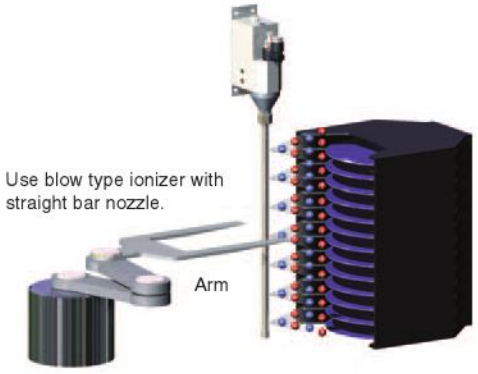
Blow Type Application Examples

Removal of static charges when taking out or storing wafers

Avoids electrostatic discharging when taking wafers out of their cassettes, and prevents the stored wafers from being attracted to the transfer arm.

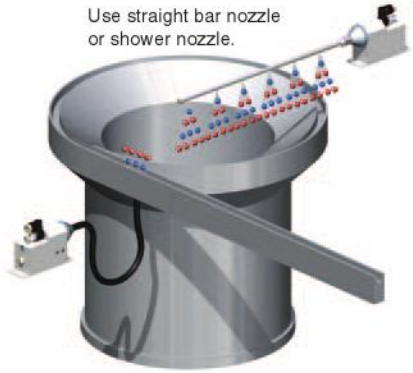


Removal of static charges when conveying wafers

Prevents dust from being attracted to the surface of wafers.
Prevents the internal patterns from being damaged.

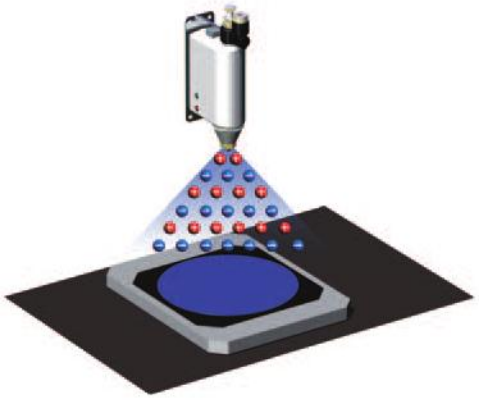
Removal of static charges on parts when carried by a parts feeder

Static electricity is generated due to friction of parts while the parts feeder conveys them, and the parts stick to feeder's surface.
Use the blow type ionizer to prevent parts from being sticked caused by static electricity. Also, simultaneous use with a fan type is effective against the static electricity removal.



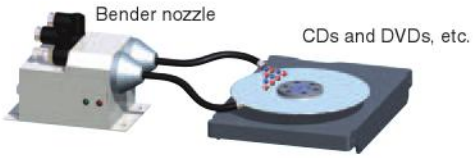
Removal of static charges on wafers

Use blow type ionizers with shower nozzles that provides Ionized air flow with a wide angle to remove static charges on wafers.



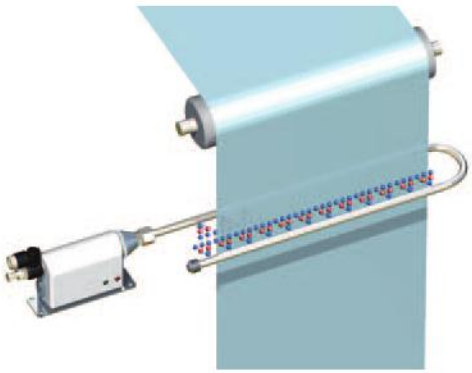
Removal of static charges and particles on CDs and DVDs

Use 2-head types with bender nozzles to remove static charges and particles on CDs and DVDs from both sides.



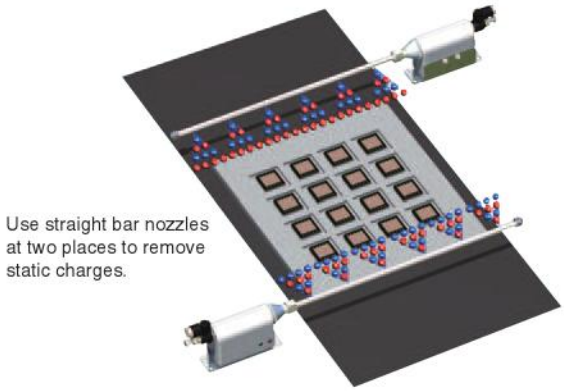
Removal of static charges on wrap film

Use blow type Ionizers with U-shaped bar nozzles in confined space to remove static charges on both sides of the wrap film.



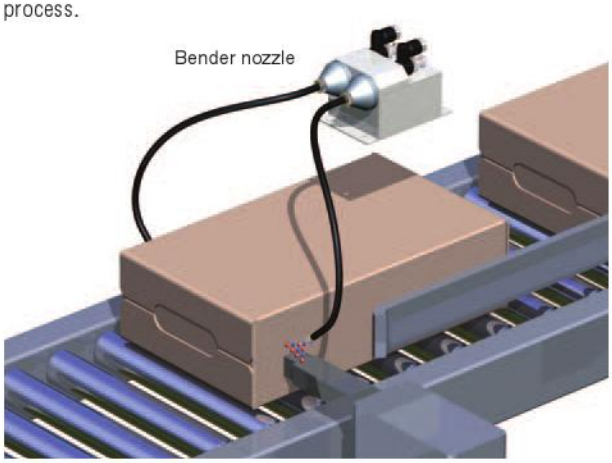
Removal of static charges on devices carried by pallets

Use blow type Ionizers with straight bar nozzles to remove static charges on a wide carrying pallet.



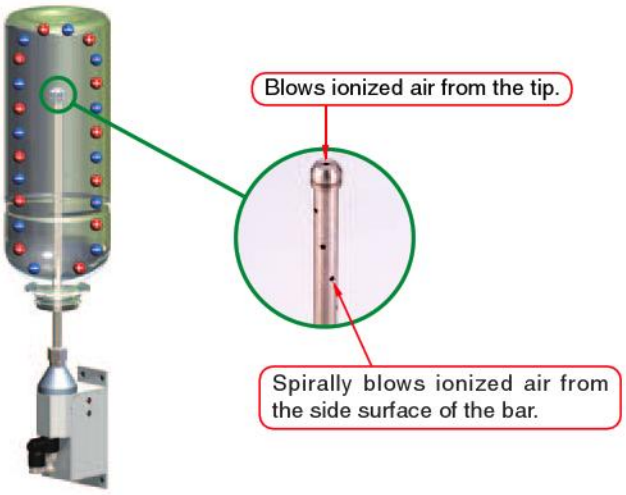
Removal of static charges in printing process

Use 2-head type Ionizers with bender nozzles.
Prevents faulty printing caused by static charges in ink jet printing process.



Removal of static charges in bottles (Removal of dust)

Use a spiral bar nozzle to remove static charges inside a bottle.

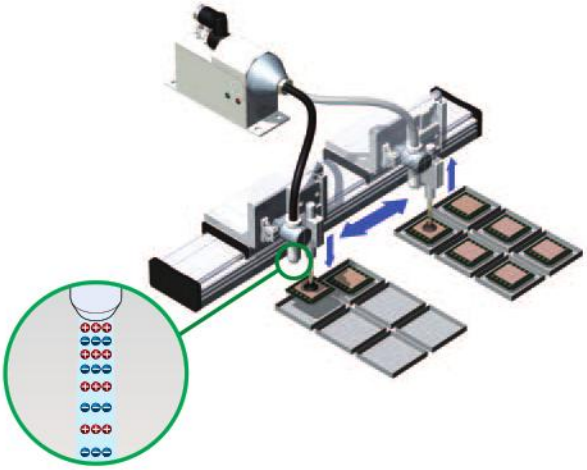


Removal of static charges on electronic parts

Very low generation of electrical noise

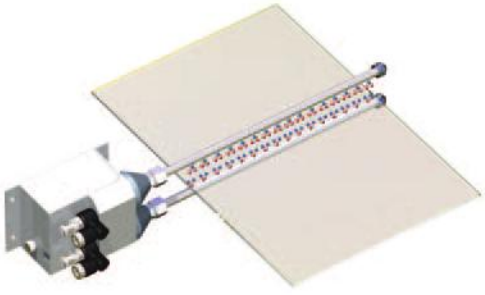
- No damage to a device caused by induction electric field by the discharging needle.
- Removal of static charges with pin point accuracy
  (It is possible to place the nozzle close to a device by using the tube.)

Note: Select a tube in accordance with the degree of tube flexibility.



Removal of static charges on glass substrate

Use 2-head type Ionizers with two straight bar nozzles to remove static charges on FPD glass.



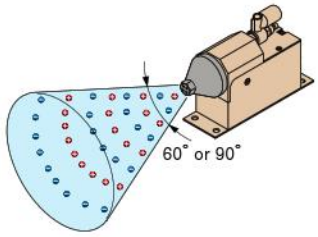
Removal of static charges in pipes (ϕ50 or less)

By inserting the tube inside a pipe enables removal of static charges.

Select the nozzle for your application

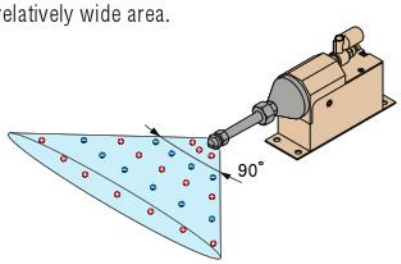
Shower nozzle

- Blows ionized air at 60° or 90° angles



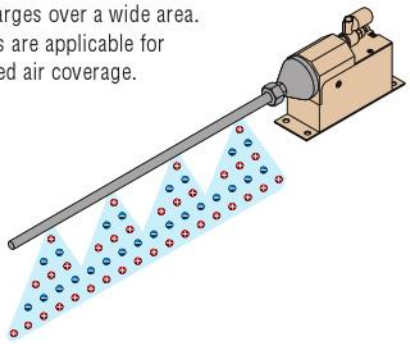
Flat nozzle

- Blows ionized air at 90° angle, suitable for removal of static charges over relatively wide area.



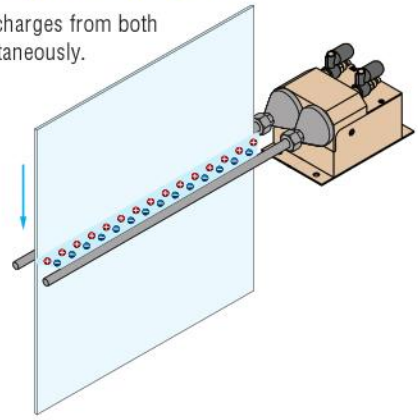
Straight bar nozzle

- Removal of static charges over a wide area.
- 5 types of bar nozzles are applicable for 100 to 500 mm ionized air coverage.



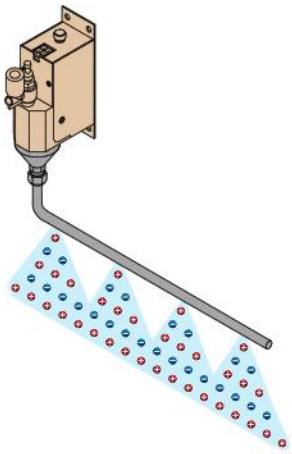
Use of two straight bar nozzles

- Removal of static charges from both sides of film simultaneously.



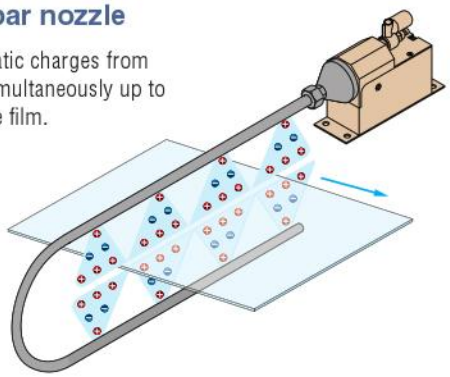
L-shaped bar nozzle

- Space saving and suitable for locations where straight bar nozzles can't reach.
- 2 types of L-shaped bar nozzles are applicable for 100 and 200 mm ionized air coverage.



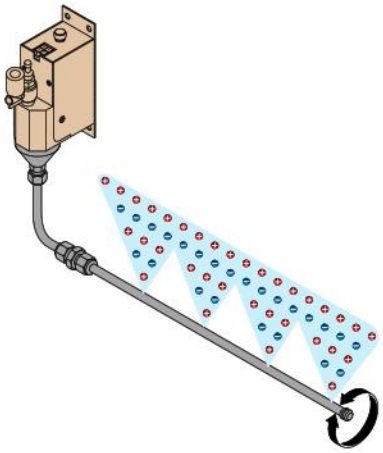
U-shaped bar nozzle

- Removal of static charges from both sides simultaneously up to 100 mm wide film.



