A close-up photograph of a metal nozzle, likely made of stainless steel, with a hollow cone spray pattern. The nozzle is positioned at the top of the frame, and a fine mist of liquid is being sprayed downwards, creating a wide, shallow cone. The background is a solid, deep red color. The nozzle has a hexagonal base and is engraved with the following text: "SPRAYING SYSTEMS CO.", "WIPI JET", "374AX", and "316SS".

SPRAYING  
SYSTEMS CO.  
WIPI JET  
374AX  
316SS

## HOLLOW CONE NOZZLES

GAS COOLING · SULFUR BURNING  
DUST CONTROL · WATER AERATING  
CHEMICAL PRODUCTION · COOLING  
METAL TREATING · WASHING  
GAS SCRUBBING · BRINE SPRAYING  
PRODUCT DEGREASING



# HOLLOW CONE NOZZLES INTRODUCTION



## WIDE RANGE OF CAPACITIES, CONNECTIONS AND MATERIALS TO MATCH YOUR APPLICATION

### Styles:

- Conventional
- Quick-connect

### Spray patterns:

- Standard
- Extra wide angle
- Wide angle

**Spray angles:** 43° to 180°

**Flow rate range:** .05 to 3320 gpm (.19 to 12568 lpm)

**Operating pressure range:** up to 2000 psi (138 bar)

### Connections:

- 1/8" to 6" pipe sizes
- Flange
- Female and male NPT and BSPT

### Materials:

- Brass
- Mild steel
- 303 stainless steel
- 309 stainless steel
- 316 stainless steel
- Hardened stainless steel
- Polypropylene
- Polyvinyl chloride
- PTFE
- Other specialty materials available

*See Trademark Registration and Ownership, page i-1.*

### OPTIMIZE THE PERFORMANCE OF HOLLOW CONE NOZZLES:

Prevent clogging problems by using a **T-style strainer**. Our 124 strainers are available in several styles for use in high flow rate applications. Options include self-cleaning versions, large screen sizes to reduce cleaning frequency and more. **See page F4**



For quick and easy in-line manual shut-off, use our **23220 ball valve**. Two activation options – handle or hex Allen wrench. Available with a wide range of connection options. **See page F29**



Accurately monitor liquid pressure with durable, accurate **pressure gauges**. Grade B accuracy, corrosion resistance, impact resistance and psi/bar dual scales are just a few of the features these gauges offer. **See page F38**



# HOLLOW CONE NOZZLES TABLE OF CONTENTS

## WHIRLJET® NOZZLES:

### STANDARD, WIDE AND EXTRA WIDE ANGLE SPRAYS

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## SPIRALJET® NOZZLES:

### STANDARD ANGLE SPRAY

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## UNIJET® NOZZLES:

### STANDARD AND WIDE ANGLE SPRAYS

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## WHIRLJET® NOZZLES:

### IN-LINE STANDARD, IN-LINE WIDE ANGLE, OFFSET-TYPE STANDARD AND DEFLECTED SPRAYS

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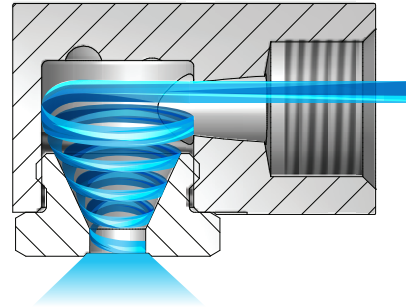


**OVERVIEW: WHIRLJET STANDARD, WIDE AND EXTRA WIDE ANGLE NOZZLES**

- 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.

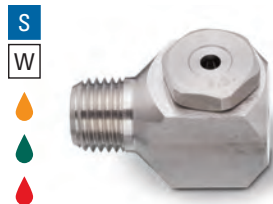


**AX**  
1/8" to 3/4" female conn.  
Slope-bottom design  
Removable cap



**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

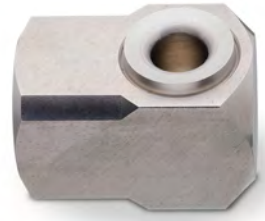
Drop size will vary based on flow rate and pressure.

**WHIRLJET 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**

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

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

**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	
<b>AX</b>	F	1/8 to 3/4	Brass, Mild steel (I), 303 stainless steel (SS), 316 stainless steel (316SS)	D6-D7	D15	
<b>BX</b>	M	1/8 to 3/4		D6-D7		
<b>AX-W</b>	F	1/8 to 1/2		D8		
<b>BX-W</b>	M	1/8 to 1/2		D8		
<b>CX</b>	F, Cast	1 to 2-1/2	Brass, 316 stainless steel (SS)	D9	D16	
<b>CF</b>	Flange, Cast	4 to 6		D10		
<b>CRC</b>	F, Cast	1-1/4 to 4		D10		
<b>D</b>	M, Cast	1/2 to 3/4	Brass	D11		
<b>AP (9360)</b>	F	1/4 to 3/8	Polypropylene (PP)	D11-D12		D17
<b>LAP (9360)</b>	F	3/8 to 1/2		D11-D12		
<b>LBP (9360)</b>	M	3/8		D11-D12		
<b>AP-W (9360)</b>	F	1/4 to 3/8		D13	D16	
<b>LAP-W (9360)</b>	F	3/8 to 1/2		D14	D17	
<b>LBP-W (9360)</b>	M	3/8		D14		
<b>E</b>	F	1/4 to 1/2	303 stainless steel (SS)	D14-D15	D17	
<b>E</b>	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.



**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
1/4	●	●	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

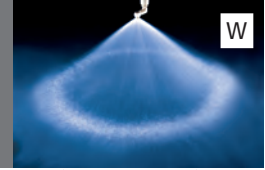
Intermediate capacities: Caps are interchangeable for in-between capacities within each pipe size group. Request Data Sheets 3055, 3986 and 3987.

Spray dimension data: Request Data Sheets 15350 and 15362.

**Highlighted column shows the rated pressure.**



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.





