



Static Electricity Removing Equipment
高性能靜電消除裝置



Main Unit 主體



Blow Type Ionizer KIB-025

(新型第M248017號專利)



Option Accessories 選購配件

● Satandard nozzle 標準型

- KIB-N01S
- KIB-N02S



● Shower nozzle 擴散型

- KIB-N90DW



● Flexible tube nozzles 可撓性管

- KIB-N100D(100mm)
- KIB-N200D(200mm)
- KIB-N300D(300mm)
- KIB-N400D(400mm)
- KIB-N500D(500mm)



● Tube shower nozzle 擴散噴嘴

- KIB-H90TW
- KIB-H90DW



For conductive tube
導電性管



For flexible tube
可撓性管

● Conductive tube 導電性管(500mm)

- KIB-T500C
Outer diameter: ϕ 6mm
Inner diameter: ϕ 4mm
- KIB-T500C4
Outer diameter: ϕ 4mm
Inner diameter: ϕ 2mm



* Use with the standard nozzle.
需與標準型噴嘴KIB-N01S・KIB-02S搭配使用

● Straight bar nozzles 不銹鋼棒型

- KIB-N100B(100mm)
- KIB-N200B(200mm)
- KIB-N300B(300mm)
- KIB-N400B(400mm)
- KIB-N500B(500mm)



● AC adapter AC電源變壓器

- KIC-03(AC110~240V)



● Discharging needle 放電針

- KIB-D16S



Main Unit 主體



Fan Type Ionizer

(新型第M248186號專利)



KIF-1000



KIF-2000



KIF-3000

氣壓吹氣型
Blow Type Ionizer

風扇型
Fan Type Ionizer

RFI 電除空間
Free Space Ionizer



Option Accessories 選購配件

● AC adapter AC 電源變壓器

- KIC-03 (AC110~240V)



● Serial link cable 序列串連線

- KGN-S.L Cable(2m)



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Fan type 風扇型 KIF SERIES

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Introduction to Static Electricity 靜電氣簡述

All materials are composed of atoms. Atoms consist of several electrons having negative electricity and a proton having positive electricity.

These electrons revolve around the proton. This is the nature of electricity.

物質是由原子細小粒子所組成，而原子乃由中子、電子、質子所組成。電子繞著質子運行。這就是電的本質。

Hydrogen Atom 氢原子

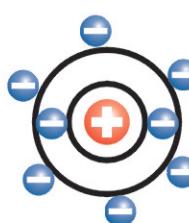


Hydrogen atoms have one electron nucleus(proton) and one electron.
氫原子有一個質子及電子。

Normally, the amount of positive electricity held by the proton is equal to the amount of negative electricity held by an electron, making the atom electricity neutral.

一般的原子其質子數目與電子數目是相等(即正負電荷數量相等)，所以原子是帶中性。

Oxygen Atom
Proton +8
Electron -8



Carbon Atom
Proton +6
Electron -6



An electron can be moved by friction contact or separation. By applying excess electrons, the atom becomes negatively charged, and by removing electrons, it becomes positively charged.

電子會因摩擦、接觸、分離而移動。
當原子失去外層電子時，質子數多於電子數，
原子帶正電。
當原子獲得外來電子時，質子數少於電子數，
則原子帶負電。

Oxygen Atom
Proton +8
Electron -9



Carbon Atom
Proton +6
Electron -5



Negatively Charged
帶負電

Positively Charge
帶正電

Ionizer application examples 靜電消除裝置用途

- Removal of static electricity from parts feeder or assembly of precision parts on bench.
震動送料盤上零件除靜電或精密零組件組立工作台的除靜電工程。
- Removal of static electricity and dust on line such as sheet material and film production line.
紙張、薄膜製造生產線上的除靜電及除塵工程。
- Preventing device damage caused by static electricity.
防止靜電氣對精密元件的破壞。
- Remove the of static electricity when peeling LCD protective sheet.
LCD保護膜撕開時產生的靜電氣除去。
- Preventing exfoliation electrification when transferring PCB.
消除PCB移載時產生的剝離帶電，並有效降低粉塵附著。

AC IONIZER 交流式離子器

Static Electricity Removing Equipment 靜電消除裝置

Two series available : the Blow type can remove static electricity with pinpoint accuracy and the fan type does not require an air supply.

