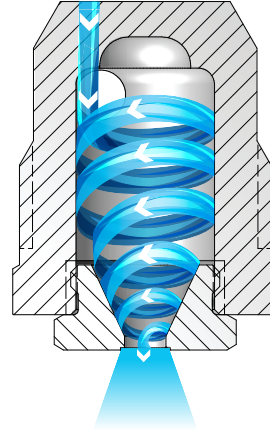


OVERVIEW: WHIRLJET IN-LINE, OFFSET AND DEFLECTED SPRAYS

- Hollow cone spray pattern
- In-line versions ideal for dust control in mining operations
 - BD versions have a lower profile projection for installation in a tee or pipe header
 - In-line BDM features recessed orifice area to protect from damage; self-locking cap to prevent loss due to vibration; fiberglass-reinforced nylon inlet body
- BA offset style ideal for installations with physical space limitations
- Spray angles: Standard – 43° to 94°, Wide – 102° to 125°
- Deflected spray versions available with 120°, 150° and 180° included angle of spray at 10 psi (0.7 bar)
- Uniform spray distribution from .11 to 38 gpm (.41 to 145 lpm)
- Operating pressures up to 500 psi (35 bar)



WhirlJet BD, BDM and BA Nozzles

Liquid passes through a hole on the inlet side of the nozzle. The liquid then enters a whirlchamber where it spins in a circle at high speed. The rotation forces the liquid away from the center toward the edges. This causes the liquid to exit the orifice in a hollow cone pattern.

WHIRLJET OPTIONS

S
W



BD
3/8" to 1-1/2" male conn.
In-line nozzle
Removable cap

S



BDM "Miner Nozzle"
3/8" male conn.
In-line nozzle
Removable cap/nylon body

S



BA
3/8" to 1/2" male conn.
Offset style nozzle
Removable cap

W



DeflectoJet® 8686
1/8" to 3/8" male conn.
Deflected nozzle
Removable deflector cap

RELATIVE DROP SIZE IN MICRONS

 10 to 100	 100 to 500	 500 to 1000	 1000 to 5000
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Drop size will vary based on flow rate and pressure.

ORDERING INFORMATION

WHIRLJET BD

Inlet
Conn.

Nozzle
Type

-

Material
Code

Capacity
Size

Example

3/8

BD

-

SS

10

BSPT connections require the addition of a "B" prior to the inlet connection.

WHIRLJET BDM

Inlet
Conn.

Nozzle
Type

-

Capacity
Size

Example

3/8

BDM

-

5

BSPT connections require the addition of a "B" prior to the inlet connection.

WHIRLJET BA

Inlet
Conn.

Nozzle
Type

-

Material
Code

Capacity
Size

Example

1/2

BA

-

SS

25

BSPT connections require the addition of a "B" prior to the inlet connection.

DEFLECTOJET 8686

Nozzle
No.

-

Inlet
Conn.

-

Material
Code

-

Capacity
Size

-

Spray
Angle

Example

8686

-

1/4

-

SS

-

1

-

120

BSPT connections require the addition of a "B" prior to the nozzle number.

QUICK REFERENCE GUIDE

Model	Connection	Connection Size (in.)	Materials	Page Number	
				Performance Data	Dimensions and Weights
BD	M	3/8 to 1-1/2	Brass, 303 stainless steel (SS)	D29	D32
BD-W	M	3/8 to 3/4	Brass, 303 stainless steel (SS)	D30	
BDM	M	3/8	Nylon/Brass cap	D30	
BA	M	3/8 to 1/2	Brass, 303 stainless steel (SS), 309 stainless steel (309SS)	D31	
8686	M	1/8 to 3/8	Brass, 303 stainless steel (SS)	D31	

M = male thread. There is no material code for brass. Leave material code blank when ordering. Other materials available upon request.
For more dimensions and sizes, contact your sales engineer.





