

# Universal Leak Calibrator ULC-101/111 series

## 性能规格

|        |  |  |
|--------|--|--|
| 精度     | 2% F.S.  | 所有型号适用                                 |
| 流量范围   | 1ml/min, 10ml/min, 100ml/min                       | ULC-101(选择一种流量范围)<br>ULC-111(包括所有流量范围) |
| 流量状态显示 | 标准状态 20°C 1Atm<br>正常状态 0°C 1Atm                    | 根据型号选择<br>根据应用情况选择                     |
| 流量单位   | ml   | 所有型号适用                                 |
| 时间单位   | min  | 所有型号适用                                 |
| 应用介质   | 空气<br>氮气<br>二氧化碳<br>氦气                             | 所有型号适用<br>根据应用情况选择<br>其他介质的转换率         |
| 大气压力单位 | hPa PSI mbr  | 所有型号适用根据应用情况选择                         |
| 温度单位   | °C.K   | 所有型号适用根据应用情况选择                         |
| 使用压力范围 | 10kpa~700kpa                                       | 所有型号适用                                 |
| 使用温度范围 | 0~40°C   | 所有型号适用                                 |
| 显示器    | LCD显示, 黑白显示<br>(绿色背光, 128x64)                      | 所有型号适用                                 |
| 流量显示   | 4位数字   | 所有型号适用                                 |
| 电源     | AC100V~AC240V (50/60HZ)<br>变压器: DC12V 1A<br>主体: 电池 | 所有型号适用                                 |
| 电池     | 4节AA (LR6) 碱性电池, 连续使用8小时                           | 所有型号适用                                 |

## 功能规格

| 型号      | 流量范围   | 精度确认用层流管                |
|---------|--|-------------------------|
| ULC-101 | 可从1ml/min、10ml/min、100ml/min中选择一种流量<br>只能使用选择的流量 | 提供满足所选流量范围的确认用层流管       |
| ULC-111 | 1ml/min、10ml/min、100ml/min 3种流量都可使用              | 提供3种流量中的一种或者全部流量的确认用层流管 |

## 附件

| 型号/No | 产品名称/Product Name           | 数量/Quantity          |
|-------|-----------------------------|----------------------|
| 1     | 流量调整装置/Flow Regulating Unit | 1 / 1 set数量/Quantity |
| 2     | 流量调节阀/Flow Valve Unit       | 1 / 1 set            |
| 3     | 连接件/Hose Connection         | 1 / 1 unit           |
| 4     | 校正接口/Calibration Joint      | 1 / 1 unit           |
| 5     | 层流管部件/Laminar Flow Element  | 1或3 / 1 or 3 sets    |

## Performance Specification

|                           |   |  |
|---------------------------|---|--|
| Accuracy                  | 2%F.S.  | Common to All Models   |
| Flow Range                | 1ml/ min<br>10ml/ min<br>100ml/ min   | Select<br>ULC-101 (Select One Range)<br>ULC-111 (All Included)   |
| Flow Status Indication    | S: Standard Condition 20°C 1 Atm<br>N: Normal Condition 0°C 1 Atm                 | Depending on Model<br>Depending on Application   |
| Unit (Flow Rate)          | ml  | Common to All Models   |
| Unit (Time)               | min   | Common to All Models   |
| Applicable Medium         | Air·He·CO2·N2   | Common to All Models<br>Depending on Application<br>Traceability for AIR only<br>Converted Rate for Other Medium |
| Unit (Pressure)           | hPa·PSI·mbr   | Common to All Models<br>Depending on Application   |
| Unit (Temperature)        | °C·K  | Common to All Models<br>Depending on Application   |
| Applicable Pressure Range | 10kPa~700kPa  | Common to All Models   |
| Applicable Temp. Range    | 0~40°C  | Common to All Models   |
| Indication                | LCD w/ No Back Light<br>Black and White (Background:Green)<br>(128X64 Characters) | Common to All Models   |
| Flow Rate Indication      | Full 4 digits   | Common to All Models   |
| Power Source              | AC100V~AC240V (50Hz/ 60Hz)<br>AC Adaptor: DC12V 1A<br>Main Body:Battery           | Common to All Models   |
| Battery                   | Ni-MH battery (AA Size) 4 units parallel<br>Max Continuance Use:8 hours           | Common to All Models   |