有兩系列提供選用：吹氣型可以 Pinpoint 方式除靜電。還有不須空氣壓源的風扇型。

As distinct from current AC type ionizers, these units can be used with a low voltage DC power supply due to the use of a compact high voltage transformer, which eliminate high voltage wiring.

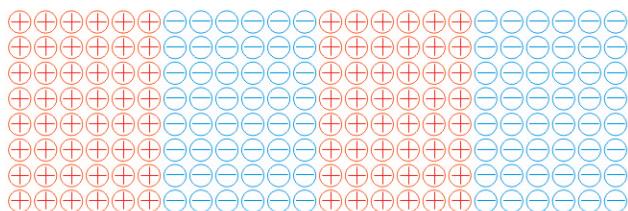
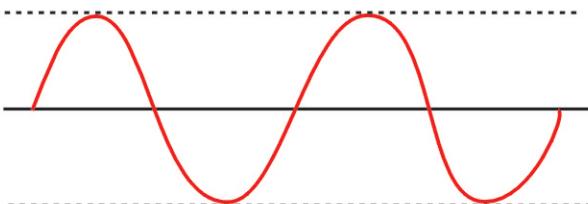
KGN IONIZER 與以往的交流型靜電消除器不同，採用內建式小型高電壓變壓器，只要以低電壓直流電源(DC)供給，即可應用；省去高壓配線的困擾。

Features 特長

Conventional method 一般方式(commercial frequency 商用周波50/60Hz)

General AC 50/60Hz discharge method fluctuated voltage is larger, untrue ion balance.

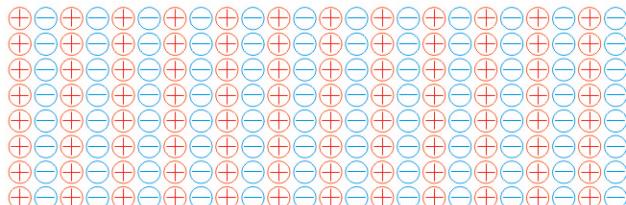
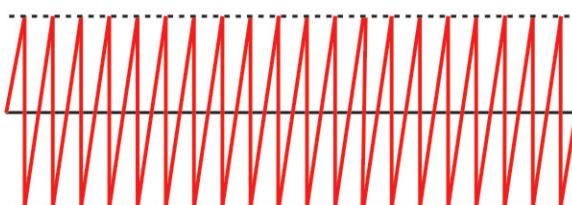
以往50/60Hz交流放電，電壓變動大，除電效果差，假離子平衡



KGN IONIZER : High frequency method 高周波方式(72KHz)

AC 72KHz high voltage high-frequency discharge method fluctuated voltage is smaller, true ion balance.

高周波72KHz交流放電，電壓變動小，除電效果好，真離子平衡



- This enables to carry ion through a pipe or tube allowing to make pinpoint static electricity removal for distance work pieces.

可將靜電離子經由管路移送，達到近距離pinpoint除電應用效果。

- Ions are generated uniformly and corona discharges occur in a short time. Allowing you to create a stable high-density environment.

可產生均等、平衡的電離子，更由於是在短時間內使其產生電暈放電，因此形成電離子密度高且安定的環境。

- Don't need high voltage wiring, thereby improving safety.
不須要高壓配線，所以應用安全性提高。

Blow type 氣壓吹氣型 (新型第M248017號專利)

CE FC

KIB-025 Main body



KIB-025 + Nozzle



● Can carrying ion through a conductive tube or pipe.

電離子可經由靜電管或金屬管傳送。

Allows removal of static electricity at limited space to install the ionizer body.

在除電器本體無法設置的地方，亦可達成除靜電目的；不受限於安裝空間。

● This unit can be used with a low voltage DC power supply due to an in-built compact high voltage transformer.

內建小型高壓電源變壓器，用低電壓DC電源即可使用。

It eliminates high voltage wiring and power supply, leading to trouble free use caused by power supply and wiring section.