Free-mounting L-shaped bar nozzle

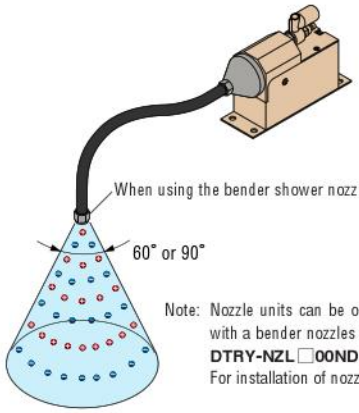
- Enables the bar rotation to change the direction of the ionized air flow outlet.
- It is applicable for 100 and 200 mm ionized air coverage.



Rotate the bar in the desired direction.

Combining various nozzle units with bender nozzles

- Combining various nozzle units with the flexible tube enables static charge removal for various applications.



Note: Nozzle units can be only attached to the nozzles with a bender nozzles (**DTRY-NZR□00ND** and **DTRY-NZL□00ND**)
For installation of nozzle unit, see page ㉙.

Specifications

Blow Type and Compact Blow Type

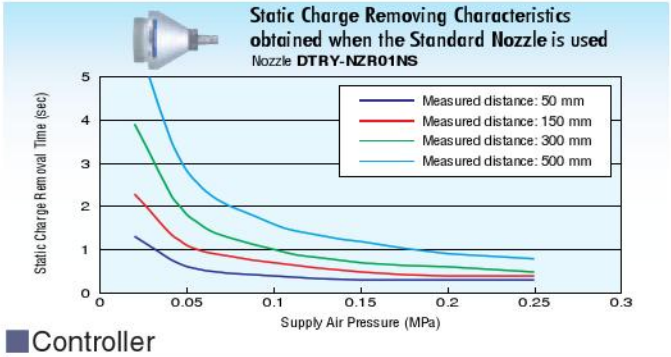
Item \ Model		DTRY-ELB01 (Main Unit for 1-head Type)	DTRY-ELB02 (Main Unit for 2-head Type)	DTRY-ELL01 (Main Unit for 1-head Type)
Power supply		24 VDC ± 5%		
Consumption current	mA	Approx. 100		
Output voltage	kV	Approx. 2 (High frequency type)		
Indicator LED	Power supply	While power is supplied, power indicator LED (Green) turns on.		
	Abnormality	When an abnormal discharge occurs, the abnormality indicator LED (Red) turns on.		
Power safety circuit		The contact point output NO/NC is selectable when an abnormal discharge occurs.[Note 1] (24 DVC 50 mA Max.)		The contact point output NO/NC is selectable when an abnormal discharge occurs.[Note 1] (24 DVC 50 mA Max.)
Outer dimensions	mm	92(L)×30(W)×54(H) (Main unit only)	92(L)×62(W)×54(H) (Main unit only)	65(L)×25(W)×47(H) (Main unit only)
Mass	g[oz.]	190 [6.70] (Main unit only)	300 [10.58] (Main unit only)	122 [4.30] (Main unit only)
Ion balance [Note 2]	V	±15		
Ozone generation amount	ppm	0.037 or less (When measured at 300 mm apart from the nozzle outlet with a standard nozzle and 0.25 MPa air at primary side.)		
Media [Note 3]		Air (vapor- and oil-removed clean air)		
Supply air flow rate	ℓ/min(ANR)	Approx. 100 (with **DTRY-NZR01NS** nozzle and 0.15 MPa air at primary side, per head.)		Approx. 50 (with **DTRY-NZL01NS** nozzle and 0.1 MPa air at primary side)
Operating air pressure range	MPa[psi.]	0.02～0.25 [3～36] (with **DTRY-NZR01NS** nozzle) 0.02～0.12 [3～17] (with **DTRY-NZR02S** nozzle) 0.02～0.12 [3～17] (with conductive urethane, Teflon or silicone tube) 0.05～0.25 [7～36] (with **DTRY-NZR100ND**～**500ND** nozzles) 0.05～0.40 [7～58] (with **DTRY-NZR20SW** nozzle) 0.05～0.40 [7～58] (with **DTRY-NZR21SW** nozzle) 0.05～0.40 [7～58] (with **DTRY-NZR01FT** nozzle) 0.05～0.40 [7～58] (with **DTRY-NZR200SP** nozzle) 0.05～0.40 [7～58] (with **DTRY-NZR100B**～**500B** nozzles) 0.05～0.40 [7～58] (with **DTRY-NZR100L**～**200L** nozzles) 0.05～0.40 [7～58] (with **DTRY-NZR100U** nozzle) 0.05～0.40 [7～58] (with **DTRY-NZR100FMT**～**200FMT** nozzles)		0.05～0.5 [7～73]
Operating ambient temperature	°C[°F]	0～40 [32～104] indoor (avoid a place subject to dew condensation)		
Accessories		1 pc. power and signal cable (2 m), 1 pc. ground wire (2 m), and 1 pc. contact point selector protection sticker		1 pc. power and signal cable (2 m), 1 pc. bracket, and 1 pc. contact point selector protection sticker

Notes 1: For output of abnormality output contact point, see page ㉙.
2: The ion balance value of the **DTRY-ELL01** is the value when the air flow rate is 150 ℓ/min(ANR).
3: Always turn on the power supply with supplying air.
Remarks 1: When using two or more Ionizers, mount them at least 10 mm apart. Closer mounting may cause a detrimental effect or detrimental ion balance.
2: Ion balance is measured by in-house test standard. Consult us for details.

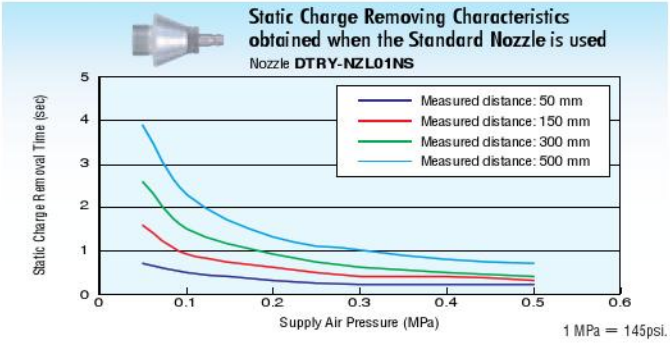
Graphs of Static Charge Removing Characteristics

(when using the standard nozzle) ※See pages ㉓～㉘ for Graphs of Static Charge Removing Characteristics when using the other nozzles.

Blow Type **DTRY-ELB01**



Compact Blow Type **DTRY-ELL01**



1 MPa = 145psi.

Controller

Item \ Model		DTRY-ELC11
Power supply		24 VDC ± 5%
Consumption current	mA	410
Outer dimensions	mm	222 (L) × 60 (W) × 135 (H) (Main unit only)
Mass	g[oz.]	830 [29.28] (Main unit only)
Media		Air
Max. flow rate	ℓ/min(ANR)	150 (0.7 MPa at primary-side pressure and 0.5 MPa at secondary-side pressure)
Operating pressure adjusting range	MPa[psi.]	0.02～0.5 [3～73]
Proof pressure	MPa[psi.]	1.5 [218]
Filter capacity	Filtering particle diameter μm	0.01
	Filtering efficiency %	99.99
Operating ambient temperature	°C[°F]	5～45 [41～113] indoor (avoid a place subject to dew condensation)
Accessories		1 pc. connection cable between controller and Ionizer (1.5 m)

Note: Pay attention to the maximum flow rate and operating pressure adjusting range when using the controller. It may cause a shortage of the flow rate compared to the one obtained not using the controller.
Remark: The Ionizer is a stand-alone unit. However, the use with the controller enables control of both power supply and air.

Order code

BLOW TYPE

■Main Unit

●1-head type
DTRY-ELB01

●2-head type
DTRY-ELB02

Caution The main unit cannot be operated alone.
Always use it with a nozzle.

Caution The discharging needles are covered with cover caps for protection. Remove the cap before installing the nozzle.

■Nozzles for Blow Type

●Standard nozzle
DTRY-NZR01NS

●Bender nozzles
DTRY-NZR100ND (100 mm)
DTRY-NZR200ND (200 mm)
DTRY-NZR300ND (300 mm)
DTRY-NZR400ND (400 mm)
DTRY-NZR500ND (500 mm)

●Stainless steel pipe nozzle (120 mm)
DTRY-NZR02S

●Shower nozzles
DTRY-NZR20SW (60° type)
DTRY-NZR21SW (90° type)

●Flat nozzle
DTRY-NZR01FT

●Straight bar nozzles
DTRY-NZR100B (Nominal size: 100 mm)
DTRY-NZR200B (Nominal size: 200 mm)
DTRY-NZR300B (Nominal size: 300 mm)
DTRY-NZR400B (Nominal size: 400 mm)
DTRY-NZR500B (Nominal size: 500 mm)

●L-shaped bar nozzles
DTRY-NZR100L (Nominal size: 100 mm)
DTRY-NZR200L (Nominal size: 200 mm)

●Free-mounting L-shaped bar nozzles
DTRY-NZR100FMT
(Nominal size: 100 mm)
DTRY-NZR200FMT
(Nominal size: 200 mm)

●U-shaped bar nozzle
DTRY-NZR100U

●Spiral bar nozzle
DTRY-NZR200SP

■Option

●Bracket
(For straight bar nozzle)
DTRY-ELQ02

Caution: Dedicated for the blow type

■Common Options for Blow Type and Compact Blow Type

●Bender shower nozzle units
DTRY-ADN-SW60 (60° type)
DTRY-ADN-SW90 (90° type)

●Bender flat nozzle unit
DTRY-ADN-FT01

●Bender bar nozzle units
DTRY-ADN-100B (Nominal size: 100 mm)
DTRY-ADN-200B (Nominal size: 200 mm)

●Conductive urethane tube (500 mm)
DTRY-ADN-U

Outer diameter: ϕ6
Inner diameter: ϕ4

●Teflon tube (500 mm)
DTRY-ADN-F

Outer diameter: ϕ7
Inner diameter: ϕ5

●Silicone tube (500 mm)
DTRY-ADN-S

Outer diameter: ϕ7
Inner diameter: ϕ4

Note 1: The tube is a consumable item; periodic replacement is required.
: The **DTRY-ADN-S** and **DTRY-ADN-F** cannot be used for the earlier type standard nozzles **DTRY-NZR01S** and **DTRY-NZL01S**.
Remarks 1: Use Teflon tube for endurance-oriented, and silicon tube for flexibility-oriented.
2: 20 m or 100 m roll of conductive urethane tubes is available.
Order code: **U6A-B** (20 m)
U6A-B-100 (100 m)

COMPACT BLOW TYPE

Main Unit

●1-head type
DTRY-ELL01

Caution The main unit cannot be operated alone.
Always use it with a nozzle.

Caution The discharging needle is covered with the cover cap for protection.
Remove the cap before installing the nozzle.

Nozzles for Compact Blow Type

●Standard nozzle
DTRY-NZL01NS

●Bender nozzles
DTRY-NZL100ND (100 mm)
DTRY-NZL200ND (200 mm)
DTRY-NZL300ND (300 mm)
DTRY-NZL400ND (400 mm)
DTRY-NZL500ND (500 mm)

●Stainless steel pipe nozzle (120 mm)
DTRY-NZL02S

●Shower nozzles
DTRY-NZL20SW (60° type)
DTRY-NZL21SW (90° type)

●Flat nozzle
DTRY-NZL01FT

●Straight bar nozzles
DTRY-NZL100B (Nominal size: 100 mm)
DTRY-NZL200B (Nominal size: 200 mm)
DTRY-NZL300B (Nominal size: 300 mm)
DTRY-NZL400B (Nominal size: 400 mm)
DTRY-NZL500B (Nominal size: 500 mm)

●L-shaped bar nozzle
DTRY-NZL100L (Nominal size: 100 mm)

●Free-mounting L-shaped bar nozzles
DTRY-NZL100FMT
(Nominal size: 100 mm)
DTRY-NZL200FMT
(Nominal size: 200 mm)

●U-shaped bar nozzle
DTRY-NZL100U

●Spiral bar nozzle
DTRY-NZL200SP

Caution Dedicated use for **DTRY-ELL01**.
These nozzles cannot be used for **DTRY-LCE**.

●Conductive urethane tube holder
DTRY-NZR31

For application examples,
refer to page 8

Caution: Dedicated use for
conductive urethane tube

●AC adapter
DTRY-ELC04

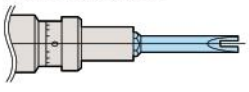
Rating
Input : 100 VAC to 240 VAC
50/60 Hz, 0.6A
Output: 24 VDC, 750mA

●Controller
DTRY-ELC11

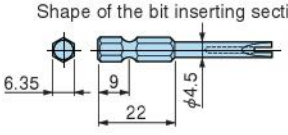
●Tungsten discharging needle for replacement (supplied by a set of 5 needles)
DTRY-ELB11

Caution Dedicated for **DTRY-ELL01, DTRY-ELB01 & 02**.

