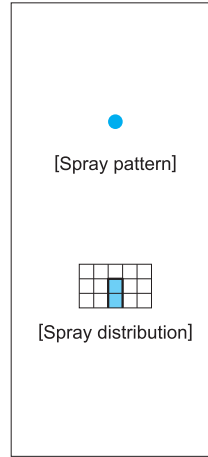
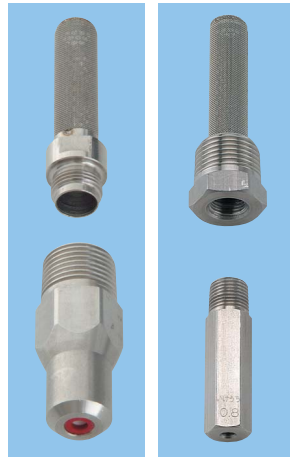


Paper Trimming Nozzles

CMP-T / CTM / CM

Solid Stream



[Features]

- Extra fine and clear non-turbulent solid stream nozzles with high impact cutting force.

[Standard Pressure]

1 MPa

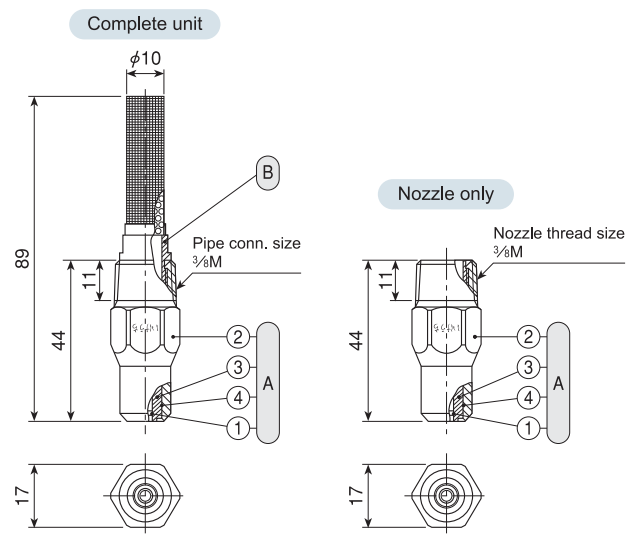
[Applications]

- Trimming: Paper making, asbestos plate
- Cutting: Timber, food
- Others: Cleaning of precision machine parts, injection of chemicals, deburring, foaming of beer (jet foamer)

CMP-T series Patented

CMP-T series (with high-purity alumina orifice inserted)	
Structure	<ul style="list-style-type: none"> ● High-purity alumina ceramic orifice is inserted into a sleeve of strong engineering plastics. ● Comprises two parts: nozzle and strainer. Worn-out nozzles can be replaced separately.
Material	<ul style="list-style-type: none"> ● Spray orifice: 99% alumina ● Sleeve: PA (polyamide) ● Metal parts: S303 ● O-ring: NBR
Mass	<ul style="list-style-type: none"> ● Complete unit: 47 g ● Nozzle only: 40 g

Dual orifice type (2CMP-T) available. Contact us for details.



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

Ⓐ Nozzle (①99% Alumina orifice ②Body ③Sleeve ④O-ring [NBR])
 Ⓑ Strainer

CTM series

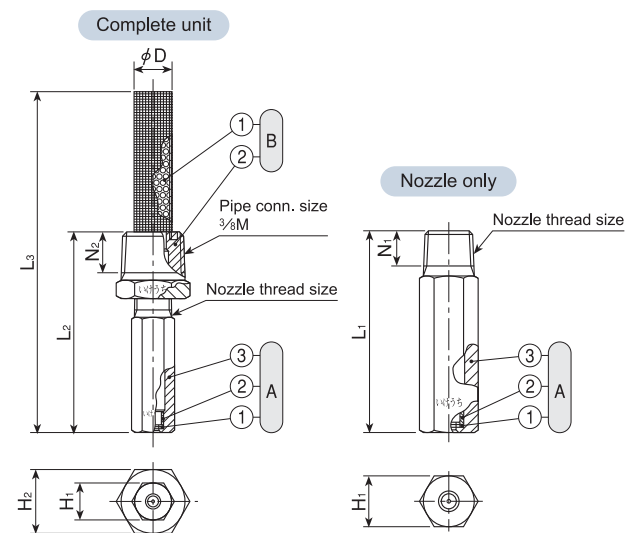
CTM series (with tungsten carbide orifice inserted)	
Structure	<ul style="list-style-type: none"> ● Tungsten carbide orifice insert for longer life. ● Comprises two parts: Nozzle, adaptor-strainer. Worn-out nozzles can be replaced separately.
Material	<ul style="list-style-type: none"> ● Spray orifice: tungsten carbide ● Metal parts: S303

[Complete unit]

Orifice diameter code	Nozzle thread size	Dimensions (mm)						Mass (g)
		L ₂	L ₃	H ₁	H ₂	ϕD	N ₂	
$\phi 0.2-\phi 0.9$	$\frac{1}{8}M$	54	92	10	17	10	11	39
$\phi 1.0-\phi 1.5$	$\frac{1}{4}M$	52	90	14	17	10	11	47

[Nozzle only]

Orifice diameter code	Nozzle thread size	Dimensions (mm)			Mass (g)
		L ₁	H ₁	N ₁	
$\phi 0.2-\phi 0.9$	$\frac{1}{8}M$	40	10	7	16.5
$\phi 1.0-\phi 1.5$	$\frac{1}{4}M$	40	14	10.5	30



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

Ⓐ Nozzle (①Tungsten carbide orifice ②Sleeve ③Body)
 Ⓑ Strainer* (①Strainer ②Adaptor)

*Adaptor and strainer are not detachable.