## Function Specifications

| Model   | Flow Range  | Accuracy Verification Laminar  |
|---------|---|--|
| ULC-101 | Select from 1ml/ min, 10ml/ min, 100ml/ min.<br>Able to Operate only in Selected Flow Range   | A laminar with full scale of the selected flow rate will be supplied.  |
| ULC-111 | 1ml/ min, 10ml/ min, 100ml/ min.<br>Able to Operate at 3 Different Flow Rates<br>(3 Different Laminar Element Supplied as Standard) | A laminar element with one selected flow rate or all three flow rates will be supplied.<br>(Optional Verification Laminar) |

## Accessory Classifications

| 型号/No | 品名/Product Name                                    | 付属数量/Quantity |
|-------|--|---------------|
| 6     | 密封盖/Seal Cap                                       | 1 / 1 unit    |
| 7     | 聚氨酯透明管/Clear Poly-Urethane Tubing                  | 70cm / 70cm   |
| 8     | 变压器/AC Adaptor                                     | 1 / 1 set     |
| 9     | AA (LR6) 碱性电池/<br>Battery (Ni-MH Battery: AA Size) | 4 / 4 units   |
| 10    | 包装箱 (木制)/Wood Carry Case                           | 1 / 1 set     |

主要产品 ● 气密检漏仪 ● 数字压力表 ● 流量计 ● 自动压力、流量控制器 ● 密封性能检测专用设备



长野福田(天津)仪器仪表有限公司  
天津博益气动股份有限公司

公司·工厂: 天津经济技术开发区第九大街80号丰华工业园7号厂区 邮编: 300457

电话: (86)22-59810966 传真: (86)22-59810963

北京营销中心: 北京市丰台区角门18号名流未来大厦801-805室 邮编: 100068

电话: (86)10-87582461 传真: (86)10-87582462

网址: www.boyiqd.com 邮箱: sales@boyiqd.com

公司在广州、顺德、杭州、台州、宁波、上海、苏州、武汉、重庆、西安、青岛、沈阳设有分支机构。



株式会社FUKUDA

地址: 日本东京都练马区贯井3-16-5  
Add.: 3-16-5, Nukui, Nerima-ku, Tokyo, Japan  
电话: (81) 33577-1111  
传真: (81) 33577-1002

代理商:



扫一扫, 查看  
办事处地址

C-FB-OULC101-X-03  
Printed in China

# Universal Leak Calibrator Variable Leak Master

通用型泄漏校正器  
可调泄漏基准

ULC-101 系列  
Series

用来确认检测仪器精度的校正器  
Useful Tool for Checking Tester Accuracy



压力校准点可调节, 适用范围广  
variable pressure setting point with a wide adaptability range

使用新型流量阀, 可设定任意漏率  
newly developed flow valve unit freely creates any discretionary leak rate

三种流量检测范围, 可满足多种需求  
Three flow measuring laminar range meet various requirements

专业校准用层流管, 进一步保证检测精度  
separately available verification laminar to confirm further accuracy

机身小巧, 可用电池, 操作简单  
compact body and battery system allow easy operation at anywhere





