolic (T200HF)</p> | <p><i>Blank</i>=15A<br/> 20=20A (only applicable to Phenolic enclosure types)</p> |

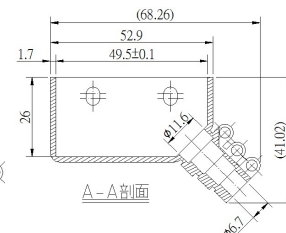
**S – Soldering Terminal**



**A – Quick Connect Terminal**

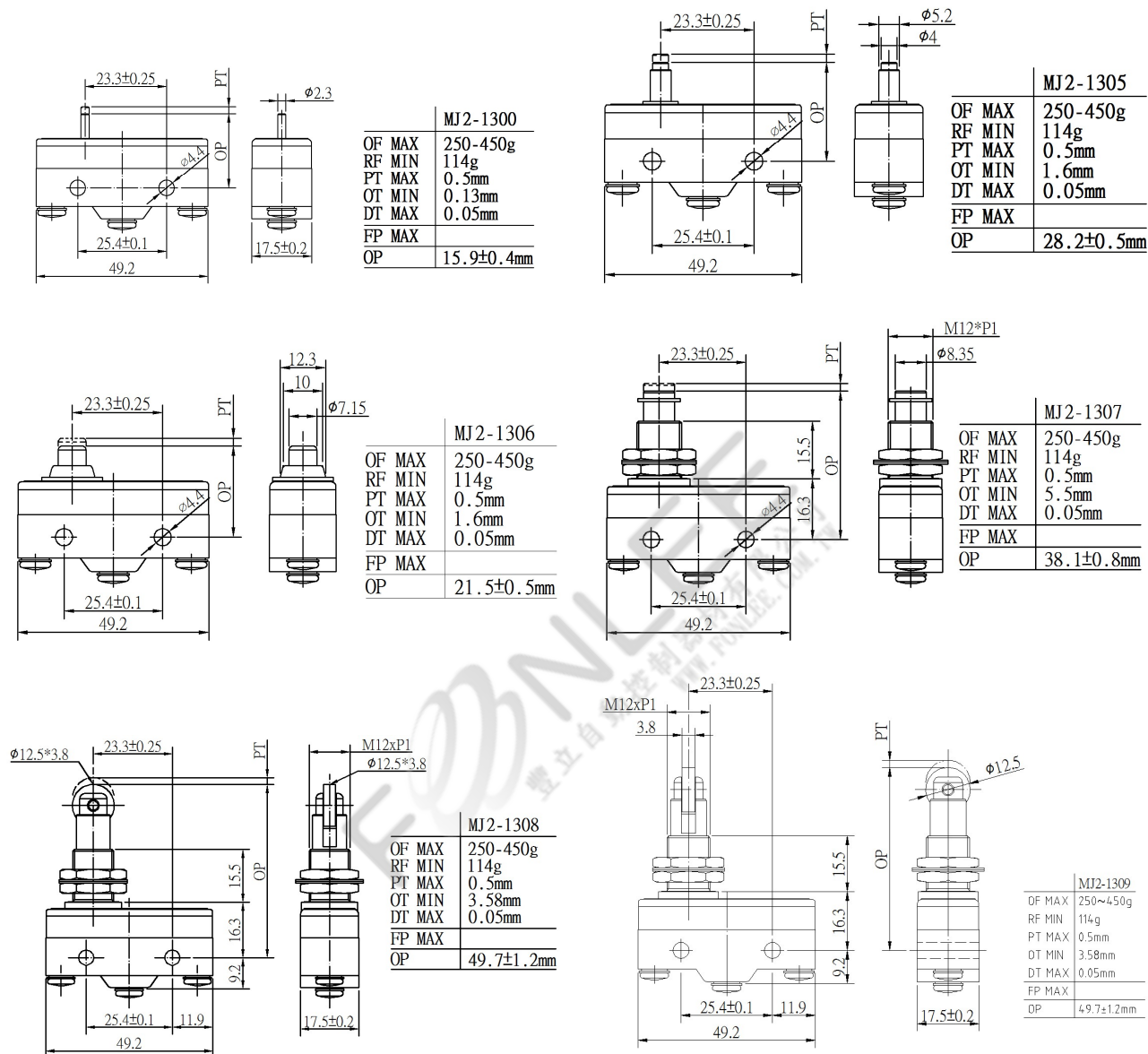


**CB-2 – Terminal protection cover**



## ◆ Dimensions & Operating Characteristics

\*Measurements in millimeters



MJ2-1300



MJ2-1305



MJ2-1306



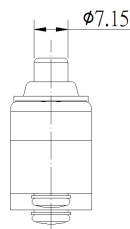
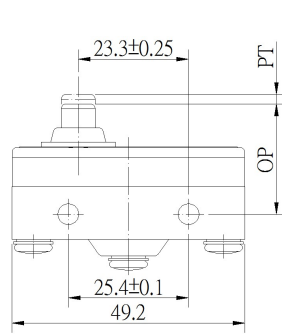
MJ2-1307



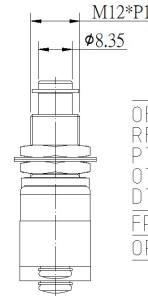
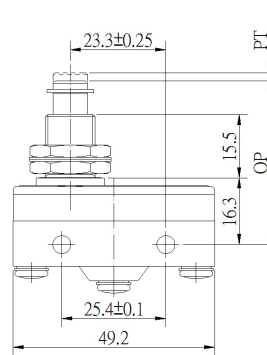
MJ2-1308



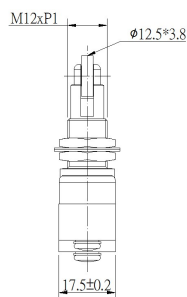
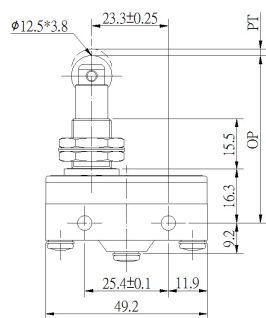
MJ2-1309



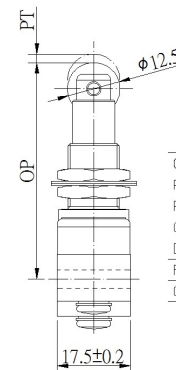
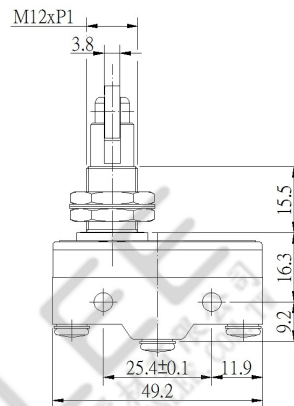
| MJ2-1326 |            |
|----------|------------|