**S** PERFORMANCE DATA:  
**STANDARD ANGLE SPRAY**

Inlet Conn. (in.)	Nozzle Type <b>CX</b>	Capacity Size	Inlet Dia. Nom. (mm)	Orifice Dia. Nom. (mm)	Flow Rate Capacity (liters per minute)												Spray Angle (°)		
					0.2 bar	0.3 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	4 bar
1	●	7	17.5	11.5	17.1	21	24	27	32	38	47	54	66	76	93	101	64	65	66
	●	8	17.5	12.7	19.5	24	28	31	36	44	53	62	76	87	107	115	65	66	67
	●	9	17.5	14.3	22	27	31	35	41	49	60	69	85	98	120	130	66	67	69
	●	10	17.5	15.5	24	30	34	39	46	54	67	77	94	109	133	144	67	69	71
	●	12	17.5	17.1	29	36	41	46	55	65	80	92	113	131	160	173	70	73	75
	●	15	17.5	20.6	37	45	52	58	68	82	100	116	142	163	200	216	76	79	81
1-1/4	●	10	21.4	14.3	24	30	34	39	46	54	67	77	94	109	133	144	65	67	67
	●	12	21.4	16.3	29	36	41	46	55	65	80	92	113	131	160	173	68	70	71
	●	14	21.4	18.3	34	42	48	54	64	76	93	108	132	153	187	202	71	73	75
	●	16	21.4	20.2	39	48	55	62	73	87	107	123	151	174	214	231	74	75	77
	●	20	21.4	24.2	49	60	69	77	91	109	133	154	189	218	267	288	76	77	79
1-1/2	●	16	27.8	17.5	39	48	55	62	73	87	107	123	151	174	214	231	64	67	69
	●	20	27.8	21.8	49	60	69	77	91	109	133	154	189	218	267	288	69	72	74
	●	25	27.8	25.8	61	75	86	96	114	136	167	193	236	272	334	360	72	74	76
	●	30	27.8	28.6	73	90	103	116	137	163	200	231	283	327	400	432	74	76	78
2	●	30	36.5	23.8	73	90	103	116	137	163	200	231	283	327	400	432	66	67	70
	●	35	36.5	27.0	85	104	121	135	160	191	234	270	330	381	467	505	68	70	73
	●	40	36.5	30.2	97	119	138	154	182	218	267	308	378	436	534	577	70	72	75
	●	45	36.5	32.9	110	134	155	173	205	245	300	347	425	490	601	649	72	74	78
	●	50	36.5	36.1	122	149	172	193	228	272	334	385	472	545	667	721	74	77	82
	●	60	36.5	39.7	146	179	207	231	274	327	400	462	566	654	801	865	77	79	84
2-1/2	●	60	47.6	36.1	146	179	207	231	274	327	400	462	566	654	801	865	67	68	71
	●	70	47.6	40.5	171	209	241	270	319	381	467	539	661	763	934	1009	69	71	74
	●	80	47.6	44.1	195	239	276	308	365	436	534	616	755	872	1068	1153	71	73	77
	●	90	47.6	47.6	219	269	310	347	410	490	601	694	849	981	1201	1297	73	75	80
	●	100	47.6	50.8	244	298	345	385	456	545	667	771	944	1090	1335	1442	77	79	83

Highlighted column shows the rated pressure.



**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 (°)		
	CF	CRC				0.2 bar	0.4 bar	0.5 bar	0.7 bar	1.5 bar	2 bar	3 bar	4 bar	6 bar	7 bar	0.5 bar	1.5 bar	4 bar
1-1/4		●	10-45	21.4	13.1	24	34	39	46	67	77	94	109	133	144	45	49	52
		●	12-45	21.4	14.3	29	41	46	55	80	92	113	131	160	173	45	49	51
		●	14-45	21.4	16.7	34	48	54	64	93	108	132	153	187	202	45	48	51
		●	16-45	21.4	19.1	39	55	62	73	107	123	151	174	214	231	45	48	50
		●	20-45	21.4	22.2	49	69	77	91	133	154	189	218	267	288	45	47	49
2		●	30-45	36.5	23.8	73	103	116	137	200	231	283	327	400	432	45	49	52
		●	35-45	36.5	27.0	85	121	135	160	234	270	330	381	467	505	45	49	51
		●	40-45	36.5	30.2	97	138	154	182	267	308	378	436	534	577	45	48	50
		●	45-45	36.5	32.1	110	155	173	205	300	347	425	490	601	649	45	48	50
		●	50-45	36.5	34.9	122	172	193	228	334	385	472	545	667	721	45	47	49
		●	55-45	36.5	36.9	134	190	212	251	367	424	519	599	734	793	45	47	49
3		●	70	57.2	34.9	171	241	270	319	467	539	661	763	934	1009	65	66	69
		●	85	57.2	40.1	207	293	327	388	567	655	802	926	1134	1225	67	68	71
		●	100	57.2	44.5	244	345	385	456	667	771	944	1090	1335	1442	69	72	74
		●	120	57.2	52.4	292	414	462	547	801	925	1133	1308	1602	1730	71	73	77
		●	140	57.2	58.7	341	482	539	638	934	1079	1321	1526	1869	2018	73	75	80
		●	70-45	57.2	34.9	171	241	270	319	467	539	661	763	934	1009	45	49	52
		●	85-45	57.2	40.1	207	293	327	388	567	655	802	926	1134	1225	45	49	51
		●	100-45	57.2	44.5	244	345	385	456	667	771	944	1090	1335	1442	45	48	51
		●	120-45	57.2	51.2	292	414	462	547	801	925	1133	1308	1602	1730	45	48	50
		●	140-45	57.2	58.7	341	482	539	638	934	1079	1321	1526	1869	2018	45	47	49
4	●	●	150	79.4	50.8	366	517	578	684	1001	1156	1416	1635	2002	2162	66	67	70
	●	●	175	79.4	59.1	426	603	674	798	1168	1349	1652	1907	2336	2523	68	70	71
	●	●	200	79.4	68.3	487	689	771	912	1335	1541	1888	2180	2669	2883	70	72	74
	●	●	225	79.4	74.6	548	775	867	1026	1502	1734	2123	2452	3003	3244	72	74	77
	●	●	250	79.4	82.6	609	862	963	1140	1668	1926	2359	2724	3337	3604	74	76	81
	●	●	275	79.4	92.1	670	948	1060	1254	1835	2119	2595	2997	3670	3964	78	80	83
	●	●	150-45	79.4	50.8	366	517	578	684	1001	1156	1416	1635	2002	2162	45	49	52
	●	●	175-45	79.4	59.1	426	603	674	798	1168	1349	1652	1907	2336	2523	45	49	51
	●	●	200-45	79.4	68.3	487	689	771	912	1335	1541	1888	2180	2669	2883	45	48	51
	●	●	225-45	79.4	74.6	548	775	867	1026	1502	1734	2123	2452	3003	3244	45	48	50
	●	●	250-45	79.4	82.6	609	862	963	1140	1668	1926	2359	2724	3337	3604	45	47	49
	6	●		250	124	62.3	609	862	963	1140	1668	1926	2359	2724	3337	3604	65	67
●			300	124	69.9	731	1034	1156	1368	2002	2312	2831	3269	4004	4325	66	68	70
●			350	124	76.2	853	1206	1349	1596	2336	2697	3303	3814	4671	5046	68	70	72
●			400	124	82.6	975	1378	1541	1824	2669	3082	3775	4359	5339	5767	70	73	75
●			450	124	88.1	1097	1551	1734	2051	3003	3468	4247	4904	6006	6487	72	75	77
●			500	124	97.2	1218	1723	1926	2279	3337	3853	4719	5449	6673	7208	74	76	79
●			550	124	108	1340	1895	2119	2507	3670	4238	5191	5994	7341	7929	76	79	83
●			625	124	130	1523	2154	2408	2849	4171	4816	5899	6811	8342	9010	78	81	86
●			440-65	124	88.1	1072	1516	1695	2006	2936	3391	4153	4795	5873	6343	60	61	62
●			550-65	124	108	1340	1895	2119	2507	3670	4238	5191	5994	7341	7929	64	65	66
●			625-65	124	130	1523	2154	2408	2849	4171	4816	5899	6811	8342	9010	65	66	67

Highlighted column shows the rated pressure.



**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 (°)		
					0.2 bar	0.3 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	0.7 bar	1.5 bar	4 bar
1/2	●	3	11.1	7.9	7.3	9.0	10.3	11.6	13.7	16.3	20	23	28	33	40	43	62	65	67
	●	4	11.1	9.9	9.7	11.9	13.8	15.4	18.2	22	27	31	38	44	53	58	68	71	73
	●	5	11.1	11.9	12.2	14.9	17.2	19.3	23	27	33	39	47	54	67	72	74	77	80
	●	7	11.1	13.9	17.1	21	24	27	32	38	47	54	66	76	93	101	77	80	83
3/4	●	4	14.3	9.1	9.7	11.9	13.8	15.4	18.2	22	27	31	38	44	53	58	63	66	67
	●	5	14.3	10.7	12.2	14.9	17.2	19.3	23	27	33	39	47	54	67	72	67	69	70
	●	6	14.3	12.3	14.6	17.9	21	23	27	33	40	46	57	65	80	86	71	73	77
	●	7	14.3	13.9	17.1	21	24	27	32	38	47	54	66	76	93	101	73	75	80
	●	10	14.3	16.7	24	30	34	39	46	54	67	77	94	109	133	144	77	80	84

Highlighted column shows the rated pressure.

