

**MODEL 357BWC
CART MOUNTED SEMI-PORTABLE TRITIUM MONITOR**
型号357BWC，车载型半移动氚监测器

The Model 357BWC is a single range, ionization chamber monitor for the measurement of tritium. It is contained on a mobile stainless steel cart and is suitable for moving to multiple sampling points and for continuous duty. The display /control unit is enclosed in a NEMA 12 enclosure on top the cart. It is suited for the monitoring of rooms, glove boxes, fume hoods, exhaust stacks and systems, as well as process piping. The NEMA enclosure has a hinged door with a tempered glass window and is double hinged so that it can be opened for servicing the various components inside.

型号357BWC是一款单量程电离室氚监测器。安装在移动不锈钢推车里，适合于多采样点及连续作业。显示/控制部件密封在一个NEMA 12外壳里，适用于监测房间，手套箱，通风柜，排放烟道及系统，工艺管道。此外壳有带钢化窗的折页门，双折页以方便打开维修里面各种组件。



Major distinguishing features include the following:

主要特点如下：

- 1-10,000 $\mu\text{Ci}/\text{m}^3$
- 1-10,000微居/立方米
- Quad 2L Ionization Chambers (gamma compensation)
- 2L四电离室（伽马补偿）
- Contamination/Plate-out Proof Design (wire grids)
- 防污染设计（拉丝式）
- Alpha Pulse Suppression (radon compensation)
- α 脉冲抑制（氡补偿）
- Dual Desiccant Dryer Cartridges (noble gas compensation)
- 双干燥剂盒（惰性气体补偿）
- Heavy duty pump, HEPA filter and Flow Meter
- 重型泵，HEPA滤网和流量计



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PERFORMANCE SPECIFICATIONS

性能规格

MEASUREMENT

测量

| | |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range 量程 | single, 1 – 19,999 $\mu\text{Ci}/\text{m}^3$ 单程, 1 – 19,999 $\mu\text{Ci}/\text{m}^3$ |
| Display 显示 | 4½ digit panel meter 4½数字板式仪表 |
| Accuracy 精度 | $\pm 5\%$ of reading, $\pm 1\mu\text{Ci}/\text{m}^3$ whichever is greater 读数 $\pm 5\%$, 或 $\pm 1\mu\text{Ci}/\text{m}^3$ 取较大者 |
| Stability and Drift 稳定性与漂移 | $\pm 1\mu\text{Ci}/\text{m}^3$ long term (thirty days), ambient temperature conditions 环境温度条件下, 长期(30天) $\pm 1\mu\text{Ci}/\text{m}^3$ |
| Noise 噪音 | $\pm 1\mu\text{Ci}/\text{m}^3$, 1 sigma, with alpha suppression in use $\pm 1\mu\text{Ci}/\text{m}^3$, 1西格玛, 带 α 抑制 |
| Response Rate 响应率 | two linear electronic time constants approximately 20 seconds for signals up to about 80 $\mu\text{Ci}/\text{m}^3$ approximately 3 seconds for signals above 80 $\mu\text{Ci}/\text{m}^3$ 二个线性时间常数, 信号80 $\mu\text{Ci}/\text{m}^3$ 时接近20秒, 信号超过80 $\mu\text{Ci}/\text{m}^3$ 以上接近3秒 |
| Offset Compensation 补偿 | Manual compensation control provided to offset the effects of gamma radiation and/or tritium build-up 提供手动补偿控制来抵消 γ 辐射和/或氚累积影响 |
| Warm Up Time 热机时间 | less than five minutes 少于5分钟 |

ALARM SYSTEMS报警系统

| | |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Indicator 指示 | Audible and Visual flashing red LED 声光报警, 闪烁红色LED |
| High Level Alarm 上限报警 | A single set point alarm system is adjustable with digital thumb switches over a 1 to 10,000 $\mu\text{Ci}/\text{m}^3$ range 可调节单点报警系统, 拨动开关数字量程1 - 10,000 $\mu\text{Ci}/\text{m}^3$ |
| Mode Switch 模式开关 | A toggle switch is used to select the operating mode, Latching or Non Latching with a momentary Reset position 拨动开关用来选择操作模式 带锁住或解锁, 带瞬时“复位” |
| Malfunction Alarm 故障报警 | Audible and Visual steady amber LED indicates when either one of two conditions occur, A failure of any one of the internal D.C. power supplies or malfunction of the electrometer 当内部D.C电源或静电计情况发生故障时, 声光报警, 持续琥珀色LED发出指示 |
| Low Flow Alarm 低流报警 | Audible and Visual steady amber LED indicates when the sample flow rate has dropped to below 1 LPM 当样品流低到1LPM以下时, 声光报警, 持续琥珀色LED发出指示 |
| Acknowledge Push Button 确认按钮 | Silences the audible indicator for all of the above alarms 以上报警可静音 |



