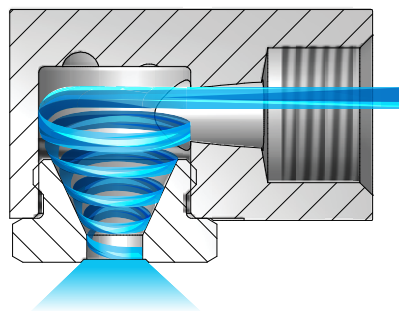


**OVERVIEW: WHIRLJET STANDARD, WIDE AND EXTRA WIDE ANGLE NOZZLES**

- Hollow cone spray pattern with a circular impact area
- Large, unobstructed flow passages minimize clogging
- Good atomization of liquids at lower pressures – ideal for fluid cooling applications
- Removable caps for easy inspection and cleaning on some models
- Slope-bottom design models reduce the drilling effect of the fluid vortex in the fluid chamber and premature wear
- AX and BX nozzles form smaller drops; ideal for use in air washers and dust suppression applications
- CX, CF, CRC and D nozzles feature higher flow rates; ideal for use in larger, evaporative cooling spray ponds
- AP, LAP and LBP nozzles are constructed of polypropylene and feature excellent corrosion resistance at temperatures up to 160°F (71°C); patented center post design provides extended wear life of the nozzle
- Standard, wide and extra wide spray angles

**WhirlJet Nozzles**

As liquid enters the nozzle, it passes into a whirlchamber and begins to spin in a circle at high speed. The rotation forces the liquid away from the center toward the edges of the whirlchamber. This causes the liquid to exit the orifice in a hollow cone pattern. Some WhirlJet nozzles have a slope bottom in the whirlchamber that helps extend wear life.



**WHIRLJET AX, BX, CX AND D NOZZLES**

- Spray angles: Standard – 43° to 91°, Wide – 112° to 120°
- Uniform spray distribution:
  - AX and BX nozzles – from .03 to 38 gpm (.19 to 145 lpm)
  - CX, CRC, CF and D nozzles – from 2.0 to 2362 gpm (7.3 to 9010 lpm)
- Operating pressures from 3.0 to 100 psi (0.2 to 7.0 bar)

Contact your local sales engineer for information about junction boxes.



**AX**  
1/8" to 3/4" female conn.  
Slope-bottom design  
Removable cap



**CX**  
1" to 2-1/2" female conn.  
Slope-bottom design  
One-piece cast-type

**WHIRLJET OPTIONS**



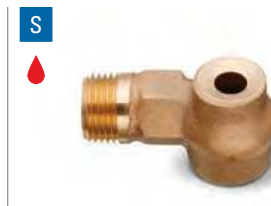
**BX** – 1/8" to 3/4" male conn.  
Slope-bottom design  
Removable cap



**CRC**  
1-1/4" to 4" female conn.  
Two-piece cast-type



**CF**  
4" to 6" flange conn.  
Two-piece cast-type



**D**  
1/2" to 3/4" male conn.  
One-piece cast-type

**RELATIVE DROP SIZE  
IN MICRONS**

10 to 100

100 to 500

500 to 1000

1000 to 5000

Drop size will vary based on flow rate and pressure.



**WHIRLJET® NOZZLES**

**HOLLOW CONE**

**S** STANDARD ANGLE SPRAY | **W** WIDE ANGLE SPRAY

**WHIRLJET AP, LAP, LBP AND E NOZZLES**

- Spray angles: Standard – 43° to 91°, Wide – 112° to 120°, Extra wide – 144° to 165°
- Uniform spray distribution:
  - AP, LAP and LBP nozzles – from .14 to 18.9 gpm (.20 to 15.9 lpm)
  - E nozzles – from .11 to 16.8 gpm (.41 to 64 lpm)
- Operating pressures from 3.0 to 100 psi (0.2 to 7.0 bar)



**AP**  
1/4" to 3/8" female conn.



**E**  
One-piece bar stock  
1/4" to 3/8" female conn.

**WHIRLJET OPTIONS**

**S**  
**W**

**LAP**  
3/8" to 1/2" female conn.

**S**  
**W**

**LBP**  
3/8" male conn.

**W**

**E**  
One-piece cast-type  
3/8" to 1/2" female conn.

**ORDERING INFORMATION**

**WHIRLJET AX**

Inlet Conn.	Nozzle Type	–	Material Code	Capacity Size	<b>Example</b>
					1/4 AX – SS 10