無須專用的高壓電源及高壓配線，配線應用時沒有高壓電壓問題的困擾。

● Can removal of static electricity with pinpoint accuracy.

可以用Pinpoint方式來做靜電消除工程。

By using an air tube or flexible tube metal pipe, it can quick removal of static electricity on a targeted point due to the ability to move the nozzle closer to the point.

應用靜電管、可撓性管、金屬管...等來移送電離子，由於能以pinpoint方式接近被除電物，所以能達到迅速且確實的除靜電效能。

Minimum distance between the nozzle and the targeted object is 1mm.

噴嘴端與被除電物可接近至1mm的距離。

● Due to good ion balance, removal of static electricity is always possible.

以優越的離子平衡，確保除靜電效能。

±15V range at 10mm distance. Under some conditions, with 10V could be attainable.

除電距離10mm，離子平衡±15V；依使用條件及狀況，可達±10V以內。

Decay time from ±1000V to ±100V at 100mm distance is within a second.

除電距離100mm，±1000V至±100V的衰減時間可在1秒內。

● There is no electric field concentration at ion generating section, therefore there is no detriment to the devices.

KGN靜電消除裝置離子的產生並不會形成集中電場，所以不會對設備裝置造成損害。

A strong electric field is generated at the high voltage applying section in current ionizer.

This can cause breakage of the device when bringing the ionizer close.

However, the **KGN** IONIZER causes no damage to the device even when bringing it close.

一般的靜電消除器由於高壓施加部會形成強力集中電場，所以太接近的話，可能對設備裝置造成損害。

但是**KGN**靜電除去裝置不會形成集中電場，對設備裝置不會造成損害。

● Very low generation of electrical noise due to low voltage output.

由於輸出電壓低，所以使用時幾乎不會產生電氣雜訊。

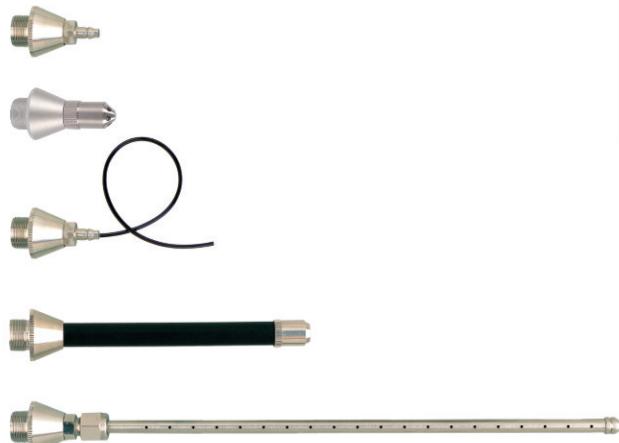
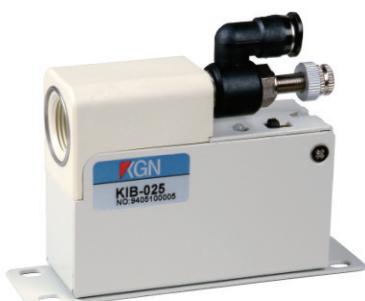
● Alarm output when abnormality occurs in high voltage section where generating ion.

當離子產生源的高電壓部發生異常狀況時，有LED警示燈及警告接點輸出。

STATIC ELECTRICITY REMOVING EQUIPMENT

Main unit 主機

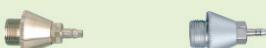
KIB-025



Option Accessories 選購配件

● Standard nozzle 標準型

- KIB-N01S
- KIB-N02S



● Shower nozzle 擴散型

- KIB-N90DW



● Flexible tube nozzles 可撓性管

- KIB-N100D(100mm)
- KIB-N200D(200mm)
- KIB-N300D(300mm)
- KIB-N400D(400mm)
- KIB-N500D(500mm)



● Tube shower nozzle 擴散噴嘴

- KIB-H90TW
- KIB-H90DW



For conductive tube
導電性管



For flexible tube
可撓性管

● Conductive tube 導電性管(500mm)