| OF MAX   | 250~450g   |
| RF MIN   | 114g       |
| PT MAX   | 0.5mm      |
| OT MIN   | 1.6mm      |
| DT MAX   | 0.05mm     |
| FP MAX   |            |
| OP       | 21.5±0.5mm |



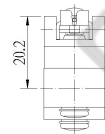
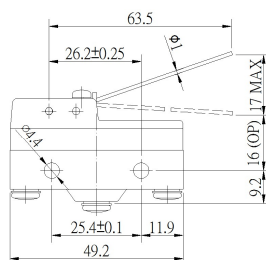
| MJ2-1327 |            |
|----------|------------|
| OF MAX   | 250~450g   |
| RF MIN   | 114g       |
| PT MAX   | 0.5mm      |
| OT MIN   | 5.5mm      |
| DT MAX   | 0.05mm     |
| FP MAX   |            |
| OP       | 38.1±0.8mm |



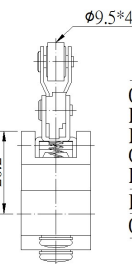
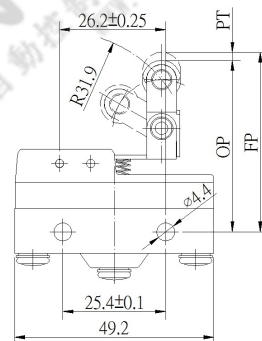
| MJ2-1328 |            |
|----------|------------|
| OF MAX   | 250~450g   |
| RF MIN   | 114g       |
| PT MAX   | 0.5mm      |
| OT MIN   | 3.58mm     |
| DT MAX   | 0.05mm     |
| FP MAX   |            |
| OP       | 49.7±1.2mm |