**S** PERFORMANCE DATA:  
**STANDARD ANGLE SPRAY**

Nozzle Type/ Inlet Conn. (in.)					Capacity Size	Inlet Dia. Nom. (mm)	Orifice Dia. Nom. (mm)	Flow Rate Capacity (liters per minute)										Spray Angle (°)		
AP		LAP		LBP				0.2 bar	0.4 bar	0.5 bar	0.7 bar	1.5 bar	2 bar	3 bar	4 bar	6 bar	7 bar	0.7 bar	1.5 bar	6 bar
1/4	3/8	3/8	1/2	3/8																
●	●				2	2.0	2.0	–	.57	.64	.75	1.1	1.3	1.6	1.8	2.2	2.4	53	70	80
●	●				2-3	2.0	2.4	–	.69	.77	.89	1.3	1.5	1.9	2.2	2.7	2.9	61	76	83
●	●				2-5	2.0	2.8	–	.80	.90	1.1	1.6	1.8	2.2	2.6	3.1	3.4	63	81	90
●	●				2-8	2.0	3.6	–	.98	1.1	1.2	1.8	2.1	2.6	3.0	3.7	4.0	71	87	95
●	●				2-10	2.0	4.4	–	1.1	1.2	1.4	2.0	2.3	2.8	3.3	4.0	4.3	72	94	104
●	●				2-15	2.0	5.2	–	1.2	1.3	1.5	2.2	2.5	3.1	3.6	4.4	4.7	77	100	111
●	●				2-20	2.0	6.0	–	1.3	1.4	1.7	2.5	2.8	3.5	4.0	4.9	5.3	81	103	113
●	●				3-2	2.4	2.0	–	.75	.84	1.0	1.5	1.7	2.1	2.4	2.9	3.1	58	67	76
●	●				3	2.4	2.4	–	.87	.97	1.2	1.7	1.9	2.4	2.7	3.3	3.6	55	79	80
●	●				3-5	2.4	2.8	–	1.1	1.2	1.4	2.0	2.3	2.8	3.3	4.0	4.3	72	82	86
●	●				3-8	2.4	3.6	–	1.3	1.4	1.7	2.5	2.8	3.5	4.0	4.9	5.3	73	88	92
●	●				3-10	2.4	4.4	–	1.4	1.5	1.8	2.7	3.1	3.8	4.4	5.4	5.8	81	94	97
●	●				3-15	2.4	5.2	–	1.6	1.8	2.1	3.1	3.5	4.3	5.0	6.1	6.6	83	93	100
●	●				3-20	2.4	6.0	–	1.8	2.0	2.4	3.5	4.0	4.9	5.7	6.9	7.5	90	100	107
●	●				5-2	3.6	2.0	–	–	–	1.4	2.0	2.3	2.8	3.3	4.0	4.3	49	61	67
●	●				5-3	3.6	2.4	–	–	1.3	1.6	2.3	2.6	3.2	3.7	4.6	4.9	57	68	69
●	●				5	3.6	2.8	–	1.4	1.6	2.2	2.8	3.2	3.9	4.6	5.6	6.0	70	75	79
●	●				5-8	3.6	3.6	–	1.7	1.9	2.3	3.3	3.9	4.7	5.5	6.7	7.2	80	78	82
●	●				5-10	3.6	4.4	–	2.0	2.2	2.5	3.7	4.3	5.3	6.1	7.5	8.1	80	87	89
●	●				5-15	3.6	5.2	–	2.3	2.6	3.1	4.5	5.2	6.3	7.3	8.9	9.6	83	91	95
●	●				5-20	3.6	6.0	–	2.5	2.8	3.3	4.8	5.5	6.8	7.8	9.6	10.4	88	98	102

Highlighted column shows the rated pressure.



**S** PERFORMANCE DATA:  
STANDARD ANGLE SPRAY

Nozzle Type/ Inlet Conn. (in.)					Capacity Size	Inlet Dia. Nom. (mm)	Orifice Dia. Nom. (mm)	Flow Rate Capacity (liters per minute)										Spray Angle (°)		
AP		LAP		LBP				0.2 bar	0.4 bar	0.5 bar	0.7 bar	1.5 bar	2 bar	3 bar	4 bar	6 bar	7 bar	0.7 bar	1.5 bar	6 bar
1/4	3/8	3/8	1/2	3/8																
●	●				8-5	4.4	2.8	–	1.7	1.9	2.2	3.3	3.9	4.7	5.5	6.7	7.2	60	68	71
●	●				8	4.4	3.6	1.6	2.3	2.6	3.1	4.5	5.2	6.3	7.3	8.9	9.6	65	72	74
●	●				8-10	4.4	4.4	1.9	2.7	3.0	3.5	5.2	6.1	7.4	8.6	10.5	11.3	73	81	81
●	●				8-15	4.4	5.2	2.2	3.1	3.5	4.1	6.1	7.1	8.7	10.0	12.3	13.3	78	84	87
●	●				8-20	4.4	6.0	2.4	3.4	3.9	4.6	6.7	7.7	9.5	10.9	13.4	14.5	84	89	92
●	●				10-5	4.8	2.8	–	–	2.1	2.5	3.6	4.2	5.1	5.9	7.3	7.8	55	64	67
●	●				10-8	4.8	3.6	–	2.5	2.8	3.3	4.8	5.5	6.8	7.8	9.6	10.4	60	64	66
●	●				10	4.8	4.4	2.0	2.8	3.2	3.8	5.6	6.4	7.9	9.1	11.2	12.1	70	76	75
●	●				10-15	4.8	5.2	2.4	3.4	3.9	4.6	6.7	7.7	9.5	10.9	13.4	14.5	76	81	79
●	●				10-20	4.8	6.0	2.9	4.1	4.5	5.3	7.8	9.0	11.1	12.8	15.6	16.9	78	85	98
●	●				15-5	6.0	2.8	–	–	–	2.9	4.2	4.9	6.0	6.9	8.5	9.2	52	65	60
●	●				15-8	6.0	3.6	–	–	3.2	3.8	5.6	6.4	7.9	9.1	11.2	12.1	55	68	64
●	●				15-10	6.0	4.4	–	3.5	3.9	4.6	6.7	7.7	9.5	10.9	13.4	14.5	65	75	71
●	●				15	6.0	5.2	3.1	4.4	4.8	5.7	8.4	9.7	11.8	13.7	16.7	18.1	70	72	75
●	●				15-20	6.0	6.0	3.5	4.9	5.5	6.5	9.5	11.0	13.4	15.5	19.0	21	78	80	82
		●			20-5	6.4	3.2	–	–	–	3.1	4.6	5.4	6.6	7.6	9.3	10.0	33	40	55
		●			20-8	6.4	4.4	–	–	3.5	4.1	6.1	7.1	8.7	10.0	12.3	13.3	40	47	60
		●			20-10	6.4	4.8	–	4.0	4.5	5.3	7.8	9.0	11.1	12.8	15.6	16.9	39	55	65
		●			20-15	6.4	6.0	3.7	5.2	5.8	6.9	10.0	11.6	14.2	16.4	20	22	55	63	68
		●			20	6.4	6.4	4.1	5.8	6.4	7.6	11.2	12.9	15.8	18.2	22	24	59	66	70
		●			20-25	6.4	7.5	5.1	7.2	8.1	9.6	14.0	16.1	19.7	23	28	30	60	73	77
		●			20-40	6.4	9.1	5.9	8.3	9.3	11.0	16.2	18.7	23	26	32	35	80	82	86
		●			20-50	6.4	11.1	7.1	10.0	11.3	13.4	19.5	23	28	32	39	42	83	90	97
		●			20-60	6.4	13.1	8.2	11.6	12.9	15.3	22	26	32	36	45	48	86	94	99
		●			25-8	7.1	4.4	–	–	–	4.6	6.7	7.7	9.5	10.9	13.4	14.5	27	42	57
		●			25-10	7.1	4.8	3.1	4.4	4.8	5.7	8.4	9.7	11.7	13.7	16.7	18.1	35	50	59
		●			25-15	7.1	6.0	3.9	5.5	6.1	7.2	10.6	12.2	15.0	17.3	21	23	44	57	64
		●			25-20	7.1	6.4	4.5	6.4	7.1	8.4	12.3	14.2	17.4	20	25	27	53	63	68
		●			25	7.1	7.5	5.1	7.2	8.1	9.6	14.0	16.1	19.7	23	28	30	60	70	74
		●			25-40	7.1	9.1	6.5	9.2	10.3	12.2	17.9	21	25	29	36	39	69	73	79
		●			25-50	7.1	11.1	8.0	11.3	12.6	14.9	22	25	31	36	44	47	76	81	85
		●			25-60	7.1	13.1	9.2	13.0	14.5	17.2	25	29	36	41	50	54	83	86	92
		●	●	●	40-8	9.1	4.4	–	–	–	5.7	8.4	9.7	11.8	13.7	16.7	18.1	30	41	48
		●	●	●	40-10	9.1	4.8	–	–	5.8	6.9	10.0	11.6	14.2	16.4	20	22	34	45	53
		●	●	●	40-15	9.1	6.0	4.9	6.9	7.7	9.1	13.4	15.5	18.9	22	27	29	44	48	57
		●	●	●	40-20	9.1	6.4	5.5	7.8	8.7	10.3	15.1	17.4	21	25	30	33	45	52	59
		●	●	●	40-25	9.1	7.5	6.5	9.2	10.3	12.2	17.9	21	25	29	36	39	48	56	61
		●	●	●	40	9.1	9.1	8.2	11.6	12.9	15.3	22	26	32	36	45	48	67	71	73
		●	●	●	40-50	9.1	11.1	10.2	14.4	16.1	19.0	28	32	39	46	56	60	68	80	84
		●	●	●	40-50.1	9.1	10.7	10.2	14.4	16.1	19.0	28	32	39	46	56	60	40	47	50
		●	●	●	40-60	9.1	13.1	12.2	17.3	19.3	23	33	39	47	55	67	72	80	86	90