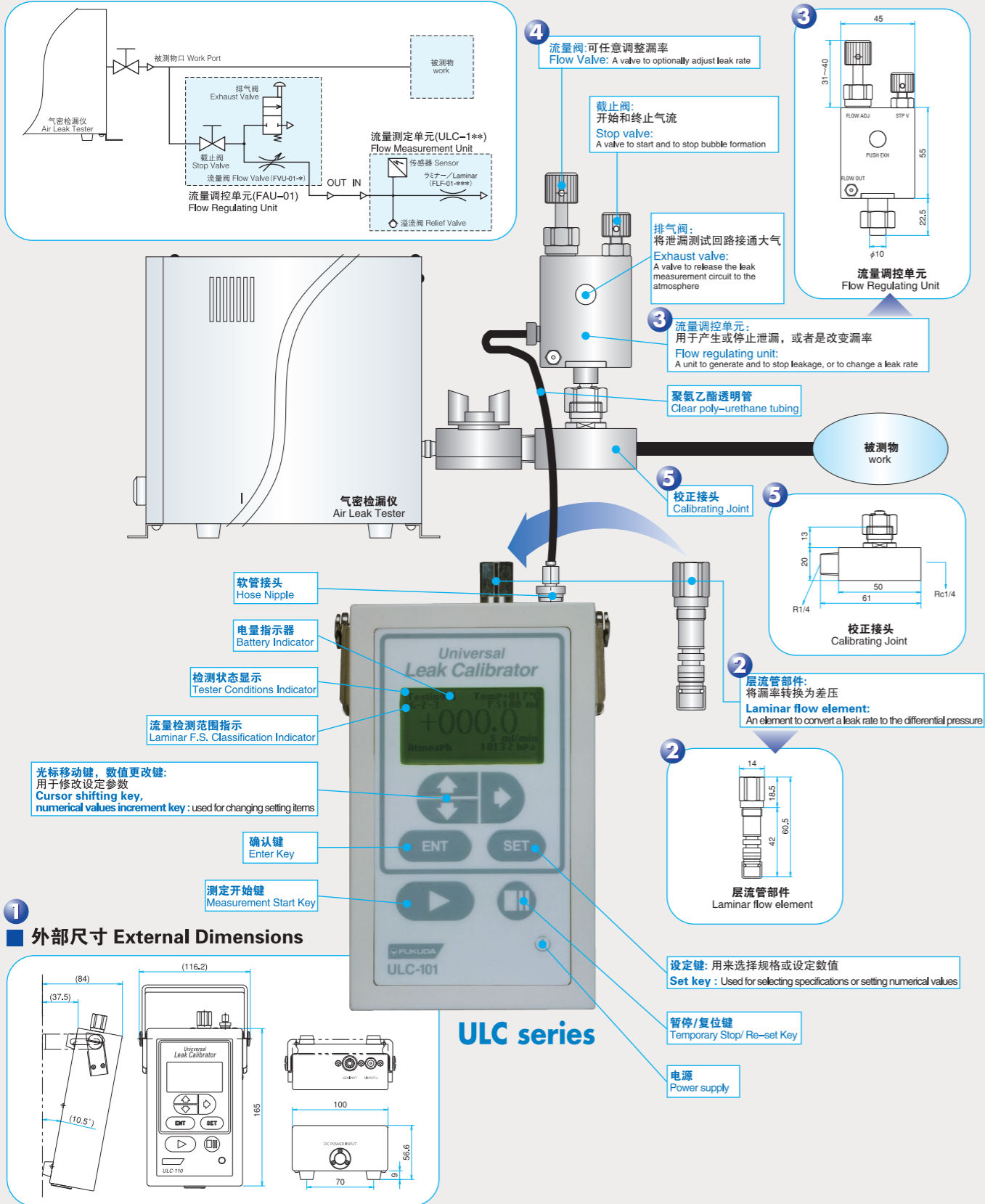
# 使用精密流量阀，可设定任意所需漏率机身小巧，可用电池，操作简单

Precision flow valve freely creates any desirable leak rate compact body and battery system allow easy operation at anywhere

## ■ 连接示意图 Connection & Name

※ 下列数字与型号的序号对应  
The following numbers correspond to the model number

### ■ 气动回路 Pneumatic Circuit



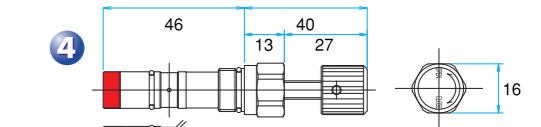
## ■ 流量调控单元选择标准 / Flow Regulating Unit Selection Criteria

| 颜色 | 调整范围                           | 标准             |
|----|--------------------------------|----------------|
| 红色 | 区域B + 区域C (流量可以调整到零)           | 用于0到区域B之间的流量范围 |
| 银色 | 区域A + 区域B (不能调整到区域C, 或区域C以下范围) | 用于区域A(但不用于区域C) |