| MJ2-1329 |            |
|----------|------------|
| OF MAX   | 250~450g   |
| RF MIN   | 114g       |
| PT MAX   | 0.5mm      |
| OT MIN   | 3.58mm     |
| DT MAX   | 0.05mm     |
| FP MAX   |            |
| OP       | 49.7±1.2mm |



| MJ2-1500 |        |
|----------|--------|
| OF MAX   | 10g    |
| RF MIN   | 5g     |
| PT MAX   | 10mm   |
| OT MIN   | 6mm    |
| DT MAX   | 3mm    |
| FP MAX   |        |
| OP       | 20±1mm |



| MJ2-1503 |            |
|----------|------------|
| OF MAX   | 170g       |
| RF MIN   | 42g        |
| PT MAX   | 2.7mm      |
| OT MIN   | 2.4mm      |
| DT MAX   | 0.51mm     |
| FP MAX   | 43.6mm     |
| OP       | 41.3±0.8mm |



MJ2-1326



MJ2-1327



MJ2-1328



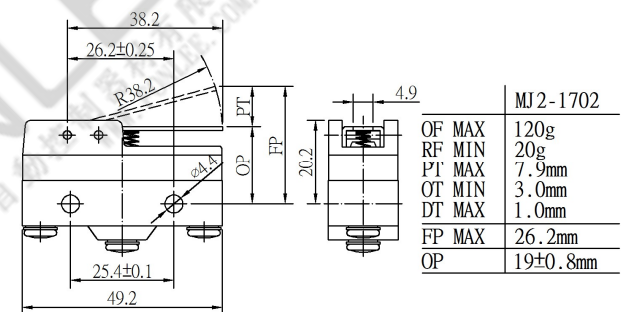
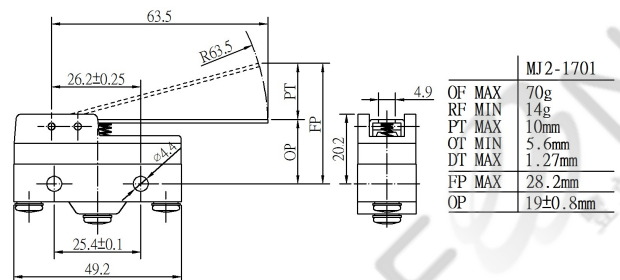
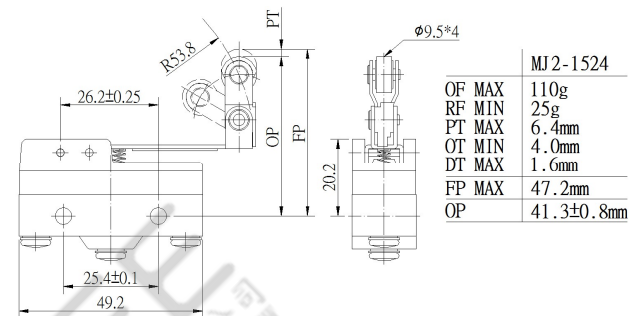
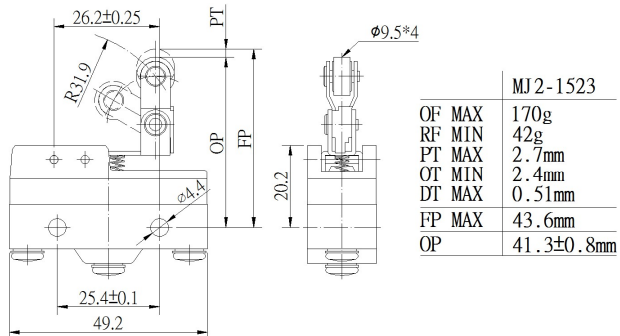
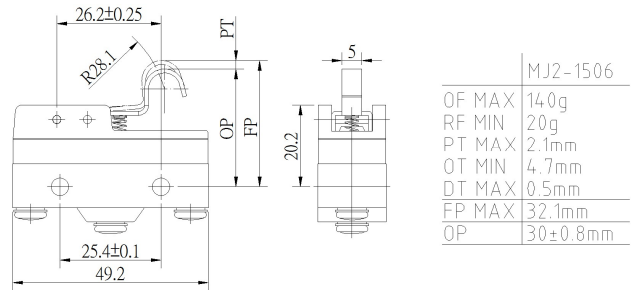
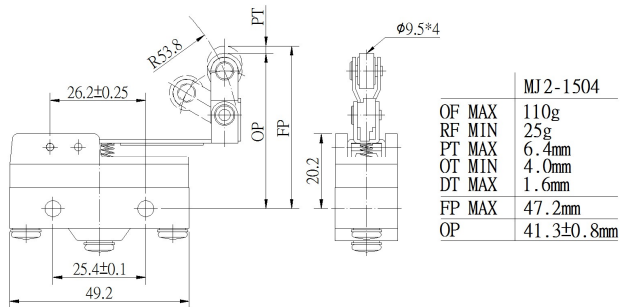
MJ2-1329



