



Electromagnetic atomizing nozzle Automatic nozzle

Food spray . Sheet material humidity . Tablet coating, Viscous liquid spray.
Lubrication . Mold discharging agent spray on Steel strip

Dongguan Changyuan Spraying Technology Co., Ltd

Add: Xia bian Industrial Zone, Chang An Town,
Dongguan City, Guangdong Province, P.R.C

Tel: 0769-81558016 Fax: 0769-81558831
E-mail: sales@ecyco.cn Website: ccnozzle.com

Nozzle Type

DCF-S Single Fluid	D4
DCF-L Single Fluid	D5
DCF-M Dual Fluid	D6
Automatic Air Atomizing Nozzle (DJ-DK)	D7

Application Area

D8

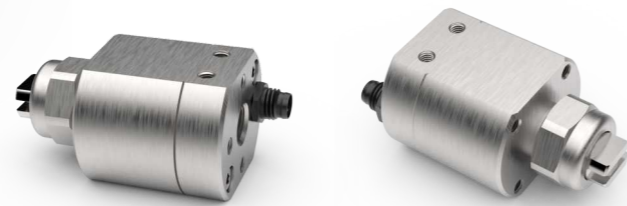
Electromagnetic anti-drip Easy and fast installation

As one of the pioneer in advanced manufacturing industry, Changyuan Spray has continuously improved our spray nozzles' functions and performance in application field of automatic spray robots expanding day by day, replacing manual labor in industrial production, or dangerous work in harsh environments.

Nowadays, the combination of automatic spray technology and industrial robots has also been more and more widely used. Robotic arms, vision systems and precise spray technology greatly improve operational efficiency while reducing the consumption and waste of expensive chemicals. Especially on complex coating and drying operations, our spray nozzle have unmatched versatility, efficiency and operational flexibility.



Spray nozzle Type		
		
Flat fan nozzle	Full cone nozzle	Hollow cone nozzle



- Voltage: DC24V
- Electric Current: 0.3A
- Maximum Pressure: 100PSI
- Inlet Port: 1/8
- Maximum Temperature Resistance: 60°C
- Cycle Times: 6000 times/min
- Shell Active Core: 430F Stainless Steel
- Spring: 304SS
- Rubber Ring: EPDM and Fluorinated rubber;
- Coil: nylon lagging;
- Plastic parts: Teflon
- Wire: PUR mater

