

# 氮氢检漏仪

Nitrogen-Hydrogen Leak Tester



## HD-830 系列 Series

- 使用5%氢气+95%氮气的混合气体作为示踪气体
- 符合国际标准 ISO10156 : 2010的非可燃性安全气体
- 最小可检漏率  $1 \times 10^{-7} \text{Pa}\cdot\text{m}^3/\text{s}$  (相当于0.2克/年R134a)
- 对泄漏点精确定位、测量感度高
- 可自动进行ppm, g/year, mL/min, mL/sec,  $\text{Pa}\cdot\text{m}^3/\text{s}$ 换算



- Using mixed gas containing 5% Hydrogen and 95% Nitrogen as a tracer gas
- Non flammable safe gas approved by ISO10156 : 2010
- Minimum detectable leak rate of  $1 \times 10^{-7} \text{Pa}\cdot\text{m}^3/\text{s}$  ( equivalent to 0.2g/year of R134a )
- Accurate positioning with high sensitivity
- Auto conversion among ppm,g/year,mL/min,mL/sec and  $\text{Pa}\cdot\text{m}^3/\text{s}$

# 成本更低、灵敏度更高、稳定性更好 Low

## 大屏幕显示 Large Screen Display

中/英文操作界面

Chinese/English operation interface

测试过程曲线显示

Curve display during the detection process



## 自动清零 Auto Zero Function

消除环境本底对测试的影响

Eliminate the influence caused by background

## 组号设定 Group Settings

可以进行16组参数设定, 面板或后端子切换

16 groups available, switchover between manual mode and remote mode

## 吸枪 Hydrogen Sampler(HD-830)

可进行数据显示及报警 Data display and alert

## 数据分析显示 Data Analysis Display

▶ 500个历史检测数据查看、图表显示、个数统计, 辅助进行质量分析控制。

▶ Review of 500 historical data, graphic display and number statistics can carry out the quality analysis and control.

## 自动检测功能 Self-Check Function

▶ 利用后端子I/O控制, 能连接电磁阀、气缸、PLC和充排气控制装置等外部设备配合检测, 组成各种检测系统。

▶ With the help of I/O control, external devices including solenoid valves, cylinder, PLC, charge and exhaust units can be connected to form varied detection systems.

## HD-830:

采用吸入式原理, 采样流量可在0-100ml/min范围内调节, 在不利于氢气扩散的环境下也能迅速捕捉到泄漏出来的氢气。

Hydrogen sampler principle principle is applied. The sampling flowrate can be adjusted within 0-100ml/min, and the leaked hydrogen can be caught under the condition that is hard for hydrogen diffusion.

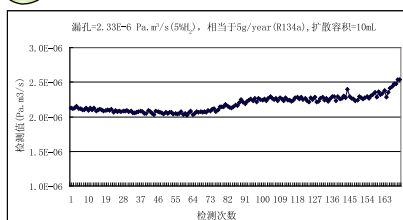
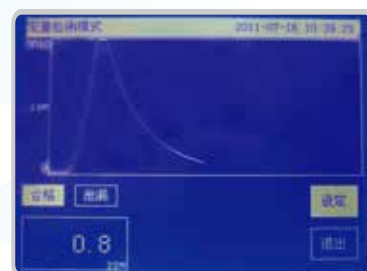
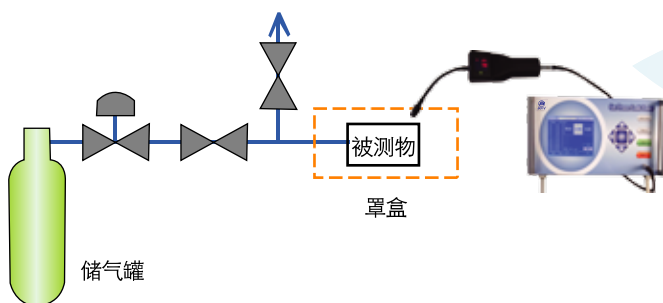
## 气体特性对比 Gas Characteristic Comparison

种类 Type	氢气 Hydrogen	氮气 Nitrogen	空气 Air
粘性 ( $\mu\text{Pa}\cdot\text{s}$ ) Viscosity	8.8	19.6	18.2
分子量 Molecular Weight	2	4	29
本底 Background	0.5ppm	5ppm	-

## 氮氢法与其他方法的对比 Comparison between Nitrogen-Hydrogen Method and Other Methods

项目 Item	氮氢法 Nitrogen-Hydrogen Detection Method	氦质谱检测法 Helium Mass Spectrometer Detection Method	浸液法 Immersion Method	压降法 Pressure Decay Method
灵敏度 ( $\text{Pa}\cdot\text{m}^3/\text{s}$ ) Sensitivity	$1 \times 10^{-7}$	$5 \times 10^{-8}$ (吸枪法) Hydrogen Sampler Method	$10^{-4}$	$10^{-5}$
响应时间 Response Time	约1秒 Approx.1sec	约1秒 Approx.1sec	缓慢 Slow	缓慢 Slow
成本 Cost	中等 Medium	昂贵 Expensive	便宜 Cheap	便宜 Cheap

