



# LCU-H 柔触驱动器

## 使用说明书



# 装箱清单



柔触驱动器本体  
LCU-H x 1



6mm G1/8螺纹接头  
PN-294 x 3



导轨安装卡扣  
CUF-35 x 1

## 安全注意事项



**警告：请严格遵守安全注意事项，错误操作可能导致本产品损坏和人身伤害。**

1. 请使用**0.45MPa~0.80MPa**且**流量 > 200L/min**干燥，**清洁，稳定**压缩空气。
2. 气源压力过大会造成内部元件不可逆损伤，气源压力过小会造成夹爪夹持力或张开角度不足。气源压力波动可能导致夹持力的波动。
3. 请勿对驱动器施加过大外力造成破损，以免降低防护等级。

## 外观

**高压气源口 H**  
G1/8, 0.45~0.8MPa

**低压气源口 L**  
G1/8, 0~300kPa

真空发生器

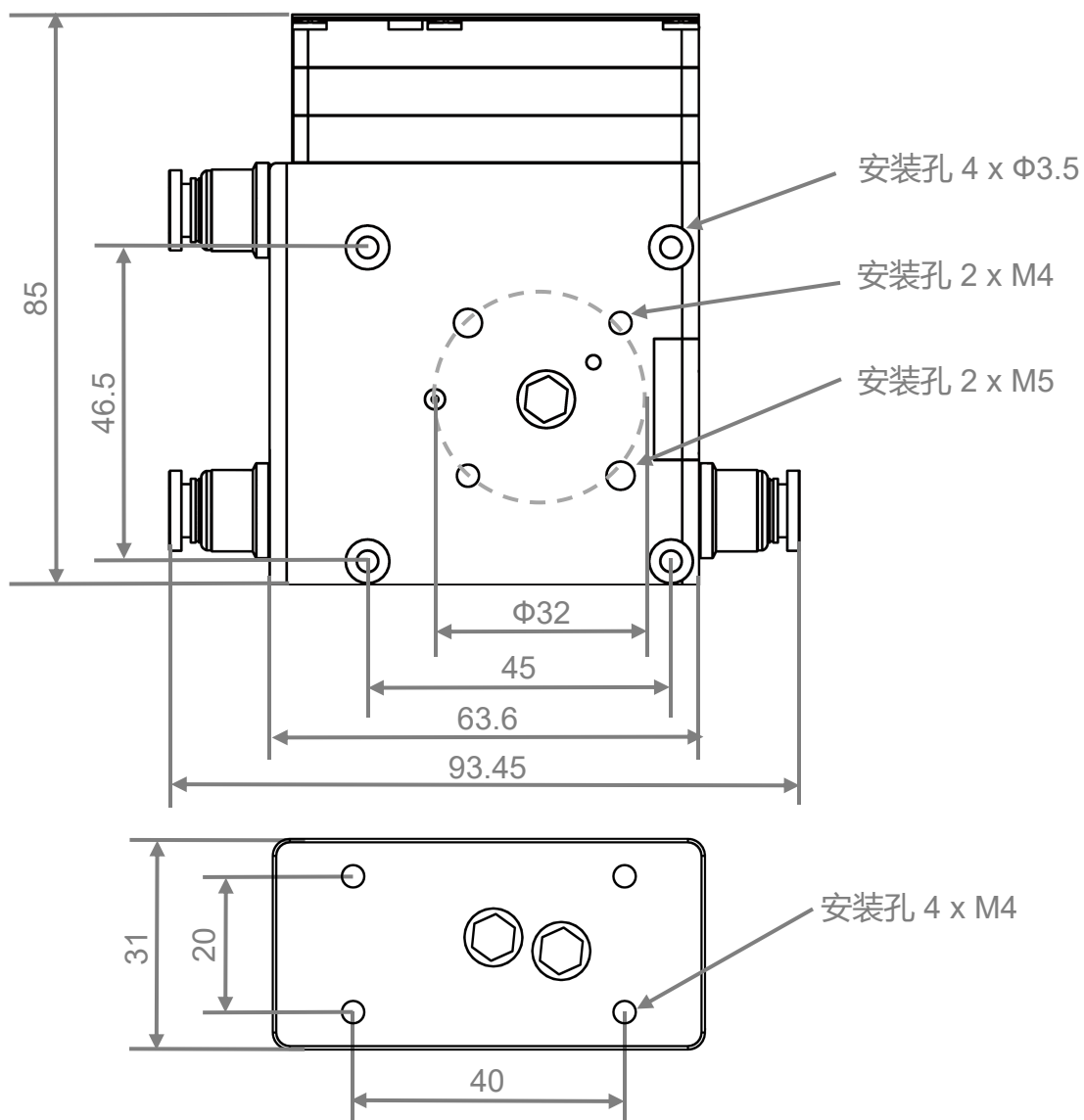
消声器

呼吸孔

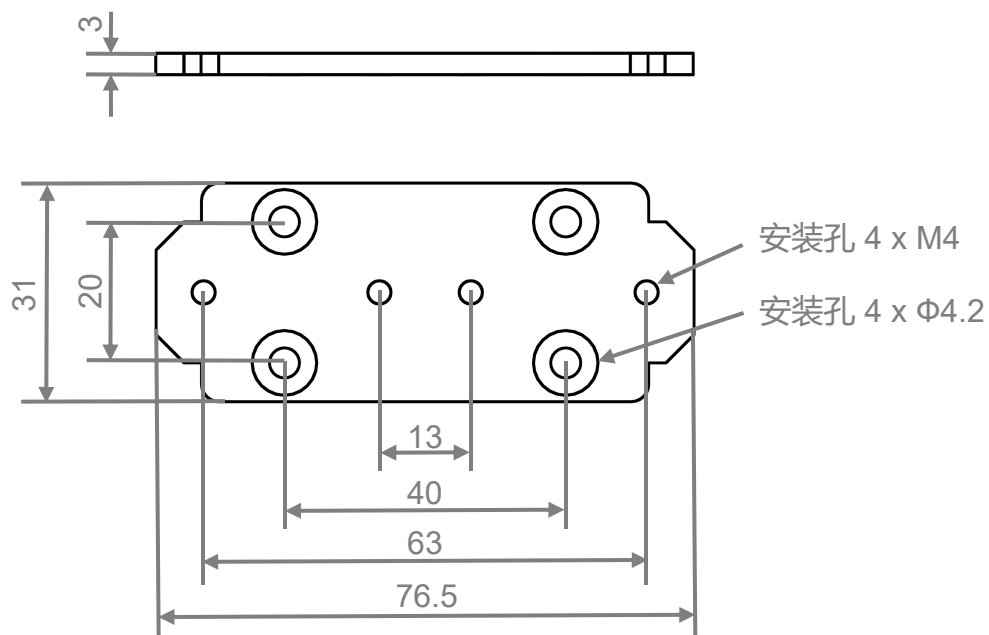
**夹爪口 G**  
G1/8, -85~300kPa