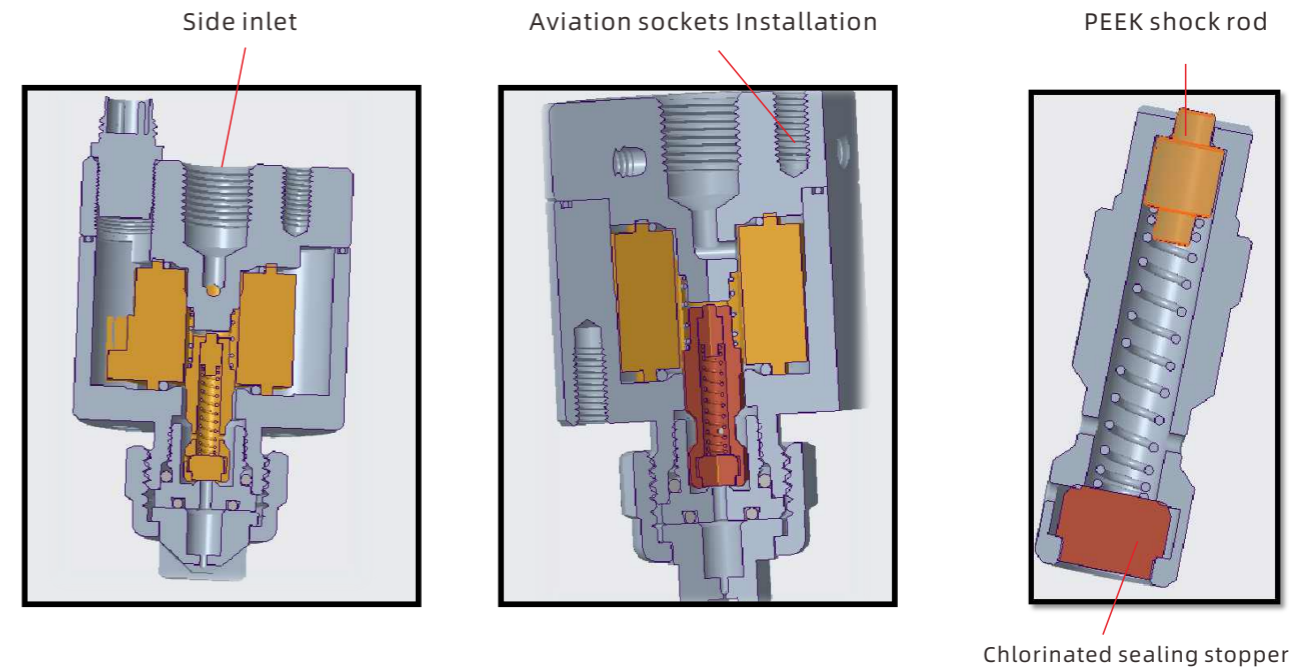
Fluid Connections

Fluid connections should use appropriate 1/8 pipe connections, and an appropriate thread sealant should be applied to the threads before assembling if metal fittings are used. For those applications requiring recirculation, two 1/8 pipe connection ports are provided. If recirculation is not required, the 1/8" pipe plug provided with each unit should be used to plug one of the doors.

Electrical Connections

Electrical plumbing connections for plumbing fittings accept NPT versions of 1/2" NPT (M). The conduit must protect the cable from mechanical damage and terminate in a seal or by a junction box in the hazardous location. For BSPT versions, EX-d rated cable glands are used on cables. The fuse holder and 3/10 amp fuse should be used as shown in Fiquire 1. The ground of CY-DP-03-A must be connected to a real ground.

Theory



Theory

- When the coil is energized, a magnetic field is formed, and the electromagnetic coil generates electromagnetic force to lift the movable core up, then the sealing plug is opened, and the liquid flows out from the sealing seat; when it is powered off, the electromagnetic force disappears, the spring behind the movable core presses the movable core on the sealing seat, then the liquid channel is closed.

Remark

- The electromagnetic part of the AA(B)10000 DP-03-A pulse jet nozzle was assembled, tested, and sealed in the factory for safety, proper operation. This part should not be disassembled for cleaning or maintenance.
- Solenoid coils are sealed in factory and do not require additional plumbing seals.
- By removing the nozzle top and unscrewing the valve seat, the valve section of the AA(B) 10000 DP-03-A Pulse Jet Nozzle have the cleaning and maintain effect.
- When using fuse protection in hazardous environments, a connecting fuse must be used.

Citation

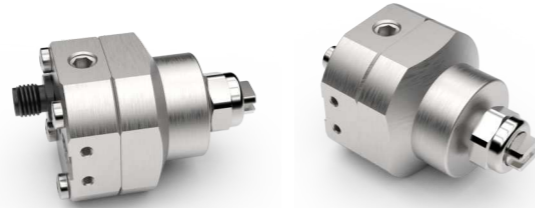
The DCF-S Pulse Jet Nozzle is a high-speed, electromagnetically atomizing nozzle .When properly installed, operated and maintained, it can use in Zone 1 rated hazardous areas. Wet parts are composed of stainless steel, PPS, PEEK and FFKM for superior temperature and chemical resistance.

Ordering Guide

Contact for inquiry :: +86 18924358696



Spray nozzle Type		
		
Flat fan nozzle	Full cone nozzle	Hollow cone nozzle



- Voltage: DC24V
- Electric Current: 0.3A
- Maximum Pressure: 100PSI
- Inlet Port: 1/8
- Maximum Temperature Resistance: 60°C
- Cycle Times: 6000 times/min
- Shell Active Core: 430F Stainless Steel
- Spring: 304SS
- Rubber Ring: EPDM and Fluorinated rubber;
- Coil: nylon lagging;
- Plastic parts: Teflon
- Wire: PUR mater