Highlighted column shows the rated pressure.



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

Nozzle Type/ Inlet Conn. (in.)		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	1.5 bar	2 bar	3 bar	4 bar	6 bar	7 bar	0.5 bar	1.5 bar	6 bar
AP-W																	
1/4	3/8																
●	●	2-5W	2.0	3.2	–	.64	.90	1.1	1.6	1.8	2.2	2.6	3.1	3.4	126	135	131
●	●	2-8W	2.0	4.0	–	.71	1.0	1.2	1.7	2.0	2.4	2.8	3.5	3.7	121	133	130
●	●	2-10W	2.0	4.4	–	.78	1.1	1.3	1.9	2.2	2.7	3.1	3.8	4.1	121	135	127
●	●	2-15W	2.0	5.6	–	.85	1.2	1.4	2.1	2.4	3.0	3.5	4.2	4.6	120	133	132
●	●	2-20W	2.0	6.0	–	1.0	1.4	1.7	2.3	2.7	3.3	3.8	4.7	5.1	111	132	135
●	●	3-5W	2.4	3.2	–	.85	1.2	1.4	2.0	2.3	2.8	3.3	4.0	4.3	133	131	109
●	●	3-8W	2.4	4.0	–	1.0	1.4	1.7	2.3	2.7	3.3	3.8	4.7	5.1	133	131	110
●	●	3-10W	2.4	4.4	–	1.2	1.7	2.0	2.9	3.4	4.1	4.7	5.8	6.3	128	130	115
●	●	3-15W	2.4	5.6	–	1.3	1.8	2.1	3.1	3.6	4.4	5.1	6.3	6.8	128	130	118
●	●	3-20W	2.4	6.0	–	1.7	1.9	2.2	3.3	3.8	4.7	5.4	6.6	7.1	119	134	136
●	●	5-5W	3.6	3.2	–	1.4	1.6	1.9	2.8	3.2	3.9	4.6	5.6	6.0	125	112	98
●	●	5-8W	3.6	4.0	–	1.7	1.9	2.2	3.3	3.9	4.7	5.5	6.7	7.2	125	112	97
●	●	5-10W	3.6	4.4	–	2.0	2.2	2.6	3.7	4.3	5.3	6.1	7.5	8.1	125	118	102
●	●	5-15W	3.6	5.6	–	2.3	2.6	3.1	4.5	5.2	6.3	7.3	8.9	9.6	130	125	105
●	●	5-20W	3.6	6.0	–	2.5	2.8	3.3	4.8	5.5	6.8	7.8	9.6	10.4	125	125	112
●	●	8-5W	4.4	3.2	–	1.7	1.9	2.2	3.3	3.9	4.7	5.5	6.7	7.2	119	102	99
●	●	8-8W	4.4	4.0	1.6	2.3	2.6	3.1	4.5	5.2	6.3	7.3	8.9	9.6	112	100	87
●	●	8-10W	4.4	4.4	1.9	2.6	2.9	3.4	5.1	5.9	7.2	8.3	10.2	11.0	115	102	90
●	●	8-15W	4.4	5.6	2.2	3.1	3.5	4.1	6.1	7.1	8.7	10.0	12.3	13.3	121	110	98
●	●	8-20W	4.4	6.0	2.4	3.5	3.9	4.6	6.7	7.7	9.5	10.9	13.4	14.5	121	113	106
●	●	10-5W	4.8	3.2	–	–	2.1	2.5	3.6	4.2	5.1	5.9	7.3	7.8	115	98	85
●	●	10-8W	4.8	4.0	–	2.5	2.8	3.3	4.8	5.5	6.8	7.8	9.6	10.4	110	95	84
●	●	10-10W	4.8	4.4	2.0	2.9	3.2	3.8	5.6	6.4	7.9	9.1	11.2	12.1	111	97	89
●	●	10-15W	4.8	5.6	2.4	3.5	3.9	4.6	6.7	7.7	9.5	10.9	13.4	14.5	113	104	97
●	●	10-20W	4.8	6.0	2.9	4.0	4.5	5.3	7.8	9.0	11.1	12.8	15.6	16.9	118	107	102
●	●	15-5W	6.0	3.2	–	–	–	3.5	4.2	4.9	6.0	6.9	8.5	9.2	–	91	80
●	●	15-8W	6.0	4.0	–	–	3.2	3.8	5.6	6.4	7.9	9.1	11.2	12.1	102	93	80
●	●	15-10W	6.0	4.4	–	3.5	3.9	4.6	6.7	7.7	9.5	10.9	13.4	14.5	107	97	83
●	●	15-15W	6.0	5.6	3.1	4.3	4.8	5.7	8.4	9.7	11.8	13.7	16.7	18.1	110	98	90
●	●	15-20W	6.0	6.0	3.5	4.9	5.5	6.5	9.5	11.0	13.4	15.5	19.0	21	112	105	100

Highlighted column shows the rated pressure.