# 尺寸

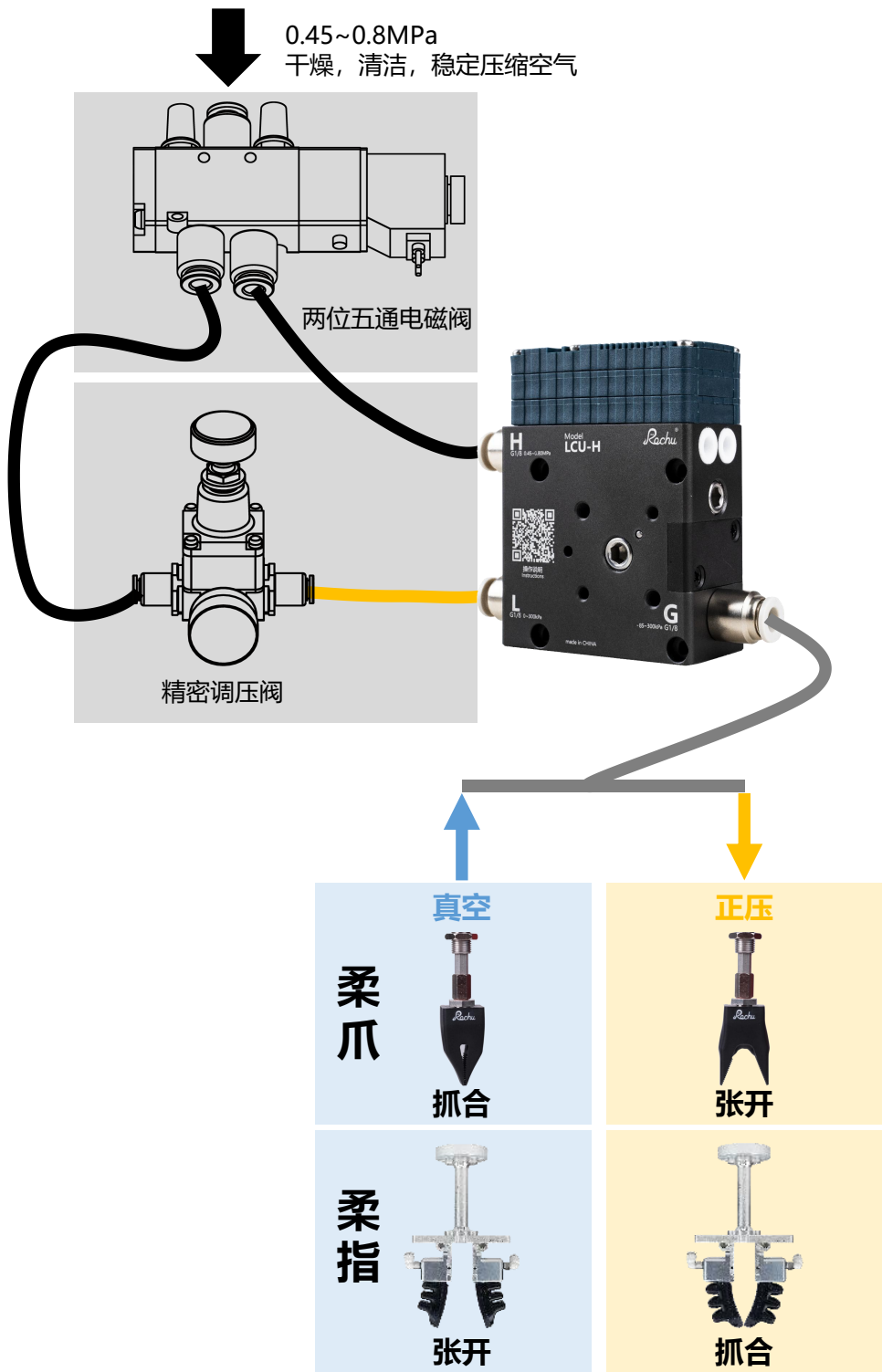
## 驱动器本体



## 导轨卡扣转接板



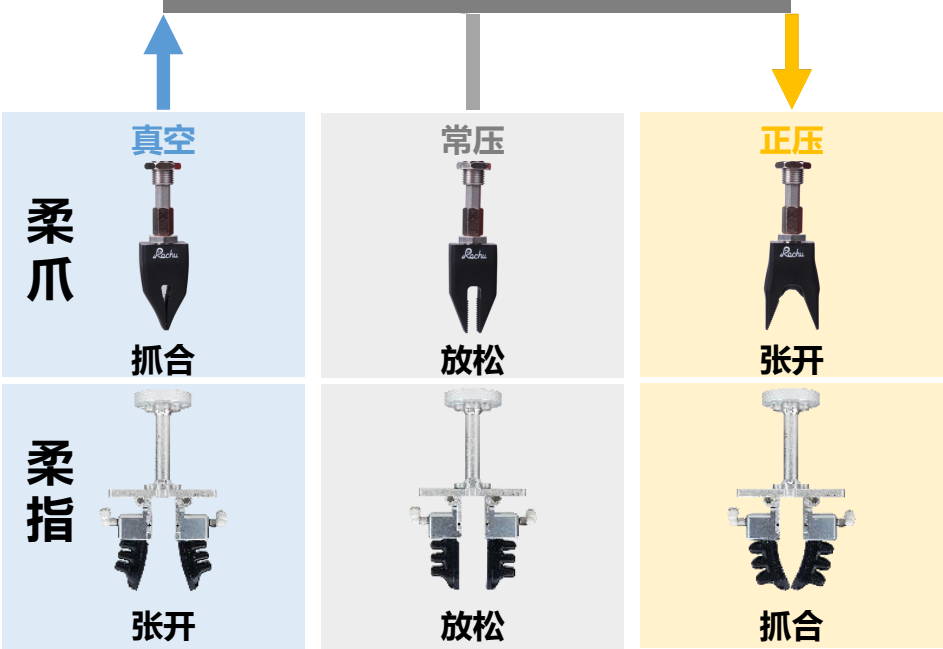
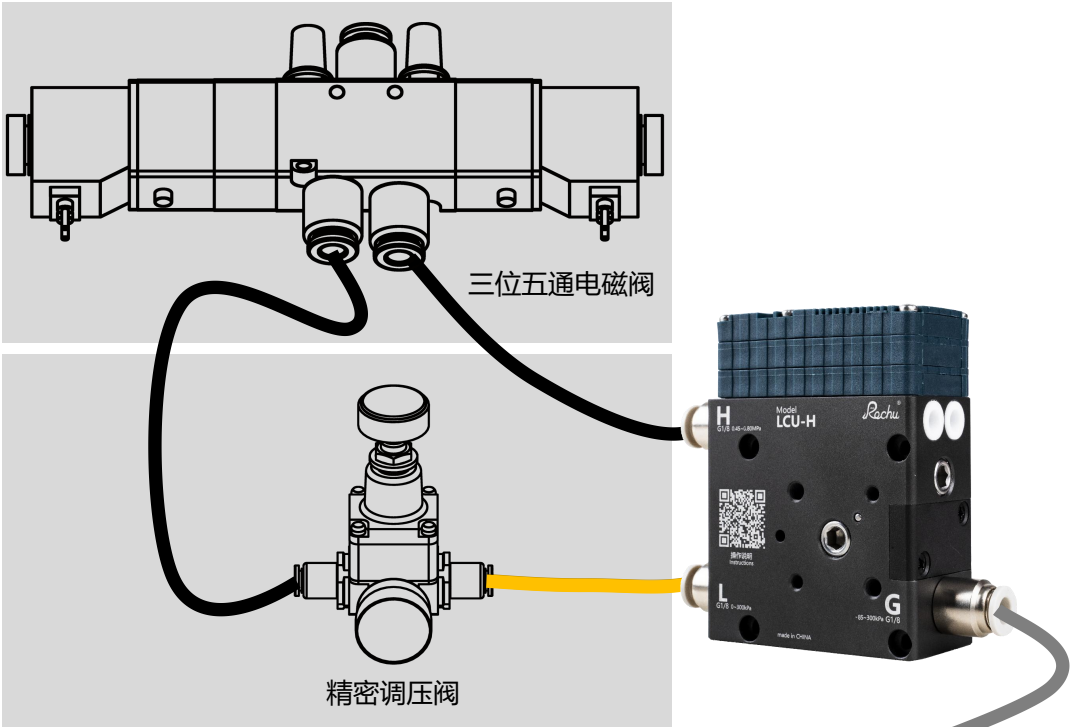
使用方式一：两位单路驱动



| 气路特性 | 两种夹爪状态  | 真空                                  | 正压    |
|------|---------|-------------------------------------|-------|
|      | 一路电信号驱动 | 电磁阀通电                               | 电磁阀断电 |
| 选配件  | 两位五通电磁阀 | 可选型号：亚德客4V110 注意：需额外配接头 x 3、消声器 x 2 |       |
|      | 精密调压阀   | 可选型号：亚德客GPR20006M 注意：需额外配接头 x 2     |       |

