KOGANEI

http://www.koganei.co.jp

No.BK-P023

NEW Products

Static Electricity Removal Method Unit Ionizer

Bar Type

DTY-BA11 Series

New bar type series

- Improved charge removal performance, smaller configuration
- Small flow rate type nozzle and silicon discharge needle available.
- Width: 350 to 3100 mm [13.78 to 122.05 in]

KOGANEI Brand

All products are RoHS compliant

Static Electricity Removal Method Unit Ionizer

Bar Type DTY-BA11 Series

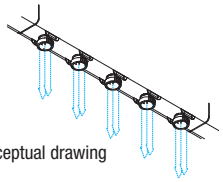
Charge removal time and size both 30% improved over previous products!
Long-term charge removal characteristic stability,
long time before cleaning is required.

Panel indicator names and functions

Name	Function
POWER LED:	Lights green when power is on and being supplied normally.
RUN LED:	Lights green when operation is normal.
ALARM LED:	Lights red when a discharge abnormality occurs in a discharge needle or in other main unit high-voltage section, or when a main unit circuit abnormality (overcurrent) occurs.
CLEANING LED:	Lights yellow when the cumulative operating time specified with TIME SELECTOR is exceeded. Remains lighted until canceled with TIMER RESET SW.
TIMER RESET SW:	A button for canceling a lighted CLEANING LED and resetting the cumulative operating time.
TIME SELECTOR:	Selector for specifying the cumulative operating time that controls lighting of the CLEANING LED.

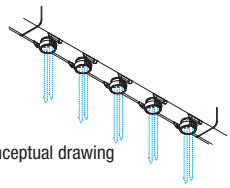
A selection of two nozzle types depending on application.

● High speed charge removal: Standard flow rate type nozzle



*Conceptual drawing

● Low expended air: Low flow rate type nozzle



*Conceptual drawing

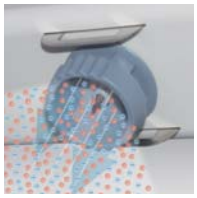
Reduced expended air flow rate (*When using a small flow rate type nozzle.)

An original nozzle shape makes it possible to dramatically reduce the expended air flow rate (40% lower than the standard flow rate type). Simple nozzle attachment and detachment enables easier maintenance.

*Conceptual drawing

Discharge needle replacement example

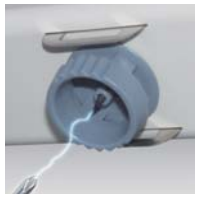
Uniform and stable charge removal across the entire area



*Conceptual drawing

Since positive and negative ions are constantly and uniformly supplied to the charge removal area in large volumes, there is virtually no area-to-area differences in charge removal, making this nozzle ideal for electronic devices that require delicate charge removal.

Fail-safe function alerts you to abnormal discharges and spikes.



*Conceptual drawing

A fail-safe function alerts you if an ionizer discharge needle shorts or other high voltage abnormal discharge occurs, and automatically cuts off application of high voltage.

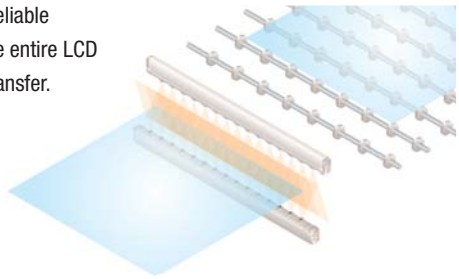
Cleaning timer alerts you when cleaning is recommended

An LED lights in accordance with a preset time to let you know when cleaning of the discharge needle is required.

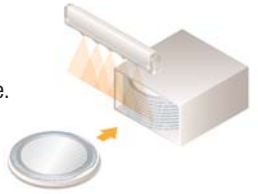
⚠ CAUTION Before use, be sure to read the ionizer "Safety Precautions" in Catalog No. BK-R0001 and the Instruction Manual.