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IONIZATION CHAMBER

| | |
|--------------------------------|----------------------------------------------|
| Measuring volume 测量容积 | 1800 cm ³ |
| Total wetted volume 总湿容积 | 4,000 cm ³ |
| Electrodes 电极 | Wire Grid, contamination resistant 线栅, 防污 |
| Gaskets 密封 | Silicone rubber 硅橡胶 |
| Pressure 压力 | 0.1 to 2 atmospheres 0.1-2大气压 |
| Ports 接口 | 1/4" Stainless Steel Gyrolok 1/4"不锈钢 |
| Material of Construction 材料 | Stainless Steel 不锈钢 |
| Electrometer Housing 静电计外壳 | Aluminum 铝 |

**SAMPLE FLOW SYSTEM 样品
流系统**

| | |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pump 泵 | 115Vac, 50/60 Hz, diaphragm type Thomas 107CAB11 115Vac, 50/60 Hz, 隔膜式, Thomas 107CAB11 |
| Flow Rate 流量 | 6 LPM Maximum, 5 LPM recommended 6LPM最大流量, 推荐5LPM |
| Flow Meter 流量表 | 1-10 LPM, Dwyer RMA-21-SSV |
| Dust Filter 灰尘滤网 | HEPA respirator type Scott 803562-01 HEPA 罩式Scott 803562-01 |
| Maximum Pressure 最大压力 | 103kPa (1 atmosphere) 103kPa (1个大气压) |
| Connections 连接 | 1/4" stainless steel gyrolok tube fittings 1/4"不锈钢gyrolok 管件 |
| Tubing 管线 | 316L Stainless Steel, 1/4" OD 316L合金不锈钢, 外径1/4" |
| Low Flow Sensor 低流感应器 | Differential pressure switch, Dwyer Model 1823-2 adjusted to trip <1 LPM. 压差开关, Dwyer Model 1823-2 调节到<1 LPM |
| Pump Control 泵控制 | ON/OFF circuit breaker power to pump ON/OFF电路断路器电源连接到泵 |
| Sampling Modes 采样模式 | Sample Mode; the sample stream passes through the both the upstream and downstream ionization chambers and exits through the sample outlet hose. 样品流经过上/下游电离室, 并从样品流输出管排出 |
| By-Pass Mode 旁路模式 | Manually operated valves change the flow path to exclude the ionization chambers and the desiccant column. 手动操作阀改变流路, 绕过电离室和干燥柱, |
| Inlet Temperature 气样温度 | Thermometer -20°C to +120°C Range 温度范围20°C 至 +120°C |
| Moisture Trap 水分捕集气 | Parker Type S1P with visible coalescing element Parker式S1P带可视聚结剂 |



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ENVIRONMENTAL

| | |
|--------------------------|-------------------------------------------------------------|
| Temperature 温度 | 5° C to +50° C Operating 工作5° C- +50° C |
| Humidity 湿度 | 0 – 95 % RH |
| Air Conditioning 空气调节 | Ventilation or air conditioning is not required. 无需通风和空调 |

PHYSICAL, MAIN CABINET

主机箱外观信息

| | |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mounting: 安装: | The system is mounted on a heavy-duty cart of stainless steel construction with low friction casters (two swivel types at one end and two straight types at the other). The swivel casters have locking mechanisms. 此系统安装在一台重型不锈钢轮车上，带低摩擦旋转脚轮。（一端旋转式，另一端直型）旋转脚轮带机械锁 |
| Size: 尺寸: | 24" [610mm] Wide x 41.02" [1042mm] Long x 36" [914mm] Height to top shelf of cart with a 53" [1346mm] Overall Height 24" [610mm] 宽 x 41.02" [1042mm] 长 x 36" [914mm] 高（到车顶）总高度53" [1346mm] |
| Enclosure 外壳 | NEMA 12 Rating NEMA 12 标准 |
| Weight 重量: | 288 lbs [131kg] 288磅 [131千克] |
| Inlet/Outlet Hoses 进气/出气软管: | Sample inlet and outlet hoses are braided stainless steel construction with quick connect couplers at each end. Length is 42" [1.07 meters] 样品进气/出气软管为带快速连接件的不锈钢编织软管。 长1.07米 |



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