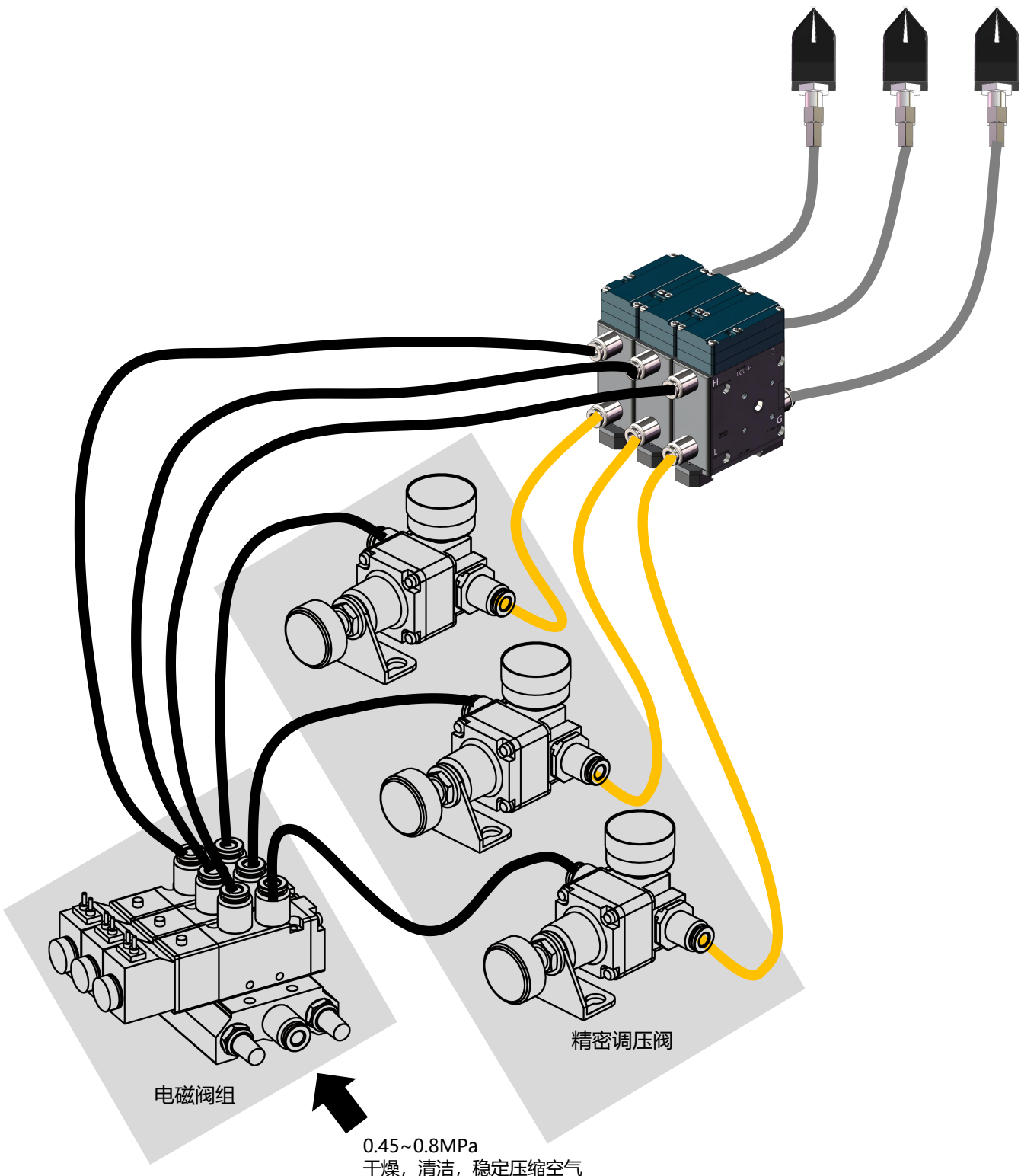
使用方式二：三位单路驱动

0.45~0.8MPa  
干燥，清洁，稳定压缩空气



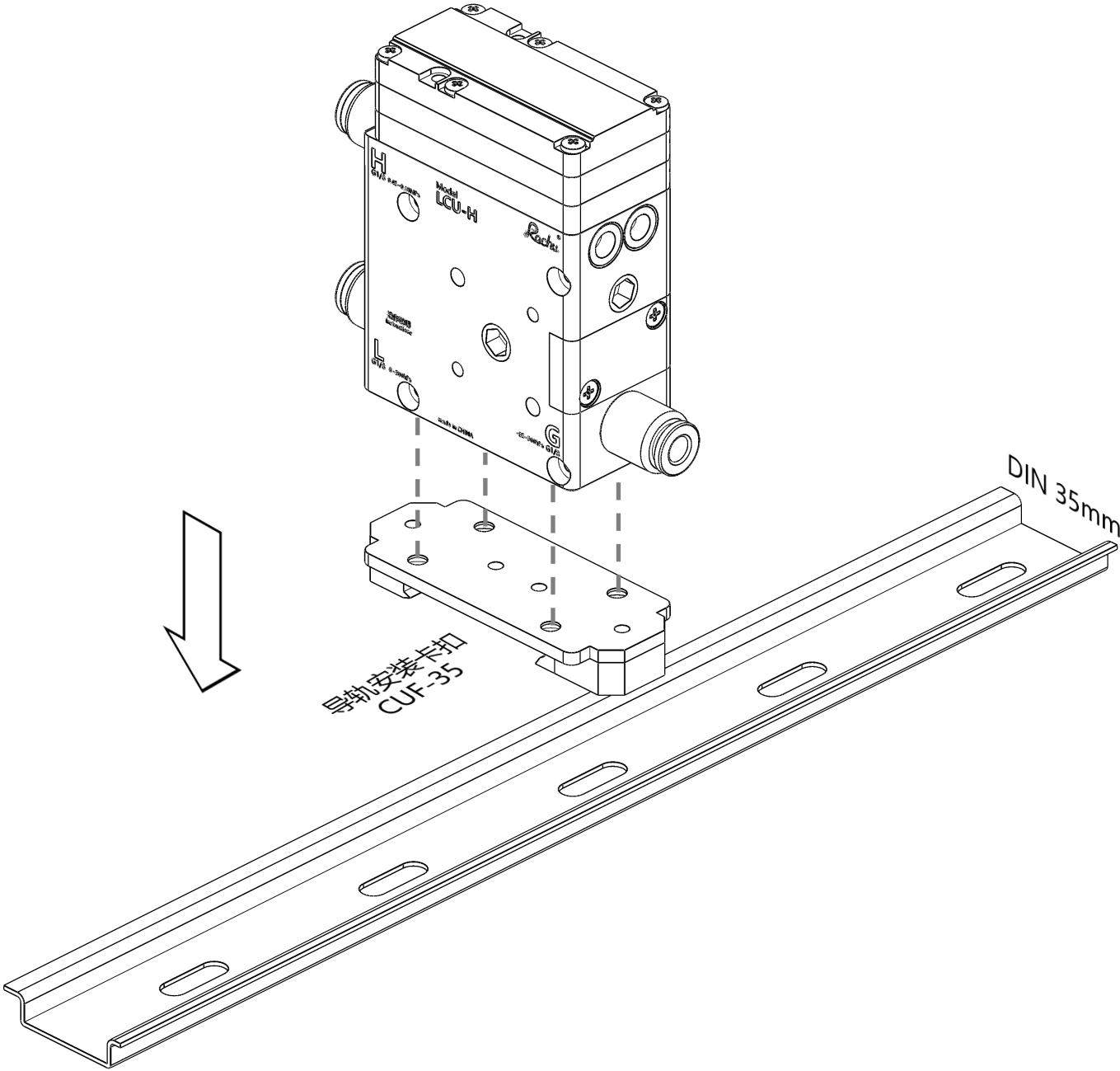
| 气路特性 | 三种夹爪状态  | 真空                                   | 常压    | 正压     |
|------|---------|--------------------------------------|-------|--------|
|      | 两路电信号驱动 | 电磁阀左通电                               | 电磁阀断电 | 电磁阀右通电 |
| 选配件  | 三位五通电磁阀 | 可选型号：亚德客4V130E 注意：需额外配接头 x 3、消声器 x 2 |       |        |
|      | 精密调压阀   | 可选型号：亚德客GPR20006M 注意：需额外配接头 x 2      |       |        |

使用方式三：多路驱动

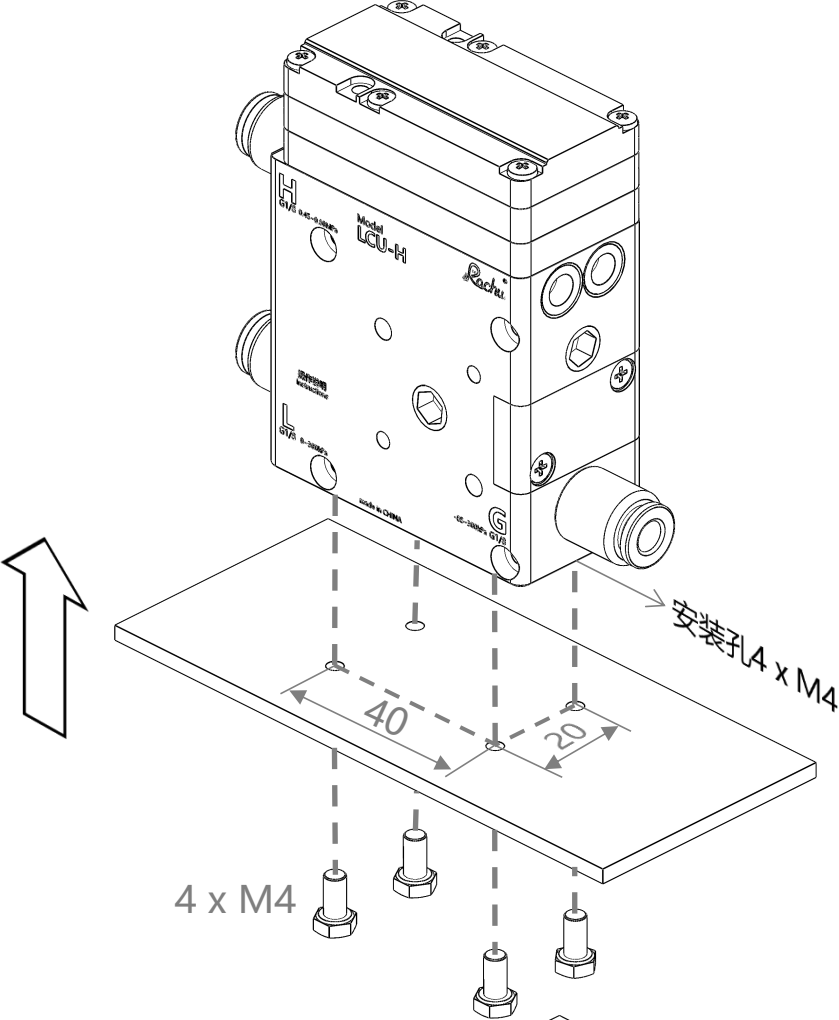


|      |                          |                                       |
|------|--------------------------|---------------------------------------|
| 气路特性 | 一路驱动器驱动一只柔爪，可实现多路柔爪的异步动作 |                                       |
| 选配件  | 电磁阀组                     | 可选型号：亚德客4V130E      注意：需额外配接头、消声器、汇流板 |
|      | 精密调压阀                    | 可选型号：亚德客GPR20006M      注意：需额外配接头      |

