### **Applications**



Pillow Packing (joint nozzle + shower tube)



Enclosed



Robots for molded parts









2-M4 25 21

Air	Consum	ption (	(w/	standard	nozzle)
	Consum		(**/	oturiaura	1102210)

Input Pressure (MPa)	0.1	0.2	0.3	0.4	0.5	0.6
Air Consumption (L/min)	86	150	210	260	315	375

### **Options**

Flared Nozzle	N-2FN EDP No. 806086
Tube-fitting Nozzle	N-2TN EDP No. 806085
Silent Nozzle	N-2WN EDP No. 806087
Straight Silent Nozzle	BB-ZSN EDP No. 621708
Electrode Needle Replacement Screwd	river G-7DR EDP No. 806061
Shower Tube	N-2C6B EDP No. 621706
•Replacement parts : Electrode N	leedle GN-H EDP No. 806124





### **Specifications**

Input power	24VDC $\pm$ 5% ripple (p-p) 10% max			
Current consumption	90mA max.			
Discharge Voltage	AC5.6kVp-p			
Ionizing method	AC Corona discharge method (37kHz)			
Ion balance	$\pm 10V$ or less (at the time of factory shipment)			
Decay time	0.7 sec or less ( $\pm 1000V \rightarrow \pm 100V$ ) (at the time of factory shipment)			
Safety functions	Stops in case that high voltage error occurs (short-circuit) Current fuse 0.5A/600V			
Operating air pressure	0.1MPa~0.6MPa			
Air Consumption	210L/min (0.3MPa)			
Air Inlet Joint	$\phi$ 6mm one-touch joint			
Operation Display	Operation: Green LED Abnormal stop: Red LED			
Connectors	6-pole type OMRON XW4A-06B1-H1			
Ozone production rate	0.05 ppm or less			
Operating environment temperature and humidity	5~40°C 35~65%			
Storage environment temperature and humidity	0~60°C 35~85%			
CE	EC directive (EMC) compliant			
Installation	Indoor only			
Material	Body/Nozzle: Fire-retardant ABS resin Needle electrode: Tungsten			
Dimensions	L95×W50×H47mm			
Weight 104g				

For safety purposes, read the instruction manual carefully before using the unit.
Do not use this product in an explosion-proof area.
A high voltage is applied on this product. Make sure that water, oil, solvents, etc., do not come in contact.
Avoid dew condensation as it can result in electric shock or product damage.
Keep away metal objects such as tools or needles, or body parts such as fingers, hands or face from the needle electrode because a high voltage is applied on the needle electrode.

# VESSEL CO., INC 17-25, Fukae-kita 2-chome, higashinari-ku, Osaka 537-0001 JAPAN

Tel: +81(0)6 6976 7778 Fax: +81(0)6 6972 9441

## **VESSEL EUROPE**

6, avenue du 1er Mai, ZAE Les Glaises, 91120 Palaiseau FRANCE Tel: +33(0)1 69 19 17 42 Fax: +33(0)1 69 19 42 20 E-mail : export@vessel.co.jp URL : http://www.vessel.co.jp/english/ Printed in Japan

For improvements, the product specifications, size, price and other information may be subject to change without prior notice.

Distributed by



# **Stable Ionizing Performance**

Solution especially for narrow installation space in robotic arms or packaging equipment!

## **NOZZLE TYPE**

### **Compact & Lightweight Air Nozzle Type**

- Incorporated compactly the high-voltage power into the body case.
- · Static electricity and dust are removed with powerful compressed air.
- N2 (nitrogen gas) can be used instead of clean air.
- The N-3 unit has screw holes for mounting, allowing easy installation onto workpieces, etc.

## **STABILITY**

NFV

### **AC Corona Discharge Method**

 This method makes less frequent ion balance disruption caused by needle contamination. • The high-voltage wired transformer ensures ample ionizing by stable current supply to the discharge needles.

#### • Easy to clean electrode needle

• Remove the nozzle cap and clean the electrode needle with a cotton stick.



# **SAFETY**

NEV

Safe Design

The N-3 automatically stops when an high-voltage error occurs.

- Lamp indicators clearly show the operation state.
- The top cover lights up in green during operation.
- If operation stops because of a high-voltage error, the body lights up in red so the operation state can be visually checked.
- · RoHS/CE compliant product.



## INPUT / OUTPUT

### **Connector Terminal**

Enable to connect multiple units of N-3 from the connector with a single power supply.

- · Up to 11 units can be connected
- High-voltage alarm output function · A signal is output to indicate that the operation has stopped due to a high-voltage error (open collector).



# FLEXIBILITY

### **Nozzle variations**

- Latest designed nozzles to widen the applications
- · In addition to the enclosed standard nozzle, options such as Flare Nozzle and Tube-fitting Nozzle are available Select a nozzle that matches your application.

### Performance

- Measurement conditions
- 3. The noise is measured 1m from the front of the blowoff port.
- The values may change depending on the environmental conditions

### Standard Nozzle

Air pressure (MPa)		0.1	0.2	0.3	0.4	
Air flow(L/min)		70	120	170	220	
Decay	+1000V→+100V (sec.)	1.1	0.7	0.5	0.5	
time	-1000V→-100V (sec.)	1.0	0.6	0.5	0.5	
lon balance (V)		-6	3	2	1	
Noise level (dBA)		80.8	87.3	99.4	104.1	

### ■ Flared Nozzle

Air pressure (MPa)		0.1	0.2	0.3	0.4	
Air flow(L/min)		70	120	170	220	
Decay	+1000V→+100V (sec.)	1.4	0.7	0.5	0.4	
time	-1000V→-100V (sec.)	1.3	0.7	0.5	0.4	
lon balance (V)		-2	2	1	3	
Noise level (dBA)		81.3	91.5	95.2	98.3	

## Tube-fitting nozzle + Tube 300mm

Air pressure (MPa)		0.1	0.2	0.3	0.4
Air flow(L/min)		53	90	131	172
Decay	+1000V→+100V (sec.)	3.3	1.8	1.4	1.3
time	-1000V→-100V (sec.)	3.4	1.8	1.4	1.4
lon balance (V)		5	4	-1	-6
Noise level (dBA)		76.2	81.2	86.4	90.1

### Standard Nozzle (using nitrogen gas)

Air pressure (MPa)		0.1	0.2	0.3	0.4
Air flow(L/min)		56	96	140	176
Decay	+1000V→+100V (sec.)	2.6	3.0	2.9	2.9
time	-1000V→-100V (sec.)	2.3	2.7	2.7	2.4
Ion balance (V)		-3	-8	3	-2
Noise level (dBA)		-	-	-	-



1. The decay time and ion balance are measured 150mm from the front.

2. The decay time and ion balance are the values recorded at least one minute after the discharge starts.

(Note that the measuring instruments sound receiving section is not directly contacted to the blowoff wind.) 4. The following values are taken in a temperature 25 ±2°C and humidity 50 ±5% measuring environment.













0.5	0.6
218	266
2.6	2.5
2.2	2.0
-1	4
-	-

%The above values are typical values measured with a sample unit, and do not guarantee the product performance.