Application example

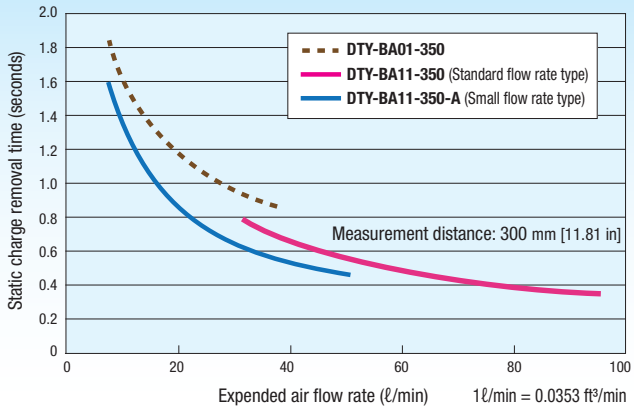
Allows uniform and reliable charge removal of the entire LCD panel during panel transfer.



Reliable and uniform charge removal of the entire wafer is possible while the wafer is being transfered to the cassette.

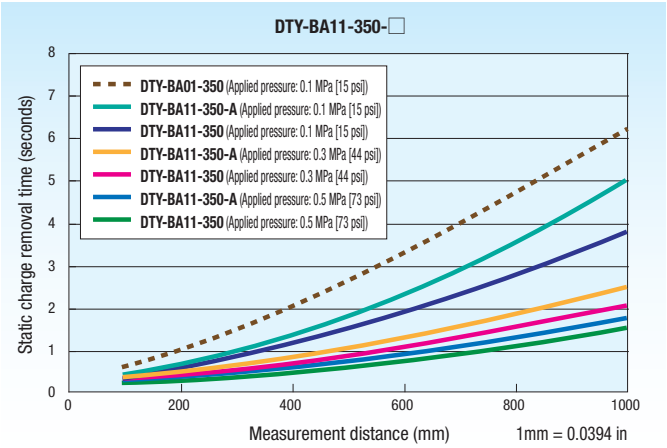


Expended air flow rate and static charge removal time



Note 1: Measurement performed under KOGANEI standards using a 20 pF, □150 mm [5.91 in] charged plate monitor.
2: Static charge removal time is the decay time from ±1000V to ±100V.
3: Charge removal characteristics at the middle of the unit.

Static Charge Removal Characteristic Graph



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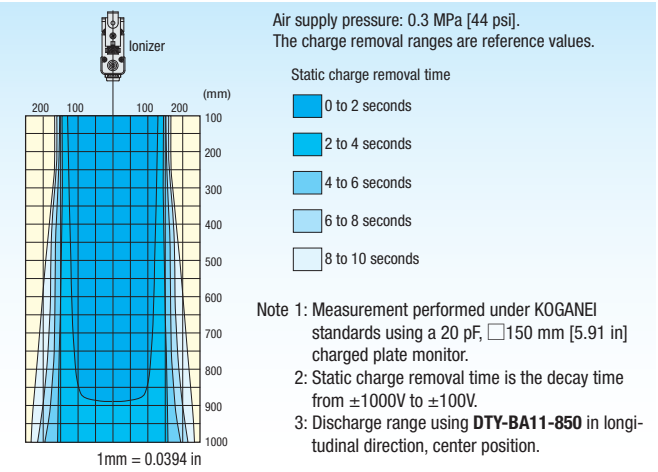
Charge removal range



Note 1: Measurement performed under KOGANEI standards using a 20 pF, □150 mm [5.91 in] charged plate monitor.
2: Static charge removal time is the decay time from ±1000V to ±100V.
3: Discharge range using **DTY-BA11-850** in longitudinal direction, center position.