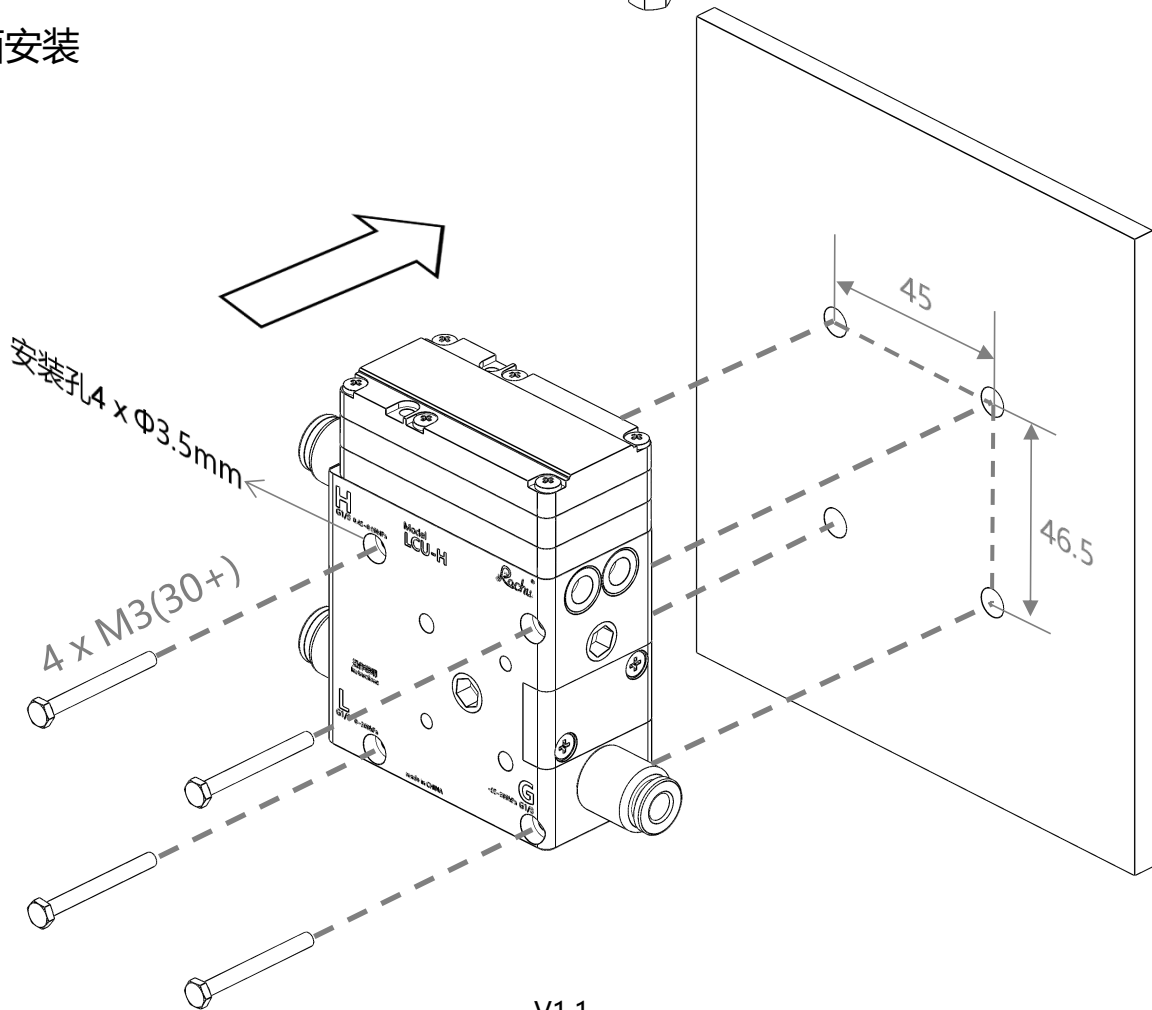
①导轨安装



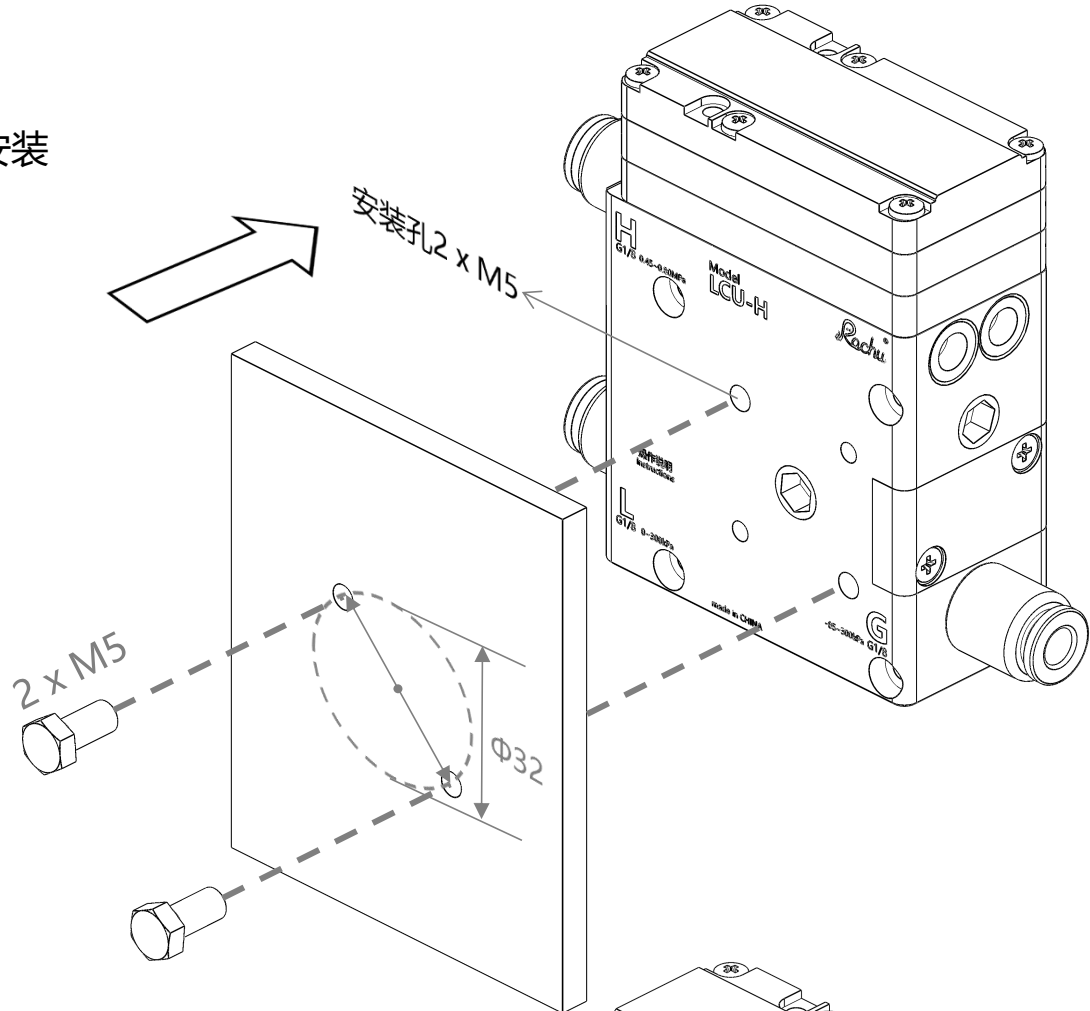
②底面安装



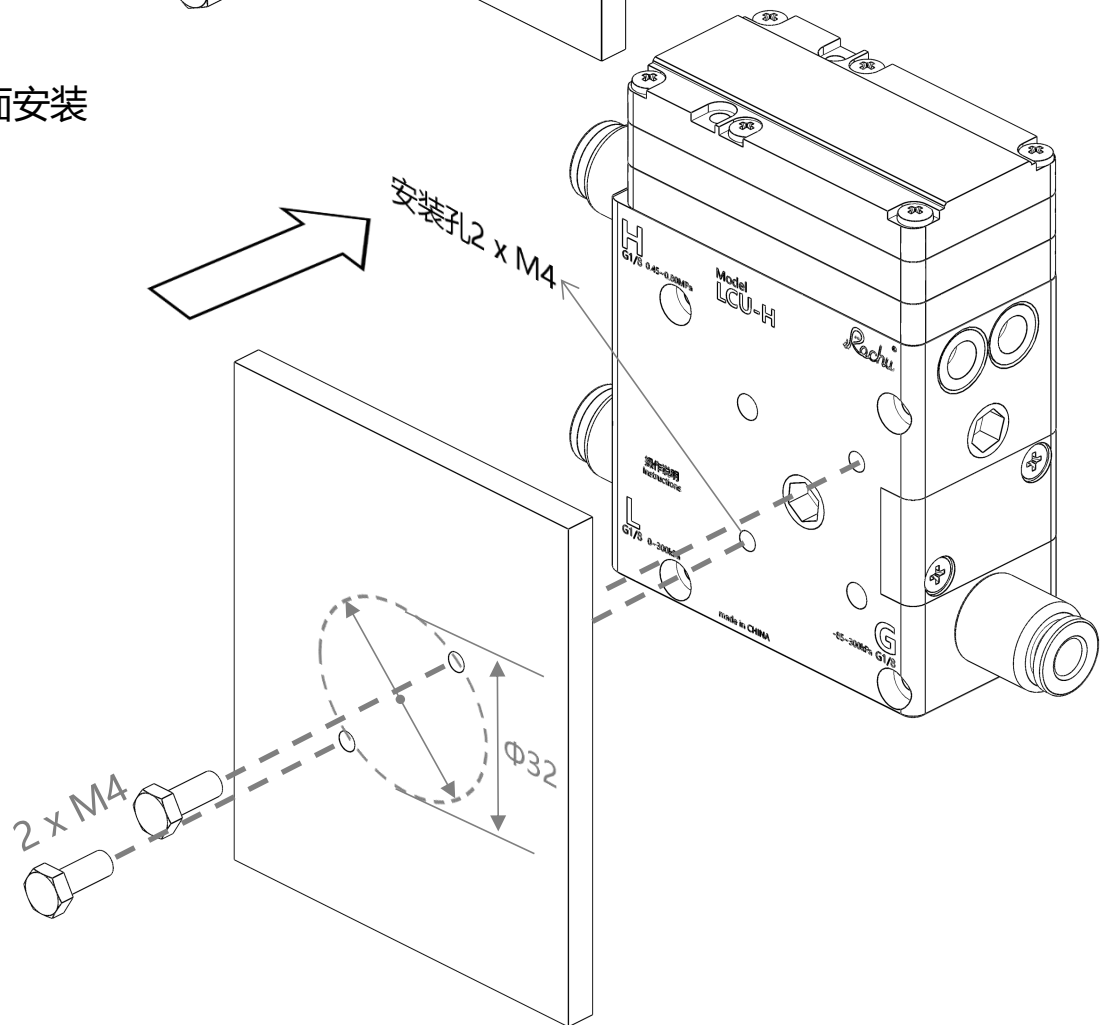
③侧面安装



④侧面安装



⑤侧面安装



参数

| 名称   | 范围                                        | 名称   | 范围        |
|------|-------------------------------------------|------|-----------|
| 尺寸   | 85x63.6x31mm                              | 阀体材质 | 铝合金       |
| 输入气源 | 0.45~0.80MPa<br>干燥，清洁，稳定<br>流量 > 200L/min | 正压流量 | 165L/min* |
|      |                                           | 真空流量 | 55L/min   |
| 输出气压 | -85~300kPa                                | 寿命   | 5000万次    |
| 净重   | 350g                                      | 工作模式 | 气控驱动      |

\*: 该流量参数测试条件为：高压气源口H压力=0.6MPa，低压气源口L压力=100kPa。

常见问题

1. 驱动器的气控驱动方式。

| 序号 | 进气口                  | 功能     | 柔指姿态                                                                                     | 柔爪姿态                                                                                       |
|----|----------------------|--------|------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| 1  | H口进气<br>0.45~0.80MPa | G口输出真空 | <br>张开  | <br>闭合  |
| 2  | L口进气<br>0~300kPa     | G口输出正压 | <br>闭合 | <br>张开 |

H口触发优先级高于L口，即H和L两口同时进气，G口输出真空。

2. 驱动器三个气口接头的选择。

建议使用标配的6mm G1/8螺纹接头（PN-188）安装到驱动器3个接口处。若有特殊需要或空间限制可更换为其他型号的G1/8螺纹接头。

3. L口的低压气源如何控制。

请务必使用精密调压阀控制低压（参照使用方式页）。常规减压阀调节精度不足，可能造成输出正压的波动，导致柔爪超过安全气压工作，从而导致柔爪的破损或对夹持工件的损伤。

4. 驱动器工作时消声器孔有排气现象。

驱动器内置的真空发生器工作时会排气，因此排气是驱动器工作的正常状态。



# LCU-H Rochu Control Unit

## Instructions



# Packing List



Rochu Control Unit  
LCU-H x 1



6mm G1/8 Joint  
PN-294 x 3



DIN-Rail Buckle  
CUF-35 x 1

## Safety Caution



**Warning:** Please strictly observe the safety cautions, incorrect operation may cause damage to the product and personal injury.

