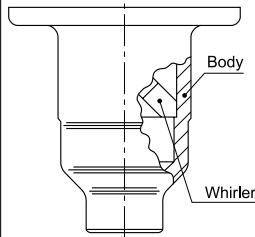


Flange-type, Large Capacity / Full Cone Spray Nozzles
TJJX-series

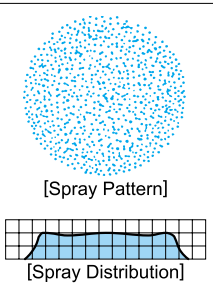
Related Products

For spraying slurry, TJJX nozzles made of highly wear-resistant SiC (silicon carbide) are available.

Series	Appearance	Structure	Features	Applications
TJJX-SiC			- Full cone spray pattern with a round impact area and uniform distribution. - X-shaped whirler provides large free passage diameter for minimal clogging. - Whole nozzle fired as one piece. - Highly wear-resistant and lightweight structure made of SiC.	- Spraying recirculated water for water granulation, etc. - Other applications for spraying slurry, etc.

Wide-angle
Full Cone Spray Nozzles

BBXP/BBXP-PVDF/BBXP-PVC



- [Features]**
- Wide-angle full cone spray pattern with a round impact area and uniform distribution.
 - Spray angle of 120° provides larger spray coverage than other nozzles.
 - Spray capacity ranges from small to medium.
 - X-shaped whirler provides large free passage diameter for minimal clogging.
- [Standard Pressure]**
- 0.2MPa for spray capacity codes of 015-060.
0.35MPa for spray capacity codes of 10 and over.

[Applications]

Cleaning : Gases, incinerator fumes, machinery, eliminators, screen, tanks, gravel, stones, sand, etc.
Cooling : Gases, machineries, tanks, steels, etc.
Spraying : Water treatment, aeration, foam breaking, fire extinguishing, dust suppression, sea water desalination, etc.

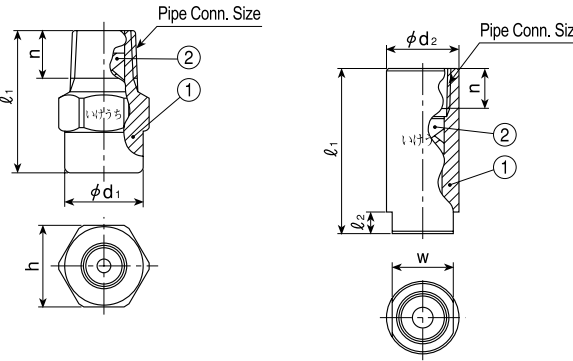
BBXP-series									
Structure	• One-piece structure with press-fit X-shaped whirler.								
Material	• Sizes 1/8M - 3/4F : S303 (stainless steel 303) • Sizes 1/2F - 1F : B (brass) or S303 • Sizes 1 1/2F or larger : S316 (SCS14) • Optional material : S316L (SCS16) or others								
Series	Pipe Conn. Size	Dimensions(mm)							Mass(g)
		ℓ ₁	ℓ ₂	h	w	φd ₁	φd ₂	n	B S303 (S316)
BBXP	1/8 M	21	—	12	—	11.5	—	7	— 11
	1/4 M	29	—	14	—	13.5	—	10.5	— 19.5
	3/8 F	45.5	6	—	17	—	20	11	— 75
	1/2 F	56	8	—	22	—	25	14	150 140
	3/4 F	73	10	—	27	—	32	15	320 300
	1 F	94	14	—	34	—	40	17	625 585
	1 1/2 F	131	20	—	50	—	58	19	— 1760
	2 F	168	24	—	60	—	70	23	— 2980
	2 1/2 F	199	27	—	80	—	90	27	— 5890
	3 F	220	30	—	90	—	105	30	— 9400
	4 F	278	40	—	115	—	130	36	— 16100