Specifications

Item \ Model		DTY-BA11 -350	DTY-BA11 -600	DTY-BA11 -850	DTY-BA11 -1100	DTY-BA11 -1350	DTY-BA11 -1600	DTY-BA11 -1850	DTY-BA11 -2100	DTY-BA11 -2350	DTY-BA11 -2600	DTY-BA11 -2850	DTY-BA11 -3100
Power supply		24VDC ±5%											
Consumption current	mA	150											
Output voltage	kV	±10											
LED indicators	POWER (green)	Lights while power is on											
	RUN (green)	Lights during normal operation.											
	ALARM (red)	Lights (RUN LED unlit) for discharge abnormality or circuitry abnormality (overcurrent)											
	CLEANING (yellow)	Lights when cleaning timer's time setting is reached.											
Power Safety Circuit		Contact output when ALARM LED lights (normally closed 24VDC 50 mA MAX)											
Cleaning timer time setting Note 1		Setting within 100 to 10,000 hours supported (9 steps)											
Ion balance	V	Within ±30 (Measurement distance: 300 mm [11.81 in], Air supply pressure: 0.3 MPa [44 psi])											
Static charge removal time	Seconds	Within ±0.7 (Measurement distance: 300 mm [11.81 in], Air supply pressure: 0.3 MPa [44 psi])											
Ozone generation amount	ppm	Up to ±0.002 (Measurement distance: 50 mm [1.97 in], Air supply pressure: 0.2 MPa [29 psi])											
Unit installation distance	mm [in]	50 [1.97] or over											
Medium		Air (Clean air, water vapor and oil removed)											
Operating air pressure range	MPa [psi]	0.01 to 0.5 [1.5 ~ 73]											
Expended air flow rate Note 2 ℓ/min [ft³/min] (ANR)	Standard flow rate type	95 [3.35]	180 [6.35]	255 [9.00]	325 [11.47]	365 [12.88]	395 [13.94]	625 [22.06]	690 [24.36]	750 [26.48]	810 [28.59]	850 [30.01]	885 [31.24]
	Small flow rate type (-A)	55 [1.94]	95 [3.35]	145 [5.12]	190 [6.71]	235 [8.30]	275 [9.71]	375 [13.24]	425 [15.00]	475 [16.77]	515 [18.18]	560 [19.77]	600 [21.18]
Weight Note 3	g [oz]	450 [15.87]	650 [22.93]	860 [30.34]	1060 [37.39]	1260 [44.44]	1470 [51.85]	1670 [58.91]	1880 [66.31]	2080 [73.37]	2290 [80.78]	2500 [88.18]	2710 [95.59]
Number of discharge needle nozzles (Pitch: 50 mm [1.969 in])		5	10	15	20	25	30	35	40	45	50	55	60
Operating environment		Indoors, 0 to 40°C [32 ~ 104°F], 15 to 85% RH (non-condensation)											
Accessories		Power and signal cable (3 m [9.84 ft]), two mounting brackets, intermediate brackets (provided quantity in accordance with table below), discharge needle nozzle attachment/detachment tools											
Number of provided intermediate brackets		—	—	—	1	1	2	2	3	3	4	4	4

Note 1: Operating time is added with each hour of normal continuous operation. Operating time is not added when supplying power is continuous for less than one hour.
2: Value when air supply pressure is 0.5 MPa [73 psi]. Since expended air flow rate depends on piping conditions, use these values for reference only.
3: Excluding mounting brackets and intermediate brackets.
Remark: Ion balance and static charge removal time are measured according to KOGANEI measurement conditions. Contact KOGANEI for details.

Order Codes

● Body

Power and signal cable

DTY - BA11 - ☐ - ☐ - ☐

Discharge needle material
Blank: Tungsten
SS: Silicon

Nozzle type
Blank: Standard flow rate
A: Small flow rate

Product variations
350 : Length 350 mm [13.78 in]
600 : Length 600 mm [23.62 in]
850 : Length 850 mm [33.46 in]
1100 : Length 1100 mm [43.31 in]
1350 : Length 1350 mm [53.15 in]
1600 : Length 1600 mm [62.99 in]
1850 : Length 1850 mm [72.83 in]
2100 : Length 2100 mm [82.68 in]
2350 : Length 2350 mm [92.52 in]
2600 : Length 2600 mm [102.36 in]
2850 : Length 2850 mm [112.20 in]
3100 : Length 3100 mm [122.05 in]

● Options (sold separately)

● Replacement discharge needle nozzle (Unit: 1 pc.)