PERFORMANCE DATA:
STANDARD ANGLE SPRAY



Inlet Conn. (in.)	Nozzle Type BD	Capacity Size	Inlet Dia. Nom. (in.)	Orifice Dia. Nom. (in.)	Flow Rate Capacity (gallons per minute)											Spray Angle (°)		
					3 psi	5 psi	7 psi	10 psi	15 psi	20 psi	30 psi	40 psi	60 psi	80 psi	100 psi	7 psi	20 psi	80 psi
3/8	●	2	.094	.078	.11	.14	.17	.20	.24	.28	.35	.40	.49	.57	.63	51	60	70
	●	3	.094	.094	.16	.21	.25	.30	.37	.42	.52	.60	.73	.85	.95	52	64	77
	●	5	.109	.125	.27	.35	.42	.50	.61	.71	.87	1.0	1.2	1.4	1.6	56	67	76
	●	8	.156	.156	.44	.57	.67	.80	.98	1.1	1.4	1.6	2.0	2.3	2.5	56	65	70
	●	10	.156	.172	.55	.71	.84	1.0	1.2	1.4	1.7	2.0	2.4	2.8	3.2	55	65	72
	●	20-10	.156*	.172	—	4.0	1.1	1.4	1.7	1.9	2.4	2.7	3.3	3.8	4.3	61	65	67
1/2	●	5	.125	.141	.27	.35	.42	.50	.61	.71	.87	1.0	1.2	1.4	1.6	63	73	79
	●	8	.156	.156	.44	.57	.67	.80	.98	1.1	1.4	1.6	2.0	2.3	2.5	61	69	73
	●	10	.172	.172	.55	.71	.84	1.0	1.2	1.4	1.7	2.0	2.4	2.8	3.2	63	70	74
	●	15	.172*	.203	.82	1.1	1.3	1.5	1.8	2.1	2.6	3.0	3.7	4.2	4.7	60	67	70
	●	20	.188*	.234	1.1	1.4	1.7	2.0	2.4	2.8	3.5	4.0	4.9	5.7	6.3	63	65	69
	●	25	.203*	.281	1.4	1.8	2.1	2.5	3.1	3.5	4.3	5.0	6.1	7.1	7.9	59	63	68
3/4	●	5	.141	.125	.27	.35	.42	.50	.61	.71	.87	1.0	1.2	1.4	1.6	64	73	79
	●	8	.172	.156	.44	.57	.67	.80	.98	1.1	1.4	1.6	2.0	2.3	2.5	62	70	74
	●	10	.203	.172	.55	.71	.84	1.0	1.2	1.4	1.7	2.0	2.4	2.8	3.2	64	72	75
	●	15	.250	.219	.82	1.1	1.3	1.5	1.8	2.1	2.6	3.0	3.7	4.2	4.7	64	72	74
	●	20	.281	.250	1.1	1.4	1.7	2.0	2.4	2.8	3.5	4.0	4.9	5.7	6.3	63	70	74
	●	25	.281	.297	1.4	1.8	2.1	2.5	3.1	3.5	4.3	5.0	6.1	7.1	7.9	63	70	74
	●	50-50.3	.281*	.375	2.7	3.5	4.2	5.0	6.0	7.0	8.5	10.0	12.2	14.1	15.8	70	72	73
1-1/2	●	40	.375*	.313	2.2	2.8	3.3	4.0	4.9	5.7	6.9	8.0	9.8	11.3	12.6	70	73	74
	●	50	.375*	.375	2.7	3.5	4.2	5.0	6.1	7.1	8.7	10.0	12.2	14.1	15.8	72	75	77
	●	60	.375*	.438	3.3	4.2	5.0	6.0	7.3	8.5	10.4	12.0	14.7	17.0	19.0	74	76	79
	●	70	.375*	.500	3.8	4.9	5.9	7.0	8.6	9.9	12.1	14.0	17.1	19.8	22	76	79	83
	●	80	.375*	.563	4.4	5.7	6.7	8.0	9.8	11.3	13.9	16.0	19.6	23	25	78	82	84
	●	90	.375*	.578	4.9	6.4	7.5	9.0	11.0	12.7	15.6	18.0	22	25	28	81	84	84
	●	100	.375*	.625	5.5	7.1	8.4	10.0	12.2	14.1	17.3	20	24	28	32	83	86	86
	●	110	.375*	.672	6.0	7.8	9.2	11.0	13.5	15.6	19.1	22	27	31	35	85	88	88
	●	120	.375*	.719	6.6	8.5	10.0	12.0	14.7	17.0	21	24	29	34	38	87	90	90

*Dual inlets, each in diameter specified.

Highlighted column shows the rated pressure.