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

BBXP-series

1/8 M • 1/4 M

3/8 F and over



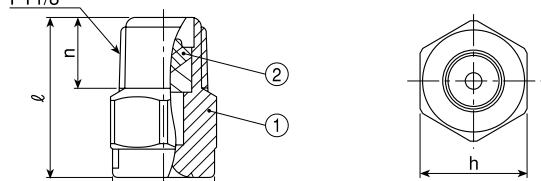
①Body ②Whirler

BBXP-PVDF series						
Structure	• One-piece structure with press-fit X-shaped whirler.					
Material	• PVDF (polyvinylidene fluoride)					
Series	Pipe Conn. Size	Dimensions(mm)				Mass(g)
		ℓ	h	n	φd	PVDF
BBXP-PVDF	1/8 M	18	12	8	11.5	2
	1/4 M	22	14	11.5	11.5	4.1

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

BBXP-PVDF series

PT1/8"



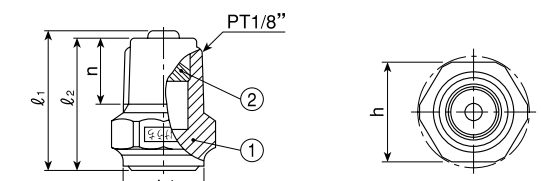
①Body ②Whirler

BBXP-PVC series						
Structure	• One-piece structure with removable X-shaped whirler.					
Material	• PVC (polyvinyl chloride)					
Series	Pipe Conn. Size	Dimensions(mm)				Mass(g)
		ℓ ₁	ℓ ₂	h	n	PVC
BBXP-PVC	1/8 M	16.9	16	12	8	1.4

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

BBXP-PVC series

PT1/8"



①Body ②Whirler

Wide-angle Full Cone Spray Nozzles
BBXP/BBXP-PVDF/BBXP-PVC series

BBXP-series

Spray Capacity Code	Pipe Conn. Size		Spray Angle			Spray Capacity (ℓ/min)									Mean Drop. Dia. (μm)	Free Pass. Dia. (mm)
	⅛M	¼M	0.05 MPa	0.2 MPa	0.5 MPa	0.03 MPa	0.05 MPa	0.1 MPa	0.15 MPa	0.2 MPa	0.35 MPa	0.5 MPa	0.7 MPa	1 MPa		
015	○	○	—	120°	112°	—	—	1.09	1.32	1.50	1.88	2.18	2.50	2.89	300	0.8
020	○	○	110°	120°	112°	—	1.06	1.46	1.75	2.00	2.51	2.91	3.34	3.86	350	1.2
030	○	○	112°	120°	113°	—	1.59	2.18	2.63	3.00	3.77	4.36	5.00	5.79	340	1.3
040		○	110°	120°	112°	—	2.12	2.91	3.51	4.00	5.03	5.81	6.67	7.72	350	1.3
050		○	112°	120°	113°	—	2.65	3.64	4.38	5.00	6.28	7.27	8.34	9.64	350	1.5
060		○	114°	120°	114°	2.51	3.18	4.37	5.26	6.00	7.54	8.72	10.0	11.6	430	1.8