- KIB-T500C
Outer diameter: ϕ 6mm
Inner diameter: ϕ 4mm
- KIB-T500C4
Outer diameter: ϕ 4mm
Inner diameter: ϕ 2mm



* Use with the standard nozzle.
需與標準型噴嘴KIB-N01S・KIB-02S搭配使用

● Straight bar nozzles 不銹鋼棒型

- KIB-N100B(100mm)
- KIB-N200B(200mm)
- KIB-N300B(300mm)
- KIB-N400B(400mm)
- KIB-N500B(500mm)



● AC adapter AC電源變壓器

- KIC-03(AC110~240V)



● Discharging needle 放電針

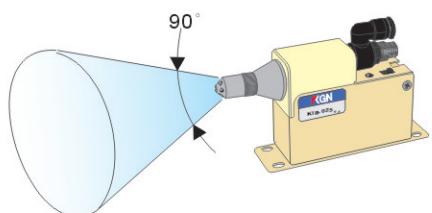
- KIB-D16S



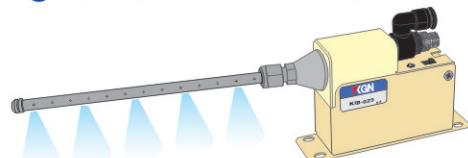
STATIC ELECTRICITY REMOVING EQUIPMENT

Blow Ions Diagram 離子釋放示意圖

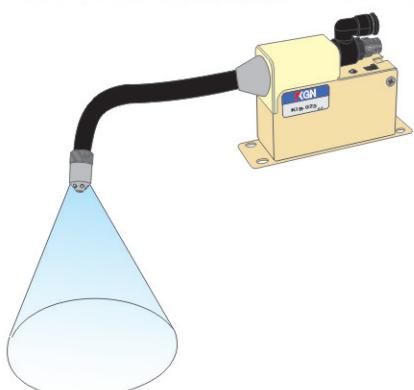
● KIB-025 + KIB-N90DW



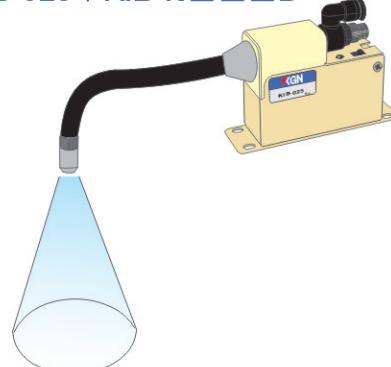
● KIB-025 + KIB-N□□□B



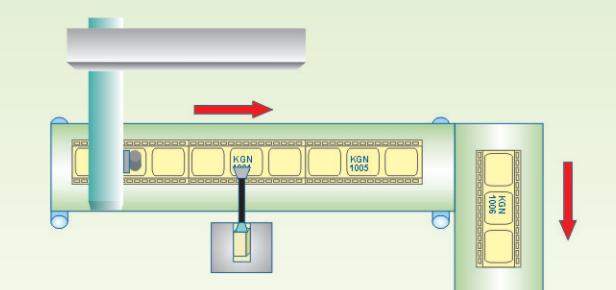
● KIB-025 + KIB-N□□□D + KIB-H90DW



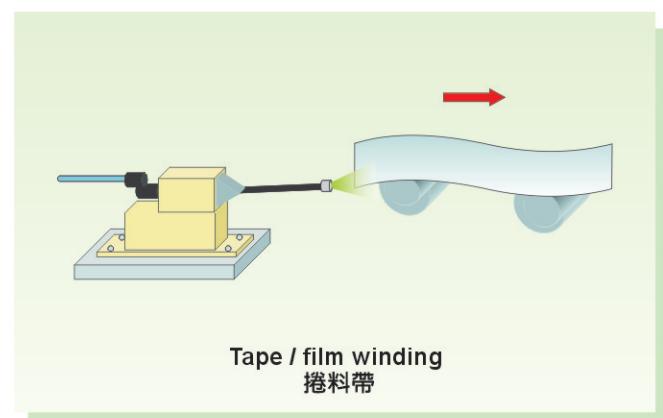
● KIB-025 + KIB-N□□□D



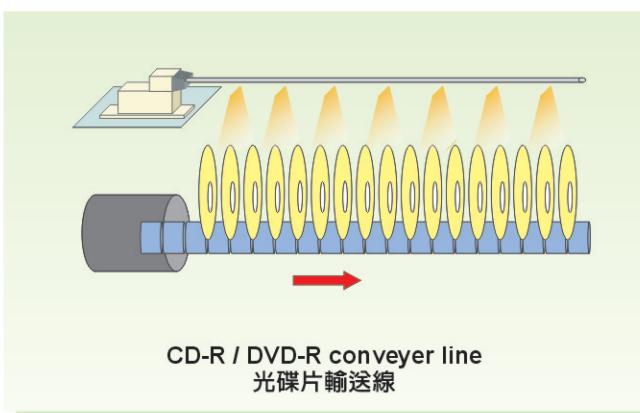
KIB-025 Application KIB-025 應用例



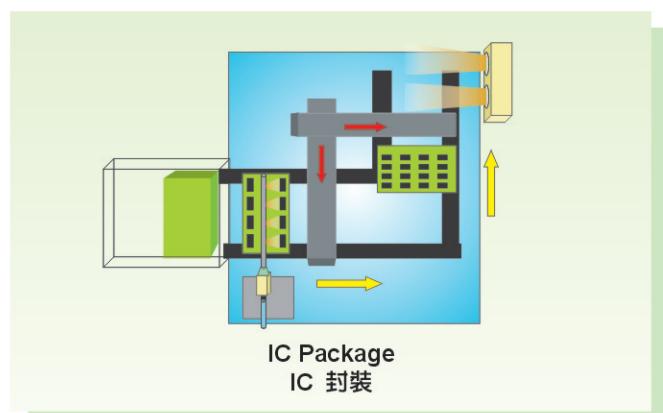
Laser marking(Removal of static electricity and dust)
雷射 Marking 除塵除電



Tape / film winding
捲料帶



CD-R / DVD-R conveyer line
光碟片輸送線



IC Package
IC 封裝

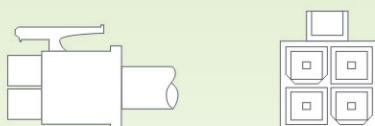