MJ2-1500



MJ2-1503



MJ2-1504



MJ2-1506



MJ2-1523



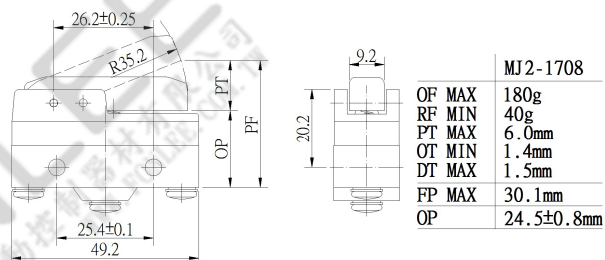
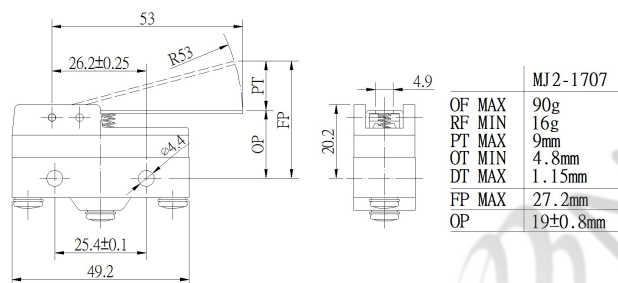
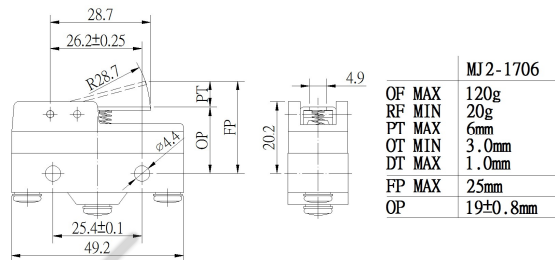
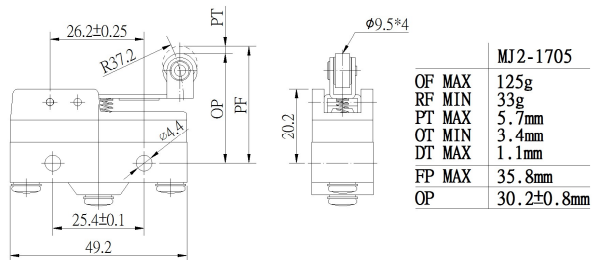
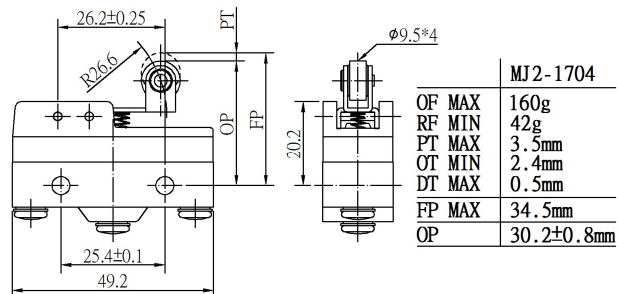
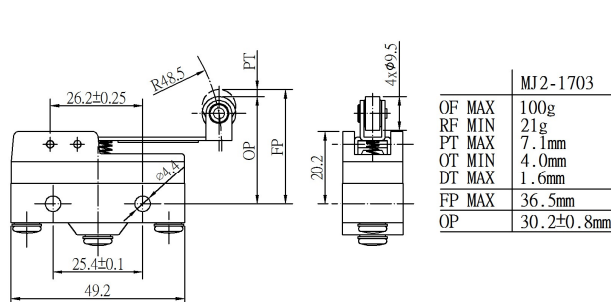
MJ2-1524