●Dedicated tool for replacing the discharging needle
Note: Bit alone is available.
DTRY-ELB21



Shape of the bit inserting section



BLOW TYPE Dimensions (mm)

BLOW TYPE

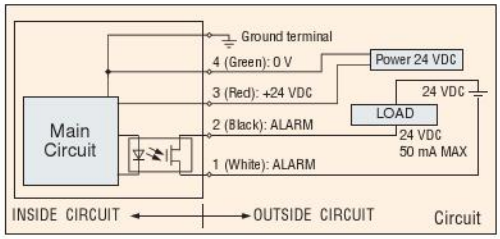
Main Unit

Power and signal cable (Accessory)
- Input power: +24 VDC
- Connector pin location and lead wire colors:

#3 #4 #1 [White] & #2 [Black]: Contact point output
#3 [Red] : Input power +24 VDC
#4 [Green] : Ground for power

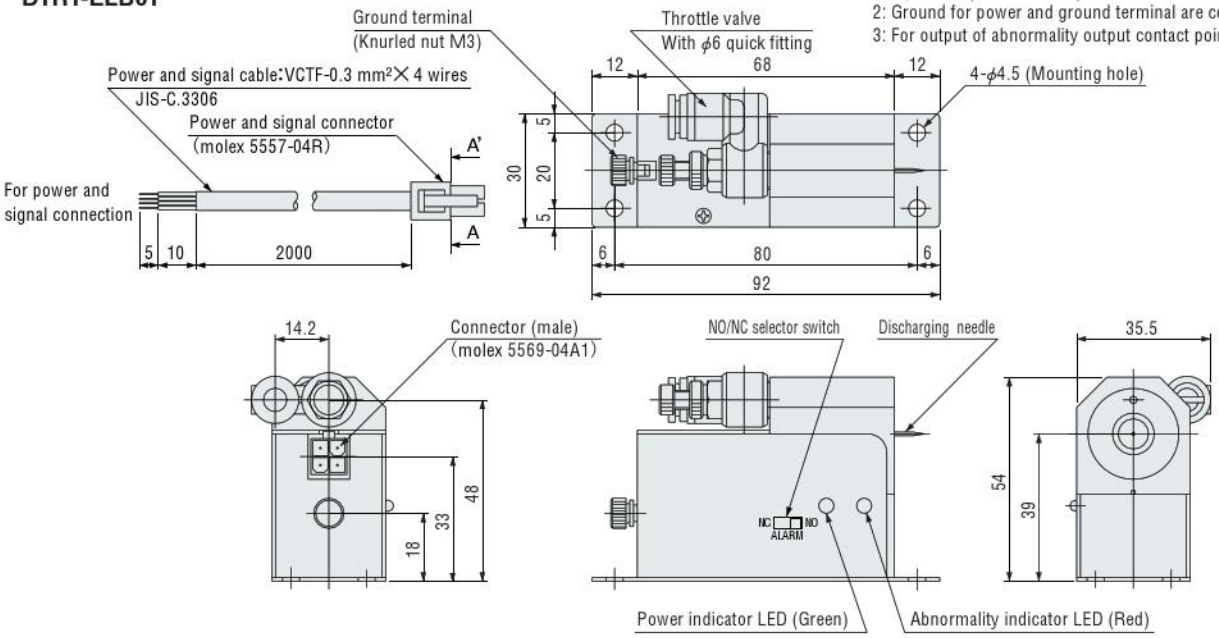
#1 #2 Viewed from A-A'

Pin location of molex 5557-04R (female)



Notes 1: ON/OFF of the power to the Ionizer should be done at the input side (+24 VDC side).
2: Ground for power and ground terminal are connected inside.
3: For output of abnormality output contact point, see page 29.

●1-head type
DTRY-ELB01



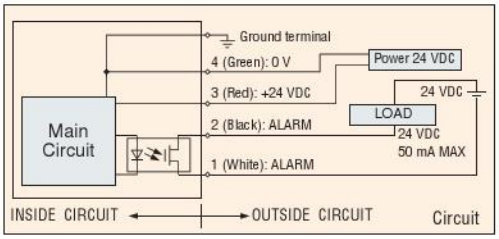
●2-head type
DTRY-ELB02

Power and signal cable (Accessory)
- Input power: +24 VDC
- Connector pin location and lead wire colors:

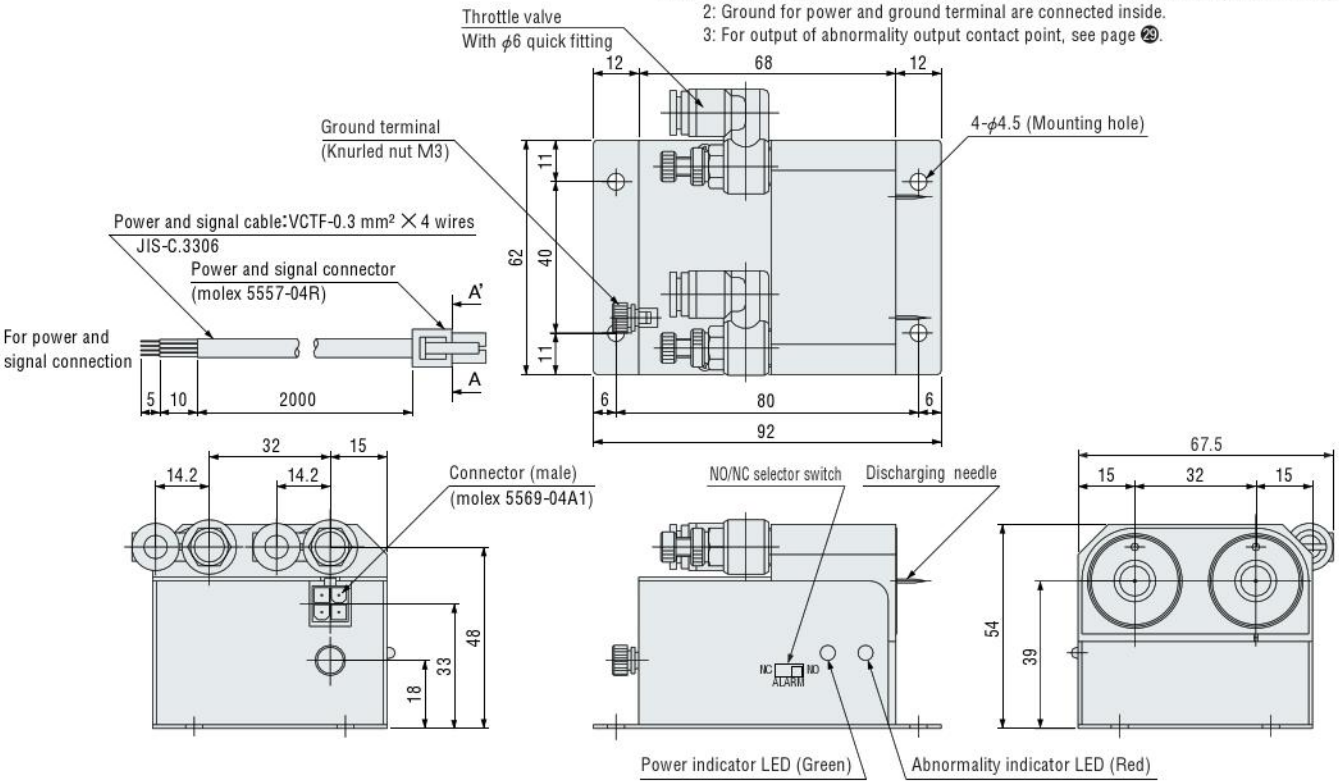
#3 #4 #1 [White] & #2 [Black]: Contact point output
#3 [Red] : Input power +24 VDC
#4 [Green] : Ground for power

#1 #2 Viewed from A-A'

Pin location of molex 5557-04R (female)



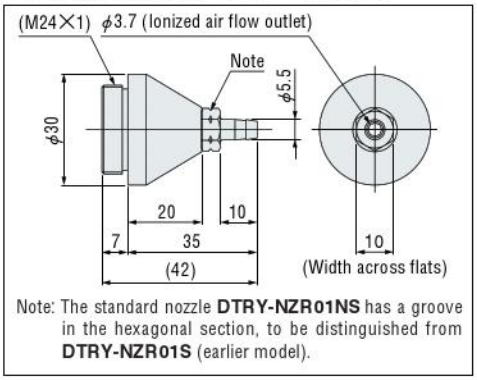
Notes 1: ON/OFF of the power to the Ionizer should be done at the input side (+24 VDC side).
2: Ground for power and ground terminal are connected inside.
3: For output of abnormality output contact point, see page 29.



BLOW TYPE

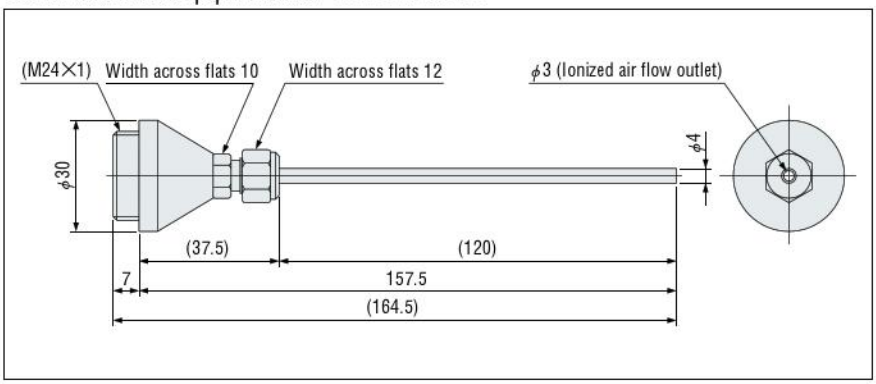
■Nozzles

●Standard nozzle **DTRY-NZR01NS**

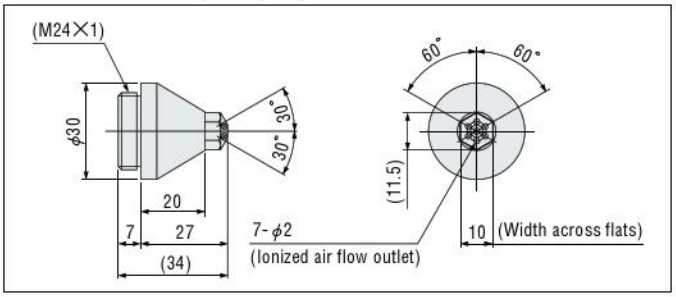


Note: The standard nozzle **DTRY-NZR01NS** has a groove in the hexagonal section, to be distinguished from **DTRY-NZR01S** (earlier model).

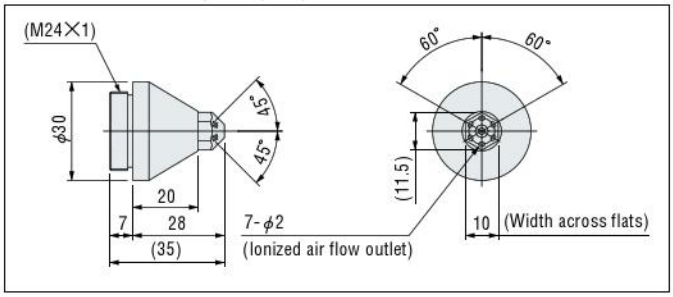
●Stainless steel pipe nozzle **DTRY-NZR02S**



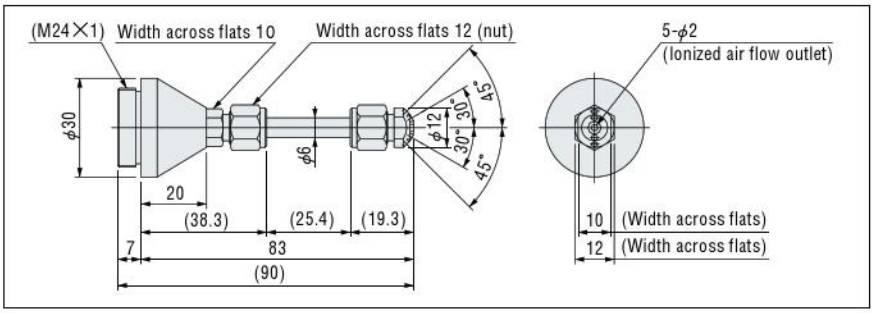
●Shower nozzle (60° type) **DTRY-NZR20SW**