流量调控单元根据颜色不同分为两种: 红色为标准型, 银色为可选型。  
每个单元可调控的流量范围如右图所示

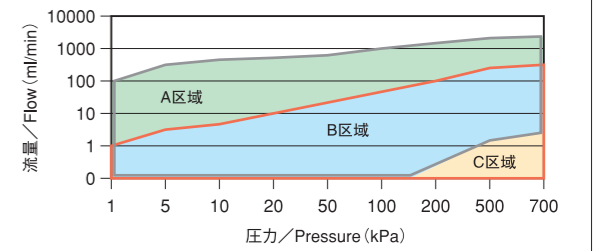
| Unit Color | Adjustment Range   | Criteria   |
|------------|--|--|
| Red        | Graph B & C (able to adjust to zero flow)                  | When used for the flow rate between zero to Graph B area |
| Silver     | Graph A & B (unable to adjust Graph C and flow rate below) | Use for Graph A area but not used for Graph C area       |

There are two types of flow regulating unit distinguished by red (Standard) and silver colors (Option).  
Each unit's flow regulating range is indicated in the graph on the right:

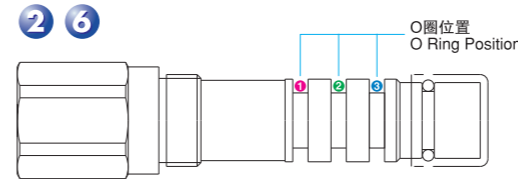


流量阀组件 / Flow Valve Unit

### 流量调控元件特性 / Flow Regulating Unit Characteristics



## ■ 层流管分类 / Laminar Classification



| 组1 / Group1          |                         |   | 组2 / Group2          |                         |   |
|----------------------|-------------------------|---|----------------------|-------------------------|---|
| 层流管编号<br>Laminar No. | O圈位置<br>O Ring Position | 层流管满流量 (ml/min)<br>Laminar F.S. Flow Rate | 层流管编号<br>Laminar No. | O圈位置<br>O Ring Position | 层流管满流量 (ml/min)<br>Laminar F.S. Flow Rate |
| 1                    | 1                       | 1ml/min                                   | 1                    | 1 3                     | 1ml/min                                   |
| 2                    | 2                       | 10ml/min                                  | 2                    | 2 3                     | 10ml/min                                  |
| 3                    | 1 2                     | 100ml/min                                 | 3                    | 1 2 3                   | 100ml/min                                 |

- 通过与层流管相连接的O圈的位置, ULC主机可以自动读取并显示压力范围和满度值
- 组1标明了常规用层流管的设置, 组2标明了精度确认用层流管的设置. 如果客户同时订购ULC本体和精度确认用层流管, 那么厂商将会对其进行默认设置. 如果客户为ULC本体配置一个新的精度确认用层流管, 那么就需要根据新的层流管重新修订ULC的设置.
- 组号设置与满度值参考上面的表
- 上面列出了每个分组编号和对应的O圈位置

- The ULC body reads and indicates the group classifications and full scale values automatically based on the position of O ring that is connected to the laminar
- Group-1 contains the setting of the routine use laminar and group-2 contains the setting of the accuracy verification laminar. If accuracy verification laminar is ordered with ULC main unit, the manufacturer will program its setting as default setting. When additionally ordering a verification laminar for an existing ULC unit, it is necessary to modify the settings to correspond with the new laminar figure details.
- Group settings and full scale values are indicated as above
- Each group classification number and O ring position is listed above

## ■ 型号 / Model Number

ULC-1-2-3-4-5-6

### 1 主体 / Main Body Category

| 型号  | 式样                    | 备注                     |
|-----|-----------------------|------------------------|
| 101 | 正压10~700kPa, 流量量程1种专用 | 1ml, 10ml, 100ml根据1种选择 |
| 111 | 正压10~700kPa, 流量量程3种专用 | 1ml, 10ml, 100ml标准式样   |

| Number | Specification | Remarks   |
|--------|---------------|---|
| 101    | 1Flow Range   | Select from 1ml/min, 10ml/min, 100ml/min  |
| 111    | 3Flow Range   | Laminar elements for 3 different flow rates (1ml/min, 10ml/min, 100ml/min) are equipped as standard |