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

**WHIRLJET AP-W (9360)**

Nozzle Series No.	Inlet Conn.	Nozzle Type	–	Material Code	Capacity Size	<b>Example</b>
						9360 – 3/8 AP – PP 3-5W

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

**WHIRLJET CF FLANGE CONNECTION**

Inlet Conn.	Nozzle Type	–	Material Code	Capacity Size	<b>Example</b>
					6 CF – SS 550-65

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

**WHIRLJET E**

Inlet Conn.	Nozzle Type	–	Material Code	Capacity Size	<b>Example</b>
					1/4 E – SS 10

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

QUICK REFERENCE GUIDE

Model	Connection/ Type	Connection Size (in.)	Materials	Page Number		
				Performance Data	Dimensions and Weights	
AX	F	1/8 to 3/4	Brass, Mild steel (I), 303 stainless steel (SS), 316 stainless steel (316SS)	D6-D7	D15	
BX	M	1/8 to 3/4		D6-D7		
AX-W	F	1/8 to 1/2		D8		
BX-W	M	1/8 to 1/2		D8		
CX	F, Cast	1 to 2-1/2	Brass, 316 stainless steel (SS)	D9	D16	
CF	Flange, Cast	4 to 6		D10		
CRC	F, Cast	1-1/4 to 4		D10		
D	M, Cast	1/2 to 3/4	Brass	D11		
AP (9360)	F	1/4 to 3/8	Polypropylene (PP)	D11-D12		D17
LAP (9360)	F	3/8 to 1/2		D11-D12		
LBP (9360)	M	3/8		D11-D12		
AP-W (9360)	F	1/4 to 3/8		D13	D16	
LAP-W (9360)	F	3/8 to 1/2		D14	D17	
LBP-W (9360)	M	3/8		D14		
E	F	1/4 to 1/2	303 stainless steel (SS)	D14-D15	D17	
E	F, Cast	3/8 to 1/2	Brass, 316 stainless steel (SS)	D14-D15		

F = female thread; 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.

**S** PERFORMANCE DATA:  
STANDARD ANGLE SPRAY



Inlet Conn. (in.)	Nozzle Type		Capacity Size	Inlet Dia. Nom. (mm)	Orifice Dia. Nom. (mm)	Flow Rate Capacity (liters per minute)											Spray Angle (°)		
	AX	BX				0.2 bar	0.4 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	6 bar	7 bar	0.7 bar	1.5 bar	6 bar	
1/8	●	●	.5	.79	1.2	-	-	.19	.23	.28	.32	.39	.46	.56	.60	39	58	69	
	●	●	1	1.6	1.6	-	-	.38	.46	.56	.64	.79	.91	1.1	1.2	41	64	76	
	●	●	2	2.0	2.0	-	.58	.76	.91	1.1	1.3	1.6	1.8	2.2	2.4	52	61	69	
	●	●	3	2.4	2.4	-	.86	1.1	1.4	1.7	1.9	2.4	2.7	3.4	3.6	52	64	77	
	●	●	5	3.2	3.2	1.0	1.4	1.9	2.3	2.8	3.2	3.9	4.6	5.6	6.0	56	67	76	
	●	●	8	4.0	4.0	1.6	2.3	3.1	3.6	4.5	5.2	6.3	7.3	8.9	9.6	56	65	70	
	●	●	10	4.4	4.4	2.0	2.9	3.8	4.6	5.6	6.4	7.9	9.1	11.2	12.1	55	65	72	

Intermediate capacities: Caps are interchangeable for in-between capacities within each pipe size group. Request Data Sheets 3055, 3986 and 3987.

Spray dimension data: Request Data Sheets 15350 and 15362.

Highlighted column shows the rated pressure.