1. Please use **0.45 ~ 0.80 MPa dry clean stable** compressed air with **flow rate > 200 L/min**.
2. Excessive high pressure will cause irreversible damage to internal components, excessive low pressure will cause insufficient gripping force or insufficient opening angle of gripper. Fluctuations in air source pressure may lead to fluctuations in gripping force.

## Appearance



**High Pressure  
Port H**  
G1/8, 0.45~0.8MPa

**Low Pressure  
Port L**  
G1/8, 0~300kPa

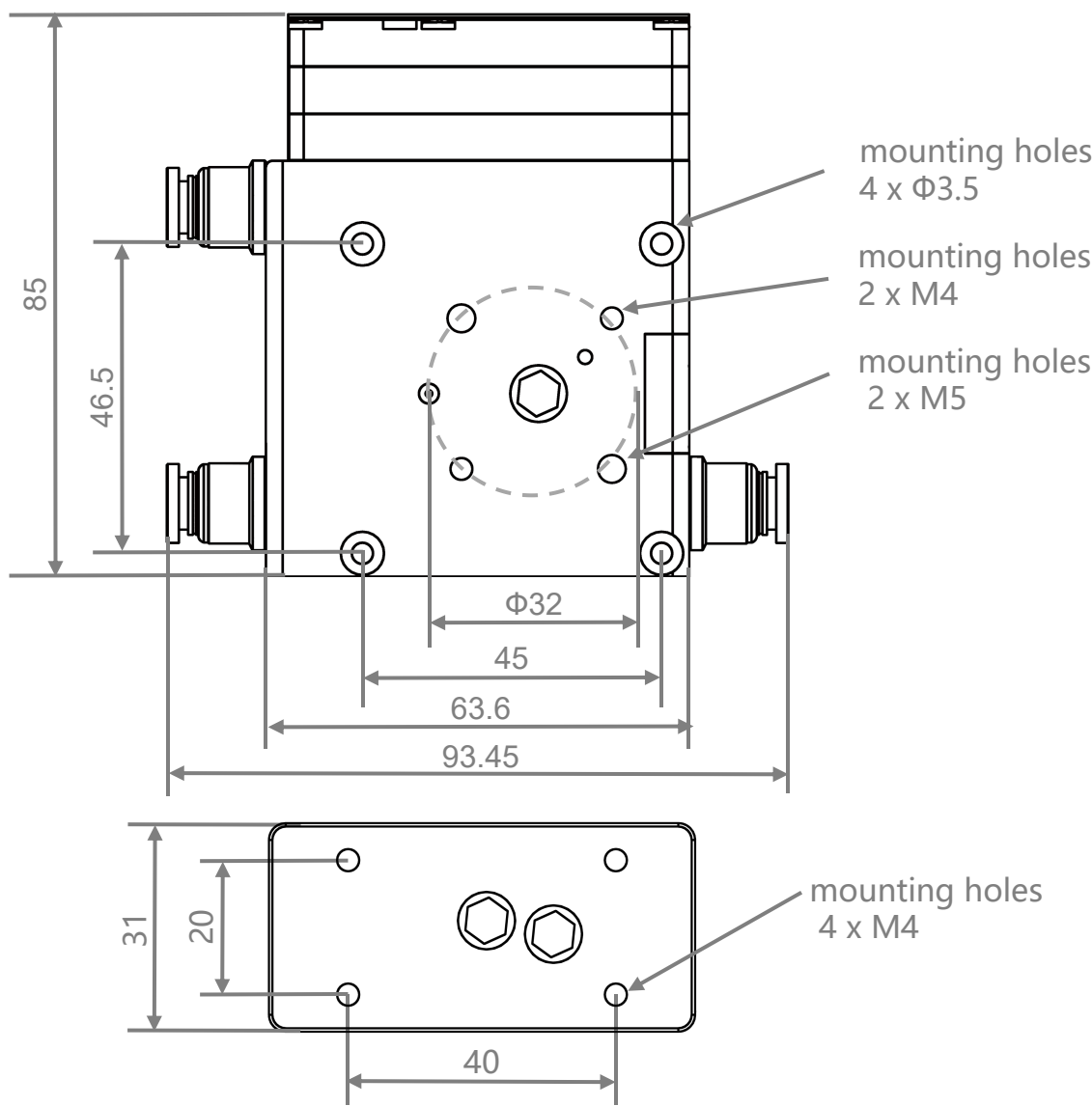
Vacuum  
Generator

Muffler

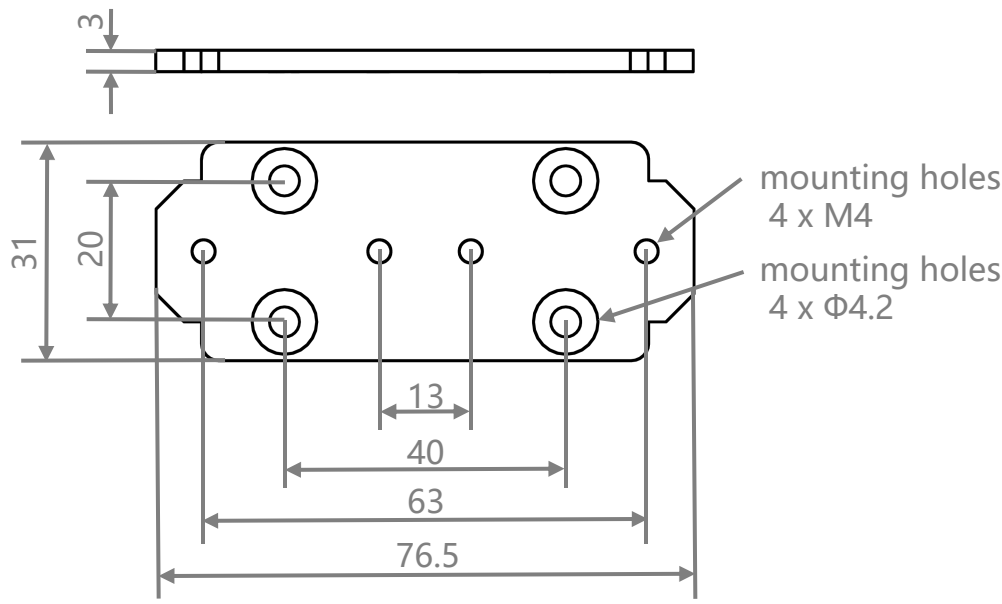
Breathing  
Hole

**Gripper  
Port G**  
G1/8, -85~300kPa

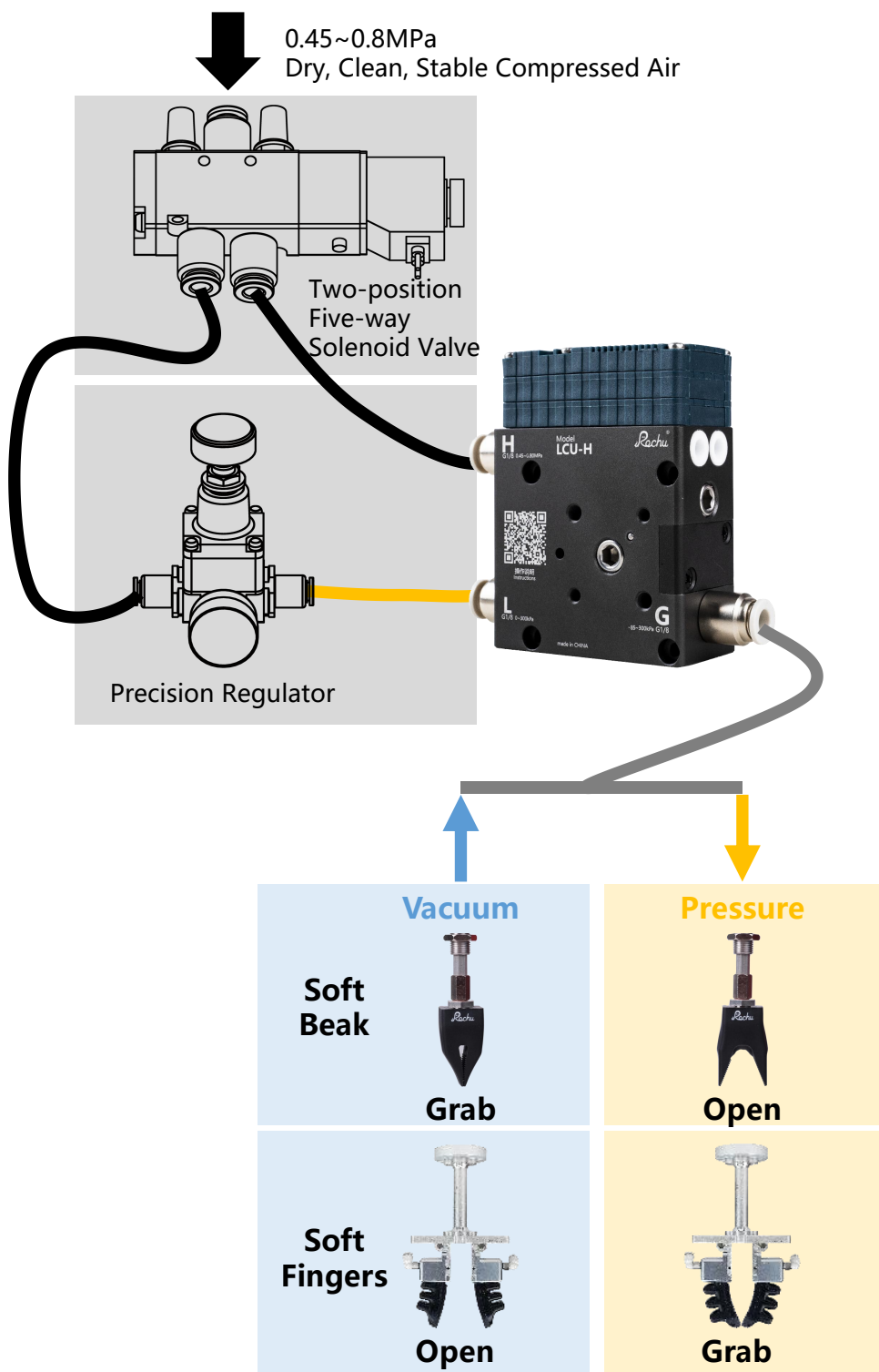
Control Unit



DIN-Rail Buckle Adapter Plate

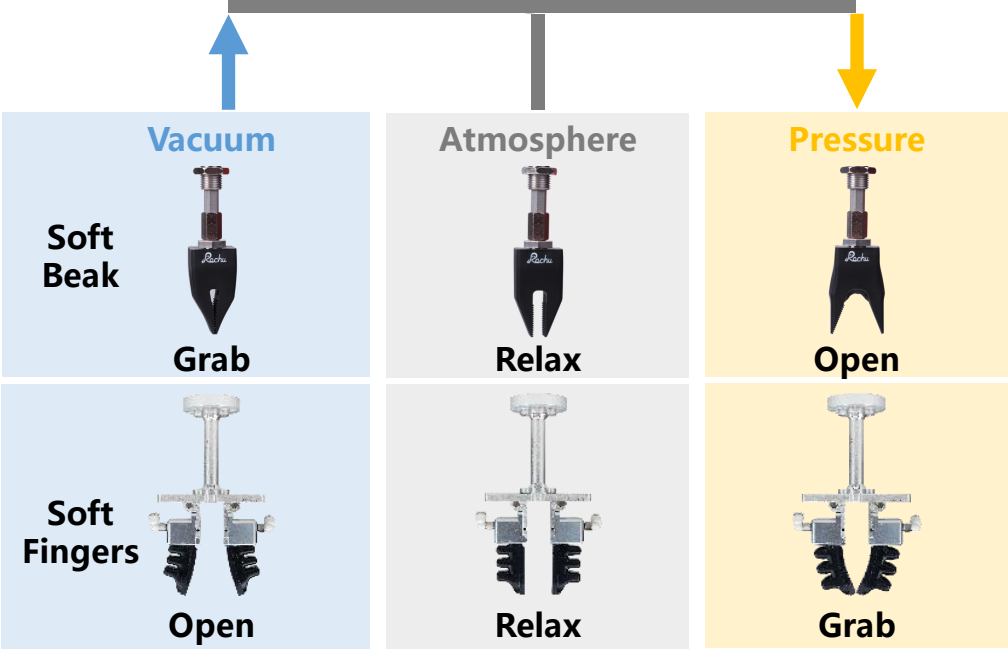
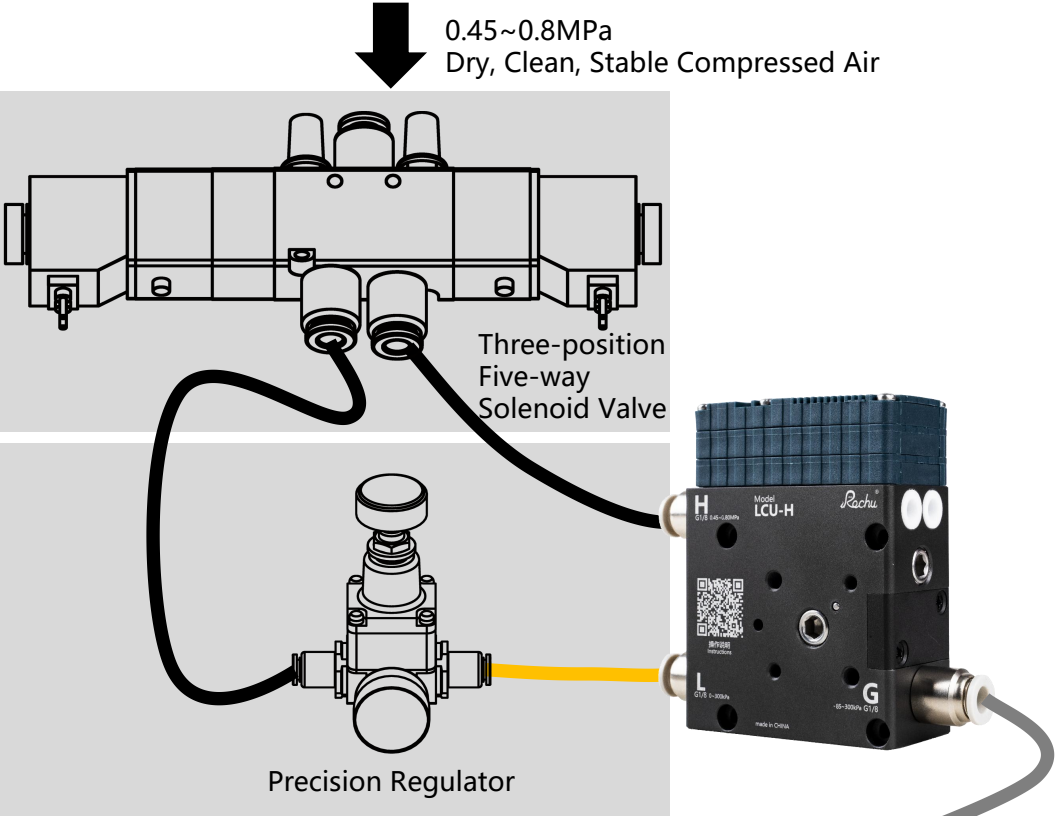


# Application Method 1: two-position single drive



| Air Path<br>CHARC | Two Gripper States                   | Vacuum                              |  | Pressure                                       |  |
|-------------------|--------------------------------------|-------------------------------------|--|------------------------------------------------|--|
|                   | One Electric Signal                  | Solenoid Valve Power On             |  | Solenoid Valve Power Off                       |  |