### 2 层流管部件 / Laminar Flow Element

| ULC型号 | 标号  | 流量部件 (ml/min) | 备注                                |
|-------|-----|---------------|-----------------------------------|
| 101   | 1   | 1             | 可从1ml/min, 10ml/min, 100ml/min中选择 |
|       | 10  | 10            |                                   |
|       | 100 | 100           |                                   |
| 111   | 0   | 1, 10, 100    | 标准式样                              |

| ULC Cat. | Number | Laminar Element (ml/min) | Remarks                                  |
|----------|--------|--------------------------|--|
| 101      | 1      | 1                        | Select from 1ml/min, 10ml/min, 100ml/min |
|          | 10     | 10                       |  |
|          | 100    | 100                      |  |
| 111      | 0      | 1, 10, 100               | Standard                                 |

### 3 流量调整装置 / Flow Regulating Unit

| 型号 | 规格         | 备注    |
|----|------------|-------|
| 0  | 不附带        | 特殊规格  |
| 1  | 内部容积为0.1ml | 预计销售中 |
| 2  | 内部容积为2ml   | 标准式样  |

| Number | Specification         | Remarks               |
|--------|-----------------------|-----------------------|
| 0      | N/A                   | Special Specification |
| 1      | Internal Volume 0.1ml | Not yet released      |
| 2      | Internal Volume 2ml   | Standard              |

### 4 流量调节阀 / Flow Valve

| 型号 | 颜色    | 类别      | 备注 |
|----|-------|---------|----|
| 0  | N/A   |         | 可选 |
| 1  | 红色    | 小流量     | 标准 |
| 2  | 银色    | 中流量     | 可选 |
| 3  | 红色+银色 | 小流量+中流量 | 可选 |

| Number | Color      | Category                | Remarks  |
|--------|------------|-------------------------|----------|
| 0      | N/A        |                         | Option   |
| 1      | Red        | Minute Flow             | Standard |
| 2      | Silver     | Middle Flow             | Option   |
| 3      | Red+Silver | Minute Flow+Middle Flow | Option   |

### 5 校正接口 / Calibration Joint

| 型号 | 尺寸                  | 备注   |
|----|---------------------|------|
| 0  | 不附带                 | 可选   |
| 1  | In R 1/4 Out Rc 1/4 | 标准式样 |
| 2  | In R 1/8 Out Rc 1/8 | 可选   |

| Number | Size                | Remarks  |
|--------|---------------------|----------|
| 0      | N/A                 | Option   |
| 1      | In R 1/4 Out Rc 1/4 | Standard |
| 2      | In R 1/8 Out Rc 1/8 | Option   |

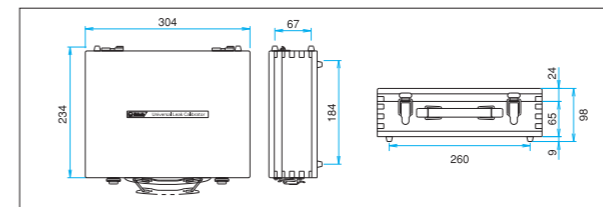
### 6 确认用层流管 / Verification Laminar

| 型号 | 范围 (ml/min) | 备注   |
|----|-------------|------|
| 0  | 不附带         | 标准式样 |
| 1  | 1           | 可选   |
| 2  | 10          | 可选   |
| 3  | 100         | 可选   |
| 4  | 1+10        | 可选   |
| 5  | 1+100       | 可选   |
| 6  | 10+100      | 可选   |
| 7  | 1+10+100    | 可选   |

| Number | Laminar Range (ml/min) | Remarks  |
|--------|------------------------|----------|
| 0      | N/A                    | Standard |
| 1      | 1                      | Option   |
| 2      | 10                     | Option   |
| 3      | 100                    | Option   |
| 4      | 1+10                   | Option   |
| 5      | 1+100                  | Option   |
| 6      | 10+100                 | Option   |
| 7      | 1+10+100               | Option   |

注: 以上配件可以单独订购  
Note: We offer the above listed options separately.

## ■ 包装箱 / Wood Carry Case



- 用于本机和附件的包装。
- For the unit body and options.