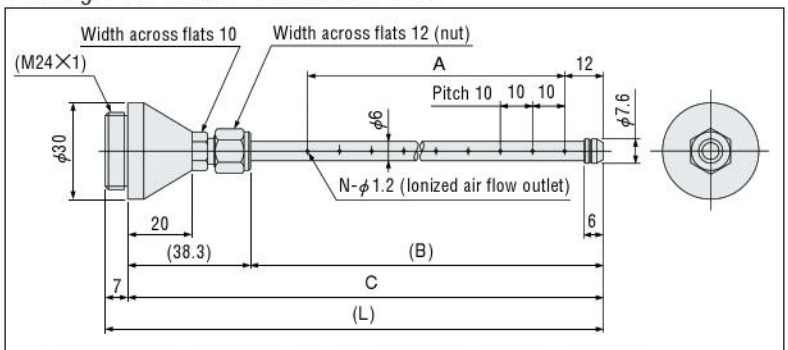
●Shower nozzle (90° type) **DTRY-NZR21SW**



●Flat nozzle **DTRY-NZR01FT**



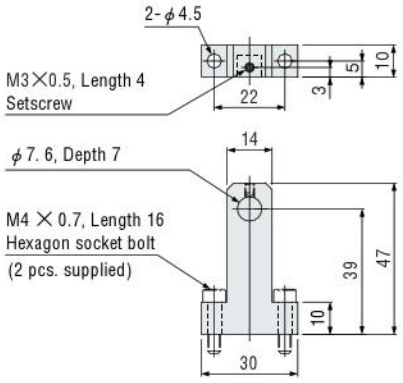
●Straight bar nozzle **DTRY-NZR□00B**



Model	A	B	C	L	N
DTRY-NZR100B	100	129.7	168	175	11
DTRY-NZR200B	200	229.7	268	275	21
DTRY-NZR300B	300	329.7	368	375	31
DTRY-NZR400B	400	429.7	468	475	41
DTRY-NZR500B	500	529.7	568	575	51

■Bracket for straight bar nozzle **DTRY-ELQ02**

●Supports the tip of straight bar nozzle

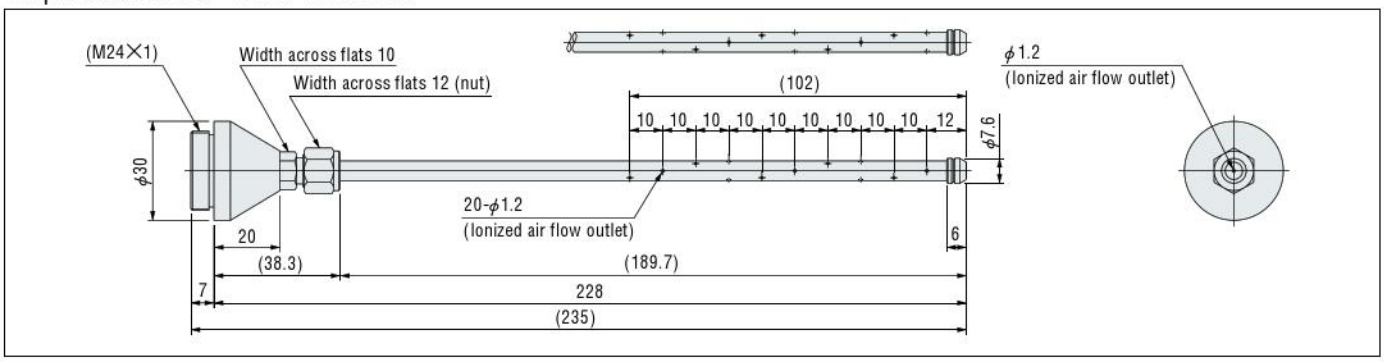


Remark: Loosen the nut to adjust the direction of the Ionized air flow outlet.
Note: Do not contact the nozzle with a grounded conductive object.
The abnormality indicator LED may turn on.

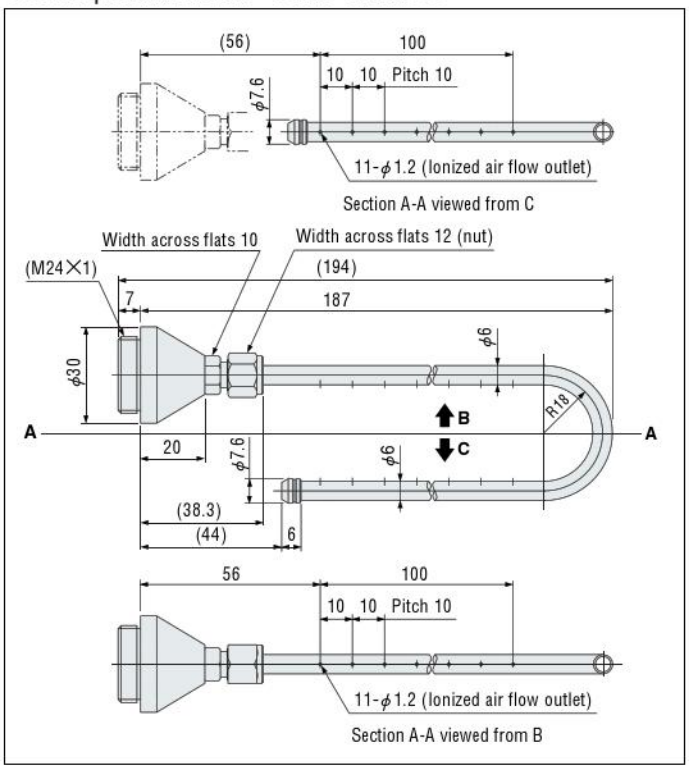
BLOW TYPE

■Nozzles

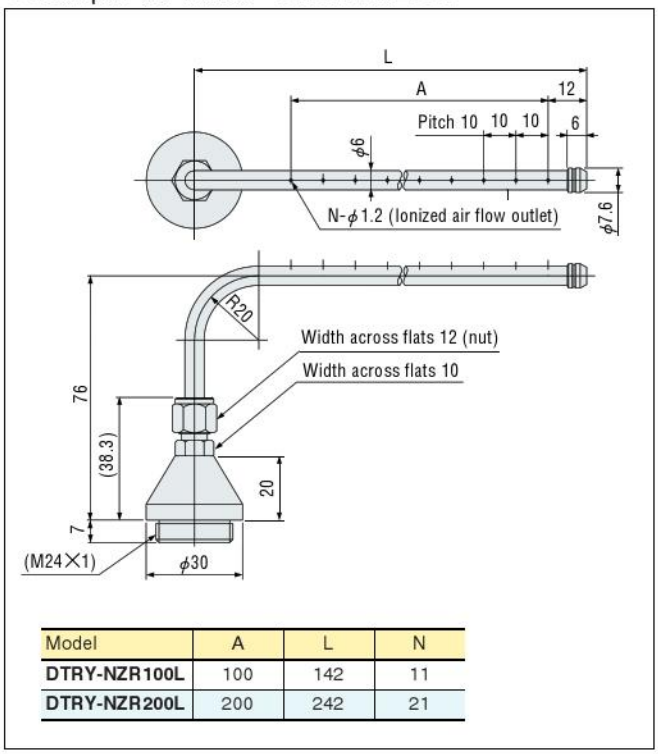
●Spiral bar nozzle **DTRY-NZR200SP**



●U-shaped bar nozzle **DTRY-NZR100U**

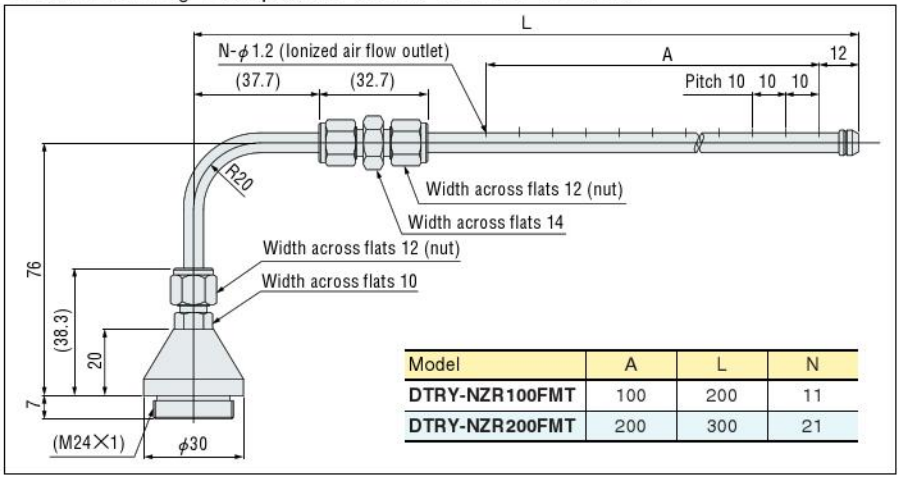


●L-shaped bar nozzle **DTRY-NZR□00L**



Model	A	L	N
DTRY-NZR100L	100	142	11
DTRY-NZR200L	200	242	21

●Free-mounting L-shaped bar nozzle **DTRY-NZR□00FMT**



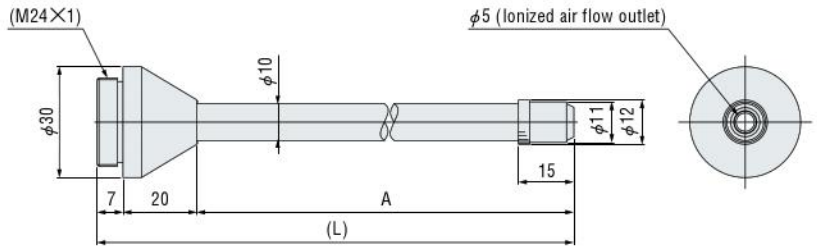
Model	A	L	N
DTRY-NZR100FMT	100	200	11
DTRY-NZR200FMT	200	300	21

Remark: Loosen the nut to adjust the direction of the Ionized air flow outlet.
Note: Do not contact the nozzle with a grounded conductive object.
The abnormality indicator LED may turn on.

BLOW TYPE

■Nozzles

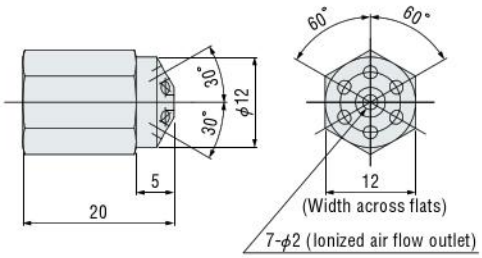
●Bender nozzle **DTRY-NZR□00ND**



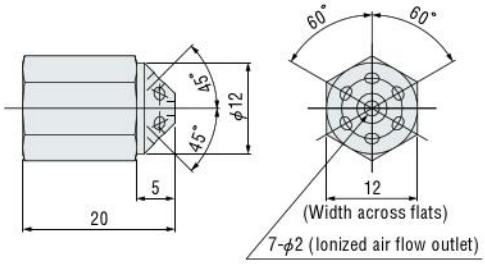
Model	A	L
DTRY-NZR100ND	102	129
DTRY-NZR200ND	202	229
DTRY-NZR300ND	302	329
DTRY-NZR400ND	402	429
DTRY-NZR500ND	502	529

■Optional nozzle units for bender nozzles. (use the unit at the tip of a flexible tube for changing a nozzle)

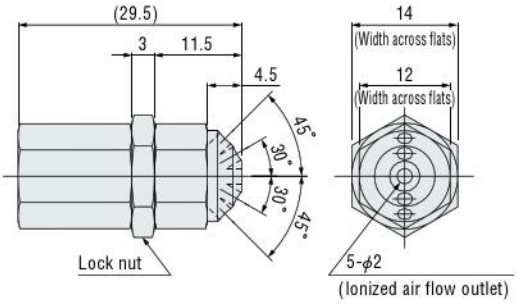
●Bender shower nozzle unit (60° type) **DTRY-ADN-SW60**



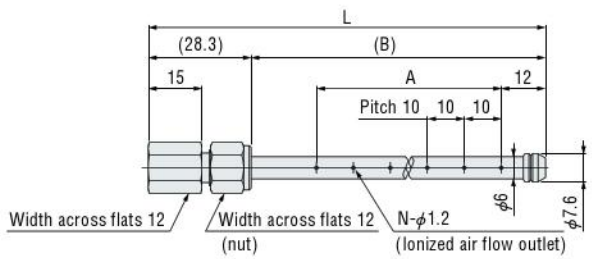
●Bender shower nozzle unit (90° type) **DTRY-ADN-SW90**



●Bender flat nozzle unit **DTRY-ADN-FT01**



●Bender bar nozzle unit **DTRY-ADN-□00B**



Model	A	B	L	N
DTRY-ADN-100B	100	129.7	158	11
DTRY-ADN-200B	200	229.7	258	21

Remark: Loosen the nut to adjust the direction of the Ionized air flow outlet.
Note: Do not contact the nozzle with a grounded conductive object.
The abnormality indicator LED may turn on.