## 定量检测模式 Quantitative Detection Mode



- 可确定泄漏量大小
- Confirm the leak rate
- 感度高达  $1 \times 10^{-7} \text{Pa}\cdot\text{m}^3/\text{s}$ , (5% $\text{H}_2$ +95% $\text{N}_2$ ), 相当于0.2克/年R134a
- High sensitivity of  $1 \times 10^{-7} \text{Pa}\cdot\text{m}^3/\text{s}$ , (5% $\text{H}_2$ +95% $\text{N}_2$ ), which is equivalent to 0.2g/year of R134a
- 自动记录环境本底, 测试结果无本底干扰
- Record the background automatically to avoid disturbance
- 多种测试单位选择ppm, g/year, mL/min, mL/ sec and  $\text{Pa}\cdot\text{m}^3/\text{s}$
- Varied detection units including ppm,g/year,mL/min,mL/ sec and  $\text{Pa}\cdot\text{m}^3/\text{s}$

# Lower cost with higher sensitivity and stability

## 定位检测模式 Positioning Detection Mode

储气罐

被测物

漏孔=2.33E-6 Pa·m<sup>3</sup>/s (5ML), 相当于5g/year (R134a), 扫描速度=10mm/s

0.08  
0.07  
0.06  
0.05  
0.04  
0.03  
0.02  
0.01  
0

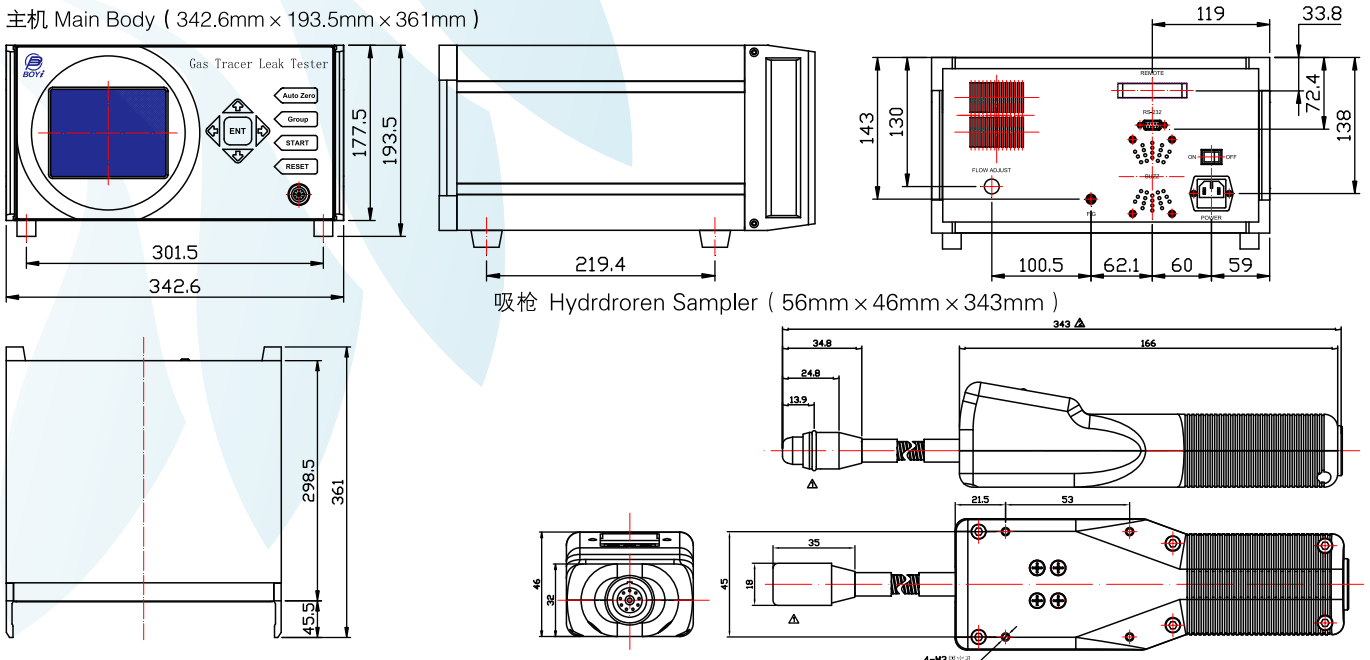
时间 (s)

- 可确定泄漏点位置
- Confirm the leak point
- 响应速度快
- Fast response
- 去除时间短
- Shortly return to original state