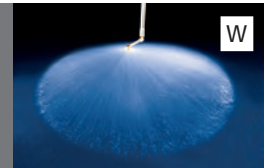


W PERFORMANCE DATA:  
WIDE ANGLE SPRAY

Nozzle Type/ Inlet Conn. (in.)			Capacity Size	Inlet Dia. Nom. (mm)	Orifice Dia. Nom. (mm)	Flow Rate Capacity (liters per minute)										Spray Angle (°)		
LAP-W		LBP-W				0.2 bar	0.4 bar	0.5 bar	0.7 bar	1.5 bar	2 bar	3 bar	4 bar	6 bar	7 bar	0.5 bar	1.5 bar	6 bar
3/8	1/2	3/8																
●			20-8W	6.4	4.4	–	–	3.5	4.1	6.1	7.1	8.7	10.0	12.3	13.3	99	96	86
●			20-10W	6.4	4.8	–	3.2	4.5	5.3	7.8	9.0	11.1	12.8	15.6	16.9	101	98	88
●			20-15W	6.4	5.6	3.7	5.2	5.8	6.9	10.0	11.6	14.2	16.4	20	22	104	100	91
●			20-20W	6.4	6.4	4.1	5.8	6.4	7.6	11.2	12.9	15.8	18.2	22	24	106	101	93
●			20-25W	6.4	7.1	5.1	7.2	8.1	9.6	14.0	16.1	19.7	23	28	30	109	104	95
●			20-40W	6.4	8.7	5.9	8.3	9.3	11.0	16.2	18.7	23	26	32	35	110	107	98
●			20-50W	6.4	10.3	7.1	10.0	11.3	13.4	19.5	23	28	32	39	42	111	108	100
●			25-8W	7.1	4.4	–	–	–	4.6	6.7	7.7	9.5	10.9	13.4	14.5	–	89	78
●			25-10W	7.1	4.8	–	–	4.8	5.7	8.4	9.7	11.8	13.7	16.7	18.1	100	92	81
●			25-15W	7.1	5.6	–	4.3	6.1	7.2	10.6	12.2	15.0	17.3	21	23	102	96	85
●			25-20W	7.1	6.4	4.5	6.4	7.1	8.4	12.3	14.2	17.4	20	25	27	104	99	88
●			25-25W	7.1	7.1	5.1	7.2	8.1	9.6	14.0	16.1	19.7	23	28	30	107	102	91
●			25-40W	7.1	8.7	6.5	9.2	10.3	12.2	17.9	21	25	29	36	39	109	105	94
●			25-50W	7.1	10.3	8.0	11.3	12.6	14.9	22	25	31	36	44	47	110	108	99
●	●	●	40-10W	9.1	4.8	–	–	5.8	6.9	10.0	11.6	14.2	16.4	20	22	95	85	80
●	●	●	40-15W	9.1	5.6	4.9	6.9	7.7	9.1	13.4	15.5	18.9	22	27	29	97	88	82
●	●	●	40-20W	9.1	6.4	5.5	7.8	8.7	10.3	15.1	17.4	21	25	30	33	100	94	88
●	●	●	40-25W	9.1	7.1	6.5	9.2	10.3	12.2	17.9	21	25	29	36	39	103	97	91
●	●	●	40-40W	9.1	8.7	8.1	11.5	12.9	15.3	22	26	32	36	45	48	106	99	93
●	●	●	40-50W	9.1	10.3	10.2	14.4	16.1	19.0	28	32	39	46	56	60	109	101	96

Highlighted column shows the rated pressure.

W PERFORMANCE DATA:  
EXTRA 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 (°)			
	E Styles				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
1/4	●	2	1.6	6.4	–	–	–	.76	.91	1.1	1.3	1.6	1.8	2.2	2.4	–	165	158
	●	5	2.4	6.4	1.0	1.4	1.6	1.9	2.3	2.8	3.2	3.9	4.6	5.6	6.0	164	154	147
	●	5.8	2.8	6.4	1.2	1.7	1.9	2.2	2.6	3.2	3.7	4.6	5.3	6.5	7.0	164	154	147
	●	8	3.2	7.9	1.6	2.3	2.6	3.1	3.6	4.5	5.2	6.3	7.3	8.9	9.6	164	160	151
	●	10	3.6	7.9	2.0	2.9	3.2	3.8	4.6	5.6	6.4	7.9	9.1	11.2	12.1	164	154	147

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.

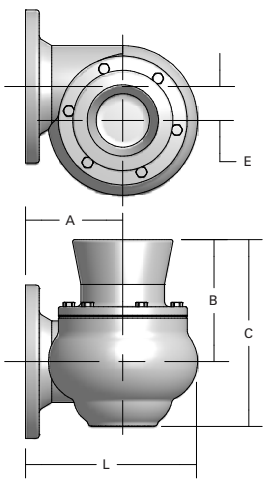
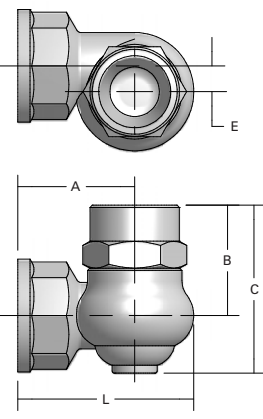
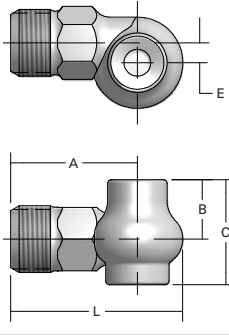
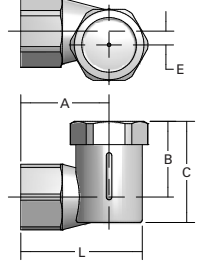
**DIMENSIONS AND WEIGHTS**

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.



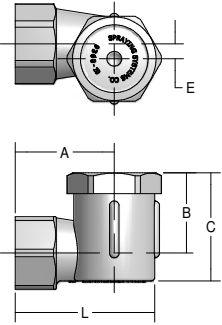
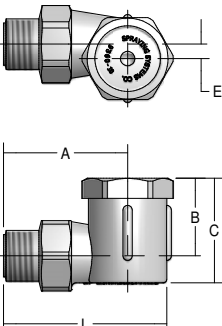
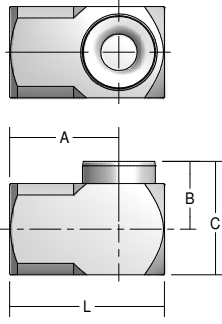
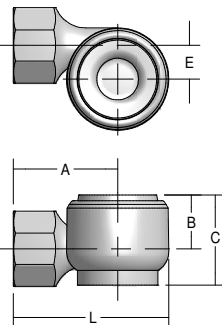
**DIMENSIONS AND WEIGHTS**

Nozzle	Nozzle Type	Inlet Conn. (in.)	L (mm)	A (mm)	B (mm)	C (mm)	E (mm)	Net Weight (kg)
	<b>CF (Flange)</b>	4	209.6	111.9	235.0	314.3	39.7	51.71
		6	311.2	174.6	220.7	338.1	61.9	57.15
	<b>CRC (F)</b>	1-1/4	86.5	54.0	53.2	77.8	10.3	1.02
		2	123.0	81.0	77.8	118.3	18.3	2.27
		3	176.2	112.7	150.8	213.5	28.6	8.62
		4	228.6	141.3	231.8	311.2	39.7	18.14
	<b>D (M)</b>	1/2	58.7	44.5	18.3	33.3	6.4	0.14
		3/4	69.1	50.8	23.8	42.1	7.9	0.21
	<b>AP (F) AP-W (F)</b>	1/4	36.5	25.4	22.0	29.4	4.0	0.01
		3/8	37.3	27.8	22.0	29.4	4.0	0.01

Based on the largest/heaviest version of each type.