CM series

CM series (with ceramic orifice inserted)	
Structure	<ul style="list-style-type: none"> • Ceramic orifice insert for longer life. • Comprises two parts: nozzle, adaptor-strainer. Worn-out nozzles can be replaced separately.
Material	<ul style="list-style-type: none"> • Spray orifice: ceramic • Metal parts: S303 or B (brass)

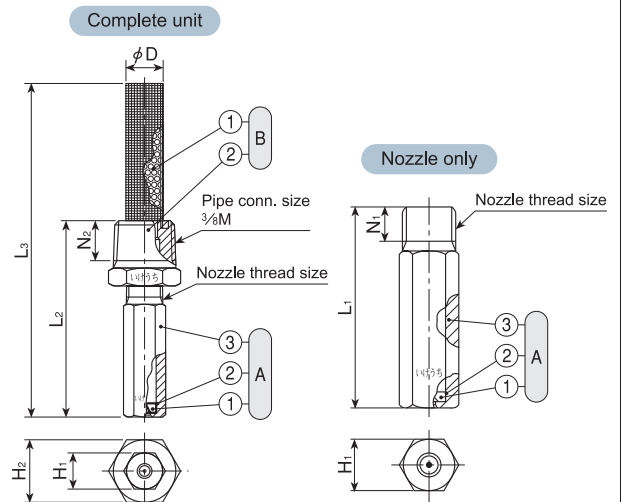
[Complete unit]

Orifice diameter code	Nozzle thread size	Dimensions (mm)						Mass (g)	
		L ₂	L ₃	H ₁	H ₂	φD	N ₂	S303	B
φ0.1-φ0.9	1/8 M	54	92	10	17	10	11	39	42
φ1.0-φ1.5	1/4 M	52	90	14	17	10	11	47	51

[Nozzle only]

Orifice diameter code	Nozzle thread size	Dimensions (mm)			Mass (g)	
		L ₁	H ₁	N ₁	S303	B
φ0.1-φ0.9	1/8 M	40	10	7	16.5	18
φ1.0-φ1.5	1/4 M	40	14	10.5	30	33

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



① Nozzle (① Ceramic orifice ② Adhesive: Araldite® ③ Body)
 ② Strainer* (① Strainer ② Adaptor)

*Adaptor and strainer are not detachable.

Orifice Diameter Code	CMP-T High alumina orifice	CTM Tungsten carbide orifice	CM Ceramic orifice	Spray Capacity (ℓ/min)						Strainer Mesh Size
				0.5 MPa	1 MPa	2 MPa	3 MPa	4 MPa	5 MPa	
φ 0.1			●	0.011	0.016	0.022	0.027	0.031	0.035	200
φ 0.15			●	0.03	0.04	0.05	0.06	0.07	0.08	200
φ 0.2		●	●	0.05	0.06	0.09	0.11	0.12	0.14	200
φ 0.25		●	●	0.07	0.10	0.14	0.17	0.19	0.21	200
φ 0.3	●	●	●	0.10	0.14	0.19	0.23	0.27	0.30	150
φ 0.4	●	●	●	0.17	0.24	0.34	0.41	0.47	0.52	150
φ 0.5	●	●	●	0.25	0.35	0.49	0.60	0.68	0.76	80
φ 0.6	●	●	●	0.36	0.51	0.71	0.86	0.99	1.10	80
φ 0.7	●	●	●	0.49	0.69	0.96	1.17	1.34	1.49	50
φ 0.8	●	●	●	0.65	0.90	1.26	1.53	1.75	1.95	50
φ 0.9	●	●	●	0.78	1.09	1.52	1.84	2.11	2.35	50
φ 1.0	●	●	●	0.97	1.34	1.88	2.28	2.61	2.91	50
φ 1.1		●	●	1.17	1.63	2.27	2.75	3.16	3.51	50
φ 1.2		●	●	1.39	1.94	2.70	3.28	3.76	4.18	50
φ 1.3		●	●	1.63	2.27	3.17	3.85	4.41	4.91	50
φ 1.4		●	●	1.89	2.64	3.68	4.46	5.12	5.69	50
φ 1.5		●	●	2.17	3.03	4.22	5.12	5.88	6.54	50

[Note] The above nozzles are manufactured for specific orifice diameters, therefore spray capacity is not guaranteed.