Spray Capacity Code	Pipe Conn. Size										Spray Angle			Spray Capacity (ℓ/min)										Mean Drop. Dia. (μm)	Free Pass. Dia. (mm)
	⅜M	⅝F	⅞F	¾F	1F	1½F	2F	2½F	3F	4F	0.15 MPa	0.35 MPa	0.7 MPa	0.03 MPa	0.05 MPa	0.1 MPa	0.15 MPa	0.2 MPa	0.35 MPa	0.5 MPa	0.7 MPa	1 MPa			
10	○	○									123°	120°	111°	3.34	4.21	5.79	6.98	7.96	10.0	11.6	13.3	15.3	s	1.9	
12	○	○									124°	120°	112°	4.00	5.06	6.95	8.37	9.55	12.0	13.9	15.9	18.4		2.3	
14	○	○									124°	120°	112°	4.67	5.90	8.10	9.77	11.1	14.0	16.2	18.6	21.5		2.6	
16	○	○									125°	120°	113°	5.33	6.74	9.25	11.2	12.7	16.0	18.5	21.2	24.6		2.6	
18			○								123°	120°	111°	6.00	7.58	10.4	12.6	14.3	18.0	20.8	23.9	27.6	s	2.9	
20			○								123°	120°	111°	6.67	8.43	11.6	14.0	15.9	20.0	23.1	26.5	30.7		2.9	
23			○								124°	120°	112°	7.67	9.69	13.3	16.0	18.3	23.0	26.6	30.5	35.3	480	2.9	
26			○								124°	120°	112°	8.67	11.0	15.1	18.1	20.7	26.0	30.1	34.5	39.9		3.5	
30				○							123°	120°	111°	10.0	12.6	17.4	20.9	23.9	30.0	34.7	39.8	46.0	s	3.8	
40				○							124°	120°	112°	13.3	16.9	23.2	27.9	31.8	40.0	46.3	53.1	61.4		4.1	
50				○							125°	120°	113°	16.7	21.0	29.0	34.9	39.8	50.0	57.8	66.3	76.7	580	4.7	
60					○						124°	120°	112°	20.0	25.3	34.7	41.9	47.7	60.0	69.4	79.6	92.1	s	5.3	
80					○						125°	120°	113°	26.7	33.7	46.3	55.8	63.7	80.0	92.5	106	123		630	5.7
100						○					123°	120°	111°	33.3	42.1	57.9	69.8	79.6	100	115	135	155	s	6.2	
150						○					124°	120°	112°	50.0	63.2	86.9	105	120	150	175	200	230		7.5	
200							○				124°	120°	112°	66.7	84.3	115	140	160	200	230	265	310	710	9.0	
300							○				125°	120°	113°	100	125	175	210	240	300	350	400	460		900	11.5
400								○			124°	120°	112°	135	170	235	280	320	400	465	530	615	s	13.4	
500								○			125°	120°	113°	170	210	290	350	400	500	580	665	770		1000	18.4
600									○		124°	120°	112°	200	255	350	420	480	600	695	795	920	s	16.0	
700									○		125°	120°	113°	235	295	405	490	550	700	810	930	1070		1100	17.2
900										○	124°	120°	112°	300	380	520	630	720	900	1041	1195	1380	s	19.3	
1200									○		125°	120°	113°	400	505	695	840	955	1200	1390	1590	1840		1200	22.4

BBXP-PVDF series

Spray Capacity Code	Pipe Conn. Size		Spray Angle			Spray Capacity (ℓ/min)									Mean Drop. Dia. (μm)	Free Pass. Dia. (mm)	Nozzle Color
	⅛M	¼M	0.05 MPa	0.2 MPa	0.5 MPa	0.03 MPa	0.05 MPa	0.1 MPa	0.15 MPa	0.2 MPa	0.35 MPa	0.5 MPa	0.7 MPa	1 MPa			
008	○		—	120°	112°	—	—	0.58	0.70	0.80	1.00	1.16	1.33	1.54	280	0.5	■
015	○		—	120°	112°	—	—	1.09	1.32	1.50	1.88	2.18	2.50	2.89	∫	0.8	■
020	○	○	110°	120°	113°	—	1.06	1.46	1.75	2.00	2.51	2.91	3.34	3.86	340	1.2	■

* Nozzle colors differ depending on Spray Capacity Codes; BBXP008 and BBXP020 are black, BBXP015 is gray.