| Options           | Two-position Five-way Solenoid Valve | Recommended model: Airtac 4V110     |  | Notes: Requires extra joints x 3, mufflers x 2 |  |
|                   | Precision Regulator                  | Recommended model: Airtac GPR20006M |  | Notes: Requires extra joints x 2               |  |

# Application Method 2: three-position single drive

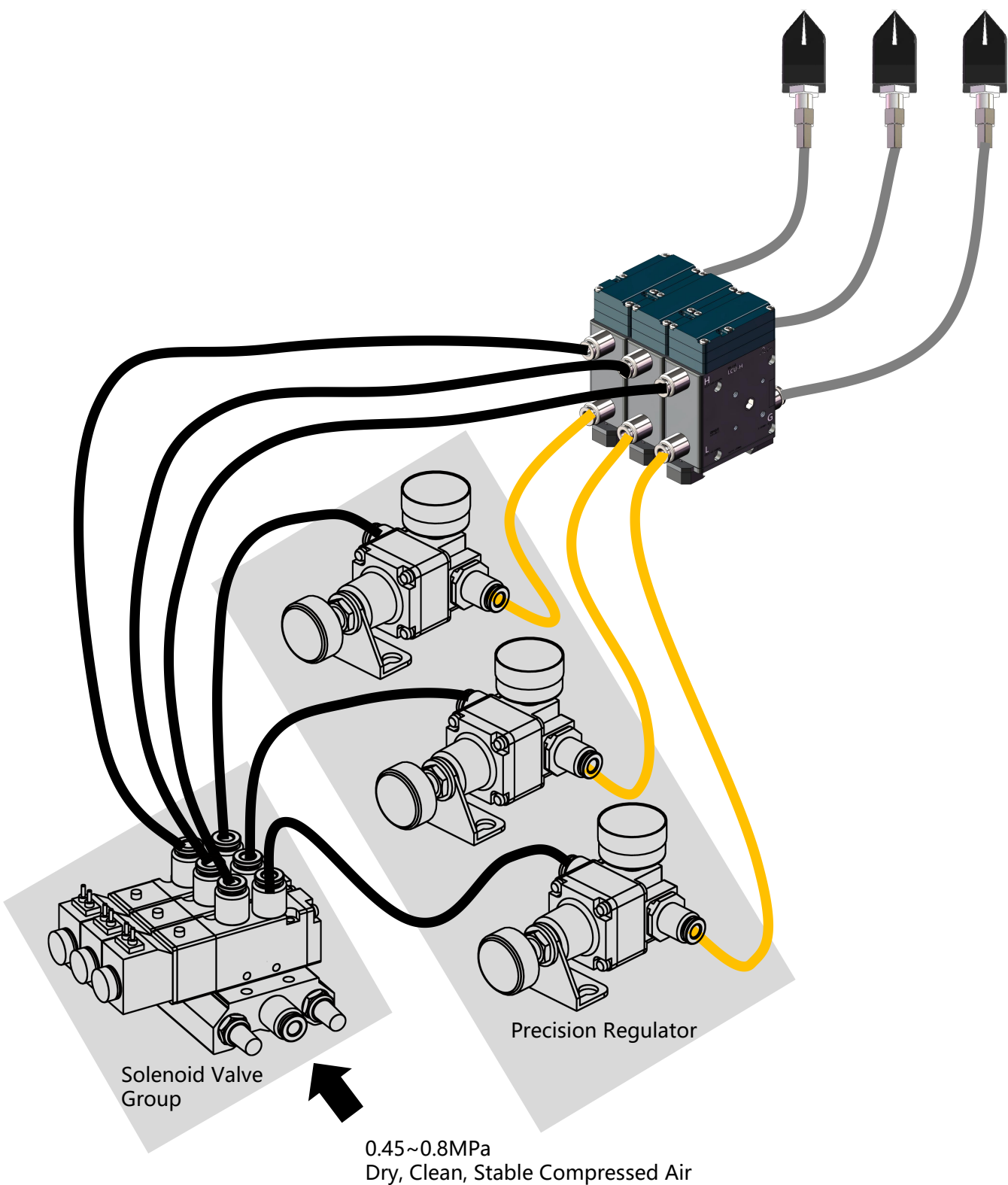


| Air Path<br>CHARC | Three Gripper States                   | Vacuum                                 | Atmosphere                  | Pressure                         |
|-------------------|----------------------------------------|----------------------------------------|-----------------------------|----------------------------------|
|                   | Two Electric Signals                   | Left Solenoid Valve<br>Power On        | Solenoid Valve<br>Power Off | Right Solenoid Valve<br>Power On |
| Options           | Three-position Five-way Solenoid Valve | Recommended model:<br>Airtac 4V130E    |                             |                                  |
|                   | Precision Regulator                    | Recommended model:<br>Airtac GPR20006M |                             |                                  |