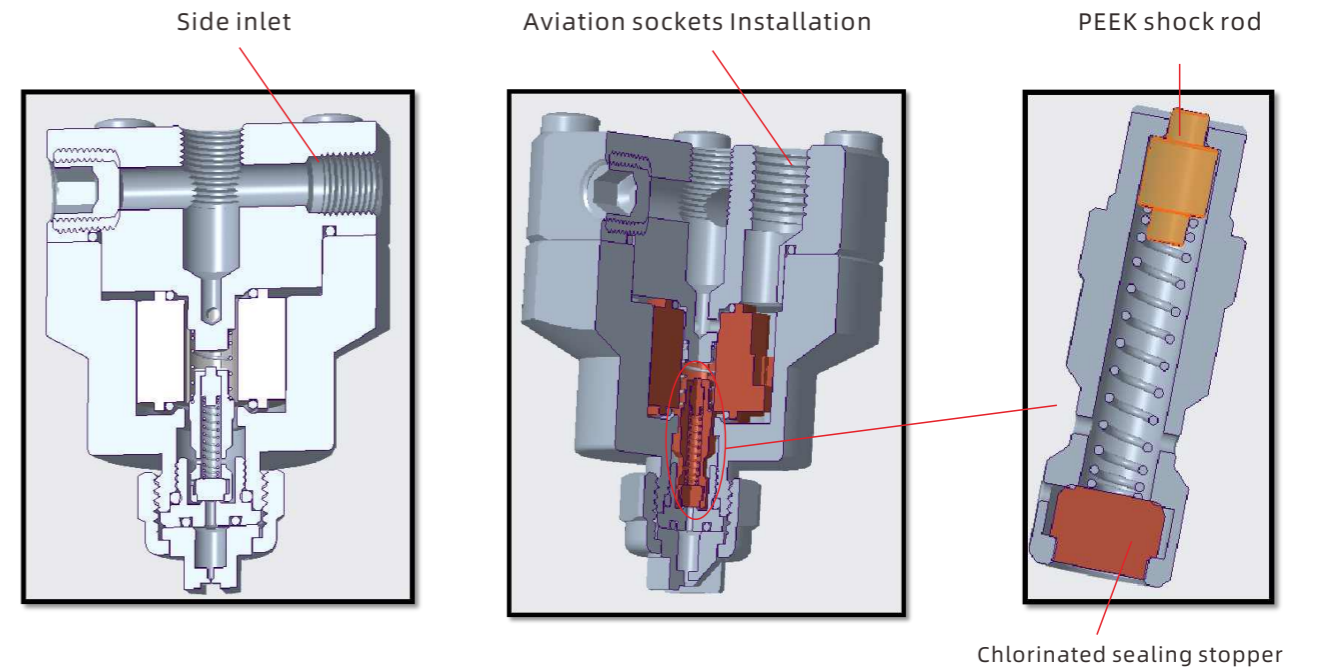
Fluid Connections

Fluid connections should use appropriate 1/8 pipe connections, and an appropriate thread sealant should be applied to the threads before assembling if metal fittings are used. For those applications requiring recirculation, two 1/8 pipe connection ports are provided. If recirculation is not required, the 1/8" pipe plug provided with each unit should be used to plug one of the doors.

Electrical Connections

Electrical plumbing connections for plumbing fittings accept NPT versions of 1/2" NPT (M). The conduit must protect the cable from mechanical damage and terminate in a seal or by a junction box in the hazardous location. For BSPT versions, EX-d rated cable glands are used on cables. The fuse holder and 3/10 amp fuse should be used as shown in Fiquire 1. The ground of CY-DP-03-A must be connected to a real ground.

Theory



Theory

When the coil is energized, a magnetic field is formed, and the electromagnetic coil generates electromagnetic force to lift the movable core up, then the sealing plug is opened, and the liquid flows out from the sealing seat; when it is powered off, the electromagnetic force disappears, the spring behind the movable core presses the movable core on the sealing seat, then the liquid channel is closed.