<b>标准漏孔 Standard Leak: FFM-110-B112</b> 	压力范围 Pressure Range	-0.1MPa ~ 2.0MPa任意指定 Specified freely
	漏率范围 Leak Rate Range	10 <sup>-4</sup> ~ 10 <sup>-7</sup> Pa·m <sup>3</sup> /s
	外形尺寸 Dimensions	φ 17 × 74mm
<b>标准漏孔 Standard Leak: FFM-2100-B002</b> 	压力范围 Pressure Range	-0.1MPa~1.0MPa
	漏率范围 Leak Rate Range	10 <sup>-4</sup> ~ 10 <sup>-7</sup> Pa·m <sup>3</sup> /s
	外形尺寸 Dimensions	φ 45 × 330mm
<b>充排气控制装置 Charge/Exhaust Controlling Unit CEU-1/CEU-5</b> 	压力范围 Pressure Range	-0.1 ~ 1.0MPa    -0.1 ~ 5.0MPa
	外形尺寸 Dimensions	342.6W × 193.5H × 361D (mm)
<b>充排气控制装置 Charge/Exhaust Controlling Unit CEU-B</b> 	压力范围 Pressure Range	-0.1 ~ 1.0MPa
	外形尺寸 Dimensions	202W × 240H × 336D(mm)

## 外观尺寸 Dimensions

主机 Main Body ( 342.6mm × 193.5mm × 361mm )



## 订货信息 Order Information

型号 Model	名称 Name	备注 Remark
HD-830-2	氮氢检漏仪 Nitrogen-Hydrogen Leak Tester	主机+HA-30+LE-30-2 Mainbody + HA-30 + LE-30-2
HD-830-4	氮氢检漏仪 Nitrogen-Hydrogen Leak Tester	主机+HA-30 +LE-30-4 Mainbody + HA-10 + LE-10-4
HA-30	吸枪 Hydrogen Sampler	吸入式, 量程0.5~1000ppm, 不含电缆 Hydrogen Sampler Type. Range: 0.5 ~ 1000 ppm. Without cable.
LE-30-2	电缆线 Cable	2m电缆线 Cable length 2m
LE-30-4	电缆线 Cable	4m电缆线 Cable length 4m
PF060	过滤网 Filter Screen	过滤网 10片/包 10 pieces per package
CEU-1	充排气控制装置 Charge/Exhaust Unit	使用压力0~1MPa, HD-810/830系列通用 Working pressure range 0~1MPa.Common used for HD-810 and HD-830 series.
CEU-5	充排气控制装置 Charge/Exhaust Unit	使用压力0~5MPa, HD-810/830系列通用 Working pressure range 0~5MPa.Common used for HD-810 and HD-830 series.
CEU-B	充排气控制装置 Charge/Exhaust Unit	使用压力0~1MPa, HD810/830系列通用 Working pressure range 0~1MPa.Common used for HD-810 and HD-830 series.
FFM-110-B112	标准漏孔 Standard Leak	压力范围-0.1 ~ 2.0MPa Pressure Range -0.1 ~ 2MPa
FFM-2100-B002	标准漏孔 Standard Leak	压力范围-0.1 ~ 1.0MPa Pressure Range -0.1 ~ 1MPa

注: 标准漏孔为必须配备产品, 漏孔形式可根据客户要求选择。  
Note: Equiped with leak standard , you can choose it's form according to your request.

## 技术指标 Technical Qualification

型号 Model	HD-830
测定方式 Testing Method	吸枪式Hydrogen Sampler Type
最小可检漏率 Minimum Detectable Leakrate	$1 \times 10^{-7} \text{Pa} \cdot \text{m}^3/\text{s}$ ( 5% $\text{H}_2$ +95% $\text{N}_2$ ) , 相当于0.2克/年R134a $1 \times 10^{-7} \text{Pa} \cdot \text{m}^3/\text{s}$ ( 5% $\text{H}_2$ +95% $\text{N}_2$ ) , witch is equivalent to 0.2g/year of R134a
安装方式 Mounting Type	桌上式, 可面板安装 Desktop, or panelmounting
分辨率 Resolution	浓度: 0.1 ppm Concentration: 0.1 ppm
浓度检测范围 Concentration Detection Range	0.5 ~ 1000ppm
显示 Display	LCD显示(白底黑字) LCD Display(White Background With Black Character) 显示点阵数 320 × 240 Dot Matrix: 320 × 240 有效显示尺寸 W124mm × D94mm Effective Display-Size : W124mm × D94mm
组号设定机能 Group Setting	0 ~ 15ch(合计16ch) 0 ~ 15ch ( 16ch Total )
后端子个数 External Terminals	输入信号: 10个 Input Signals: 10 输出信号: 8个 Output Signals: 8 电磁阀控制信号: 8个 Valve Control Signals:8
电源电压 Power Source	100 ~ 240V AC, 50/60Hz
功耗 Power Consumption	< 50W
温、湿度范围 Operation Temperature/Humidity Range	5 ~ 40 °C, 45 ~ 85%RH, 无结露 With no Precipitation
重量 Weight	主机 Main Body: 6.5kg 吸枪 Hydrogen Sampler:0.3kg

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

 **天津博益气动股份有限公司**  
TIANJIN BOYI PNEUMATICS CO., LTD.



代理经销商

公司·工厂: 天津开发区泰丰路80号 邮编: 300457  
电话: (86)22-59810966 传真: (86)22-59810963  
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



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