Notes: Requires extra joints x 3,  
mufflers x 2

Notes: Requires extra joints x 2

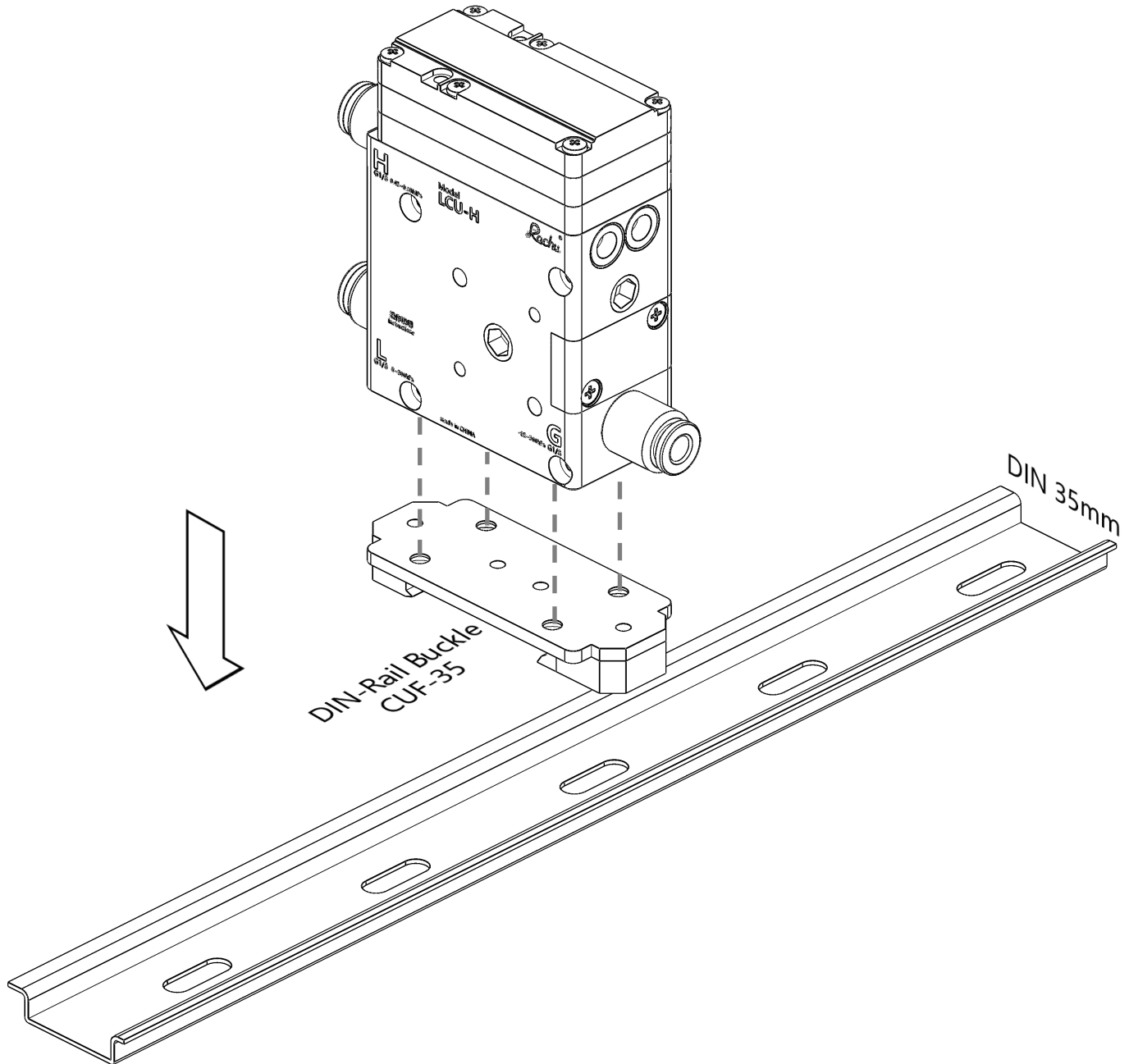
# Application Method 3: multiple drive



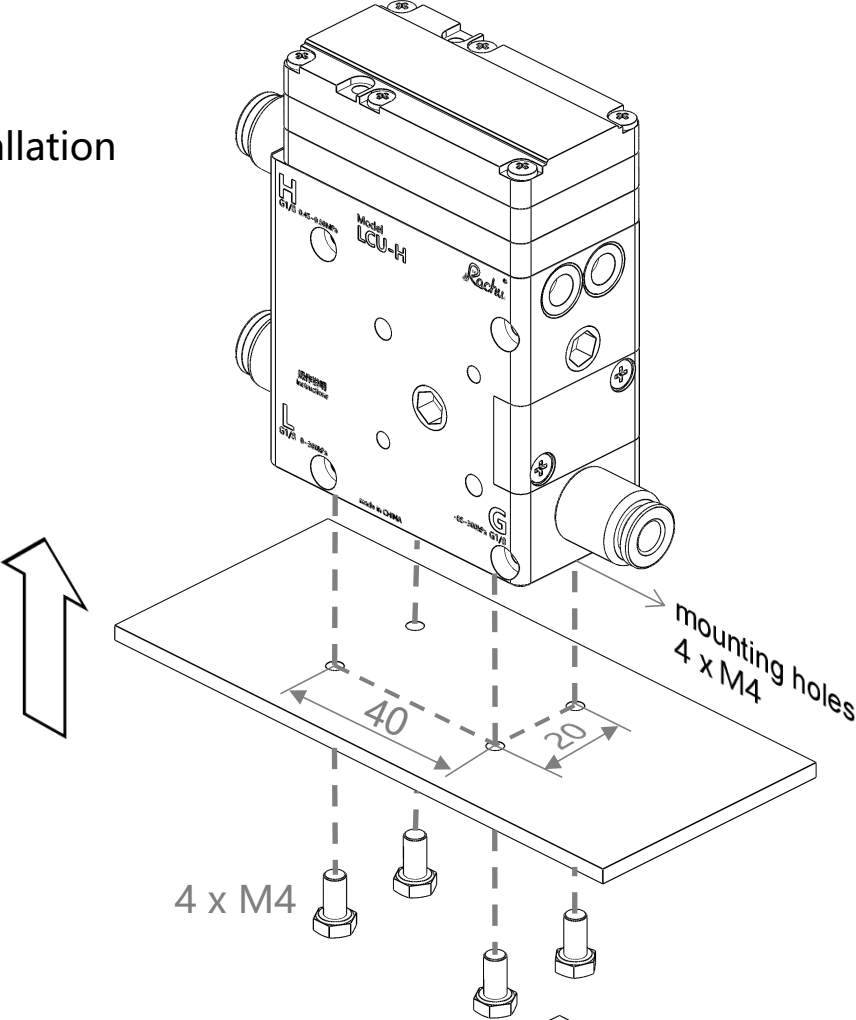
|                 |                                                                                                         |                                            |                                                              |
|-----------------|---------------------------------------------------------------------------------------------------------|--------------------------------------------|--------------------------------------------------------------|
| <b>Air Path</b> | One control unit drives a gripper, which can realize the asynchronous action of multi-way soft gripper. |                                            |                                                              |
| <b>Options</b>  | Solenoid Valve Group                                                                                    | <i>Recommended model: Airtac 4V130E</i>    | <i>Notes: Requires extra joints, mufflers, conflux board</i> |
|                 | Precision Regulator                                                                                     | <i>Recommended model: Airtac GPR20006M</i> | <i>Notes: Requires extra joints</i>                          |