COMPACT BLOW TYPE Dimensions (mm)

COMPACT BLOW TYPE

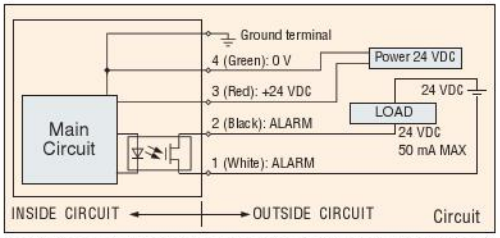
Main Unit

●1-head type
DTRY-ELL01

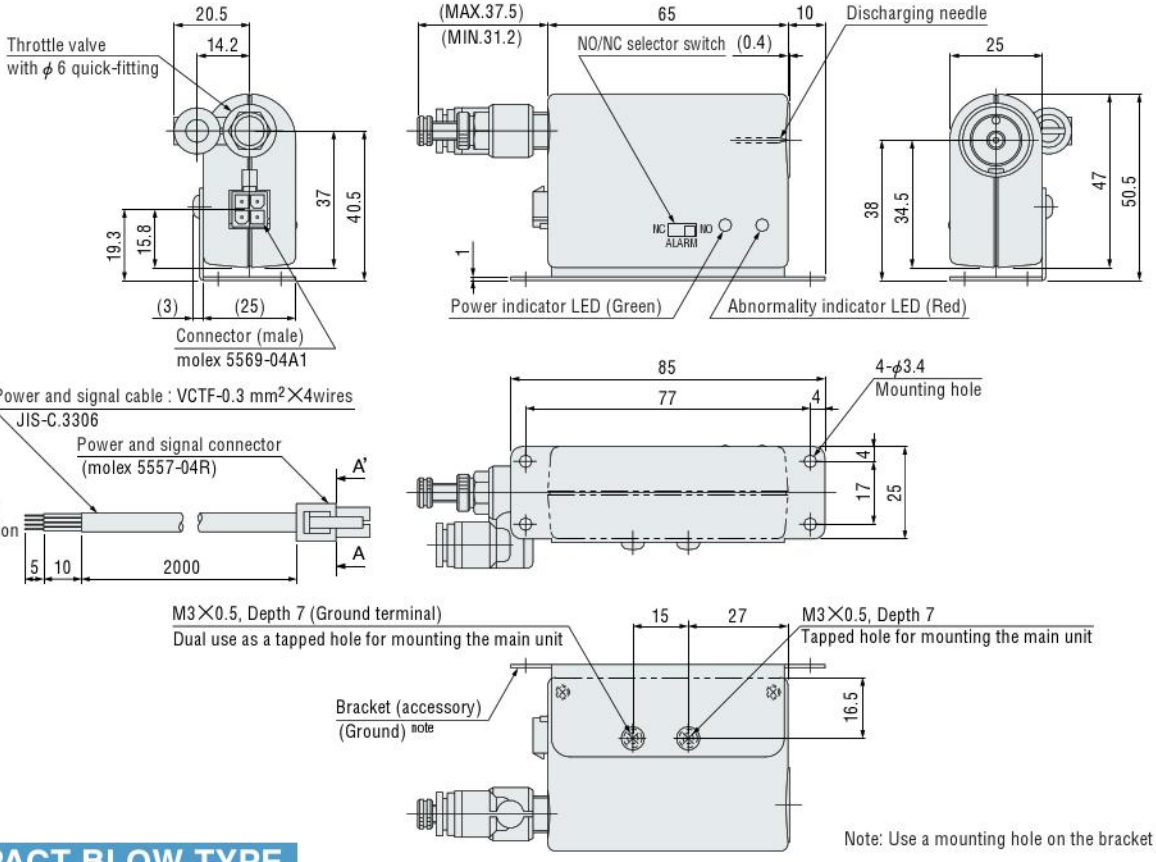
Power and signal cable (Accessory)
●Input power: +24 VDC
●Connector pin location and lead wire colors:

#1 [White] & #2 [Black] : Contact point output
#3 [Red] : Input power +24 VDC
#4 [Green] : Ground for power

Viewed from A-A'
Pin location of molex 5557-04R (female)



Notes 1: ON/OFF of the power to the Ionizer should be done at the input side (+24 VDC side).
2: Ground for power and ground terminal are connected inside.
3: For output of abnormality output contact point, see page 29.

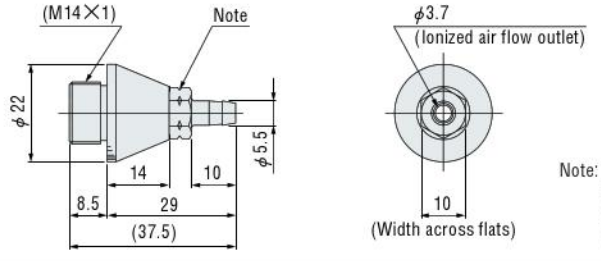


Note: Use a mounting hole on the bracket for grounding.

COMPACT BLOW TYPE

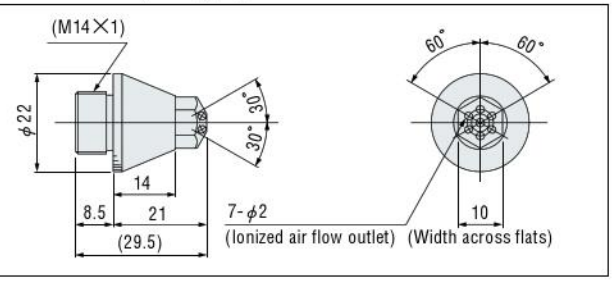
Nozzles

●Standard nozzle **DTRY-NZL01NS**

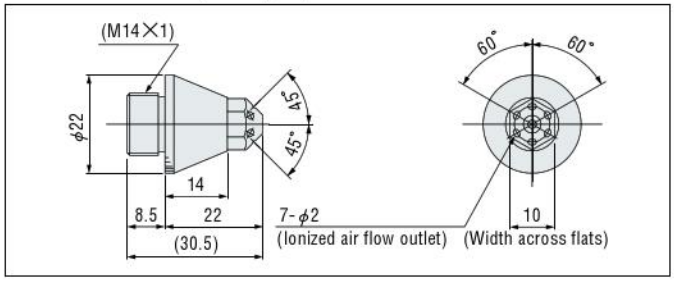


Note: The standard nozzle **DTRY-NZL01NS** has a groove in the hexagonal section, to be distinguished from **DTRY-NZL01S** (earlier model).

●Shower nozzle (60° type) **DTRY-NZL20SW**



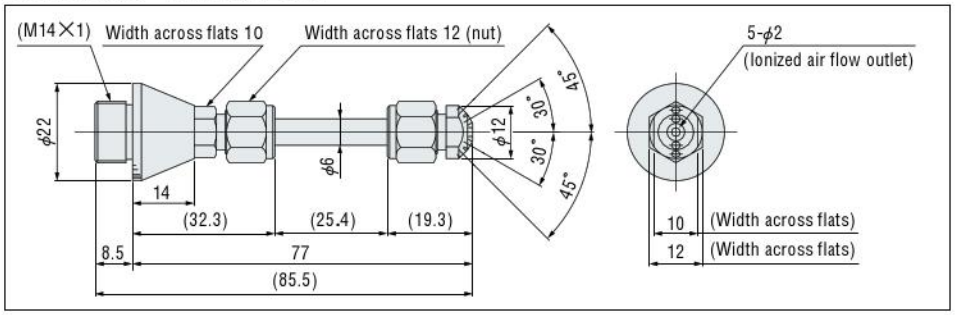
●Shower nozzle (90° type) **DTRY-NZL21SW**



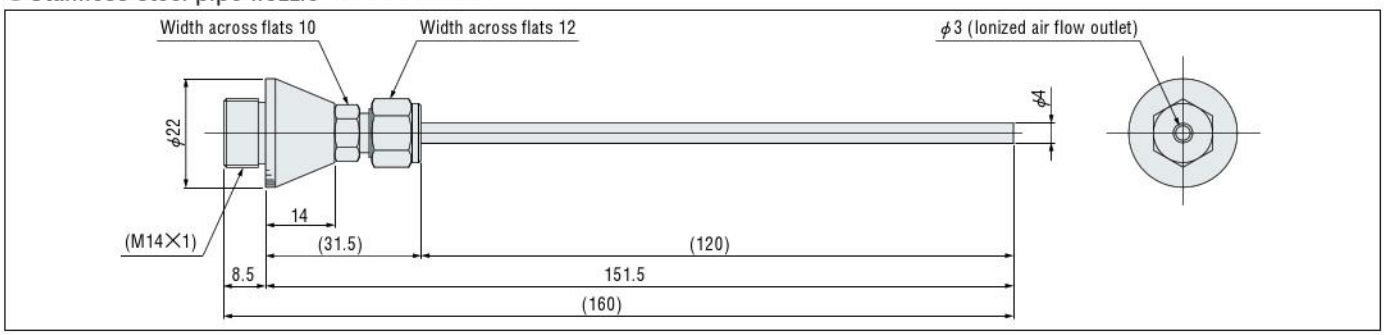
COMPACT BLOW TYPE

■Nozzles

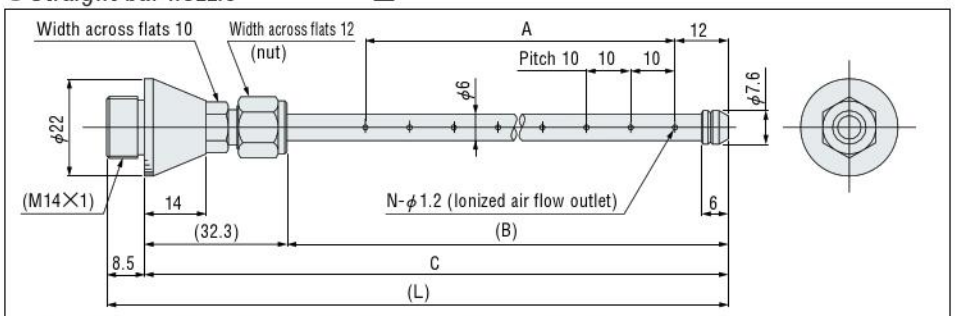
●Flat nozzle **DTRY-NZL01FT**



●Stainless steel pipe nozzle **DTRY-NZL02S**

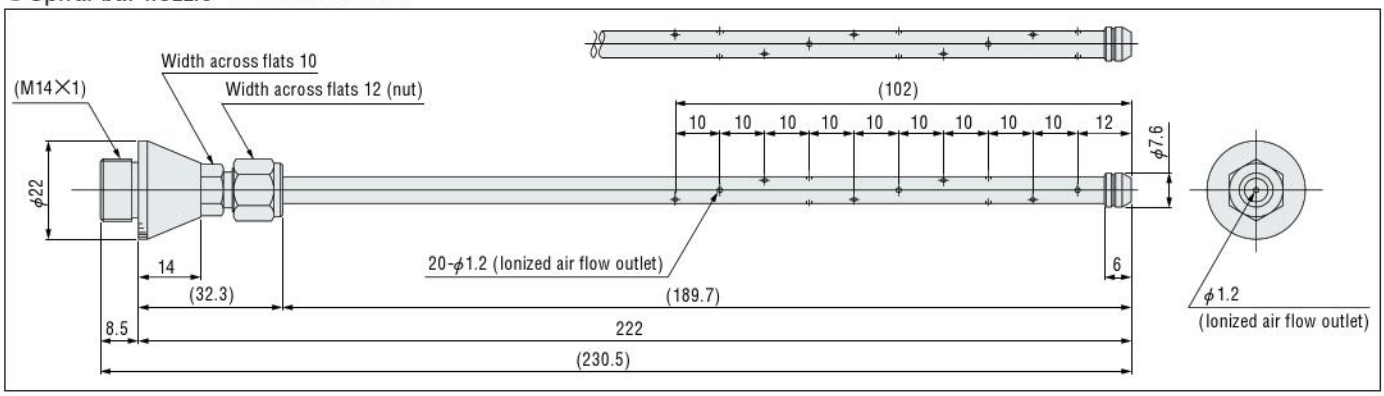


●Straight bar nozzle **DTRY-NZL□00B**



Model	A	B	C	L	N
DTRY-NZL100B	100	129.7	162	170.5	11
DTRY-NZL200B	200	229.7	262	270.5	21
DTRY-NZL300B	300	329.7	362	370.5	31
DTRY-NZL400B	400	429.7	462	470.5	41
DTRY-NZL500B	500	529.7	562	570.5	51

●Spiral bar nozzle **DTRY-NZL200SP**

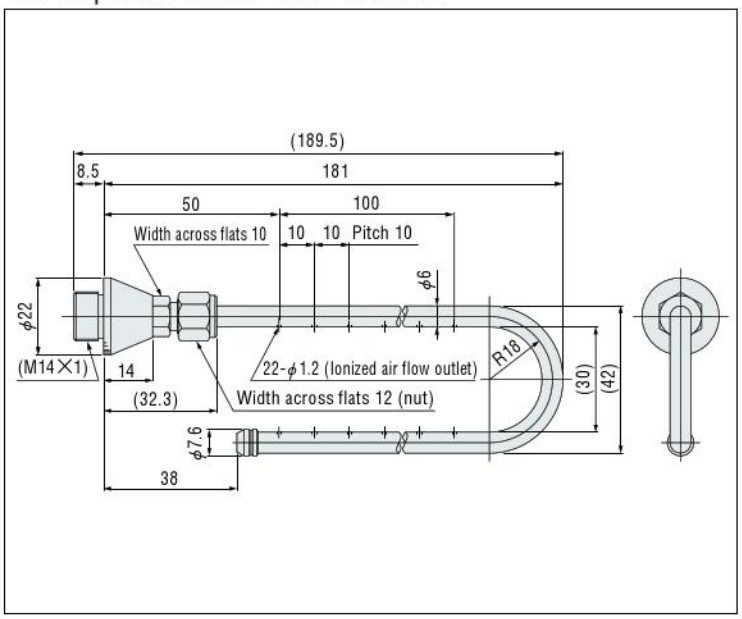


Remark: Loosen the nut to adjust the direction of the Ionized air flow outlet.
Note: Do not contact the nozzle with a grounded conductive object.
The abnormality indicator LED may turn on.

