

## **Air Cleaner Test Report**

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*IAQ Contractor, IAQ Control Facilities Supplier, IAQ Consultant*  
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## 1. Sample Description

Product : Air Cleaner

Brand Name : b-MOLA

Model(s) : NCCO1701

No. of Sample Received : 1

Test Date : 26 Jun 2018 – 28 Jun 2018

Test Standard(s) : GB/T 18801-2015

Test Item(s) : Clean Air Delivery Rate (CADR) for solid pollutant  
Cumulative Clean Mass (CCM) for solid pollutant

Test Result : See the attached sheets

## 2. Detail Description of the sample



**b-MOLA/NCCO1701**



**NCCO Filter and HEPA**

### 3. Result of Clean Air Delivery Rate (CADR) for solid pollutant

Brand / Model No.	Operating Mode	Test Particulate	Natural Decay Rate	CADR (m <sup>3</sup> /h)
b-MOLA / NCCO1701	SS	Cigarette smoke	0.0010	85.7

#### Tests were performed in accordance to GB/T 18801-2015.

##### 1. Test Particulate

Cigarette smoke particles ( $\geq 0.3\mu\text{m}$ )

##### 2. Test Environment

Temperature:  $(25 \pm 2) ^\circ\text{C}$

Relative Humidity:  $(50 \pm 10) \%$

##### 3. Test Apparatus

- 1) Testing Chamber (30m<sup>3</sup>)
- 2) High Density Particle Counter (SX-L301N)

##### 4. Test Procedure

- 1) Place the air cleaner into the testing chamber. Open the air cleaner to the highest operation power to check if it is function correctly. Then turn off the air cleaner and close the testing chamber door.
- 2) Turn on high efficiency air filter of the testing chamber until the concentration of particles ( $\geq 0.3 \mu\text{m}$ ) is less than 1000 particle/L.
- 3) Record the background particle concentration and turn of the high efficiency air filter of the testing chamber.
- 4) Light a cigarette and use low pressurized air to inject smoke into the testing chamber until the concentration reaches  $(2 \times 10^6 - 2 \times 10^7)$  particle/L, close the smoke injector and turn on the mixing fan for 10 minutes.
- 5) When the mixing fan is completely stop, record the initial concentration of the particle ( $\geq 0.3 \mu\text{m}$ ) as  $C_0$ .
- 6) Turn on the sample air purifier. Record the particle concentration every 2 minutes for the



next 20 minutes.

- 7) Repeat Procedure 1) – 6) without turning on the air cleaner, record the natural decay rate of the testing chamber.

5. Calculation

$$\text{CADR (m}^3/\text{h)} = 60 \times (k_e - k_n) \times V$$

$k_e$ : Total decay rate (min<sup>-1</sup>)

$k_n$ : Natural decay rate (min<sup>-1</sup>)

$V$ : Volume of the testing chamber (m<sup>3</sup>)

#### 4. Result of Cumulative Clean Mass (CCM) for solid pollutant

CCM Level	CCM <sub>PM</sub> (mg)
P1	$3000 \leq \text{CCM}_{\text{PM}} < 5000$
P2	$5000 \leq \text{CCM}_{\text{PM}} < 8000$
P3	$8000 \leq \text{CCM}_{\text{PM}} < 12000$
P4	$12000 \leq \text{CCM}_{\text{PM}}$

Remark: If CCM<sub>PM</sub> is smaller than 3000mg, no conclusion will be given for CCM level.

Brand/Model no.	Test Number	Total cigarette burnt	Total particle mass (mg)	CADR (m <sup>3</sup> /h)	Decreased Percentage (%)
b-MOLA/ NCCO1701	1	0	0	85.7	100
	2	50	2250	76.0	89
	3	100	4500	66.7	77
	4	150	6750	52.6	61
	5	200	9000	42.8	50
	CCM <sub>PM</sub> (mg)		9000		
	CCM Level		P3		

#### Tests were performed in accordance to GB/T 18801-2015.

1. Test particulate  
Cigarette smoke particles ( $\geq 0.3 \mu\text{m}$ )
2. Test Apparatus  
3m<sup>3</sup> Chamber  
30m<sup>3</sup> Chamber  
High Density Particle Counter (SX-L301N)

3. Test Procedures

- 1) According to procedures in Part 3, calculate the initial CADR value of the sample air cleaner.
- 2) Transfer the sample air cleaner into 3m<sup>3</sup> chamber, turn on the sample air cleaner and mixing fan.
- 3) Light specific number of cigarette and inject the smoke particles into the 3m<sup>3</sup> chamber. Wait until the particulate concentration reaches below 0.035mg/m<sup>3</sup>, close the sample air cleaner.
- 4) Transfer the sample air cleaner into 30m<sup>3</sup> chamber, test and calculate the CADR value.
- 5) Repeat Procedure 2) – 4), obtain the CADR value after 50, 100, 150 cigarettes are burnt.

\*\*\*End of Report\*\*\*