MJ2-1701



MJ2-1702



MJ2-1703



MJ2-1704



MJ2-1705



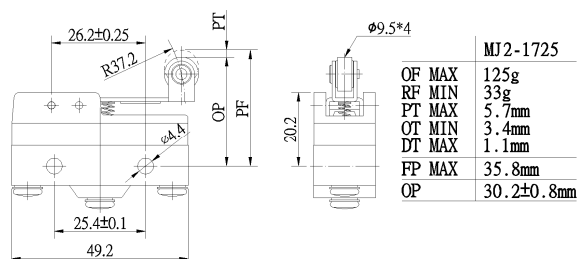
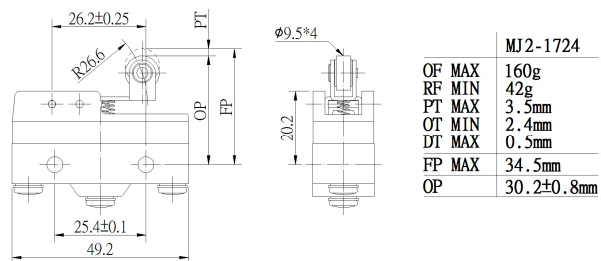
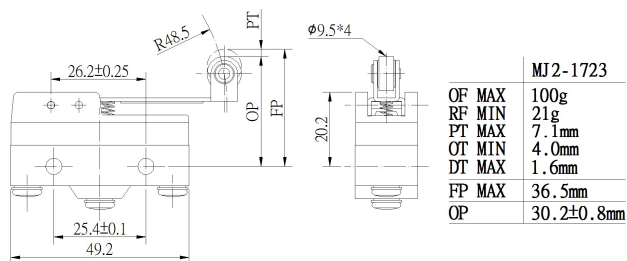
MJ2-1706



MJ2-1707



MJ2-1708



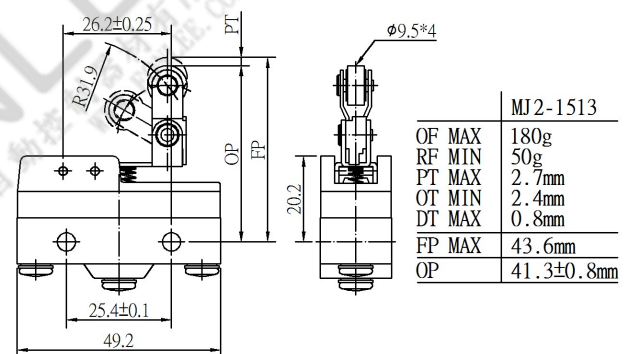
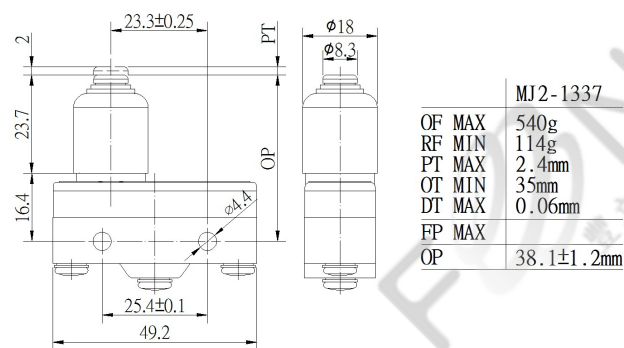
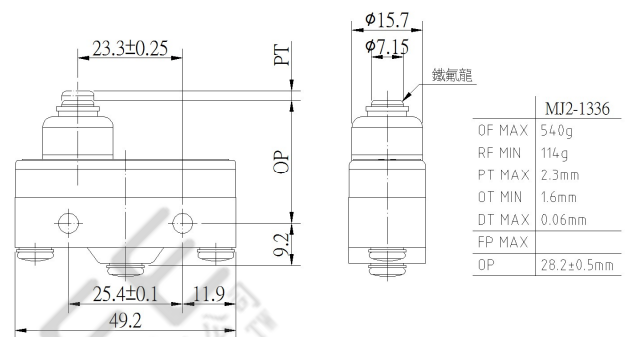
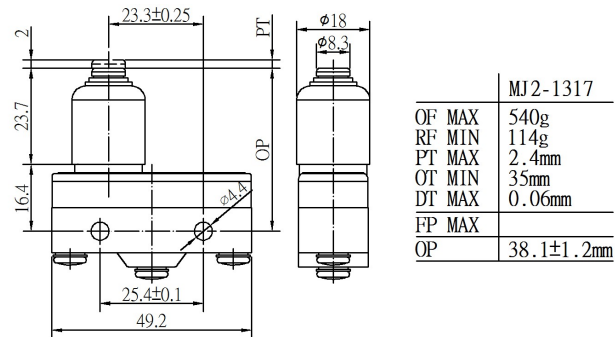
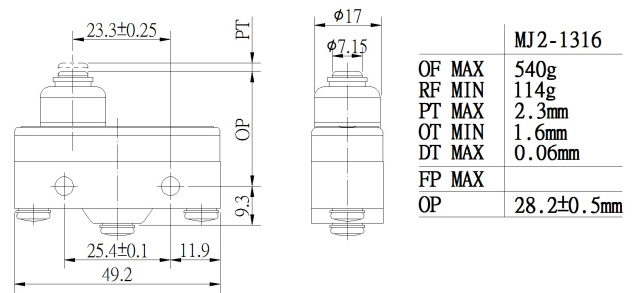
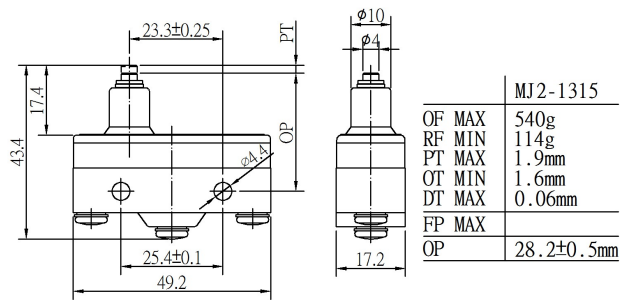
MJ2-1723