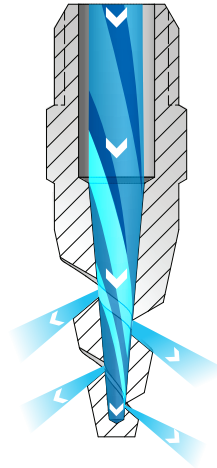
**DIMENSIONS AND WEIGHTS**

Nozzle	Nozzle Type	Inlet Conn. (in.)	L (mm)	A (mm)	B (mm)	C (mm)	E (mm)	Net Weight (kg)
	<b>LAP (F)</b> <b>LAP-W (F)</b>	3/8	48.4	32.5	30.0	40.5	4.9	0.02
		1/2	51.6	35.7	30.0	40.5	4.9	0.02
	<b>LBP (M)</b> <b>LBP-W (M)</b>	3/8	53.2	39.7	31.4	40.5	4.9	0.02
	<b>E (F)</b>	1/4	31.8	22.2	12.7	19.1	–	0.06
		3/8	50.8	34.9	15.9	31.8	–	0.30
		1/2	60.3	41.3	19.4	41.3	–	0.49
	<b>E (F)</b> <b>Cast</b>	3/8	35.7	31.0	15.1	27.0	9.5	0.12
		1/2	55.6	36.5	17.5	31.8	12.7	0.17

Based on the largest/heaviest version of each type.

**OVERVIEW: SPIRALJET**

- Hollow cone spray pattern with a circular impact area
- Minimal clogging – maximum flow through passages of any nozzle of comparable size
- Spray angles: Standard – 50° to 180°
- Uniform spray distribution from .49 to 3320 gpm (2.0 to 11967 lpm)
- Operating pressures up to 400 psi (25 bar)
- Precision impact blade angles distribute drops and provide excellent coverage – ideal for washing, rinsing and cooling
- Compact size
- BSFJ flange-type nozzles available with reaction-bonded silicon carbide tips on FRP flanges available upon request



**SpiralJet BSJ Nozzles**

The liquid entering the nozzle passes through the orifice and exits the voids in the spiral. As it exits, the fluid deflects off the spiral surfaces to form the hollow cone pattern.

**SPIRALJET OPTIONS**



**BSJ** – 1/4" to 2" male conn.  
Threaded/Hex. body style/brass



**BSJ** – 1/4" to 4" male conn.  
Threaded/Round or flat body style/stainless steel

Custom sizes and other abrasion-resistant materials available. See Quick Reference Guide.

**ORDERING INFORMATION**

**SPIRALJET**

Inlet Conn.	Nozzle Type	–	Material Code	Spray Angle	Capacity Size	Example
						1/4 BSJ – SS 120 07

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
BSJ	M, Hex.	1/4 to 2	Brass, 316 stainless steel (316SS)	D19	D19
	M, Flats	1/4 to 4	316 stainless steel (316SS)		
	M, Flats, Cast	1/4 to 4	316 stainless steel (SS)		
	M, Round	1/4 to 4	PTFE (TEF), Polyvinyl chloride (PVC)		

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.

**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.



**S** PERFORMANCE DATA:  
**STANDARD ANGLE SPRAY**



Inlet Conn. (in.)	Nozzle Type	Spray Angle at 0.7 bar					Capacity Size	Orifice Dia. Nom. (mm)	Max. Free Passage Dia. (mm)	Flow Rate Capacity (liters per minute)					
		50°	60°	90°	120°	180°				0.4 bar	0.7 bar	1.5 bar	3 bar	7 bar	25* bar
1/4	●	●	●	●	●	●	07	2.4	2.4	2.0	2.7	3.9	5.5	8.4	16.0
	●	●	●	●	●	●	13	3.2	3.2	3.7	5.0	7.3	10.3	15.7	30
	●	●	●	●	●	●	20	4.0	3.2	5.8	7.6	11.2	15.8	24	46
3/8	●	●	●	●	●	●	30	4.8	3.2	8.6	11.4	16.8	24	36	68
	●	●	●	●	●	●	40	5.6	3.2	11.5	15.3	22	32	48	91
	●	●	●	●	●	●	53	6.4	3.2	15.3	20	30	42	64	121
	●	●	●	●	●	●	82	7.9	3.2	24	31	46	65	99	187
1/2	●	●	●	●	●	●	120	9.5	4.8	35	46	67	95	145	274
	●	●	●	●	●	●	164	11.1	4.8	47	63	92	129	198	374
3/4	●	●	●	●	●	●	210	12.7	4.8	61	80	117	166	253	479
1	●	●	●	●	●	●	340	15.9	6.4	98	130	190	268	410	775
	●	●	●	●	●	●	470	19.1	6.4	136	179	262	371	567	1071
1-1/2	●	●	●	●	●	●	640	22.2	7.9	185	244	357	505	772	1459
	●	●	●	●	●	●	820	25.4	7.9	236	313	458	647	989	1869
	●	●	●	●	●	●	960	28.6	7.9	277	366	536	758	1158	2188
2	●	●	●	●	●	●	1400	34.9	11.1	404	534	782	1105	1689	3191
	●	●	●	●	●	●	1780	38.1	11.1	513	679	994	1406	2147	4057
3	●	●	●	●	●	●	2560	44.5	14.3	738	976	1429	2021	3088	5835
	●	●	●	●	●	●	3360	50.8	14.3	969	1282	1876	2653	4053	7659
4	●	●	●	●	●	●	5250	63.5	15.9	1514	2002	2931	4145	6332	11967

Maximum Free Passage Diameter is the maximum diameter as listed of foreign matter that can pass through the nozzle without clogging.  
 For all 1/4" and 3/8" connections, optimum spray angle is achieved at 40 psi (2.8 bar).  
 \*Maximum operating pressure depends on material, size and application. Contact your local sales engineer for specific recommendations.  
**Highlighted column shows the rated pressure.**

**DIMENSIONS AND WEIGHTS**

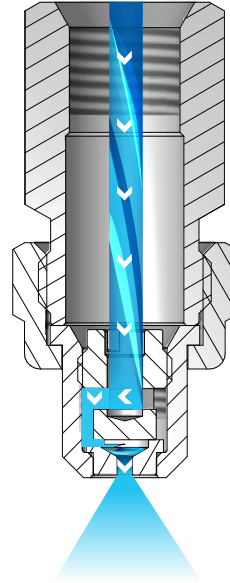
Nozzle	Nozzle Type	Inlet Conn. (in.)	L (mm)	Hex. / flats (in.)	Net Weight (kg)
	BSJ (M)	1/4	49.2	9/16	0.03
		3/8	47.6	11/16	0.05
		1/2	63.5	7/8	0.09
		3/4	69.9	1-1/16	0.14
		1	92.1	1-3/8	0.31
		1-1/2	111.1	2	0.77
		2	174.6	2-1/2	1.36
		3	203.2	3-3/4	3.63
		4	228.6	4-1/2	5.67

Based on the largest/heaviest version of each type.