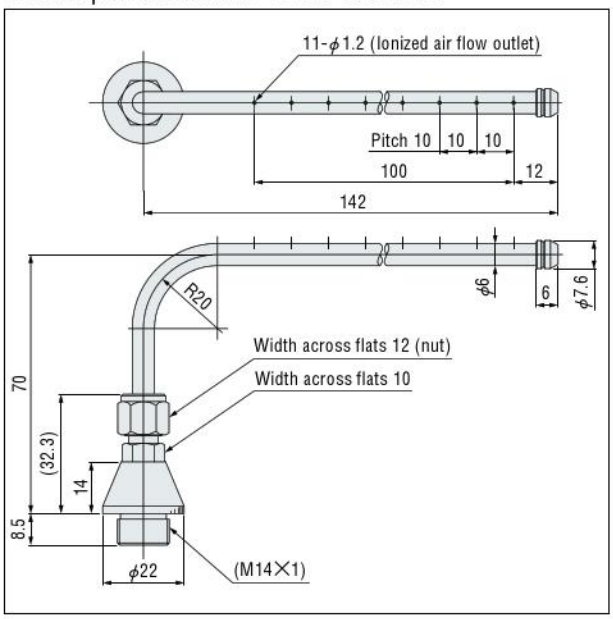
COMPACT BLOW TYPE

■Nozzles

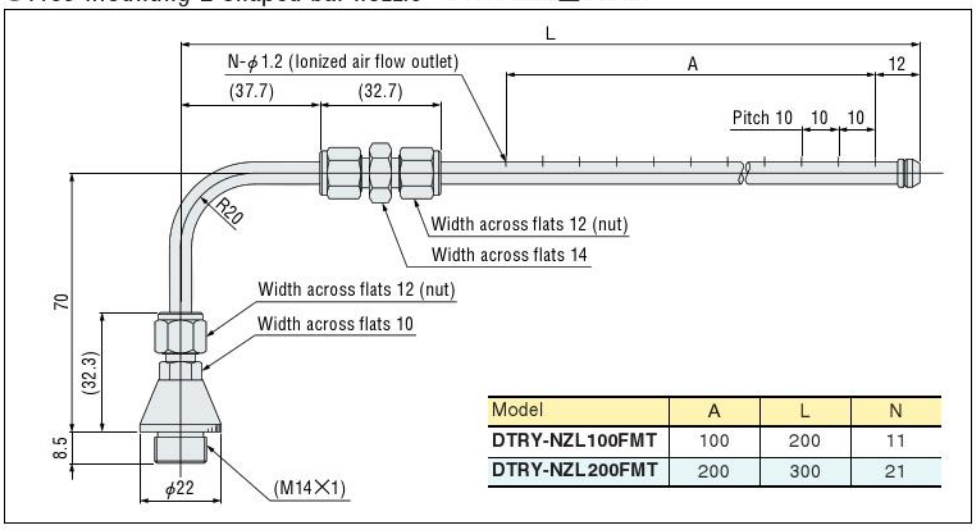
●U-shaped bar nozzle **DTRY-NZL100U**



●L-shaped bar nozzle **DTRY-NZL100L**

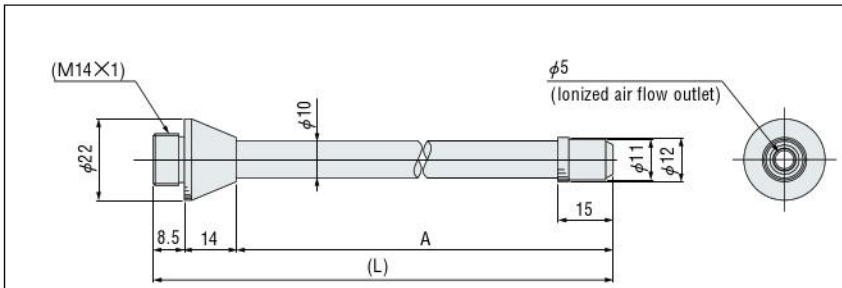


●Free-mounting L-shaped bar nozzle **DTRY-NZL□00FMT**



Model	A	L	N
DTRY-NZL100FMT	100	200	11
DTRY-NZL200FMT	200	300	21

●Bender nozzle **DTRY-NZL□00ND**



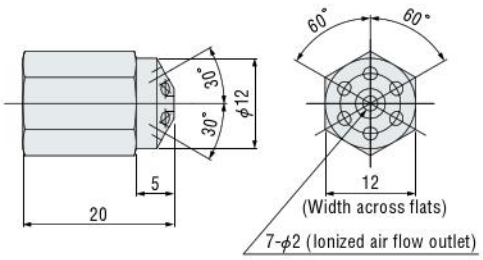
Model	A	L
DTRY-NZL100ND	102	124.5
DTRY-NZL200ND	202	224.5
DTRY-NZL300ND	302	324.5
DTRY-NZL400ND	402	424.5
DTRY-NZL500ND	502	524.5

Remark: Loosen the nut to adjust the direction of the Ionized air flow outlet.
Note: Do not contact the nozzle with a grounded conductive object.
The abnormality indicator LED may turn on.

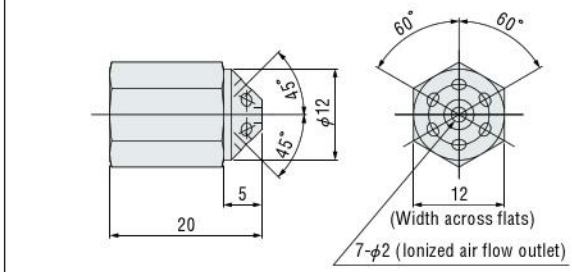
COMPACT BLOW TYPE

■Optional nozzle units for bender nozzle (use the unit at the tip of a flexible tube for changing a nozzle)

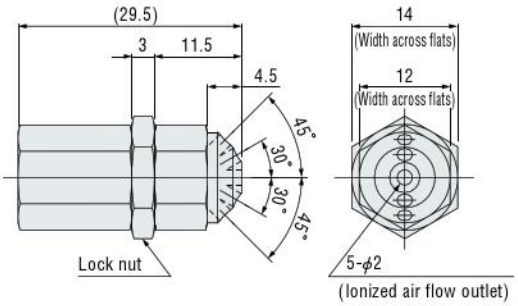
●Bender shower nozzle unit (60° type) **DTRY-ADN-SW60**



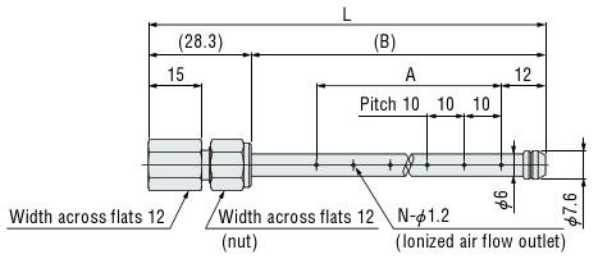
●Bender shower nozzle unit (90° type) **DTRY-ADN-SW90**



●Bender flat nozzle unit **DTRY-ADN-FT01**



●Bender bar nozzle unit **DTRY-ADN-□00B**



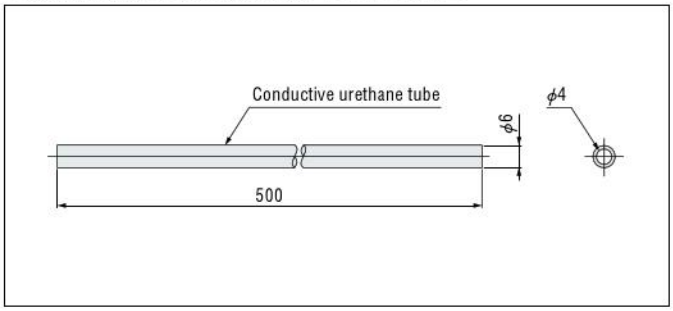
Model	A	B	L	N
DTRY-ADN-100B	100	129.7	158	11
DTRY-ADN-200B	200	229.7	258	21

Remark: Loosen the nut to adjust the direction of the Ionized air flow outlet.
Note: Do not contact the nozzle with a grounded conductive object.
The abnormality indicator LED may turn on.

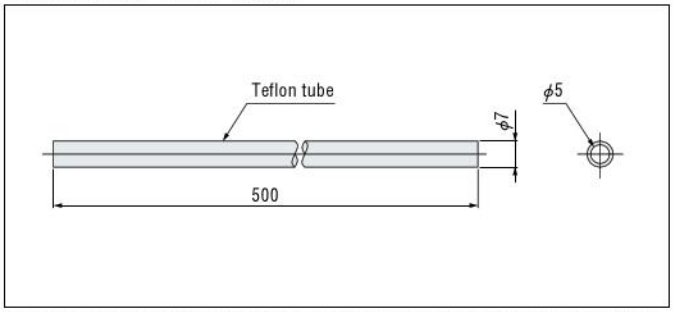
Dimensions of Common Options for BLOW TYPE and COMPACT BLOW TYPE (mm)

TUBES

●Conductive urethane tube **DTRY-ADN-U**

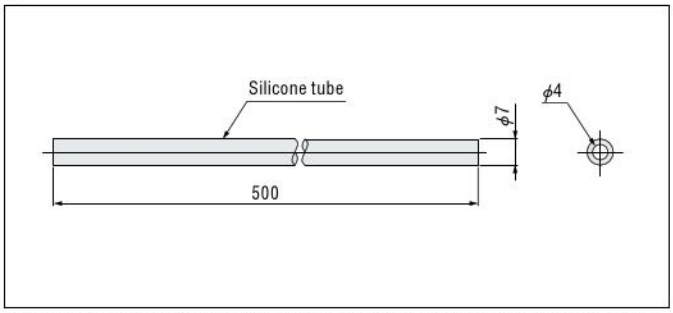


●Teflon tube **DTRY-ADN-F**



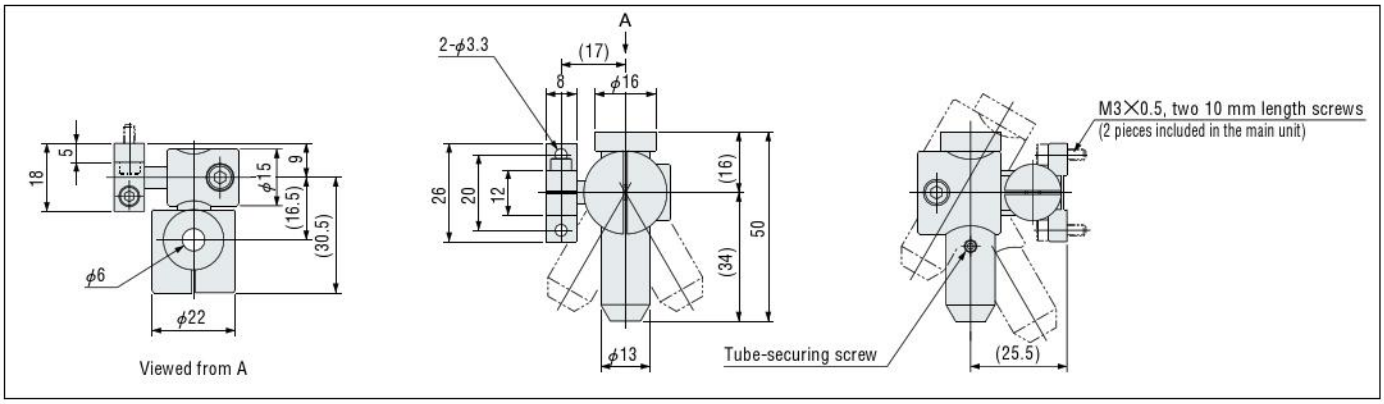
Note: The **DTRY-ADN-F** cannot be used for the earlier standard nozzles **DTRY-NZR01S** and **DTRY-NZL01S**.

