

[Features]

- World-rare flat spray nozzle engineered especially for powerful cleaning and descaling. Producing a thin flat spray pattern like a sharp razor blade, these nozzles have more powerful cleaning effects than any other flat spray nozzles.

[Standard Pressure]

5 MPa

[Applications]

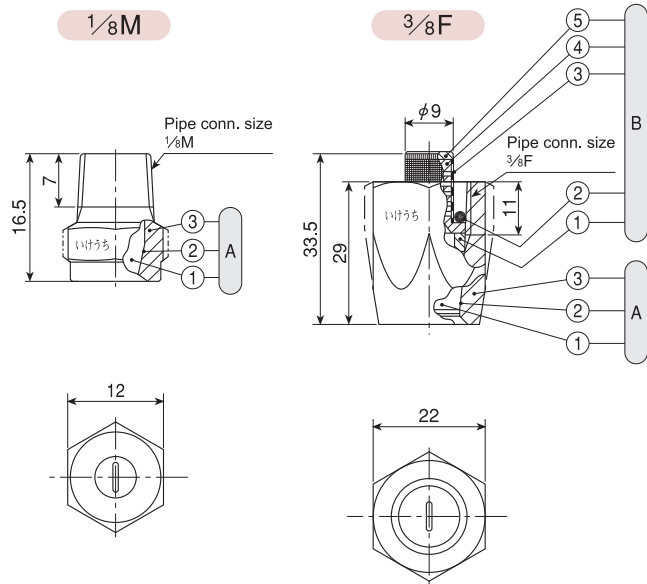
High pressure cleaning, descaling, rust-removal, degreasing

DSP series

DSP series (with ceramic orifice inserted)	
Structure	<ul style="list-style-type: none"> Ceramic orifice inserted and adhered into metal body. Opening of ceramic orifice is circular from inlet to throat and it gradually contracts to a longer rectangle towards the outlet.
Material	<ul style="list-style-type: none"> Spray orifice: ceramic Metal parts: S303
Mass	<ul style="list-style-type: none"> 1/8M: 7 g 3/8F: 52 g

(When with a strainer, add 2–5 g to the above mass.)

[Note] Appearance and dimensions may differ slightly depending on materials and nozzle codes.



- A Nozzle** (①Ceramic orifice ②Adhesive: Araldite® ③Body)
B Strainer (①Packing [PTFE] ②O-ring [NBR] ③Strainer screen [S316])
 (④Strainer holder ⑤Strainer cap)

Spray Angle Code	Spray Capacity Code	Pipe Conn. Size		Spray Angle (°)			Spray Capacity (ℓ/min)										Free Pass. Dia. (mm)
		1/8M	3/8F	3 MPa	5 MPa	10 MPa	3 MPa	3.5 MPa	4 MPa	4.5 MPa	5 MPa	6.5 MPa	8 MPa	10 MPa	15 MPa	20 MPa	
15	56	○		14	15	15	4.33	4.68	5.00	5.30	5.59	6.37	7.06	7.91	9.67	11.2	0.4
	64	○		14	15	15	4.94	5.34	5.71	6.06	6.38	7.28	8.07	9.04	11.1	12.8	0.4
	72	○		14	15	15	5.56	6.01	6.42	6.81	7.18	8.19	9.08	10.2	12.4	14.4	0.4
	80	○		14	15	15	6.18	6.68	7.14	7.57	7.98	9.10	10.1	11.3	13.8	16.0	0.4
	88	○		14	15	15	6.80	7.35	7.85	8.33	8.79	10.0	11.1	12.4	15.2	17.6	0.4
	96	○		14	15	15	7.42	8.01	8.56	9.09	9.58	10.9	12.1	13.6	16.6	19.1	0.5
	104	○		14	15	15	8.04	8.68	9.28	9.85	10.4	11.8	13.1	14.7	18.0	20.8	0.5
	112	○		14	15	15	8.66	9.35	10.0	10.6	11.2	12.8	14.1	15.8	19.4	22.4	0.5
	120	○		14	15	15	9.26	10.0	10.7	11.4	12.0	13.7	15.2	17.0	20.8	24.0	0.6
	128	○		14	15	15	9.89	10.7	11.4	12.1	12.8	14.6	16.2	18.1	22.1	25.6	0.6
	144	○		14	15	15	11.1	12.0	12.9	13.6	14.4	16.4	18.2	20.3	24.9	28.8	0.7
	160	○		14	15	15	12.4	13.4	14.3	15.2	16.0	18.2	20.2	22.6	27.7	32.0	0.8

