Knowledge Beyond Measure.

SidePak™ Personal Aerosol Monitor

Model AM520i

The SidePak™ AM520i Personal Aerosol Monitors are small, portable, battery-operated, data-logging, light-scattering laser photometers that provide real-time aerosol mass concentration readings of dusts, fumes, mists, smoke and fog within a worker breathing zone.

Newly designed inlet conditioners increase the mass concentration capability and provide size fraction cut points for PM10, Respirable (PM4), PM5 (China Respirable), PM2.5, PM1 and 0.8µm Diesel Particulate Matter (DPM). This intrinsically safe monitor is the perfect solution for real-time, personal aerosol sampling in a variety of workplace environments, including but not limited to general industry, foundries, construction sites, chemical plants, refineries, petrochemical, power and utilities, transportation, aerospace, maritime, confined spaces and mining.

New Features and Benefits

- Dual display and logging of mass concentration and response concentration on one screen
- Stores up to 10 custom calibration factors on the instrument for different applications
- TrakPro™ v5 Data Analysis Software updated with;
  - Custom calibration factor calculator to simplify calibration factor process
  - Continued ability to name custom calibration factors and upload them to the instrument
  - Enhanced alarm features to include response concentration alarm value

Features and Benefits

- Real-time mass concentration measurement and data logging for "in-the-field" data analysis
- User-selectable alarm levels to alert workers to high aerosol concentrations
- Audible and visual alarms
- 0.8µm DPM impactor
- Model AM520i designed and tested to pass Intrinsic safety requirements as established by IEC (International Electrotechnical Commission)—see TSI App Note EXPMN-017 for a basic understanding of intrinsic safety

IECEx / ATEX

- IECEx SIR 18.0043X
- Sira 18ATEX2150X
- IECEx SIM 19.0009X
- ⟨Ex⟩ II 1G
- Ex ia IIC T4 Ga
- Ex ia I Ma
- Rated: 12Vdc SELV
- Ta= 0 ºC to +50 ºC

Intrinsic Safety Rating Information

Class 2258-03 Process Control Equipment —
Intrinsically Safe and Non-Incendive Systems -
For Hazardous Locations — Certified to Canadian Standards
- Class I, Division I, Groups A, B, C, D,
- Class II, Division I, Groups E, F, G,
- Class III; T4; Ex ia IIC T4 Ga
- Rated: 12VDC SELV, 3.0A
- Ta= 0 ºC to +50 ºC

Class 2258-83 Process Control Equipment —
Intrinsically Safe and Non-Incendive Systems -
For Hazardous Locations — Certified to US Standards
- Class I, Division I, Groups A, B, C, D; T4
- Class I Zone 0 AEx ia IIC T4 Ga
- Rated: 12VDC SELV, 3.0A
- Ta= 0 ºC to +50 ºC

Sensitivity

Sensor Type	90° light scattering, 650 nm laser diode
Calibration	Calibrated against a gravimetric reference using the respirable fraction of standard ISO 12103-1, A1 Test Dust
Aerosol Concentration Range	0.001 to 100 mg/m³
Particle Size Range	0.1 to 10 µm
Minimum Resolution	0.001 mg/m³
Zero Stability	±0.001 mg/m³ over 24 hours using 10 second time constant
Temperature Coefficient	Approximately +0.0005 mg/m³ per °C (for variations from temperature at which instrument was last zeroed)

Flow Rate

Range	User-adjustable, 0 to 1.8 liters/min (L/min) Note: Upper range is dependent on impactor or cyclone attached to the SidePak AM520/AM520i Monitor

Temperature Range

Operating Range	32° F to 120° F (0° C to 50° C)
Storage Range	-4° F to 140° F (-20° C to 60° C)
Operational Humidity	0 to 95% RH, non-condensing

Time Constant (OLED Display)

Range	User-adjustable, from 1 to 60 seconds

Built-in Inlets

Standard inlet	Not size-specific
PM1.0 impactor	50% cut-off at 1.0 µm
PM2.5 impactor	50% cut-off at 2.5 µm
PM5.0 impactor	50% cut-off at 5.0 µm
PM10 impactor	50% cut-off at 10.0 µm

Attachable Cyclones

4 µm Dorr-Oliver	50% cut-off at 4.0 µm
0.8 µm DPM	50% cut-off at 0.8 µm

Alarms

Alarm Types	General, STEL
Default Settings	0.5 mg/m³, 1 mg/m³, 3 mg/m³, 5 mg/m³, 15 mg/m³, Off Programmable from 0.001 to 999 mg/m³ through TrakPro Software
Alarm Indicator	95 dBA (at one foot) audible horn, blinking red LED, flashing red OLED display
Ringback Delay	30 sec, 1 min, 3 min, 5 min, 10 min, Off

Data Logging

Data Points	Approx. 80,000 (55 days logging once per minute)
Logging Interval	User-adjustable, from 1 second to 60 minutes

User-Select Calibration Factors

Factory Setting	1.0 (non-adjustable)
Ambient Setting	0.38 (non-adjustable)
User-Defined Settings	10, with user-defined labels via TrakPro Software
Range	0.1 to 10.0, user-adjustable

Physical

External Dimensions	5.1 x 3.7 x 3.1 inch 129.5 mm x 94 mm x 78.4 mm with 803322 battery
Weight	22 oz (0.62 kg) with 803322 battery
Display	160 x 128 resolution color OLED display
Tripod Mounting Nut	¼-20 female thread

Battery Pack (p/n 803322)

Rating	5100 mAH Li-Ion Pack
Run Time	Greater than 20 hours at 1.7Lpm with a PM2.5 impactor
Charge Time	4.0 hours (typical with a fully depleted battery)

Power Supply (p/n 803302)

Input Voltage Range	100 to 240 VAC, 50 to 60 Hz
Output Voltage	12 VDC @ 3.0A

Maintenance

Factory Clean/Calibrate	Recommended annually
User Zero Calibration	Before each use
User Flow Calibration	As needed with use of inlet conditioner

Communications Interface

Type	USB 2.0
Connector, Instrument	USB Micro-B (socket)

Minimum Computer Requirements for TrakPro Software

Communications Port	Universal Serial Bus (USB) v2.0 or higher
Operating System	Microsoft Windows® 7, 8, or 10 (32-bit or 64-bit) operating systems

Other Approvals

Model AM520i Battery Pack - P/N 803322

CE   for KEMA

Immunity	EN61326-1:2013
Emissions	EN61326-1:2013 Class B
Safety	IEC 61010-1:2010 IEC 60825-1:2014

TSI

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Specifications are subject to change without notice.