PERFORMANCE DATA: STANDARD ANGLE SPRAY																			
Inlet Conn. (in.)	Nozzle Type		Capacity Size	Inlet Dia. Nom. (mm)	Orifice Dia. Nom. (mm)	Flow Rate Capacity (liters per minute)											Spray Angle (°)		
	AX	BX				0.2 bar	0.4 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	6 bar	7 bar	0.7 bar	1.5 bar	6 bar	
1/4	●	●	1	1.6	1.6	–	–	.38	.46	.56	.64	.79	.91	1.1	1.2	47	53	67	
	●	●	2	2.0	2.0	–	–	.76	.91	1.1	1.3	1.6	1.8	2.2	2.4	56	62	71	
	●	●	3	2.4	2.4	–	.86	1.1	1.4	1.7	1.9	2.4	2.7	3.4	3.6	51	65	78	
	●	●	5	3.6	3.6	1.0	1.4	1.9	2.3	2.8	3.2	3.9	4.6	5.6	6.0	63	73	79	
	●	●	8	4.0	4.0	1.6	2.3	3.1	3.6	4.5	5.2	6.3	7.3	8.9	9.6	61	69	73	
	●	●	10	4.8	4.4	2.0	2.9	3.8	4.6	5.6	6.4	7.9	9.1	11.2	12.1	63	70	74	
	●	●	15	5.9	5.2	3.1	4.3	5.7	6.8	8.4	9.7	11.8	13.7	16.8	18.1	63	71	72	
3/8	●	●	5	3.6	3.2	1.0	1.4	1.9	2.3	2.8	3.2	3.9	4.6	5.6	6.0	64	73	79	
	●	●	8	4.4	4.0	1.6	2.3	3.1	3.6	4.5	5.2	6.3	7.3	8.9	9.6	62	70	74	
	●	●	10	5.2	4.4	2.0	2.9	3.8	4.6	5.6	6.4	7.9	9.1	11.2	12.1	64	72	75	
	●	●	15	5.9	5.6	3.1	4.3	5.7	6.8	8.4	9.7	11.8	13.7	16.8	18.1	64	72	74	
	●	●	20	7.1	6.4	4.1	5.8	7.6	9.1	11.2	12.9	15.8	18.2	22	24	63	70	74	
	●	●	25	7.5	7.5	5.1	7.2	9.5	11.4	14.0	16.1	19.7	23	28	30	63	70	74	
	●	●	30	8.3	7.9	6.1	8.6	11.4	13.7	16.8	19.3	24	27	34	36	63	70	74	
1/2	●	●	25	9.5	6.4	5.1	7.2	9.5	11.4	14.0	16.1	19.7	23	28	30	63	66	71	
	●	●	30	9.5	7.5	6.1	8.6	11.4	13.7	16.8	19.3	24	27	34	36	67	71	75	
	●	●	40	9.5	9.1	8.2	11.5	15.3	18.2	22	26	32	36	45	48	72	76	78	
	●	●	50	9.5	11.1	10.2	14.4	19.1	23	28	32	39	46	56	60	74	79	82	
	●	●	60	9.5	13.1	12.2	17.3	23	27	34	39	47	55	67	72	77	82	86	
3/4	●	●	40	12.7	7.9	8.2	11.5	15.3	18.2	22	26	32	36	45	48	70	73	74	
	●	●	50	12.7	9.5	10.2	14.4	19.1	23	28	32	39	46	56	60	72	75	77	
	●	●	60	12.7	11.1	12.2	17.3	23	27	34	39	47	55	67	72	74	76	79	
	●	●	70	12.7	12.7	14.3	20	27	32	39	45	55	64	78	84	76	79	83	
	●	●	80	12.7	14.3	16.3	23	31	36	45	52	63	73	89	96	78	82	84	
	●	●	90	12.7	14.7	18.3	26	34	41	50	58	71	82	101	109	81	84	84	
	●	●	100	12.7	15.9	20	29	38	46	56	64	79	91	112	121	83	86	86	
	●	●	110	12.7	17.1	22	32	42	50	61	71	87	100	123	133	85	88	88	
	●	●	120	12.7	18.3	24	35	46	55	67	77	95	109	134	145	87	90	90	

Intermediate capacities: Caps are interchangeable for in-between capacities within each pipe size group. Request Data Sheets 3055, 3986 and 3987.

Spray dimension data: Request Data Sheets 15350 and 15362.

Highlighted column shows the rated pressure.