MJ2-1724



MJ2-1725

**With Oil Resist Boot Seals**


MJ2-1315



MJ2-1316



MJ2-1317



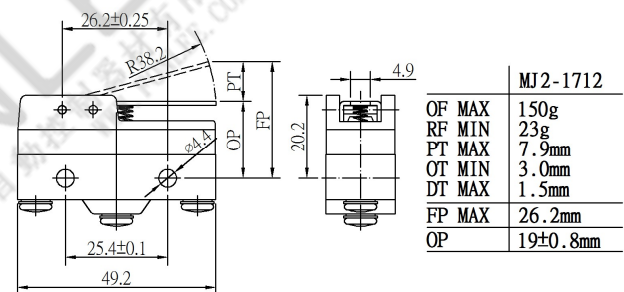
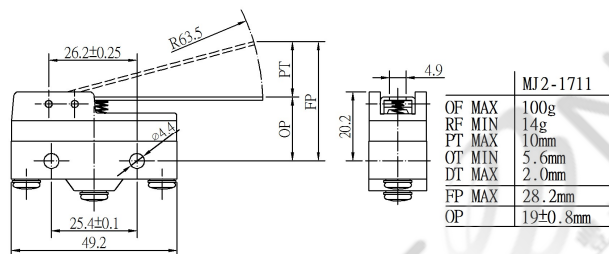
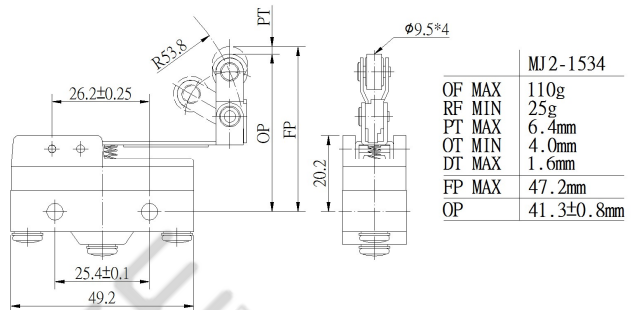
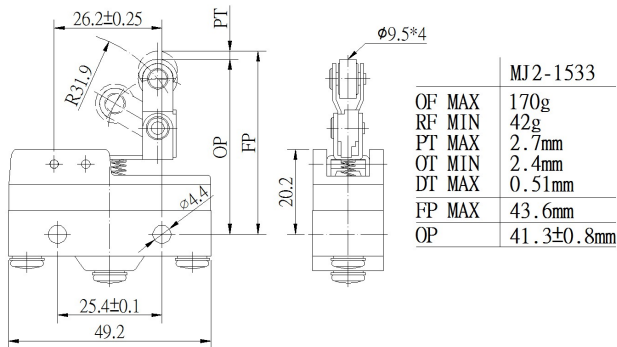
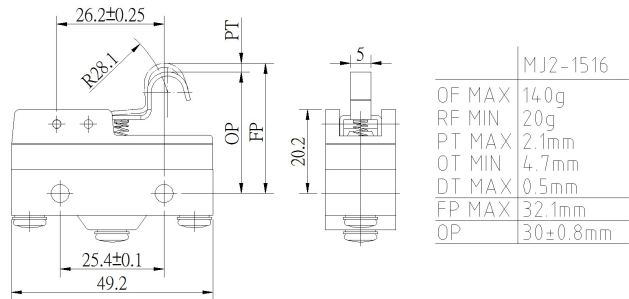
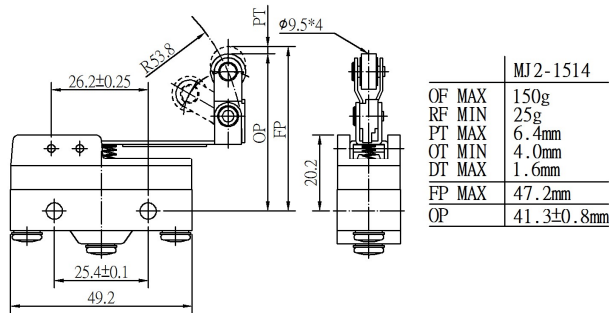
MJ2-1336