●Silicone tube **DTRY-ADN-S**



Note: The **DTRY-ADN-S** cannot be used for the earlier standard nozzles **DTRY-NZR01S** and **DTRY-NZL01S**.

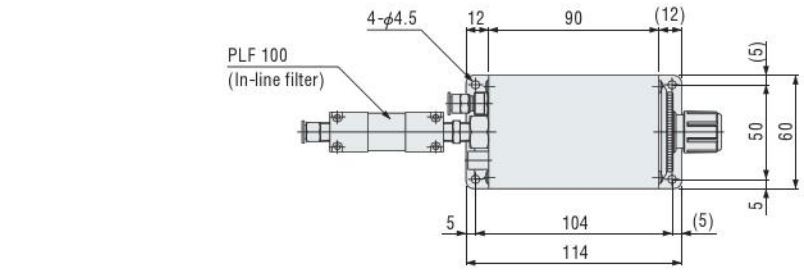
■Conductive urethane tube holder **DTRY-NZR31**

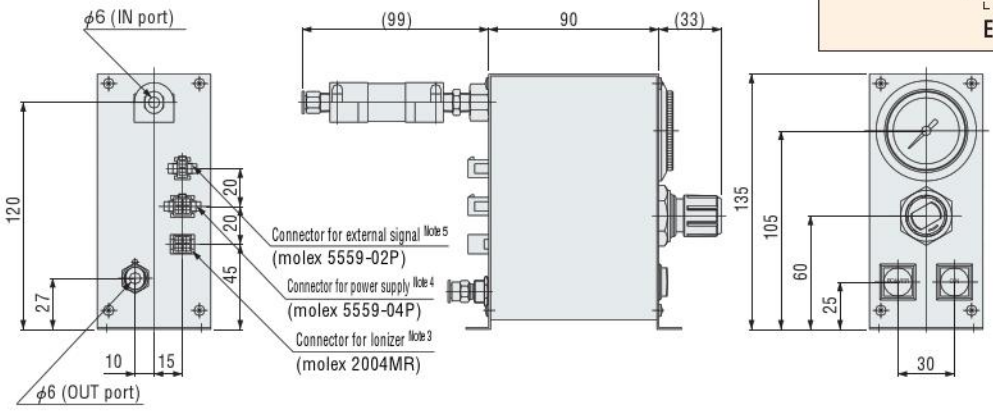


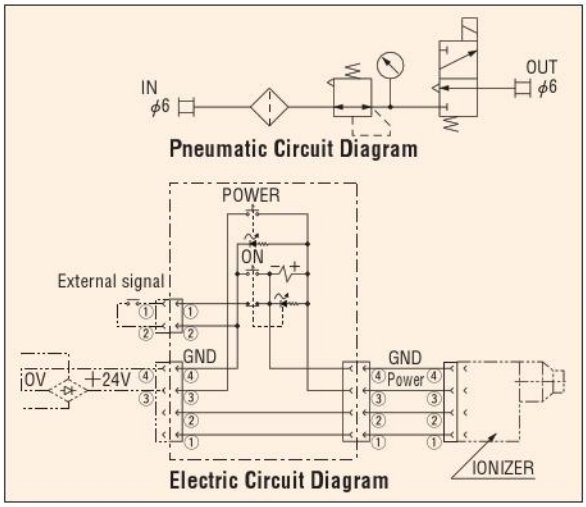
Note: The tube holder is the dedicated model for the conductive urethane tube **DTRY-ADN-U**. It cannot be used with the Teflon tube **DTRY-ADN-F** and the silicone tube **DTRY-ADN-S**.

CONTROLLER (For Blow Type and Compact Blow Type)

●**DTRY-ELC11**







Notes:

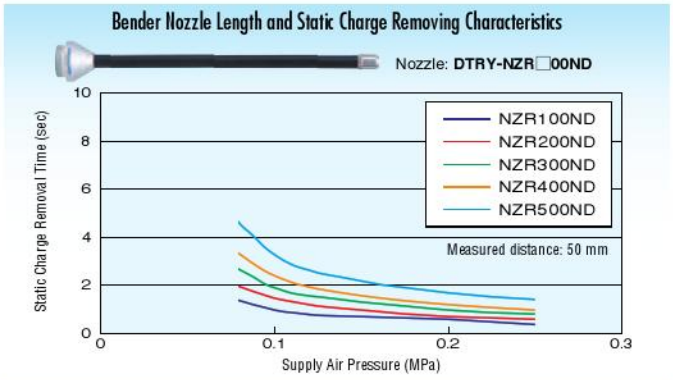
1. The Controller is for the Blow Type Ionizer.
2. Provide 24 VDC power with 410 mA or larger. For an AC adapter, use the **DTRY-ELC04**.
3. The cable used to connect the controller and the Ionizer is included in the product.
4. For a power supply cable, use the power and signal cable in the Ionizer accessories.
5. Separately purchase a cable for external signals.
6. Ground the controller power supply and the Ionizer separately.

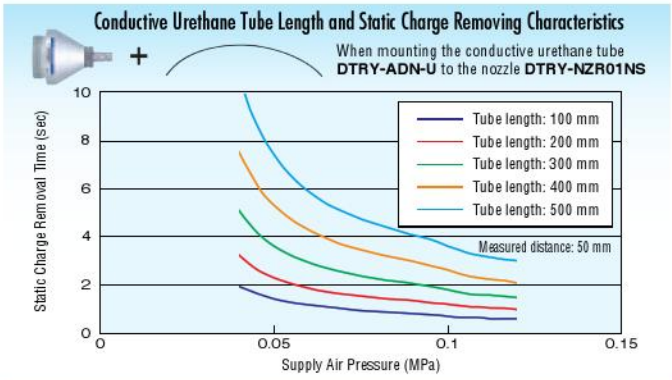
Graphs of Static charge Removing Characteristics (Blow Type)

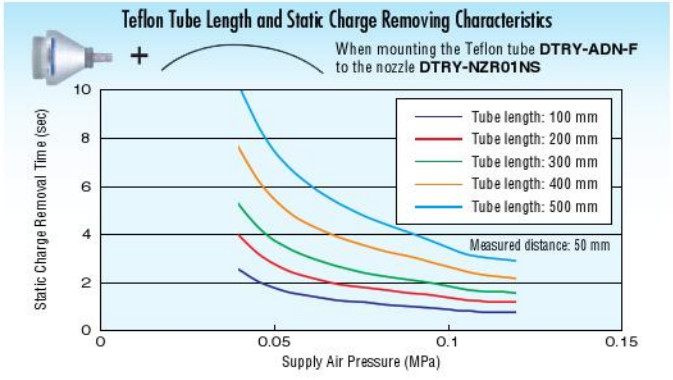
The following graphs show static charge removing characteristics obtained when using the blow type Ionizer, DTRY-ELB01 (1-head type) with typical nozzles. Using the proper item to the proper place enables static charge removal with superior ion balance.

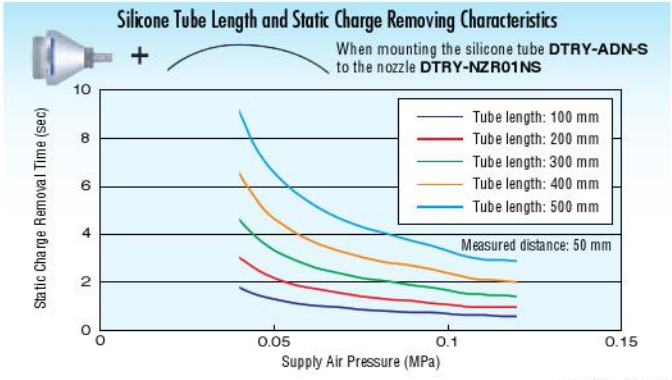
Notes 1: The static charge removing characteristics are measured by in-house test standard using the charged plate monitor of 20 pF, □150 mm.
2: The static charge removal time means decaying time from ±1000 V to ±100 V.

※ For the graph of static charge removing characteristics obtained when using the standard nozzle **DTRY-NZR01NS**, see page ⑩.





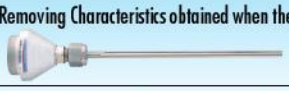




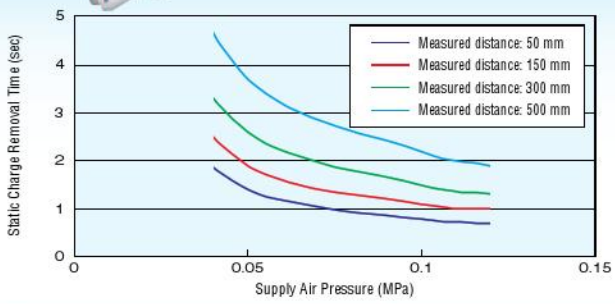
1 MPa = 145psi.

Graphs of Static charge Removing Characteristics

Static Charge Removing Characteristics obtained when the Nozzle with Stainless Steel Pipe is used

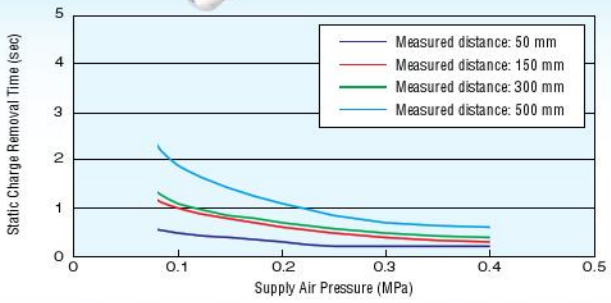


Nozzle : **DTRY-NZR02S**



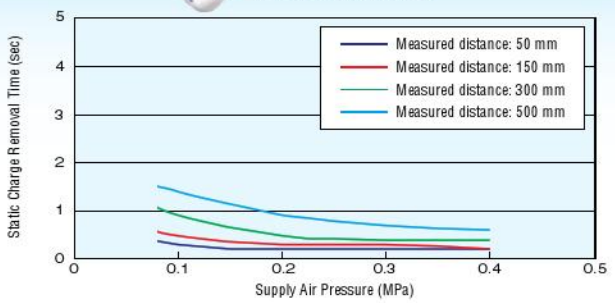
Static Charge Removing Characteristics obtained when Shower Nozzle (60° type) is used

Nozzle : **DTRY-NZR20SW**



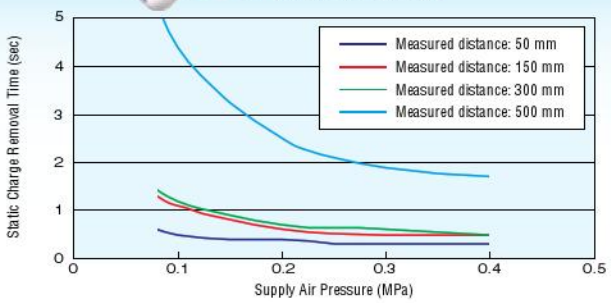
Static Charge Removing Characteristics obtained when Shower Nozzle (90° type) is used

Nozzle : **DTRY-NZR21SW**



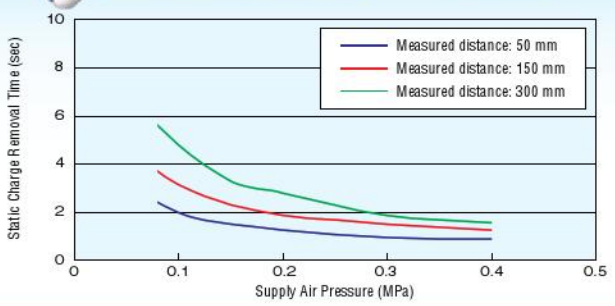
Static Charge Removing Characteristics obtained when the Flat Nozzle is used

Nozzle : **DTRY-NZR01FT**



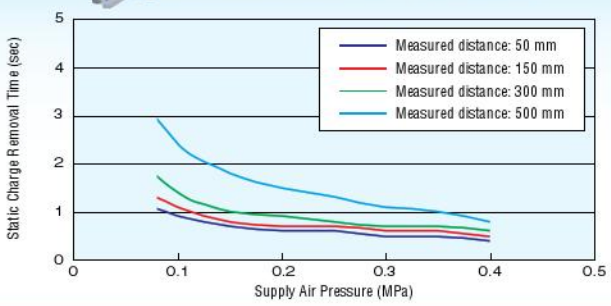
Static Charge Removing Characteristics obtained when the Spiral Bar Nozzle is used