STATIC ELECTRICITY REMOVING EQUIPMENT

Specifications 靜電消除裝置性能規格表

Item		Model KIB-025	
Media	使用流體	Air	乾淨壓縮空氣
Power supply	電 源	DC24V ±5%	
Consumption current	消費電流	Approximate 100mA	約 100mA
Operating high-voltage power supply 操作高壓電源		Miniaturized AC high-voltage high-frequency type power supply built-in 內建高壓高頻超小型變壓器	
Output voltage	出力電源	Approximate 2 KV	約 2KV
Ion balance	離子平衡	±15V (300mm away from the nozzle outlet)	
Indicator LED	Power supply 電 源	Power indicator LED turns on (Green)	電源入力時綠燈亮
LED 動作指示燈	Abnormality 異常	Abnormality indicator LED turns on (Red)	異常時紅燈亮
Abnormality output circuit 電源安全迴路		Open collector (NPN) 20mA (Max. 50mA)	NPN電晶體出力
O ³ generating amount 臭氧量		0.03 ppm or less	0.03 ppm以下
Supply air flow range 最大空氣流量		Approx. 50ℓ/min (ANR)	
Operating air pressure range 使用壓力範圍		0.05~0.5Mpa (0.5~5.0kgf/cm ²)	
Operating environmental temperature 環境溫度		0~40°C (indoors 室內)	
Outer dimensions(Main unit 本體) 外型尺寸		(W) 25 x (L) 92 x (H) 56 mm	
Mass(Main unit 本體) 重量		164g	
Accessories 標準配件		Power and signal cable(2M) Ground cable(2M) Discharge needle clean brush Instruction manual	入出力訊號線組(2M) 接地線組(2M) 放電針清潔刷 操作手冊