Remark

- The electromagnetic part of the AA(B)10000 DP-03-A pulse jet nozzle was assembled, tested, and sealed in the factory for safety, proper operation. This part should not be disassembled for cleaning or maintenance.
- Solenoid coils are sealed in factory and do not require additional plumbing seals.
- By removing the nozzle top and unscrewing the valve seat, the valve section of the AA(B) 10000 DP-03-A Pulse Jet Nozzle have the cleaning and maintain effect.
- When using fuse protection in hazardous environments, a connecting fuse must be used.

Citation

The DCF-L Pulse Jet Nozzle is a high-speed, electromagnetically atomizing nozzle. When properly installed, operated and maintained, it can use in Zone 1 rated hazardous areas. Wet parts are composed of stainless steel, PPS, PEEK and FFKM for superior temperature and chemical resistance.

Ordering Guide

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Spray nozzle Type			
Flat fan pressure atomization	Circular atomization	Wide angle atomization	Flat fan Siphon atomization

- Voltage: DC24V
- Electric Current: 0.75A
- Maximum Pressure: 100PSI, Water Pressure 60PSI
- Inlet Port: 1/8
- Maximum Temperature Resistance: 60°C
- Cycle Times: 6000 times/min

- Shell Active Core: 430F Stainless Steel
- Spring: 304SS
- Rubber Ring: EPDM and Fluorinated rubber;
- Coil: nylon lagging;
- Plastic parts: Teflon
- Wire: PUR mater