HOLLOW  
CONE

WHIRLJET® NOZZLES

**W** WIDE ANGLE SPRAY

**W** PERFORMANCE DATA:  
WIDE ANGLE SPRAY



Inlet Conn. (in.)	Nozzle Type		Capacity Size	Inlet Dia. Nom. (mm)	Orifice Dia. Nom. (mm)	Flow Rate Capacity (liters per minute)										Spray Angle (°)		
	AX-W	BX-W				0.4 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	6 bar	0.7 bar	1.5 bar	6 bar	
1/8	●	●	0.5-0.5W	.79	1.2	–	–	.19	.23	.28	.32	.39	.46	.56	103	117	98	
	●	●	1-1W	1.6	1.6	–	–	.39	.46	.56	.64	.79	.91	1.1	110	125	110	
	●	●	2-3W	2.0	2.8	–	.81	.97	1.1	1.4	1.6	2.0	2.3	2.8	114	114	97	
	●	●	3-3W	2.4	2.8	–	.97	1.2	1.4	1.7	1.9	2.4	2.7	3.3	114	114	97	
	●	●	3-5W	2.4	3.2	–	1.1	1.3	1.5	1.9	2.2	2.7	3.1	3.8	116	110	95	
	●	●	2-10W	2.0	4.4	–	1.3	1.6	1.9	2.3	2.6	3.2	3.7	4.6	130	135	120	
	●	●	5-5W	3.2	3.2	–	1.6	1.9	2.3	2.8	3.2	3.9	4.6	5.5	116	110	92	
	●	●	5-10W	3.2	4.4	1.9	2.1	2.5	3.0	3.6	4.2	5.1	5.9	7.3	126	121	95	
1/4	●	●	8-10W	4.0	4.4	2.6	2.9	3.5	4.1	5.0	5.8	7.1	8.2	10.0	124	112	90	
	●	●	1-1W	1.6	1.6	–	–	.39	.46	.56	.64	.79	.91	1.1	110	117	111	
	●	●	1-5W	1.6	3.2	–	–	.65	.77	.95	1.1	1.3	1.5	1.9	100	123	124	
	●	●	1-10W	1.6	4.4	–	–	.81	.96	1.2	1.4	1.7	1.9	2.3	140	144	139	
	●	●	1-15W	1.6	5.6	–	–	.93	1.1	1.3	1.5	1.9	2.2	2.7	105	128	132	
	●	●	2-5W	2.0	3.2	–	1.1	1.3	1.5	1.9	2.2	2.7	3.1	3.8	118	123	113	
	●	●	2-10W	2.0	4.4	–	1.3	1.6	1.9	2.3	2.6	3.2	3.7	4.6	138	136	126	
	●	●	5-5W	3.6	3.2	–	1.6	1.9	2.3	2.8	3.2	3.9	4.6	5.6	114	113	104	
	●	●	5-10W	3.6	4.4	1.9	2.1	2.5	3.0	3.6	4.2	5.1	5.9	7.3	130	130	119	
	●	●	5-15W	3.6	5.6	2.2	2.5	3.0	3.5	4.3	5.0	6.1	7.0	8.6	130	132	120	
	●	●	8-10W	4.0	4.4	2.6	2.9	3.5	4.1	5.0	5.8	7.1	8.2	10.0	129	122	103	
	●	●	10-10W	4.8	4.4	2.9	3.2	3.8	4.6	5.6	6.4	7.9	9.1	11.2	120	108	95	
3/8	●	●	8-15W	4.0	5.6	3.1	3.5	4.2	5.0	6.1	7.1	8.7	10.0	12.3	129	122	107	
	●	●	10-15W	4.8	5.6	3.5	3.9	4.7	5.5	6.7	7.7	9.5	10.9	13.4	120	108	97	
	●	●	15-15W	6.0	5.6	4.3	4.8	5.7	6.8	8.4	9.7	11.8	13.7	16.7	101	95	88	
	●	●	5-10W	3.6	4.4	1.9	2.1	2.5	3.0	3.6	4.2	5.1	5.9	7.3	130	123	102	
	●	●	5-15W	3.6	5.6	2.2	2.5	3.0	3.5	4.3	5.0	6.1	7.0	8.6	138	131	112	
	●	●	8-10W	4.4	4.4	2.6	2.9	3.5	4.1	5.0	5.8	7.1	8.2	10.0	122	110	96	
	●	●	10-10W	5.2	4.4	2.9	3.2	3.8	4.6	5.6	6.4	7.9	9.1	11.2	116	108	93	
	●	●	8-15W	4.4	5.6	3.1	3.5	4.2	5.0	6.1	7.1	8.7	10.0	12.3	133	120	105	
	●	●	10-15W	5.2	5.6	3.5	3.9	4.7	5.5	6.7	7.7	9.5	10.9	13.4	126	115	100	
	●	●	8-25W	4.4	7.5	3.8	4.2	5.0	5.9	7.3	8.4	10.3	11.9	14.5	122	118	109	
	●	●	10-20W	5.2	6.0	4.0	4.5	5.4	6.4	7.8	9.0	11.1	12.8	15.6	118	112	102	
	●	●	15-15W	6.0	5.6	4.3	4.8	5.7	6.8	8.4	9.7	11.8	13.7	16.7	116	106	95	
1/2	●	●	15-20W	6.0	6.0	4.9	5.5	6.6	7.7	9.5	11.0	13.4	15.5	19.0	113	108	98	
	●	●	20-20W	7.1	6.0	5.7	6.4	7.6	9.1	11.2	12.9	15.8	18.2	22	106	102	95	
	●	●	15-30W	6.0	7.9	6.4	7.1	8.5	10.0	12.3	14.2	17.4	20	25	116	110	102	
	●	●	25-25W	7.5	7.5	7.2	8.1	9.7	11.4	14.0	16.1	19.7	23	28	105	100	93	
	●	●	25-30W	7.5	7.9	8.0	9.0	10.8	12.8	15.6	18.0	22	26	31	105	101	94	
1/2	●	●	50-50W	9.5	11.1	14.4	16.1	19.2	23	28	32	39	46	56	110	102	93	