MJ2-1337



MJ2-1513



MJ2-1514



MJ2-1516



MJ2-1533



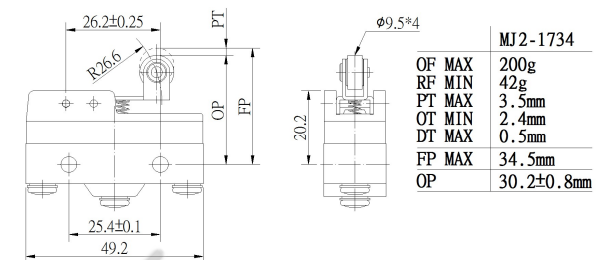
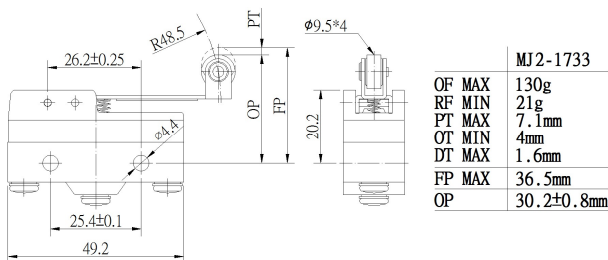
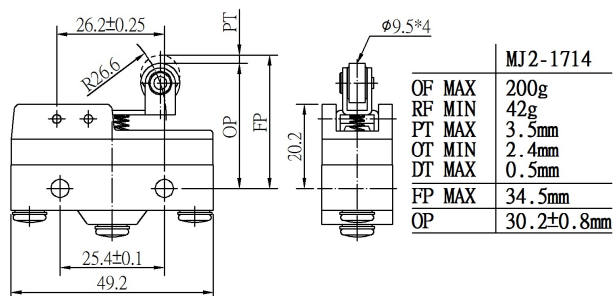
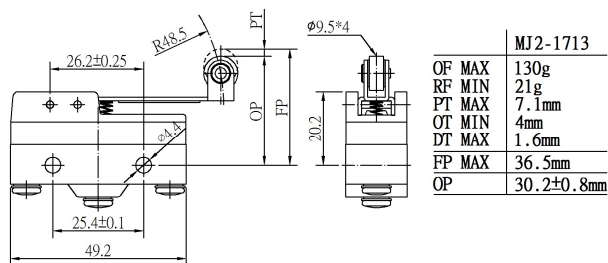
MJ2-1534



MJ2-1711



MJ2-1712



MJ2-1713



MJ2-1714



MJ2-1733



MJ2-1734