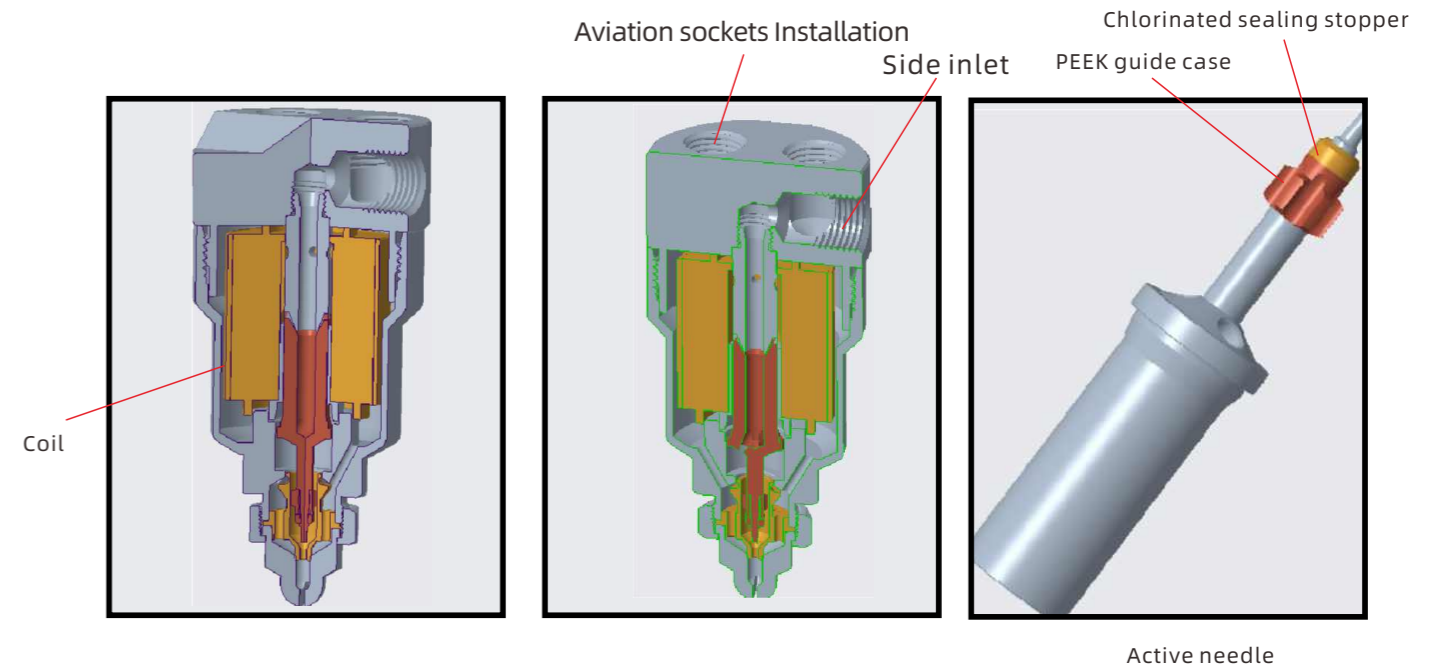
Fluid Connections

Fluid connections should use appropriate 1/4 pipe connections, and an appropriate thread sealant should be applied to the threads before assembling if metal fittings are used. For those applications requiring recirculation, two 1/4 pipe connection ports are provided. If recirculation is not required, the 1/4" pipe plug provided with each unit should be used to plug one of the doors.

Electrical Connections

Electrical plumbing connections for plumbing fittings accept NPT versions of 1/2" NPT (M). The conduit must protect the cable from mechanical damage and terminate in a seal or by a junction box in the hazardous location. For BSPT versions, EX-d rated cable glands are used on cables. The fuse holder and 3/10 amp fuse should be used as shown in Fiquire 1. The ground of CY-DP-03-A must be connected to a real ground.

Theory



Theory

When the coil is energized, a magnetic field is formed, and the electromagnetic coil generates electromagnetic force to lift the movable core up, then the sealing plug is opened, and the liquid flows out from the sealing seat; when it is powered off, the electromagnetic force disappears, the spring behind the movable core presses the movable core on the sealing seat, then the liquid channel is closed.

Remark

- The electromagnetic part of the AA(B)10000 DP-03-A pulse jet nozzle was assembled, tested, and sealed in the factory for safety, proper operation. This part should not be disassembled for cleaning or maintenance.
- Solenoid coils are sealed in factory and do not require additional plumbing seals.
- By removing the nozzle top and unscrewing the valve seat, the valve section of the AA(B) 10000 DP-03-A Pulse Jet Nozzle have the cleaning and maintain effect.
- When using fuse protection in hazardous environments, a connecting fuse must be used.

Citation

The DCF-M Pulse Jet Nozzle is a high-speed, electromagnetically atomizing nozzle .When properly installed, operated and maintained, it can use in Zone 1 rated hazardous areas. Wet parts are composed of stainless steel, PPS, PEEK and FFKM for superior temperature and chemical resistance.

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Spray nozzle Type

Flat fan pressure atomization	Circular atomization	Wide angle atomization	Flat fan Siphon atomization

Spray nozzle Type			
Flat fan pressure atomization	Circular atomization	Wide angle atomization	Flat fan Siphon atomization

Compact Type

1/8 DJ spray nozzle is a compact, automatic atomizing nozzle, with a pipeline for single gas, it's designed to be used in small area. The size of screw thread air and liquid inlet is 1/8 inch NPT or BSPT(inner).

Design Features

DJ automatic air atomizing nozzle has an inner gas driver to control " on/off" , and can circulate 180 times per minute. When " on/off" runs, only the liquid of the sprayer will be shut off. The liquid flow can be carried to the nozzle body by siphon, gravity or pressure.

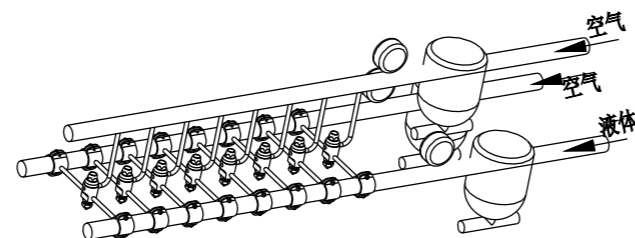
All the parts of spray nozzle are made accurately at strict quality control standard, to insure running smoothly and long service lifetime. The nozzle can be made of nickel-plating brass or stainless steel. Each nozzle has a stainless steel needle valve, a stainless steel flow cap and a stainless steel spring.

Single gas pipeline type

With a single gas pipeline, 1/4 DJ nozzle can be used in atomizing and driving gas. It controls the pressure to drive the atomizing gas and liquid during " on/off" period. This type of nozzle requires 2 bar gas pressure at least, and could circulate 180 times per minute.