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		1/8M	3/8F	3 MPa	5 MPa	10 MPa	3 MPa	3.5 MPa	4 MPa	4.5 MPa	5 MPa	6.5 MPa	8 MPa	10 MPa	15 MPa	20 MPa	
12	83		●	11	12	12	6.43	6.94	7.42	7.87	8.30	9.46	10.5	11.7	14.4	16.6	0.4
	103		●	11	12	12	7.98	8.62	9.21	9.77	10.3	11.7	13.0	14.6	17.8	20.6	0.4
	148		○	11	12	12	11.5	12.4	13.2	14.0	14.8	16.9	18.7	20.9	25.6	29.6	0.5
	166		○	11	12	12	12.9	13.9	14.8	15.7	16.6	18.9	21.0	23.5	28.8	33.2	0.5
	189		○	11	12	12	14.6	15.8	16.9	17.9	18.9	21.5	23.9	26.7	32.7	37.8	0.6
	224		○	11	12	12	17.4	18.7	20.0	21.3	22.4	25.5	28.2	31.6	38.8	44.7	0.7
	250		○	11	12	12	19.4	20.9	22.4	23.7	25.0	28.5	31.6	35.4	43.3	50.0	0.7
	300		○	11	12	12	23.2	25.1	26.8	28.5	30.0	34.2	37.9	42.4	52.0	60.0	0.9
	332		○	11	12	12	25.7	27.8	29.7	31.5	33.2	37.9	42.0	46.9	57.5	66.4	1.0
	478		○	11	12	12	37.0	40.1	42.8	45.3	47.8	54.5	60.5	67.7	82.8	95.7	1.5
	865		○	11	12	12	67.0	72.5	77.4	82.1	86.5	98.6	110	123	150	173	2.6

●.....With strainer (mesh size #150) ○.....Without strainer

Precautions for use

Please use clean water to prevent the nozzles from clogging.

How to order

Please inquire or order for a specific nozzle using this coding system.

〈Example〉...1/8MDSP1556S303 (Brown)

1/8M **DSP** 15 56 **S303** (Brown)

Pipe Conn. Size
1/8M
3/8 F

Spray Angle Code
15
12

Spray Capacity Code
56
5
865

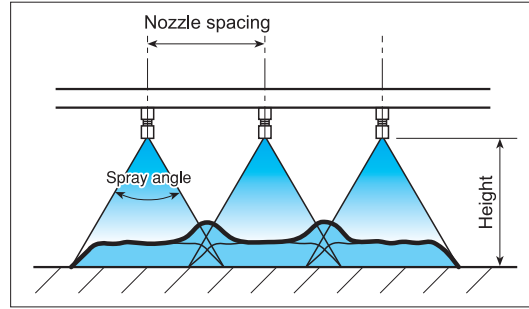
Strainer
W (with Strainer)
- (without Strainer)

Effective Use of Even Flat Spray Nozzles

Spray Distribution

Even flat spray nozzles are designed to produce an even spray distribution to even out the cleaning power in the spray width direction and are suitable for cleaning when using one nozzle.

When using even flat spray nozzles in multiple-nozzle arrangements, the overlapping spray distribution may be inferior to that of standard flat spray nozzles.



Tightening Torque

For high-pressure cleaning, highly wear-resistant CERJET® nozzles with ceramic orifice inserted are most suitable. However, if screwed too tight, the nozzle body, especially small ones such as 1/8" size, may be damaged which results in cracking the ceramic orifice. Please apply the recommended torque. Tightening torque should not exceed the following.

8 N-m for size 1/8M (stainless steel body and brass body)

15 N-m for size 1/4M (stainless steel body and brass body)

Cleaning Force

The factors for showing cleaning efficiency of a nozzle are complex. To evaluate them, we use the spray impact and the amount of cavitation erosion. At a given liquid pressure, spray capacity and spray distance, the cleaning force of the solid stream jet nozzle is the strongest followed by the flat spray nozzles and the cone spray nozzles.

[Spray Impact]

Nozzle	Spray impact (x $\frac{1}{100}$ N/cm)	
	Max.	Average
1/8 MDSP15104	560	503
1/8 MVNP1580	460	390

■ Pressure: 5 MPa
■ Spray height: 150 mm



[Amount of Cavitation Erosion]

The amount of cavitation erosion is the depth of the depression on a sample piece dug out by flat spray nozzles.

Specifications	1/8 MDSP15104		1/8 MVNP1580	
Pressure (MPa)	5.0	7.0	5.0	7.0
Spray angle (°)	16.0	16.0	16.5	17.0
Spray capacity (ℓ/min)	9.9	11.7	10.1	12.0