Notes : The main unit cannot be operated alone, always use it with a nozzle. 備註：KIB-025本體一定要搭配噴嘴才可以使用。

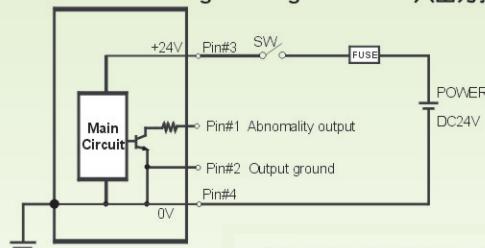
Description of wiring 配線說明



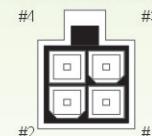
Power and single cable(Accessory) 入出力訊號線(標準配件)

- Input power 入力電源 : DC24V
- Connector pin location and lead wire colors :
 - [White 白] : Abnormality output 警報出力
 - [Black 黑] : Output ground 0V
 - [Red 紅] : Input power +DC24V 電源入力
 - [Green 綠] : Ground for power 電源入力 0V

Power and single wiring structure 入出力接線圖



Connector structure 入力端子說明



- #1 : Alarm output
- #2 : Alarm output
- #3 : Power DC24V
- #4 : Power GND (0V)

Decay time 除電時間

■ With standard nozzle KIB-N01S 標準型噴嘴

Operating pressure 使用壓力	Decay time (sec) 除靜電時間 (sec)	Distance 除電距離		
		100mm	200mm	300mm
0.1MPa (1kgf/cm ²)	(+) Static electricity 正電除電	0.5	0.8	1.2
	(-) Static electricity 負電除電	0.5	0.8	1.3
0.3MPa (3kgf/cm ²)	(+) Static electricity 正電除電	0.3	0.4	0.5
	(-) Static electricity 負電除電	0.2	0.3	0.5
0.5MPa (5kgf/cm ²)	(+) Static electricity 正電除電	0.3	0.2	0.3
	(-) Static electricity 負電除電	0.2	0.2	0.3

■ With shower nozzle KIB-N90DW 擴散型噴嘴

Operating pressure 使用壓力	Decay time (sec) 除靜電時間 (sec)	Distance 除電距離		
		100mm	200mm	300mm
0.1MPa (1kgf/cm ²)	(+) Static electricity 正電除電	0.5	0.8	1.2
	(-) Static electricity 負電除電	0.5	0.8	1.3
0.3MPa (3kgf/cm ²)	(+) Static electricity 正電除電	0.3	0.4	0.5
	(-) Static electricity 負電除電	0.2	0.3	0.5
0.5MPa (5kgf/cm ²)	(+) Static electricity 正電除電	0.3	0.2	0.3
	(-) Static electricity 負電除電	0.2	0.2	0.3

■ With conductive tube KIB-N01S + KIB-T500C 導電性管

Operating pressure 使用壓力	Decay time (sec) 除靜電時間 (sec)	Tube length 導電管長度		
		100mm	300mm	500mm
0.1MPa (1kgf/cm ²)	(+) Static electricity 正電除電	1.2	2.7	4.6
	(-) Static electricity 負電除電	1.1	2.4	3.9
0.25MPa (2.5kgf/cm ²)	(+) Static electricity 正電除電	0.6	1.3	2.1
	(-) Static electricity 負電除電	0.5	1.2	1.8
0.5MPa (5kgf/cm ²)	(+) Static electricity 正電除電	0.5	0.8	1.5
	(-) Static electricity 負電除電	0.5	0.6	1.2

Note : Work piece distance at 50mm.

