

Nozzle Joints / Two-Fluid Nozzles

Spray Nozzles

Nozzle Joint

Type	Material	Max. Operating Pressure
Male, Female Ends NJMS	EN 1.4305 Equiv.	1.0MPa
Female, Female Ends NJFS	EN 1.4305 Equiv.	1.0MPa
NJMP	PP Resin	

Features
Swivel joints suitable for blows to anywhere. By loosening a cap and then, tightening the joint by moving the ball, the joint can be fixed at an arbitrary position. Angle adjustable range is 50°.

Male, Female Ends NJMS

Female, Female Ends NJFS

NJMP

Example
For NJMP, products can be used in connected stacks.

Material: EN 1.4301 Equiv.

Part Number Type	No.	R/Rc (PT)		(L)	d	Wrench Flats H	Weight (g)	Unit Price 1-4 pc(s).	Volume Discount Rate 5-10
		T1	T2						
Male, Female Ends NJMS	1-1	1/8	1/8	32	5.5	22	80		
	1-2	1/8	1/4	36	8	22	90		
	2-2	1/4	1/4	41	8	29	170		
	2-3	1/4	3/8	43	11	29	190		
3-3	3/8	3/8	49	11	35	290			

Part Number Type	No.	Rc (PT)		(L)	Wrench Flats H	Weight (g)	Unit Price 1-4 pc(s).	Volume Discount Rate 5-10
		T1	T2					
Female, Female Ends NJFS	1-1	1/8	1/8	24	22	65		
	1-2	1/8	1/4	24	22	65		
	2-2	1/4	1/4	30	29	140		
	2-3	1/4	3/8	30	29	140		
3-3	3/8	3/8	35	35	240			

Part Number Type	No.	R/Rc (PT)	L	Unit Price 1-4 pc(s).	Volume Discount Rate 5-9	10-19	20-30
Male, Female Ends NJMP	1-1	1/8 1/8	34.5				
	1-2	1/8 1/4					
	2-2	1/4 1/4					

For orders larger than indicated quantity, please check with WOS.

Two-Fluid Nozzle

WANR

Features
Able to spray fine mists by mixing fluid and air at the same time. (Produces finer particles than the Spray Nozzles on P.1476 ~ 1477.)
Compact, lightweight and useable in small space.
Fluid or air flow rate becomes adjustable by adjusting pressure.
Particle diameter gets finer as air percentage (air-water volume ratio) gets higher.

Applications
Humidification, cooling, spray of chemical solution, etc.

Material: EN 1.4305 Equiv.

Part Number Type	Fluid Min. Passage Dia. (mm)	Weight (g)	Unit Price 1-4 pc(s).	Volume Discount Rate 5-10
WANR 0.5	0.5	35		

Air Pressure (MPa)	Water Qty. (m ² /min) / Air Qty. (l/min (ANR)) at Water Pressure below (MPa)								Spray Width (mm) at Water Pressure (MPa) below (Spray Distance 500mm)		
	0.2		0.3		0.4		0.5		0.2	0.3	0.4
	Water Qty.	Air Qty.	Water Qty.	Air Qty.	Water Qty.	Air Qty.	Water Qty.	Air Qty.			
0.1	182	28	228	27	258	26	284	25	800	900	900
0.2	146	47	200	45	248	43	280	41	800	800	900
0.3	102	65	168	63	222	61	259	59	700	800	900
0.4	58	83	127	82	189	80	232	78	600	800	900
0.5	-	-	92	97	158	96	207	95	-	800	900

[-] indicates that the amount of water spray is too little or only air is sprayed. **[+]** Spray Width (mm) is the length shown in the drawing below.

Spray Photo **Spray Width W (mm)**

Principle of Operation
Fluid and air are mixed in the nozzle.

Component Details

Example
Steel Pipe PUT (P.1385)
Tube SGPP (P.1265)
Workpiece

Spray Nozzles

Spray Shape: Fan-shaped

NZRFS

Spray Angle

Arrow View A

*When thread diameter is 1/8 and 1/4, spray angle is 70° and 60° respectively.
Material: EN 1.4301 Equiv.

Part Number Type	No.	d (Hole Dia.)	T	L	L1	L2	H1	H2	B1	B2	Weight (g)	Unit Price 1-4 pc(s).	Volume Discount Rate 5-20
1.6													
2.0													
2	2.5	R1/4	32.0	14.0	10.0	6.0	2.0	14.0	16.0	27.0			
	3.2												
	4.0												

NZRFS Specifications

Size Hole Dia. (mm)	1.0	1.2	1.6	2.0	2.5
Water Pressure (MPa)	0.05	0.1	0.2	0.05	0.1
Water Qty. (l/min)	0.36	0.60	0.86	0.64	0.89
Spray Angle (°)	65	90	110	80	100

Listed values are for reference, not guaranteed. If the current fluid is air, the product does not spray with the values described on the above table.

Spray Shape: Fan-shaped

NZRVS (Wide Angle Type)
NZRVS (Narrow Angle Type)

Spray Angle

Material: EN 1.4301 Equiv.

Part Number Type	No.	d (Hole Dia.)	T	L	L1	L2	H	B1	B2	Weight (g)	Unit Price 1-4 pc(s).	Volume Discount Rate 5-20
2.5												
3.2												
2	3.6	R1/4	20	6	10	6	14	16	20			
	4.0											
	6.4											

NZRVS Specifications

Size Hole Dia. (mm)	2.0	2.5	3.2	3.6	4.0
Water Pressure (MPa)	0.1	0.3	0.5	0.1	0.3
Water Qty. (l/min)	1.12	1.92	2.49	1.38	2.37
Spray Angle (°)	50	65	70	55	60

Listed values are for reference, not guaranteed. If the current fluid is air, the product does not spray with the values described on the above table.

Spray Shape: Annular Shape

NZRT

Spray Angle

Material: Main Body, Strainer (80 Mesh) EN 1.4301 Equiv.

Part Number Type	No.	d (Hole Dia.)	T	Weight (g)	Unit Price 1-4 pc(s).	Volume Discount Rate 5-20
NZRT	2	0.5	R1/4	33.0		
		0.7				
		1.0				

Since particle is very fine as a fluid nozzle, the higher the water pressure is, the higher the efficiency of air saturation becomes.

Applications: Humidification, Small Amount of Fluid Application

NZRT Specifications

Size Hole Dia. (mm)	0.5	0.7	1.0
Water Pressure (MPa)	0.2	0.3	0.4
Water Qty. (l/min)	0.11	0.13	0.15
Spray Angle (°)	60	60	65

Listed values are for reference, not guaranteed.
Does not spray normally at less than 0.2MPa. If the current fluid is air, the product does not spray with the values described on the above table.

Spray Shape: Annular Shape

NZRK

Spray Angle

Material: EN 1.4301 Equiv.

Part Number Type	No.	d (Hole Dia.)	T	Weight (g)	Unit Price 1-4 pc(s).	Volume Discount Rate 5-20
NZRK	2	1.0	R1/4	44.0		
		1.6				
		2.0				
		2.4				

Inside is hollow. The higher the water pressure is, the finer the particle diameter becomes.

Applications: Air Washer, Dust Removal, Defrosting, etc.

NZRK Specifications

Size Hole Dia. (mm)	1.0	1.6	2.0
Water Pressure (MPa)	0.1	0.2	0.3
Water Qty. (l/min)	0.38	0.50	0.68
Spray Angle (°)	70	75	80

Listed values are for reference, not guaranteed. If the current fluid is air, the product does not spray with the values described on the above table.

Ordering Example **Part Number** - **d**
NZRFS1 - **1.0**