W PERFORMANCE DATA:
WIDE ANGLE SPRAY



Inlet Conn. (in.)	Nozzle Type BD-W	Capacity Size	Inlet Dia. Nom. (in.)	Orifice Dia. Nom. (in.)	Flow Rate Capacity (gallons per minute)											Spray Angle (°)		
					3 psi	5 psi	7 psi	10 psi	15 psi	20 psi	30 psi	40 psi	60 psi	80 psi	100 psi	7 psi	20 psi	80 psi
3/8	●	3-2W	.094	.078	–	–	.19	.22	.27	.31	.38	.44	.54	.62	.70	112	109	90
	●	3-3W	.094	.109	–	–	.25	.30	.37	.42	.52	.60	.73	.85	.95	115	112	97
	●	3-5W	.094	.125	–	–	.29	.34	.42	.48	.59	.68	.83	.96	1.1	117	113	103
	●	5-5W	.109	.125	–	–	.42	.50	.61	.71	.86	1.0	1.2	1.4	1.6	115	112	102
	●	5-10W	.109	.172	–	.46	.54	.65	.80	.92	1.1	1.3	1.6	1.8	2.1	119	119	109
	●	8-8W	.156	.156	–	.57	.67	.80	.98	1.1	1.4	1.6	2.0	2.3	2.5	116	110	98
	●	8-10W	.156	.172	–	.64	.75	.90	1.1	1.3	1.6	1.8	2.2	2.5	2.8	118	113	101
	●	10-10W	.156	.172	–	.71	.84	1.0	1.2	1.4	1.7	2.0	2.5	2.8	3.1	118	111	100
1/2	●	5-3W	.125	.109	.18	.23	.27	.32	.39	.45	.55	.64	.78	.90	1.0	118	113	100
	●	5-5W	.125	.125	.27	.35	.42	.50	.61	.71	.86	1.0	1.2	1.4	1.6	121	116	102
	●	8-8W	.156	.156	.44	.57	.67	.80	.98	1.1	1.4	1.6	2.0	2.3	2.5	119	113	103
	●	10-15W	.172	.219	.66	.86	1.0	1.2	1.5	1.7	2.1	2.4	3.0	3.4	3.8	120	112	102
	●	15-15W*	.172	.219	.82	1.1	1.3	1.5	1.8	2.1	2.6	3.0	3.8	4.2	4.8	117	111	104
3/4	●	8-25W	.172	.297	.71	.92	1.1	1.3	1.6	1.9	2.3	2.6	3.2	3.7	4.1	124	120	111
	●	10-10W	.203	.172	.55	.71	.84	1.0	1.2	1.4	1.7	2.0	2.5	2.8	3.1	118	111	100
	●	10-30W	.203	.312	1.0	1.3	1.6	1.9	2.3	2.6	3.2	3.7	4.5	5.2	5.9	124	117	108
	●	15-15W	.250	.219	.82	1.1	1.3	1.5	1.8	2.1	2.6	3.0	3.7	4.2	4.8	117	112	102
	●	15-25W	.250	.297	1.1	1.4	1.6	1.9	2.4	2.7	3.4	3.9	4.8	5.5	6.1	119	114	106
	●	20-25W	.281	.297	1.3	1.7	2.1	2.5	3.1	3.5	4.3	5.0	6.1	7.0	7.9	118	112	105
	●	20-30W	.281	.312	1.4	1.8	2.2	2.6	3.2	3.7	4.5	5.2	6.4	7.4	8.2	118	112	105
	●	25-25W	.281	.297	1.4	1.8	2.1	2.5	3.1	3.5	4.3	5.0	6.1	7.0	7.9	117	110	103
	●	25-30W	.281	.312	1.5	2.0	2.3	2.8	3.4	4.0	4.9	5.6	6.9	7.9	8.9	117	110	103

*Dual inlets, each in diameter specified.

Highlighted column shows the rated pressure.

S PERFORMANCE DATA:
STANDARD ANGLE SPRAY

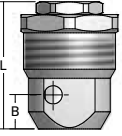
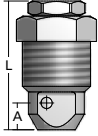
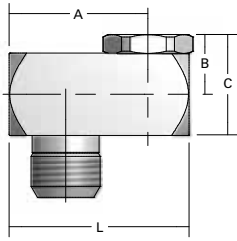
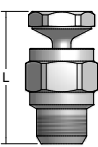
Inlet Conn. (in.)	Nozzle Type BDM	Capacity Size	Orifice Dia. Nom. (in.)	Flow Rate Capacity (gallons per minute)									Spray Angle (°)		
				10 psi	20 psi	40 psi	100 psi	200 psi	300 psi	400 psi	500 psi	20 psi	100 psi	500 psi	
3/8	●	2-0.5	.047	–	–	.16	.25	.36	.44	.51	.57	–	52	45	
	●	2-1	.063	–	.16	.22	.36	.51	.62	.72	.80	53	65	50	
	●	2	.078	.20	.28	.40	.63	.89	1.1	1.3	1.4	60	69	62	
	●	3-2	.078	.22	.31	.44	.69	.98	1.2	1.4	1.6	57	68	58	
	●	3	.094	.30	.42	.60	.95	1.3	1.6	1.9	2.1	64	75	64	
	●	5	.125	.50	.71	1.0	1.6	2.2	2.7	3.2	3.5	73	78	72	
	●	10-2	.078	.35	.49	.70	1.1	1.6	1.9	2.2	2.5	30	46	40	
	●	20-10	.172	1.4	1.9	2.7	4.3	6.0	7.4	8.5	9.5	61	60	49	

Maximum recommended operating pressure is 500 psi (34.5 bar).

Highlighted column shows the rated pressure.



DIMENSIONS AND WEIGHTS

Nozzle	Nozzle Type	Inlet Conn. (in.)	L (in.)	Hex. (in.)	A (in.)	B (in.)	C (in.)	Net Weight (oz.)
	BD (M)	3/8	1.250	11/16	–	0.266	–	1
		1/2	1.469	7/8	–	0.311	–	2
		3/4	1.750	1-1/16	–	0.375	–	4
		1-1/2	2.625	2	–	0.311	–	21
	BD-W (M)	3/8	1.250	11/16	–	0.266	–	1
		1/2	1.469	7/8	–	0.311	–	2
		3/4	1.750	1-1/16	–	0.375	–	4
	BDM (M)	3/8	1.281	11/16	0.266	–	–	0.5
	BA (M)	3/8	1.500	–	1.046	0.578	0.953	4
		1/2	2.188	–	1.688	0.578	1.078	9.5
	8686 (M)	1/8	1.188	1/2	–	–	–	0.8
		1/4	1.313	5/8	–	–	–	1
		3/8	1.750	7/8	–	–	–	2.8

Based on the largest/heaviest version of each type.