Standard type

1/4 DJ nozzle has air and liquid screw thread with the inlet size of 1/4 inch NPT or BSPT(female), and screw thread gas driver inlet size of 1/8 inch NPT or BSPT(female). This type of nozzle is used with small-flow liquid cap.



Design features

Automatic fine atomizing nozzle could independently control liquid atomizing gas pressure and fan gas pressure to adjust flow rate, droplet size, spraying distribution and coverage area accurately. Resulting from the scientific and rational design, the nozzle can spray viscous liquid ideally. Also, the single gas atomizing pipeline can be adjusted to alter the droplet size without altering the flow rate. With an additional entrance/exit passage, the viscous liquid circles to keep itself flowing. Install the nozzle cleaning needle valve device inside of drive to prevent nozzle clogging.

Any of these seven different spray device is available, the flow rate is between 2.8L/H and 179L/H. The flow rate of atomizing gas, fan gas and liquid can be adjusted and readjusted within several seconds. So the nozzle can be adjusted to adapt various of spray application. The " on-off" of timing controller can run automatically at the rate of 180 cycles per minute. The cylinder works only when the air pressure reaches 2.4 bar at least.

Spray device modele

Spray device model	Fluid volume		Data Number
	0.21 (bar)	1.4 (bar)	
SX-CC001A	2. 8	7. 3	924M-001A
SX-CC002C	4. 2	11. 1	924M-002C
SX-CC004	8. 1	21	924M-004
SX-CC004B	13. 6	35	924M-004B
SX-CC005	18. 4	48	924M-005
SX-CC006	38	99	924M-006
SX-CC006D	69	179	924M-006D