註：除電工件距離50mm

■ With flexible tube KIB-N100D 可撓性管

Operating pressure 使用壓力	Decay time (sec) 除靜電時間 (sec)	Distance 除電距離		
		50mm	100mm	150mm
0.1MPa (1kgf/cm ²)	(+) Static electricity 正電除電	1.9	2.3	2.8
	(-) Static electricity 負電除電	1.8	2.3	2.9
0.3MPa (3kgf/cm ²)	(+) Static electricity 正電除電	0.5	0.6	0.7
	(-) Static electricity 負電除電	0.4	0.6	0.8
0.5MPa (5kgf/cm ²)	(+) Static electricity 正電除電	0.4	0.3	0.4
	(-) Static electricity 負電除電	0.4	0.3	0.4

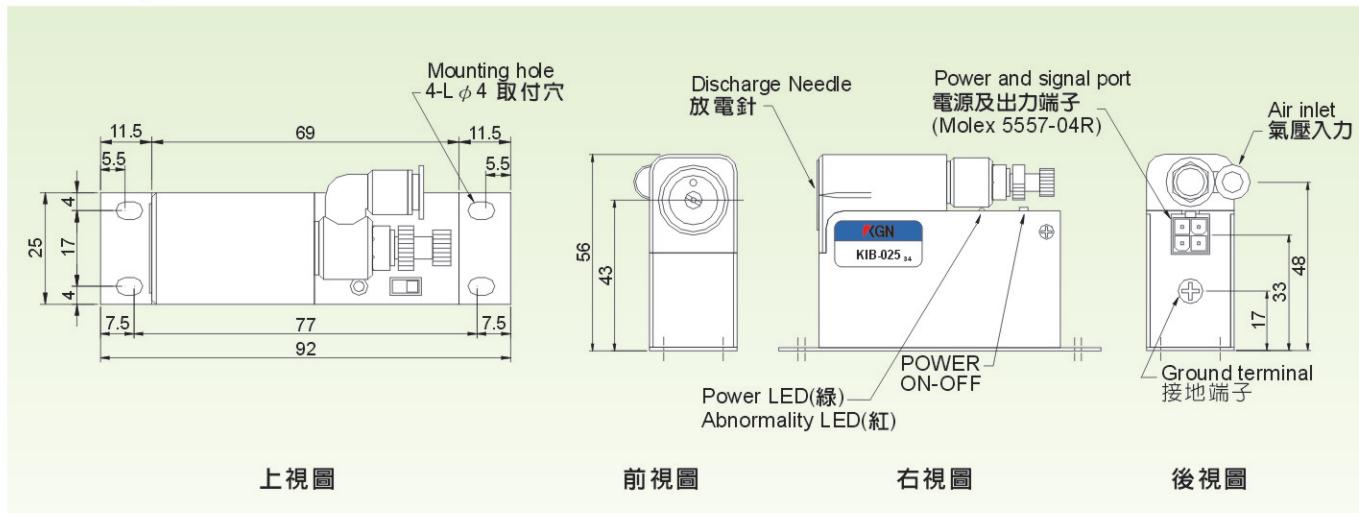
■ With stainless bar pipe KIB-N100B 不銹鋼棒型

Operating pressure 使用壓力	Decay time (sec) 除靜電時間 (sec)	Distance 除電距離		
		100mm	200mm	300mm
0.1MPa (1kgf/cm ²)	(+) Static electricity 正電除電	1.3	1.6	2.0
	(-) Static electricity 負電除電	1.4	1.8	2.2
0.3MPa (3kgf/cm ²)	(+) Static electricity 正電除電	0.5	0.6	0.7
	(-) Static electricity 負電除電	0.5	0.7	0.8
0.5MPa (5kgf/cm ²)	(+) Static electricity 正電除電	0.5	0.5	0.5
	(-) Static electricity 負電除電	0.5	0.5	0.6

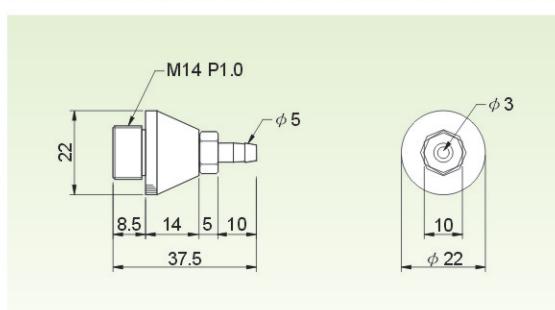
STATIC ELECTRICITY REMOVING EQUIPMENT

Dimensions 外型尺寸圖(mm)

