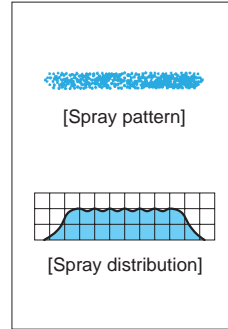


# Descaling Nozzles

DSP

Flat Spray



- This incredibly unique flat spray nozzle is engineered especially for powerful cleaning and descaling. With its thin, razor sharp flat spray pattern, the DSP series nozzles have a high spray impact and yield more powerful cleaning performance than any other flat spray nozzle, given the same spray pressure and capacity.

**[STANDARD PRESSURE]**

5.0 MPa

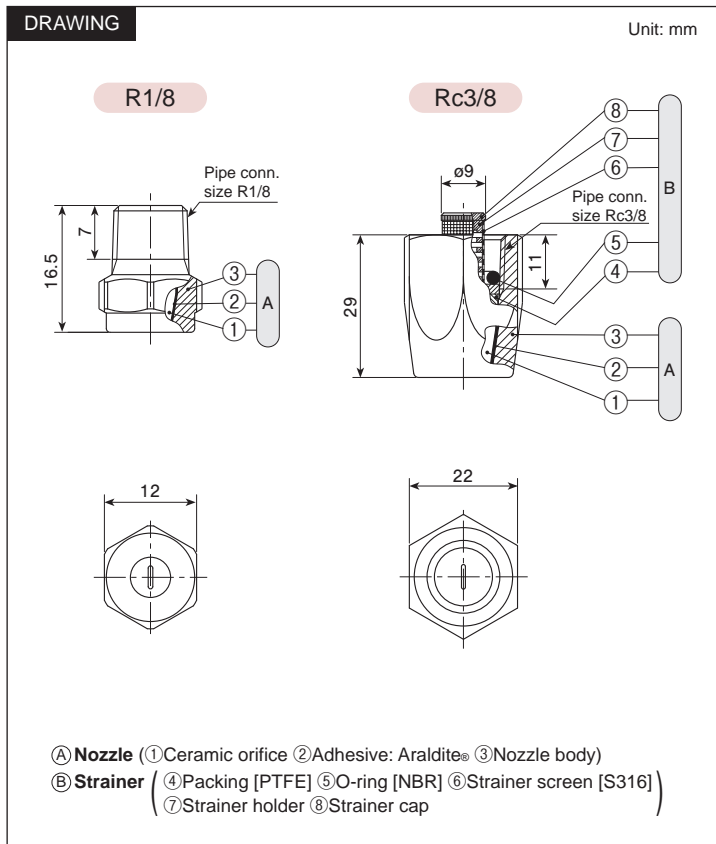
**[APPLICATIONS]**

High pressure cleaning, descaling, rust-removal, degreasing

Structure	<ul style="list-style-type: none"> <li>One-piece structure with a ceramic orifice insert.</li> <li>From the inlet to the throat the ceramic orifice is round and then draws together into a rectangular slit towards the outlet.</li> </ul>
Material	<ul style="list-style-type: none"> <li>Nozzle orifice: ceramic</li> <li>Metal parts: S303</li> </ul>
Weight <sup>*1</sup>	<ul style="list-style-type: none"> <li>R1/8: 7 g</li> <li>Rc3/8: 52 g</li> </ul>

\*1) With a strainer, add 2-5 g to the above weight.

[Note] Appearance and dimensions may differ slightly depending on material and nozzle code.



Spray angle code	Spray capacity code	Pipe conn. size		Spray angle (°)			Spray capacity (L/min)										Free pass. dia. (mm)
		R1/8	Rc3/8	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

Spray angle code	Spray capacity code	Pipe conn. size		Spray angle (°)			Spray capacity (L/min)										Free pass. dia. (mm)
		R1/8	Rc3/8	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	

●: Available with or without strainer (strainer mesh size #150) ○: Only available without strainer

**Attention:**

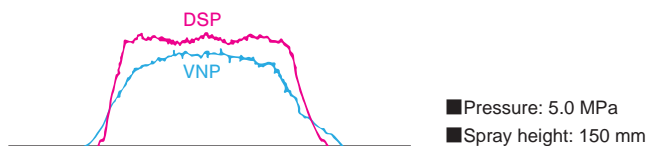
Please make sure to only use clean water to prevent the nozzles from clogging.

**Cleaning Power**

The factors that determine the cleaning power of a nozzle are complex. To evaluate the effectiveness, we use the spray impact and the amount of erosion. In general, with an equal liquid pressure, spray capacity and distance, the solid stream jet nozzle has the strongest cleaning power, followed by the flat spray nozzle and the cone spray nozzle. Below is a comparison between our VNP and DSP flat spray nozzles.

**[Spray Impact]**

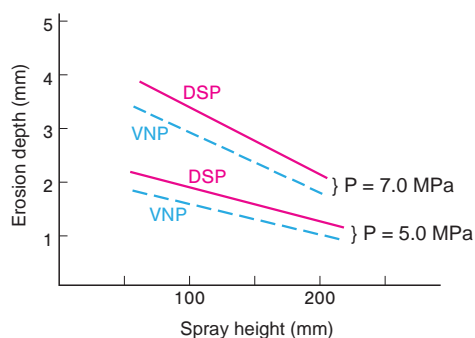
	Spray impact (x $\frac{1}{100}$ N/cm)	
	Max.	Average
1/8M DSP 15104	560	503
1/8M VNP 1580	460	390



**[Amount of Erosion]**

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

Specifications	1/8M DSP 15104		1/8M VNP 1580	
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



**HOW TO ORDER**

To inquire about or order a specific nozzle please refer to this coding system.

Example: 1/8M DSP 1556 BR-S303

<b>1/8M</b>	<b>DSP</b>	<b>15</b>	<b>56</b>	<b>BR-S303</b>	
Pipe conn. size <sup>2</sup>		Spray angle code	Spray capacity code	Material	Strainer
■ 1/8M ■ 3/8F		■ 15 ■ 12	■ 56 § ■ 865		■ W (with strainer) ■ (Blank indicates "without strainer")

\*2) "M" indicates male thread ("R" of the ISO standard) and "F" indicates female thread ("Rc" of the ISO standard), e.g. 1/8M = R1/8, 3/8F = Rc3/8.