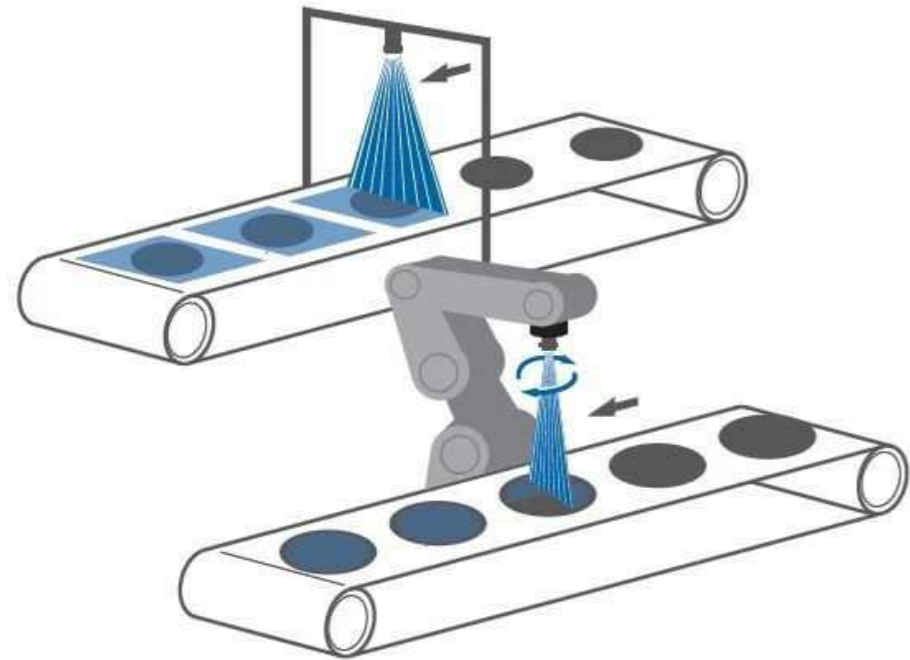
Common Application

- Coating
- Moistening
- Viscous liquid spraying
- Circulation system

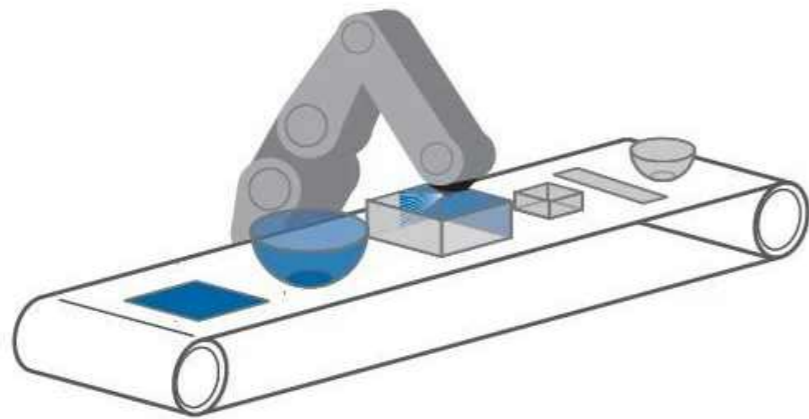
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1/8K Spray Nozzle	Atomizing air pressure (bar)	Water Pressure (bar)	Spray are(cm) under fan air pressure when the distance to the nozzle is designated															
			0(bar)			0.3(bar)			0.7(bar)			1.5(bar)			3(bar)			
			0.2	0.7	1.5	0.2	0.7	1.5	0.2	0.7	1.5	0.2	0.7	1.5	0.2	0.7	1.5	
Spray device model: SX-CC006 Made up of VFI06-Brass liquid cap and VAI25-Brass air cap	0.7	0.2	7.6	10.2	12.7	11.4	15.2	20	17.8	25	33	30	41	51				
		0.7											28	38	56	53	66	84
		1.5														43	56	76
	1.5	0.2	7.6	10.2	12.7	7.6	10.2	15.2	12.7	17.8	23	30	41	36	46	66		
		0.7				7.6	12.7	15.2	12.7	17.8	25	20	30	41	36	48	66	
		1.5														33	48	64
	2	0.2	7.6	10.2	12.7	8.9	11.4	16.5	10.2	15.2	20	15.2	20	28	30	36	53	
		0.7	6.4	8.9	12.7	7.6	10.2	14.0	10.2	15.2	22	17.8	23	38	30	41	56	
		1.5														28	38	53
	3	0.2	7.6	10.2	14.0	7.6	11.4	15.2	8.9	12.7	17.8	15.2	20	28	25	30	43	
		0.7	6.4	8.9	12.7	8.9	11.4	15.2	10.2	12.7	17.8	15.2	20	27	28	36	51	
		1.5	6.4	8.9	12.7	7.6	10.2	16.5	7.6	12.7	20	15.2	20	28	23	33	43	



■ The picture above shows spraying using a nozzle mounted on the header. The image below shows how a machine spray technique can be used to eliminate subtle waste by moving the nozzle according to the shape of the target.



■ Using robotic spraying technology, objects of different sizes and shapes can be accurately spraying, even if they are put on a conveyor belt.



Humidify the pressed steel strip on surface & back side.
When pressing artificial board, humidity the surface/back side to increase the board humidity, it can improve the production speed and quality.



Strip release agent----when produce the artificial board, we can spraying the release agent on the strip continuously, then it can be reduce the adhesion of strip impurities and improve production efficiency.

Use of Warnings and Safety Measures

1. Only relevant technicians can be install, maintain and operate pulse jet nozzles .
2. The equipment owner have responsibility to ensure the user for operate pulsed jet nozzle can be finished their tasks safely. The trained installation should be conform to the relevant requirements of the National Electrical Code(ANSU/NEPA 70).
3. European installations shall comply with the relevant requirements of EN60079-14. Ensure that the voltage is turned off before installing or maintaining the pulse nozzles.
4. Do not disconnect live circuits when using flammable materials. Instead, enough ventilation should be provided to prevent the concentration of volatile steam in the spray area.
5. Voltage shall not be supplied to other when using, unless it's in the fully assembled state.
6. It will be caused unsatisfactory spray application, nozzle damage, equipment damage or personal injury if not follow above specifications.
7. There is no any responsibility for the spraying company if consumer do not use the equipment which we suggest or not authority by us.
8. Special conditions of use: the exposed metal of the nozzle is connected with suitable grounding equipment and can be reduce electrostatic accumulation.