**OVERVIEW: UNIJET**

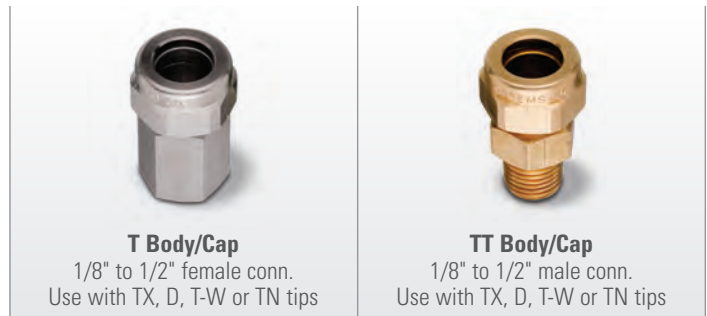
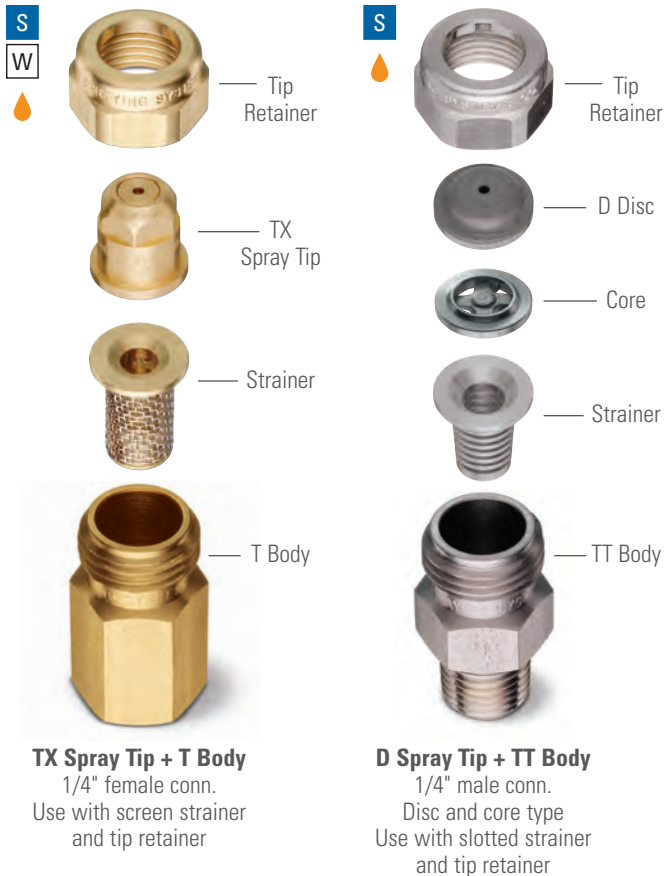
- Quick-connect nozzles reduce maintenance time – bodies remain on pipe/header
- Save on nozzle replacement costs – bodies can be reused, only spray tips are replaced; tips fit on male or female bodies
- Hollow cone spray pattern with a circular impact area
- Excellent atomization at relatively low pressures
- Spray angles: Standard – 13° to 114°, Wide – 130° to 140°
- Uniform spray distribution from 3.6 to 4,920 gph (13.2 to 17,760 lph)
- Operating pressures up to 400 psi (25 bar)
- Orifice inserts, cores and strainers are easily removed for inspection or cleaning
- TN versions provide very fine atomized sprays using liquid pressure alone; compressed air not required
  - Spray angles: Standard – 43° to 91°
  - Uniform spray distribution from .82 to 184 gph (3.1 to 701 lph)
  - Operating pressures up to 2000 psi (140 bar)



**UniJet TX, D and TN Nozzles**

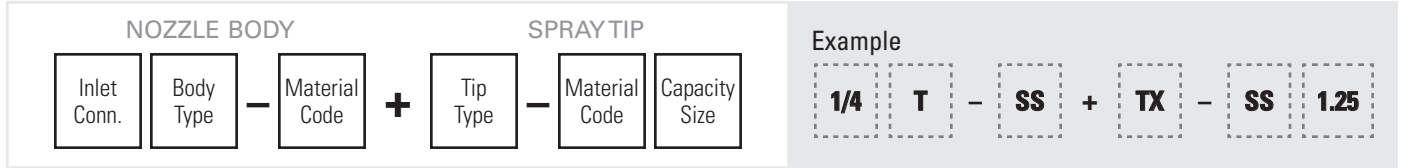
As the liquid passes through the nozzle, it is forced to pass through slots in the orifice. These slots make the liquid spin in a circle at a high speed as it exits the orifice, creating the hollow cone pattern.

**UNIJET OPTIONS**



ORDERING INFORMATION

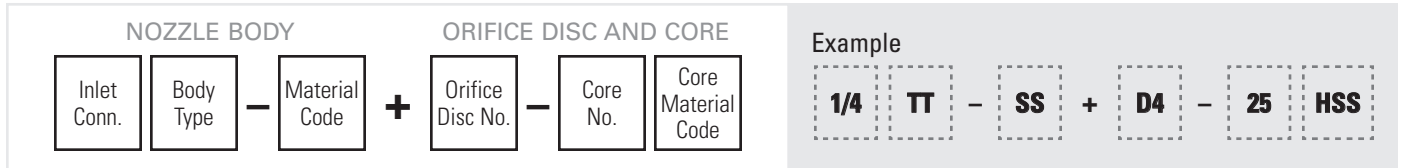
UNIJET



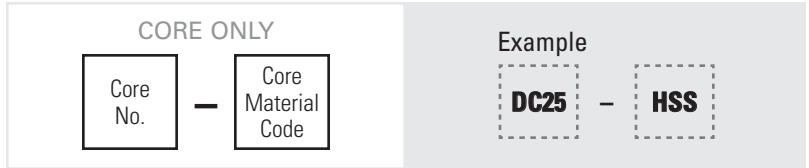
UniJet nozzle assemblies include a pre-sized wire mesh based on orifice diameter. When ordering just a UniJet spray tip, the mesh is not included. See Accessories, page F6 for a mesh selection guide and ordering information.

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

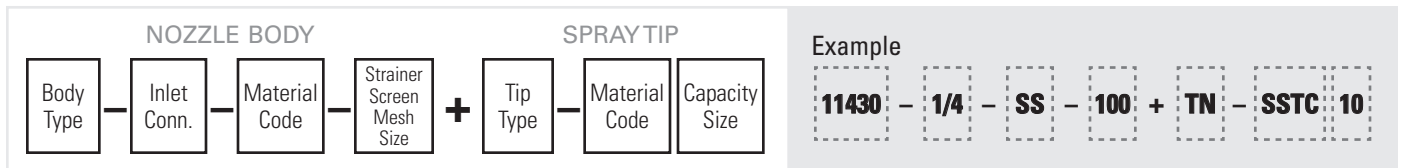
UNIJET – DISC AND CORE TYPE



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



UNIJET HIGH PRESSURE



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

QUICK REFERENCE GUIDE

Model	Connection	Connection Size (in.)	Materials	Page Number	
				Performance Data	Dimensions and Weights
T body	F	1/8 to 1/2	Brass, 303 stainless steel (SS)	-	D26
TT body	M			-	
11430 body	F	1/4	303 stainless steel (SS)	-	
TX spray tip	NA	NA	Brass, 303 stainless steel (SS)	D22	
D spray tip	NA	NA	Brass, 303 stainless steel (SS), Hardened stainless steel (HSS)	D23-D24	
T-W spray tip	NA	NA	Brass, 303 stainless steel (SS)	D22	
TN spray tip	NA	NA		D25	
TN-SSTC spray tip	NA	NA	303 stainless steel with tungsten carbide orifice (SSTC)	D25-D26	

F = female thread; M = male thread; NA = not applicable. 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.