Nozzle : **DTRY-NZR200SP**



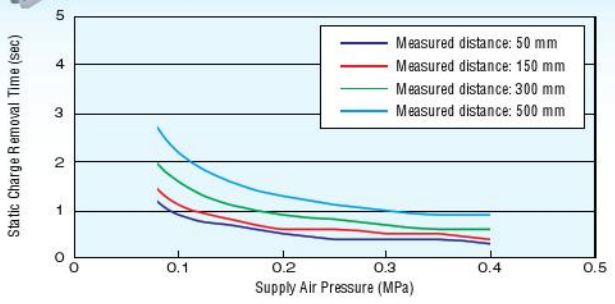
Static Charge Removing Characteristics obtained when the Straight Bar Nozzle (100 mm) is used

Nozzle : **DTRY-NZR100B**



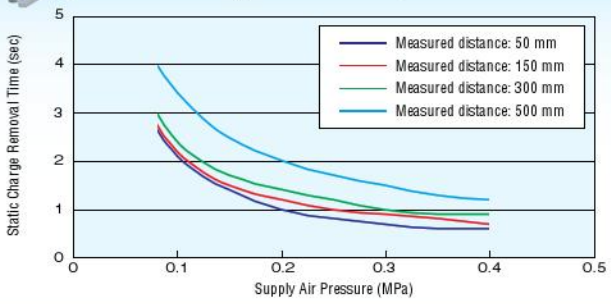
Static Charge Removimg Characteristics obtained when the Straight Bar Nozzle (200 mm) is used

Nozzle : **DTRY-NZR200B**



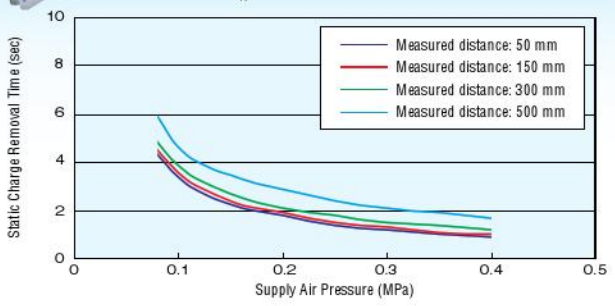
Static Charge Removing Characteristics obtained when the Straight Bar Nozzle (300 mm) is used

Nozzle : **DTRY-NZR300B**



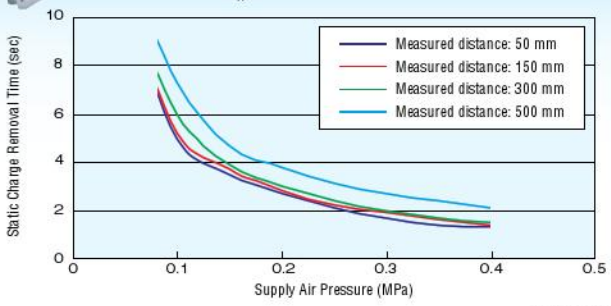
Static Charge Removing Characteristics obtained when the Straight Bar Nozzle (400 mm) is used

Nozzle : **DTRY-NZR400B**



Static Charge Removing Characteristics obtained when the Straight Bar Nozzle (500 mm) is used

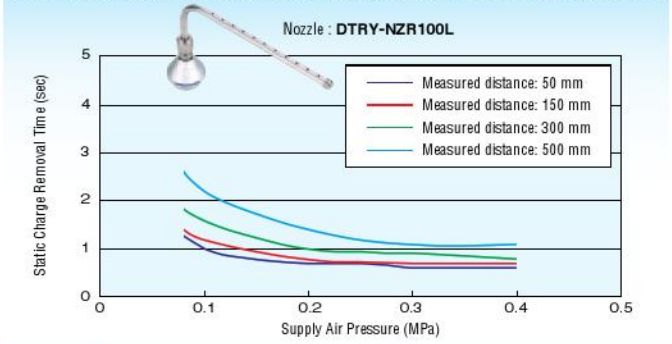
Nozzle : **DTRY-NZR500B**



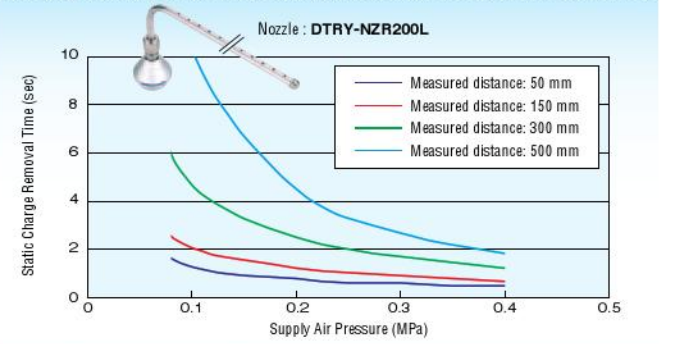
1 MPa = 145psi.

Graphs of Static charge Removing Characteristics

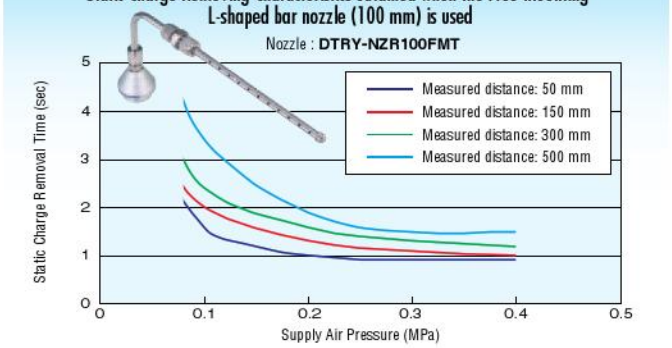
Static Charge Removing Characteristics obtained when the L-shaped Bar Nozzle (100 mm) is used



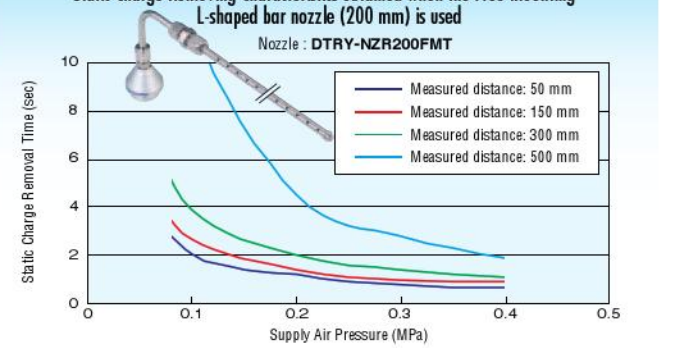
Static Charge Removing Characteristics obtained when the L-shaped Bar Nozzle (200 mm) is used



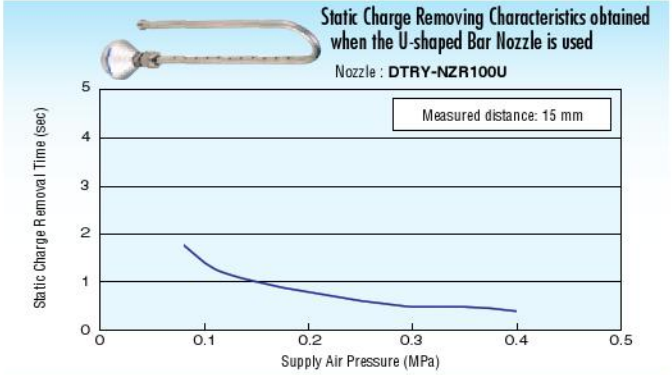
Static Charge Removing Characteristics obtained when the Free-mounting L-shaped bar nozzle (100 mm) is used



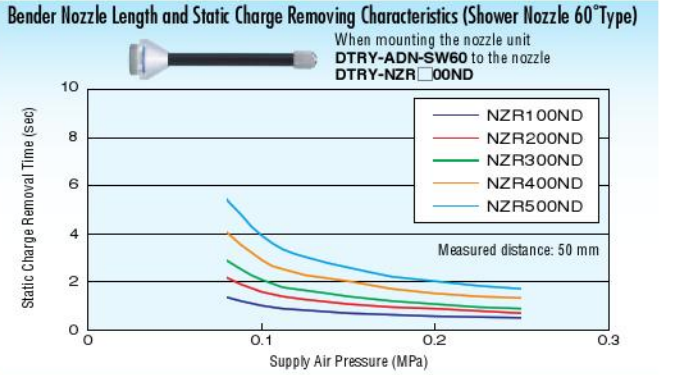
Static Charge Removing Characteristics obtained when the Free-mounting L-shaped bar nozzle (200 mm) is used



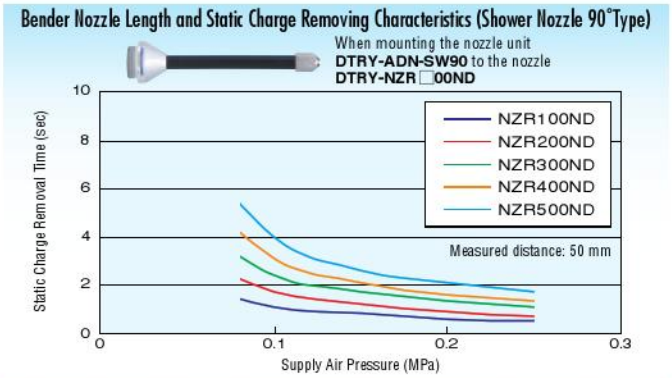
Static Charge Removing Characteristics obtained when the U-shaped Bar Nozzle is used



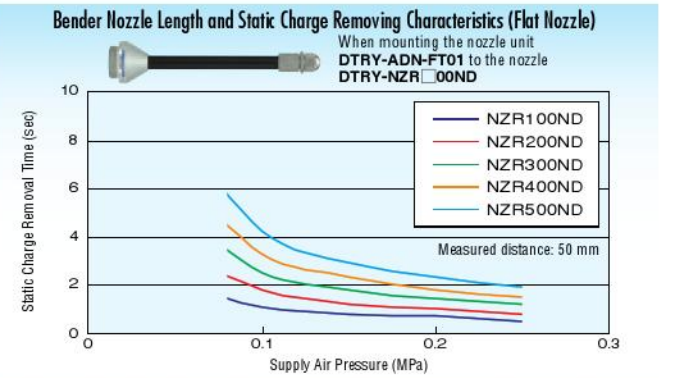
Bender Nozzle Length and Static Charge Removing Characteristics (Shower Nozzle 60°Type)



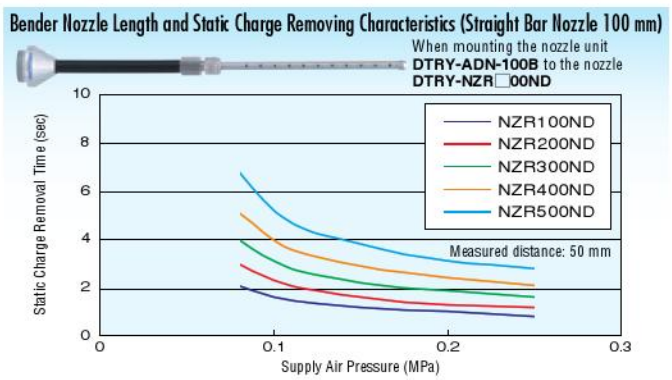
Bender Nozzle Length and Static Charge Removing Characteristics (Shower Nozzle 90°Type)



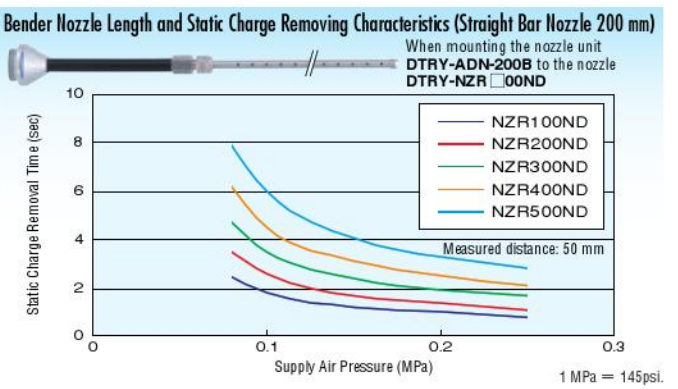
Bender Nozzle Length and Static Charge Removing Characteristics (Flat Nozzle)



Bender Nozzle Length and Static Charge Removing Characteristics (Straight Bar Nozzle 100 mm)



Bender Nozzle Length and Static Charge Removing Characteristics (Straight Bar Nozzle 200 mm)



1 MPa = 145psi.

Note: The static charge removing characteristics are measured by in-house test standard.