■ CMP-T series (with high-purity alumina orifice inserted)

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

① Complete unit	② Nozzle only
(Example) ... 3/8M CMP φ0.3T S303W 3/8M CMP φ0.3 T S303W Orifice Diameter Code ■ φ 0.3 φ 0.4 φ 0.5 φ 0.6 φ 0.7 φ 0.8 φ 0.9 φ 1.0 φ 1.1 φ 1.2 φ 1.3 φ 1.4 φ 1.5	(Example) ... 3/8M CMP φ0.3T S303 3/8M CMP φ0.3 T S303 Orifice Diameter Code ■ φ 0.3 φ 0.4 φ 0.5 φ 0.6 φ 0.7 φ 0.8 φ 0.9 φ 1.0 φ 1.1 φ 1.2 φ 1.3 φ 1.4 φ 1.5

■ CTM series (with tungsten carbide orifice inserted)

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

① Complete unit	② Nozzle only
(Example) ... 3/8M CTM φ0.2S303W (PM-Strainer φ10) 3/8M CTM φ0.2 S303W (PM-Strainer φ10) Orifice Diameter Code ■ φ 0.2 φ 0.3 φ 0.4 φ 0.5 φ 0.6 φ 0.7 φ 0.8 φ 0.9 φ 1.0 φ 1.1 φ 1.2 φ 1.3 φ 1.4 φ 1.5	(Example) ... 1/8M CTMP φ0.2 S303 1/8M CTMP φ0.2 S303 Nozzle Thread Size Orifice Diameter Code ■ 1/8 M ■ φ 0.2 1/4 M ■ φ 0.3 ■ φ 0.4 ■ φ 0.5 ■ φ 0.6 ■ φ 0.7 ■ φ 0.8 ■ φ 0.9 ■ φ 1.0 ■ φ 1.1 ■ φ 1.2 ■ φ 1.3 ■ φ 1.4 ■ φ 1.5

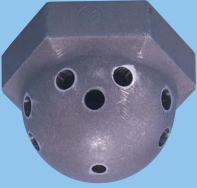
■ CM series (with ceramic orifice inserted)

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

① Complete unit	② Nozzle only
(Example) ... 3/8M CM φ0.1S303W (PM-Strainer φ10) 3/8M CM φ0.1 S303 W (PM-Strainer φ10) Orifice Diameter Code Material ■ φ 0.1 ■ S303 φ 0.2 ■ B φ 0.3 φ 0.4 φ 0.5 φ 0.6 φ 0.7 φ 0.8 φ 0.9 φ 1.0 φ 1.1 φ 1.2 φ 1.3 φ 1.4 φ 1.5	(Example) ... 1/8M CMP φ0.1 S303 1/8M CMP φ0.1 S303 Nozzle Thread Size Orifice Diameter Code Material ■ 1/8 M ■ φ 0.1 ■ S303 1/4 M ■ φ 0.2 ■ B ■ φ 0.3 ■ φ 0.4 ■ φ 0.5 ■ φ 0.6 ■ φ 0.7 ■ φ 0.8 ■ φ 0.9 ■ φ 1.0 ■ φ 1.1 ■ φ 1.2 ■ φ 1.3 ■ φ 1.4 ■ φ 1.5

Solid Stream

Nozzles for Special Applications

Series	Appearance	Features	Applications
Surface washing nozzles		<ul style="list-style-type: none"> Produces solid stream spray from a hemispheric nozzle body in a radial pattern. 	<ul style="list-style-type: none"> Cleaning sand filter bed at water purification plant.

Others

Effective Use of Solid Stream Jet Nozzles

Tightening Torque

For high-pressure cleaning, the highly wear-resistant CERJET® nozzle with inserted ceramic orifices is most suitable. However, if it is 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)

Precautions for Nozzle Installation

Avoid installing the nozzle at the immediate downstream of a bent pipe or elbow. Turbulence may affect the nozzle performance.

Nozzle Reaction Force

When spraying water under high pressure, the approximate reaction force is calculated by the following formula.

$$F = 0.073 \cdot Q \cdot \sqrt{P}$$

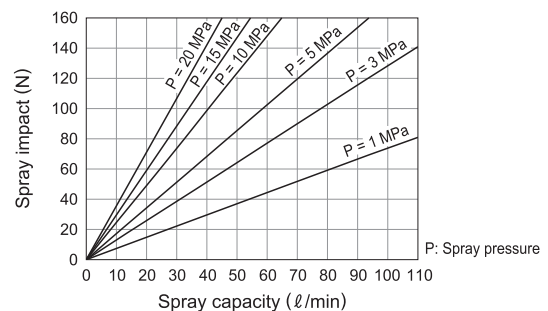
■ F: Reaction force (N)

■ Q: Spray capacity (ℓ/min)

■ P: Spray pressure (MPa)

Spray Impact

Spray impact means the force of spray droplets hitting the target surface. The stronger spray impact the nozzle has, the better cleaning effect it achieves.



Variation in spray impact of solid stream jet nozzles
(Spray distance: 200 mm)