

0.1  $\mu\text{m}$ , 28.3 L/min  
 For super cleanroom evaluation,  
 filter leak tests and others



## *Airborne Particle Counter* **KC-24**

- Diode-pumped solid state laser allows compact and lightweight construction
- Compliant with ISO 21501-4 (JIS B 9921)
- Quick and simple air purity evaluation according to ISO 14644-1
- Printer can be installed to main unit (factory option)
- Capability to store measurement data on CompactFlash™ card in CSV format (64 MB card supplied). This makes it easy to transfer measurement data to a computer without requiring a cable connection.
- Seamless integration in Rion multi-point monitoring system or tube multi-point system



## Specifications

Optical system	Side way light-scattering method
Light source	Diode pumped solid-state laser (wavelength 1064 nm), open-cavity type Laser diode: wavelength 808 nm, fixed output 1 W/solid-state laser: Nd: YVO4
Laser product class	Class 1, IEC 60825-1
Light detector	Photodiode
Sample flow rate	28.3 L/min
Calibration	Polystyrene latex (PSL) particles in clean air (refractive index 1.6)
Minimum measurable particle size	0.1 $\mu\text{m}$ (for particles with refractive index 1.6)
Particle size measurement ranges	0.1 $\mu\text{m}$ and above, 0.15 $\mu\text{m}$ and above, 0.2 $\mu\text{m}$ and above, 0.3 $\mu\text{m}$ and above, 0.5 $\mu\text{m}$ and above
Maximum particle number concentration	1 000 particles/L (measurement loss within 5 %), 2 000 particles/L (measurement loss within 10 %)
False count	7 particles/m <sup>3</sup> or less
Measurement time	10 seconds to 2 hours (settable in 1-second steps)
Fixed volume settings	10 L, 28.3 L, 100 L, 283 L, 1000 L
Measurement modes	
Manual measurement	Measurement controlled with START and STOP buttons. Continuous measurement is carried out between pressing START and STOP.
Automatic measurement	Repeated measurement of preset time or volume and averaging of results. Periodic averaging measurement start at each preset time.
Measurement value display modes	Accumulated value, differential value, volume-converted value (1 L, 28.3 L, 1000 L)
Memory function	Automatic saving of measurement data as text files (CSV) on CompactFlash card
Air purity evaluation function	Air purity evaluation according to ISO 14644-1
Alarm function	Alarm sound is activated and ALARM terminals are shorted when count in selected particle size range reaches a preset level
Display	320 × 240 dot matrix type LCD (120 × 90 mm), with backlight
Input / output connectors	
I/O	For communication with computer or similar
MANIFOLD	For connection of manifold controller
ALARM	Terminals are shorted when preset alarm level is reached
Maximum load	30 V DC, 1 A
Ambient conditions for operation	15 °C to 30 °C, 20 % to 85 % RH (no condensation)
Sample air temperature and humidity range	15 °C to 30 °C (within -4 °C and +10 °C of ambient temperature for operation) 20% to 85 % RH (no condensation)
Power requirements	100 V to 240 V AC, 50/60 Hz, 300 VA (ambient temperature 25 °C, 200 VA when manifold is not connected)
Dimensions and weight	280 mm(H) × 320 mm(W) × 450 mm(D) · 19.4 kg
Supplied accessories	Sampling pipe × 1, sampling tube (plastic tube with 11 dia. × 7, 2 m length) × 1, filter × 1, 256 MB CompactFlash card × 1, power cord (for use in Japan, 2.5 m) × 1
Options	CompactFlash card MC-64CF: 64 MB Communication cable CC-62DA (serial cable, 2 m) Thermosensitive paper TP-08 Dust free thermosensitive paper TP-10 RP Monitor EVO K0505 Ver.2 * For information on multi-point monitoring systems, please contact Rion Corporation.
Factory options	Thermal printer EXT START / STOP (for external measurement start/stop control)

\* Not available in US and EU.

## Examples of Display

2004-10-28 20:30:59		Curr CFG		OK
Curr CFG				
Time/Volume	Volume			
Meas	Auto			
Meas Time	00:01:00			
Meas Volume	28.3L			
AUG	None			
Period Time	None			
Alarm Size	0.15000			
Alarm Level	0.2			
Loc	0.3			
	0.5			
EXIT				ENTER

Setting Screen

2004-10-28 20:22:45		Measured		OK
2004-10-28 19:26:16		Counts (Cum) / 1000L		
Size				
0.1		317796.6		
0.15		254237.2		
0.2		190677.9		
0.3		127118.6		
0.5		63559.3		
Loc 0		Meas Time 00:01:00		
		NextStart ---:--:--		
UNIT	DIFF	OFFALM		NEXT>>

Normal Measurement

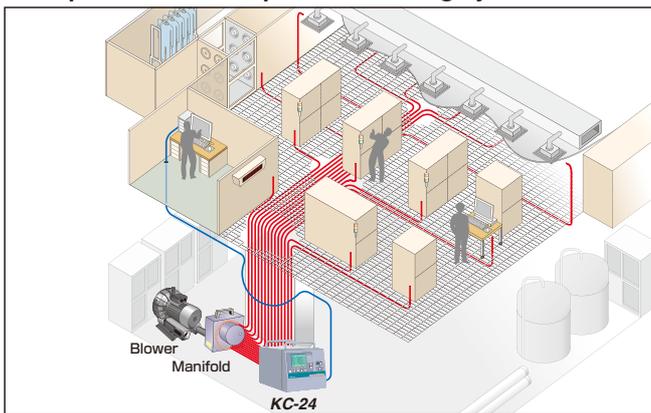
2004-10-28 20:38:26		ISO 510 Point Eval		OK
2004-10-28 20:31:57				
Size	AUG	Class Limit		
0.1	9000.0	100000	PASS	
0.15	7200.0	43000	PASS	
0.2	5400.0	23700	PASS	
0.3	3600.0	10200	PASS	
0.5	1800.0	3520	PASS	
ISO Class 5				
ROOM01 1/ 2		Meas Time 00:01:00		
AUG ALL( 1)		Remained --:--:--		
		PRINT		NXTPNT

Evaluation based on ISO14644-1 Standard Mode

2004-10-28 20:46:09		ISO 5E0 Point Eval		OK
2004-10-28 20:40:16		Page 1/2		
Size	Count	Upper	Lower	PASS
0.1	3000	9728	9719	PASS
0.15				
0.2				
0.3				
0.5				
ISO Class 3				
KEIGI_ 1/ 10		Determ Period 00:00:10		
ALL		Total Time 00:00:20		
		PAGE	PRINT	NXTPNT

Evaluation based on ISO14644-1 Sequential Mode

## Example of tube multi-point monitoring system



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\* Specifications subject to change without notice.

ISO 14001 RION CO., LTD.  
ISO 9001 RION CO., LTD.



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