DTY-ZEM-BA11
(Standard flow rate, tungsten discharge needle)

DTY-ZEMA-BA11
(Small flow rate, tungsten discharge needle)

Standard flow rate type

Small flow rate type

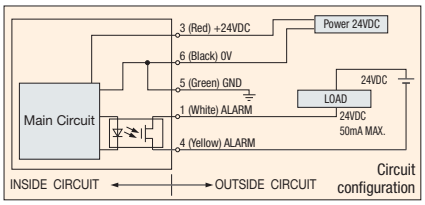
● AC adapter
DTY-ZPS2

Rating
Input: 100 to 240VAC
50/60 Hz 0.58 A
Output: 24VDC 1 A
Cable length 1.5 m [59 in]

● Intermediate bracket (Unit: 1 pc.)
DTY-ZBKS-BA11

● Extension cable (3 m)
DTY-ZCE3-BA11

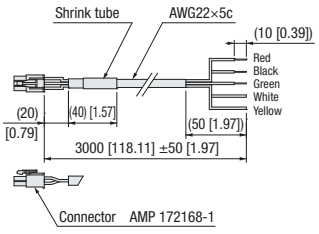
Dimensions *mm [in]*



Note: Perform ionizer power on/off on the input power supply (+24VDC) side.

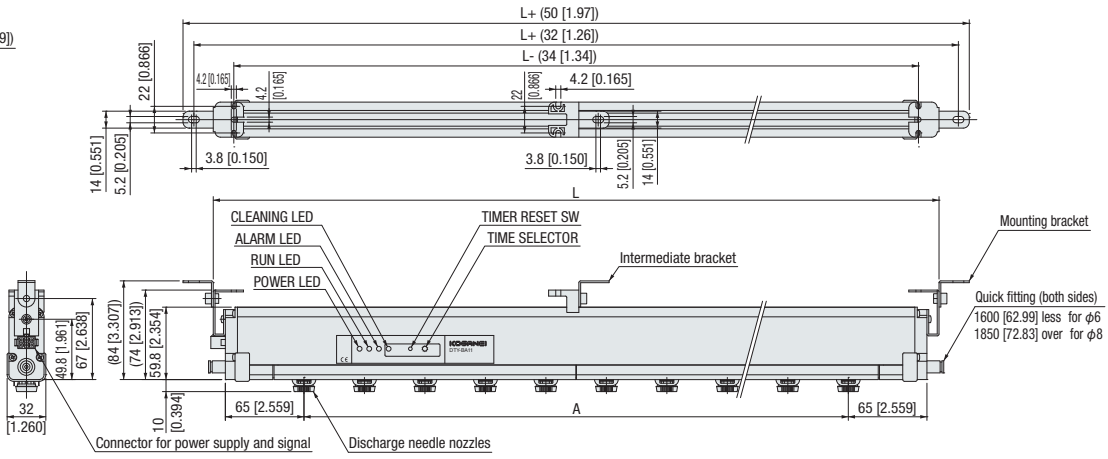
Model	L	A	Number of discharge needle nozzles	Number of provided intermediate brackets
DTY-BA11-350	350 [13.78]	50p×4=200 [7.87]	5	—
DTY-BA11-600	600 [23.62]	50p×9=450 [17.72]	10	—
DTY-BA11-850	850 [33.46]	50p×14=700 [27.56]	15	—
DTY-BA11-1100	1100 [43.31]	50p×19=950 [37.40]	20	1
DTY-BA11-1350	1350 [53.15]	50p×24=1200 [47.24]	25	1
DTY-BA11-1600	1600 [62.99]	50p×29=1450 [57.09]	30	2
DTY-BA11-1850	1850 [72.83]	50p×34=1700 [66.93]	35	2
DTY-BA11-2100	2100 [82.68]	50p×39=1950 [76.77]	40	3
DTY-BA11-2350	2350 [92.52]	50p×44=2200 [86.61]	45	3
DTY-BA11-2600	2600 [102.36]	50p×49=2450 [96.46]	50	4
DTY-BA11-2850	2850 [112.20]	50p×54=2700 [106.30]	55	4
DTY-BA11-3100	3100 [122.05]	50p×59=2950 [116.14]	60	4

Power signal cable



Red: +24VDC
Black: 0VDC
Green: GND
White: ALARM
Yellow: ALARM

Body



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