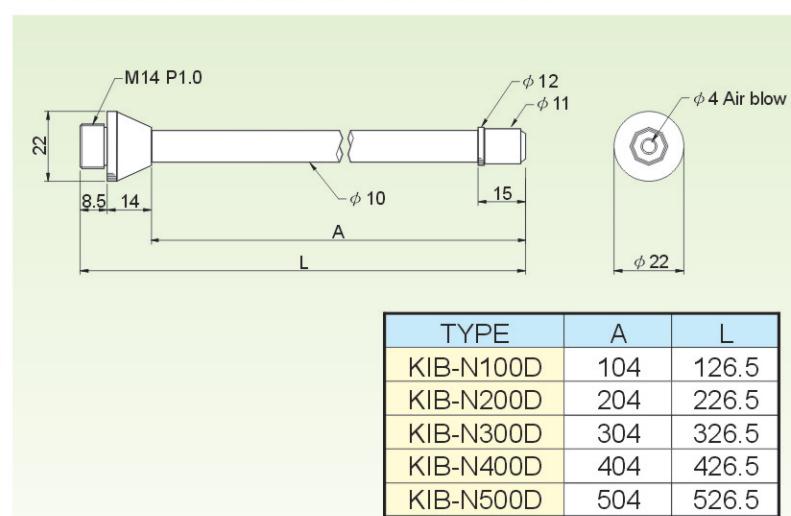
■ Blow type KIB-025



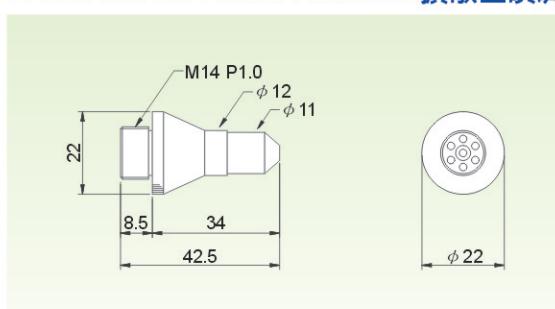
■ Standard nozzle KIB-N01S 標準型噴嘴



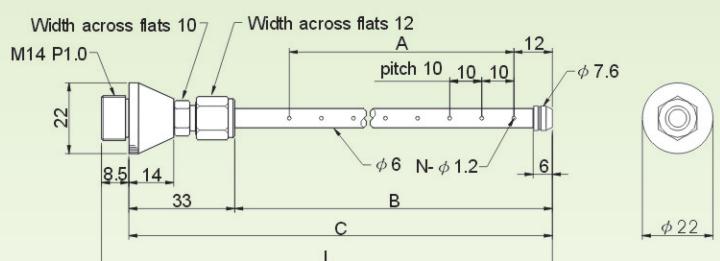
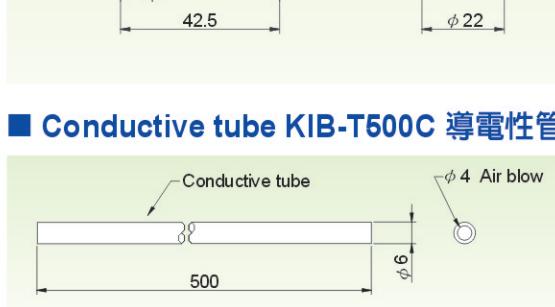
■ Flexible tube KIB-N□D 可撓性管



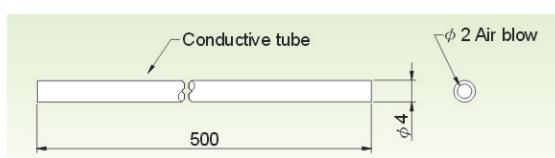
■ Shower nozzle KIB-N90DW 擴散型噴嘴



■ Conductive tube KIB-T500C 導電性管



■ Conductive tube KIB-T500C4 導電性管



TYPE	A	B	C	L	N
KIB-N100B	100	130	163	171.5	11
KIB-N200B	200	230	263	271.5	21
KIB-N300B	300	330	363	371.5	31
KIB-N400B	400	430	463	471.5	41
KIB-N500B	500	530	563	571.5	51