BBXP-PVC series

Spray Capacity Code	Pipe Conn. Size	Spray Angle			Spray Capacity (ℓ/min)									Mean Drop. Dia. (μm)	Free Pass. Dia. (mm)
		0.05 MPa	0.2 MPa	0.5 MPa	0.03 MPa	0.05 MPa	0.1 MPa	0.15 MPa	0.2 MPa	0.3 MPa	0.5 MPa	0.7 MPa	1 MPa		
030	⅛M	115°	120°	110°	—	1.59	2.18	2.63	3.00	3.54	4.36	5.00	5.79	350	1.5

How to order

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

① BBXP

⅛M BBXP 015 S303

Pipe Conn. Size(*1)

⅛M

∫

4F

Spray Capacity Code

015

∫

1200

Material(*2)

S303

S316

② BBXP-PVDF

⅛M BBXP 020 PVDF (BLA)

Pipe Conn. Size

⅛M

¼M

Spray Capacity Code

008

015

020

Nozzle Color

BLA (BBXP008, 020)

GRA (BBXP015)

③ BBXP-PVC

⅛M BBXP030PVC-IN

Pipe Conn. Size

⅛M

¼M

¾M

Spray Capacity Code

008

015

020

Nozzle Color

BLA (BBXP008, 020)

GRA (BBXP015)

*1) Pipe connection size code for ¼M is indicated as "¼ x ⅛M" when spray capacity is 015-030.

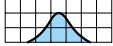
*2) See "Material" information on page 72 for standard materials by each size.

Narrow-angle Full Cone Spray Nozzles
NJJP





[Spray Pattern]



[Spray Distribution]

[Features]

- Narrow-angle full cone spray pattern with a round impact area and uniform distribution.
- Unique design producing fine atomization without a whirler.
- No-whirler design with large free passage diameter minimizes clogging.

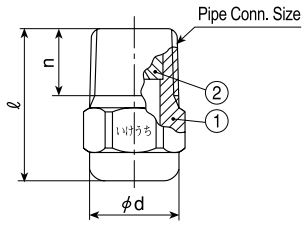
[Standard Pressure]
0.3MPa

[Applications]
Cleaning : Pipes, bottles, containers, filters, etc.
Cooling : Metal sheets, etc.

NJJP-series

Structure	• One piece structure with press-fit orifice plate. • No obstructions in nozzle interior.
Material	• S303 (stainless steel 303) • Optional material : S316

Series	Pipe Conn. Size	Dimensions(mm)				Mass(g)
		ℓ	h	φd	n	S303
NJJP	¼M	24	14	13.5	10.5	19.5
	⅜M	32	19	18	11	48



①Body ②Orifice plate

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

Spray Angle Code	Spray Capacity Code	Pipe Conn. Size		Spray Angle			Spray Capacity (ℓ/min)						Mean Drop. Dia. (μm)	Free Pass. Dia. (mm)
		¼M	⅜M	0.15 MPa	0.3 MPa	0.7 MPa	0.15 MPa	0.2 MPa	0.3 MPa	0.5 MPa	0.7 MPa	1 MPa		
30°	06	○		26°	30°	32°	4.80	5.26	6.00	7.42	8.54	9.91	750	2.5
	08	○		26°	30°	32°	6.40	7.02	8.00	9.90	11.4	13.2	∫	3.0
	14		○	26°	30°	32°	11.2	12.3	14.0	17.3	19.9	23.1	∫	3.9
	20		○	26°	30°	32°	16.0	17.5	20.0	24.7	28.5	33.0	970	4.6
15°	06	○		12°	15°	16°	4.80	5.26	6.00	7.42	8.54	9.91	925	2.4
	08	○		12°	15°	16°	6.40	7.02	8.00	9.90	11.4	13.2	∫	3.0
	14		○	12°	15°	16°	11.2	12.3	14.0	17.3	19.9	23.1	∫	3.9
	20		○	12°	15°	16°	16.0	17.5	20.0	24.7	28.5	33.0	1,200	4.6

[Note]
Please use NJJP nozzles at 0.15MPa or higher water pressure to obtain a stable spray pattern.

How to order

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

⅛M NJJP 30 06 S303

Pipe Conn. Size

¼M

⅜M

Spray Angle Code

30°

15°

Spray Capacity Code

06

∫

20