Intermediate capacities: Caps are interchangeable for in-between capacities within each pipe size group. Request Data Sheets 3055, 3986 and 3987.

Spray dimension data: Request Data Sheets 15350 and 15362.

Highlighted column shows the rated pressure.



**W** PERFORMANCE DATA:  
**EXTRA WIDE ANGLE SPRAY**

Inlet Conn. (in.)	Nozzle Type E Styles	Capacity Size	Inlet Dia. Nom. (mm)	Orifice Dia. Nom. (mm)	Flow Rate Capacity (liters per minute)											Spray Angle (°)		
					0.2 bar	0.4 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	6 bar	7 bar	0.5 bar	1.5 bar	6 bar
3/8	●	8	2.8	12.3	1.6	2.3	2.6	3.1	3.6	4.5	5.2	6.3	7.3	8.9	9.6	164	160	157
	●	10	3.2	12.3	2.0	2.9	3.2	3.8	4.6	5.6	6.4	7.9	9.1	11.2	12.1	164	160	157
	●	15	4.4	12.3	3.1	4.3	4.8	5.7	6.8	8.4	9.7	11.8	13.7	16.8	18.1	165	163	155
	●	20	5.2	12.3	4.1	5.8	6.4	7.6	9.1	11.2	12.9	15.8	18.2	22	24	162	152	147
	●	25	5.9	12.3	5.1	7.2	8.1	9.5	11.4	14.0	16.1	19.7	23	28	30	162	158	154
	●	33	6.7	16.3	6.7	9.5	10.6	12.6	15.0	18.4	21	26	30	37	40	162	154	148
1/2	●	25	5.6	16.3	5.1	7.2	8.1	9.5	11.4	14.0	16.1	19.7	23	28	30	162	158	154
	●	30	6.4	16.3	6.1	8.6	9.7	11.4	13.7	16.8	19.3	24	27	34	36	163	155	148
	●	40	7.5	16.3	8.2	11.5	12.9	15.3	18.2	22	26	32	36	45	48	160	152	144
	●	53	9.5	16.3	10.8	15.3	17.1	20	24	30	34	42	48	59	64	159	152	149

Highlighted column shows the rated pressure.

**DIMENSIONS AND WEIGHTS**

Nozzle	Nozzle Type	Inlet Conn. (in.)	L (mm)	A (mm)	B (mm)	C (mm)	E (mm)	Net Weight (kg)
	<b>AX (F) AX-W (F)</b>	1/8	25.4	17.5	11.9	19.8	—	0.04
		1/4	31.8	22.2	13.5	23.0	—	0.08
		3/8	37.3	26.2	17.5	28.6	—	0.12
		1/2	49.2	34.9	19.9	34.2	—	0.25
		3/4	55.6	34.9	22.3	39.7	—	0.31
	<b>BX (M) BX-W (M)</b>	1/8	30.2	22.2	16.6	34.9	—	0.04
		1/4	34.9	25.4	13.5	39.7	—	0.07
		3/8	39.7	28.6	17.5	39.7	—	0.11
		1/2	49.2	34.9	21.4	49.2	—	0.20
		3/4	57.2	41.3	39.7	31.8	—	0.30
	<b>CX (F)</b>	1	66.7	44.5	31.8	46.8	8.7	0.31
		1-1/4	77.8	52.4	33.3	55.6	11.1	0.57
		1-1/2	93.7	61.9	38.1	73.0	14.3	0.79
		2	115.1	93.7	53.6	93.7	18.3	1.36
		2-1/2	140.5	88.9	68.0	114.3	11.9	1.93

Based on the largest/heaviest version of each type.