# Installation

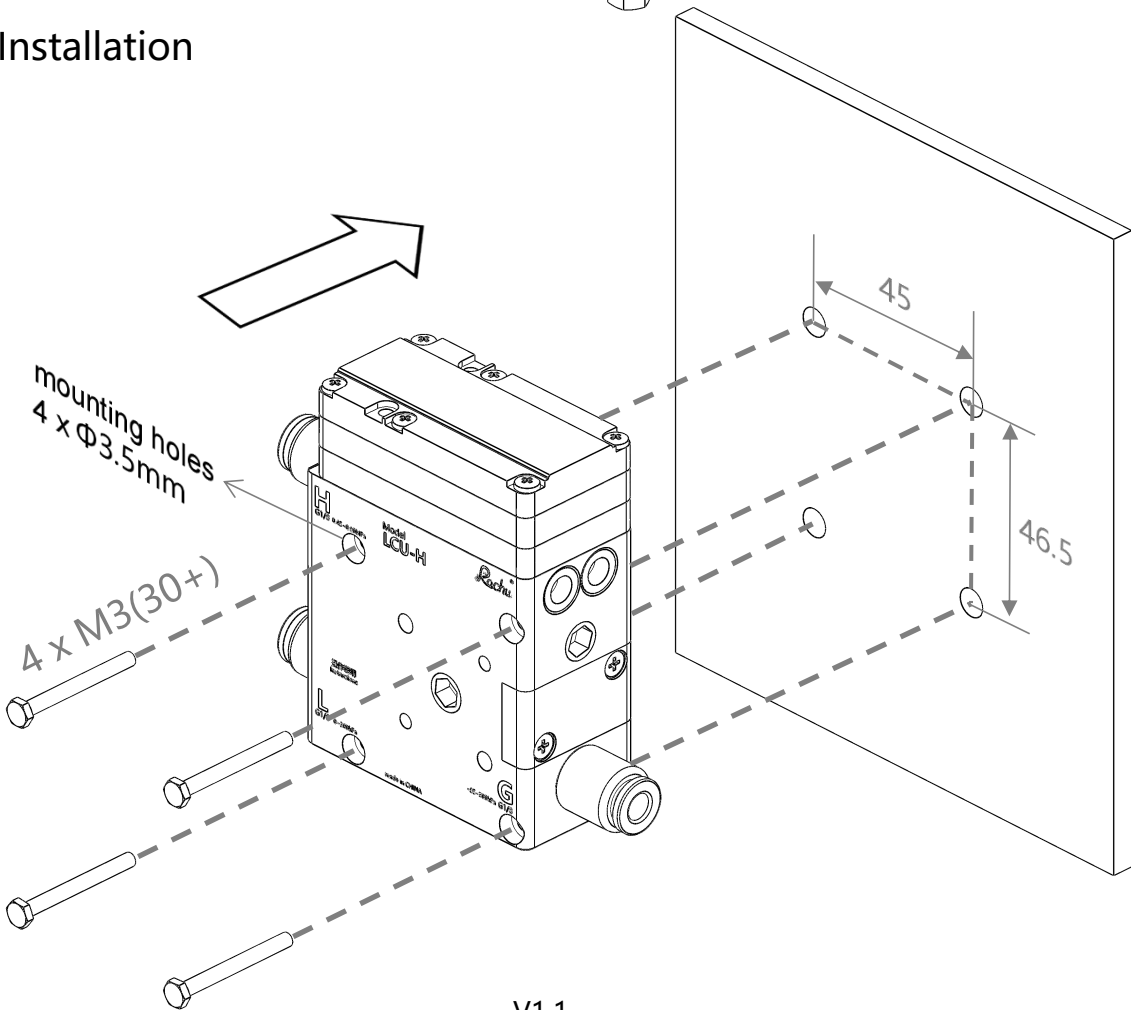
## ①DIN-Rail Installation



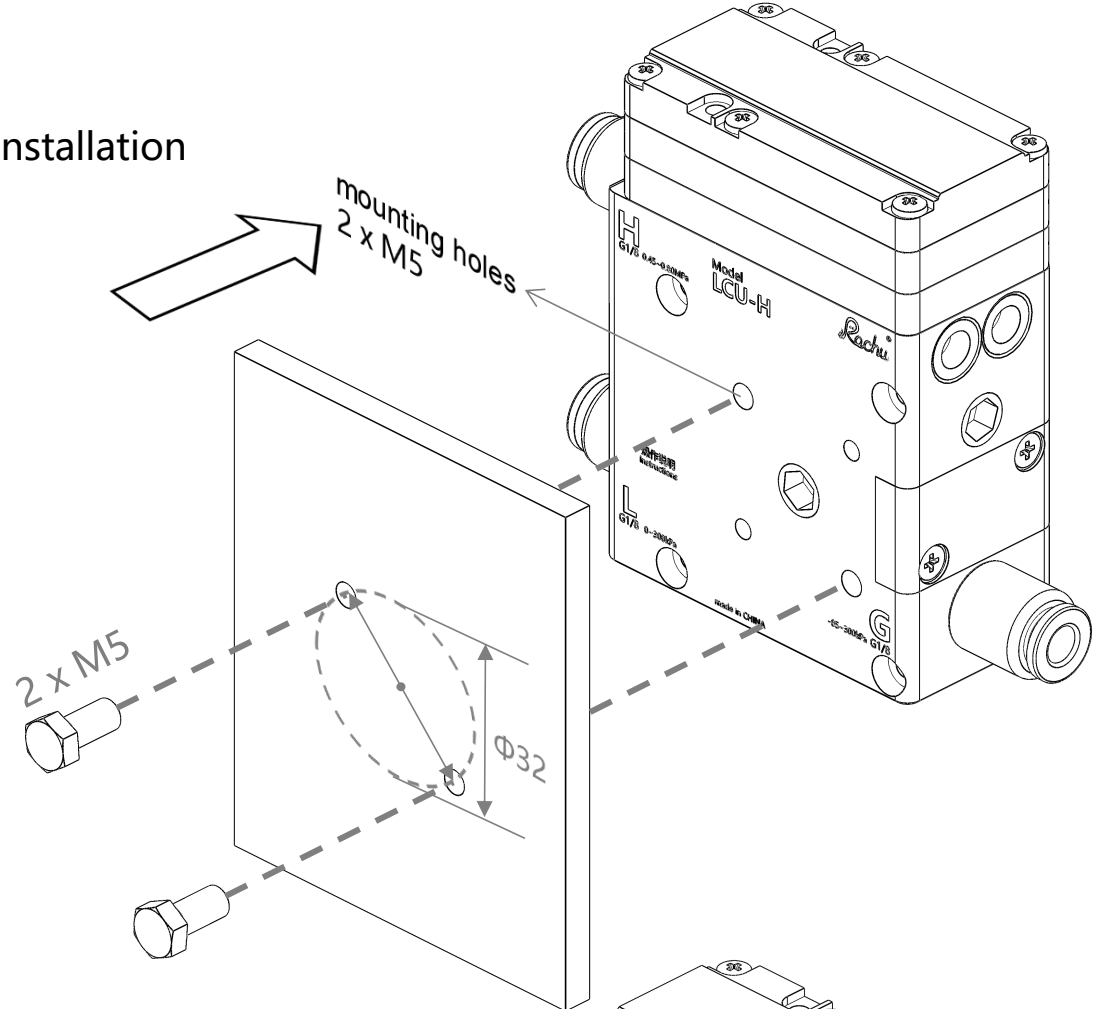
②Bottom Installation



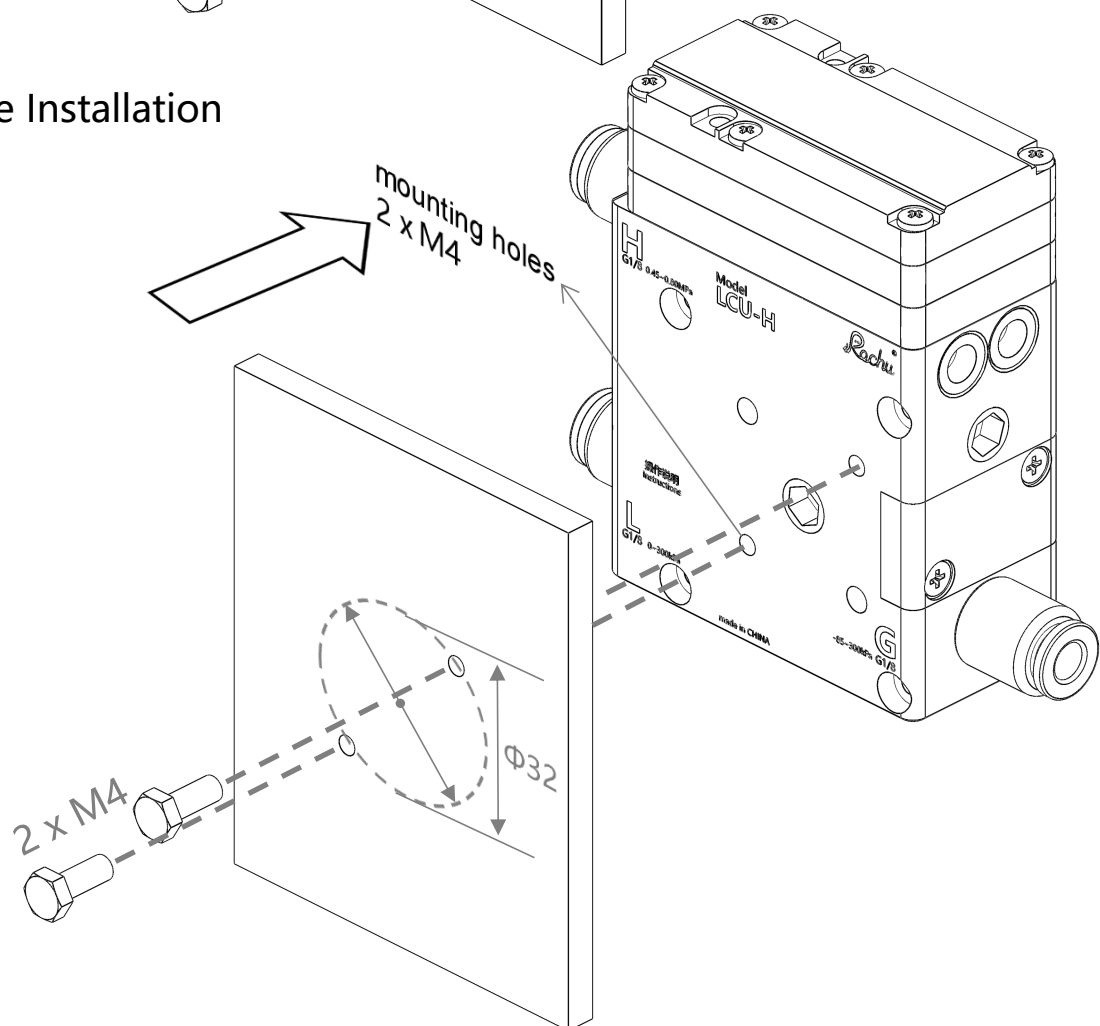
③Side Installation



④Side Installation



⑤Side Installation



# Parameter

| Parameter       | Range                                                 | Parameter     | Range            |
|-----------------|-------------------------------------------------------|---------------|------------------|
| Size            | 85x63.6x31mm                                          | Material      | aluminum alloy   |
| Air Source      | 0.45~0.80MPa<br>dry, clean, stable<br>flow > 200L/min | Pressure Flow | 165L/min*        |
|                 |                                                       | Vacuum Flow   | 55L/min          |
| Output Pressure | -85~300kPa                                            | Lifetime      | 50 million times |
| Net Wright      | 350g                                                  | Working Mode  | aneumatic drive  |

\*: The flow parameter test condition, high pressure H port = 0.6MPa, low pressure L port =100kPa.

## F&Q

### 1. Pneumatic drive mode of the control unit.

| No. | Port                         | Function                  | Soft Fingers Posture                                                                       | Soft Beak Posture                                                                            |
|-----|------------------------------|---------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| 1   | H port input<br>0.45~0.80MPa | G port output<br>vacuum   | <br>open  | <br>grab  |
| 2   | L port input<br>0~300kPa     | G port output<br>pressure | <br>grab | <br>open |

The trigger priority of port H is higher than that of port L, which means both ports H and L inlet air at the same time, and G port output vacuum.

### 2. Control unit choice of three air port connectors.

It is recommended to install the standard 6mm G1/8 joints (PN-188) into the control unit' s 3 ports. In case of special needs or space limitation, it can be replaced with other models of G1/8 joints.

### 3. How to control the low pressure air source of port L?

Be sure to use a precision regulator to control low pressure (refer to the application method). The precision lack of normal regulator may cause the fluctuation of output pressure, leading to the gripper overpressure use, resulting in the damage of gripper or damage to the gripping workpiece.

### 4. There is exhaust phenomenon in muffler hole when the control unit is working.

The built-in vacuum generator of the driver exhausts when working, so exhaust is the normal state of the control unit.