RELATIVE DROP SIZE  
IN MICRONS



Drop size will vary based on flow rate and pressure.

**S** PERFORMANCE DATA:  
**STANDARD ANGLE SPRAY**

Body Inlet Conn. (in.)	UniJet Tip Type	Capacity Size	Inlet Openings (mm)	Orifice Dia. Nom. (mm)	Flow Rate Capacity (liters per hour)										Spray Angle (°)	
					1.5 bar	2 bar	3 bar	4 bar	6 bar	7 bar	10 bar	15 bar	25 bar	1.5 bar	3 bar	
1/4	●	.60	One .30 x .25	.36	–	–	–	2.7	3.4	3.6	4.3	5.3	6.8	–	–	
	●	1	One .41 x .38	.51	–	3.2	3.9	4.6	5.6	6.0	7.2	8.8	11.4	–	54	
	●	1.25	One .51 x .51	.56	–	4.0	4.9	5.7	7.0	7.5	9.0	11.0	14.2	–	59	
	●	1.5	One .61 x .51	.61	–	4.8	5.9	6.8	8.4	9.0	10.8	13.2	17.1	–	63	
	●	2	One .71 x .61	.71	5.6	6.4	7.9	9.1	11.2	12.1	14.4	17.7	23	40	68	
	●	2.5	One .76 x .74	.79	7.0	8.1	9.9	11.4	14.0	15.1	18.0	22	28	48	70	
	●	3	One .91 x .86	.86	8.4	9.7	11.8	13.7	16.8	18.1	22	26	34	57	72	
	●	4	One 1.0 x .86	1.0	11.2	12.9	15.8	18.2	22	24	29	35	46	61	73	
	●	5	Two .81 x .81	1.1	14.0	16.1	19.7	23	28	30	36	44	57	63	73	
	●	6	Two 1.0 x .81	1.2	16.8	19.3	24	27	34	36	43	53	68	65	74	
	●	8	Two 1.0 x .91	1.4	22	26	32	36	45	48	58	71	91	66	74	
	●	10	Two 1.3 x .76	1.5	28	32	39	46	56	60	72	88	114	68	75	
	●	12	Two 1.3 x .86	1.7	34	39	47	55	67	72	86	106	137	69	76	
	●	14	Two 1.4 x .86	1.8	39	45	55	64	78	84	101	124	160	70	76	
	●	18	Two 1.5 x .79	2.0	50	58	71	82	101	109	130	159	205	71	77	
	●	22	Two 1.7 x .76	2.2	61	71	87	100	123	133	159	194	251	71	78	
●	26	Two 1.7 x .76	2.4	73	84	103	119	145	157	187	230	296	72	78		

Spray angle of all above tips is 80° at 100 psi (7 bar).

Other body types may be available. Contact your sales engineer for more information.

Highlighted column shows the rated pressure.

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

Body Inlet Conn. (in.)	UniJet Tip Type	Capacity Size	Inlet Openings (mm)	Orifice Dia. Nom. (mm)	Flow Rate Capacity (liters per hour)								Spray Angle (°)		
					0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	6 bar	7 bar	1.5 bar	3 bar	6 bar
1/4	●	T2W	Two .41 x .38	.79	–	–	5.6	6.4	7.9	9.1	11.2	12.1	130	140	136
	●	T3W	Two .51 x .48	.99	–	6.8	8.4	9.7	11.8	13.7	16.8	18.1	138	140	137
	●	T4W	Two .61 x .53	1.1	–	9.1	11.2	12.9	15.8	18.2	22	24	140	140	138
	●	T5W	Two .71 x .69	1.3	9.5	11.4	14.0	16.1	19.7	23	28	30	140	140	138
	●	T6W	Two .81 x .66	1.4	11.4	13.7	16.8	19.3	24	27	34	36	140	140	138
	●	T8W	Two .91 x .74	1.6	15.3	18.2	22	26	32	36	45	48	140	140	136
	●	T10W	Two 1.0 x .76	1.8	19.1	23	28	32	39	46	56	60	140	140	136
	●	T12W	Two 1.1 x .74	2.0	23	27	34	39	47	55	67	72	140	140	136

Other body types may be available. Contact your sales engineer for more information.

Highlighted column shows the rated pressure.



**S** PERFORMANCE DATA: STANDARD ANGLE SPRAY

Body Inlet Conn. (in.)	UniJet Tip Type	Orifice Disc No. – Core No.	Orifice Dia. Nom. (mm)	Flow Rate Capacity (liters per minute)										Spray Angle (°)		
				0.7 bar	1.5 bar	2 bar	3 bar	4 bar	6 bar	7 bar	10 bar	15 bar	20 bar	1.5 bar	3 bar	6 bar
1/4	●	D1-13	.79	–	–	.22	.26	.29	.34	.37	.43	.50	.57	–	51	62
	●	D1.5-13	.91	–	.17	.25	.29	.33	.39	.42	.48	.56	.63	38	55	66
	●	D2-13	1.0	–	.20	.29	.33	.37	.44	.48	.53	.63	.70	49	67	72
	●	D3-13	1.2	–	.21	.30	.35	.41	.48	.52	.59	.68	.77	53	70	75
	●	D4-13	1.6	.27	.38	.40	.47	.53	.63	.68	.76	.89	1.0	69	79	83
	●	D1-23	.79	–	–	.24	.28	.32	.38	.41	.46	.54	.61	–	47	58
	●	D1.5-23	.91	–	.19	.28	.34	.39	.46	.50	.58	.69	.78	34	51	62
	●	D2-23	1.0	–	.25	.37	.43	.49	.57	.62	.70	.83	.93	51	63	70
	●	D3-23	1.2	.25	.35	.39	.46	.52	.62	.67	.78	.93	1.1	58	69	75
	●	D4-23	1.6	.32	.45	.51	.61	.70	.83	.90	1.1	1.3	1.4	68	82	87
	●	D5-23	2.0	.37	.52	.59	.72	.82	.98	1.1	1.3	1.5	1.7	79	89	94
	●	D6-23	2.4	.42	.59	.69	.83	.95	1.2	1.3	1.5	1.8	2.0	84	93	98
	●	D1-25	.79	–	–	.33	.40	.45	.54	.58	.69	.83	.95	–	27	43
	●	D1.5-25	.91	–	–	.45	.53	.61	.73	.79	.91	1.1	1.2	–	38	49
	●	D2-25	1.0	–	.35	.51	.62	.71	.86	.93	1.1	1.3	1.5	39	51	58
	●	D3-25	1.2	.39	.55	.63	.75	.86	1.0	1.1	1.3	1.6	1.8	52	61	67
	●	D4-25	1.6	.57	.81	.94	1.1	1.3	1.6	1.7	2.0	2.4	2.8	67	74	80
	●	D5-25	2.0	.64	.91	1.1	1.4	1.6	1.9	2.1	2.4	2.9	3.3	73	79	84
	●	D6-25	2.4	.87	1.2	1.5	1.8	2.0	2.5	2.7	3.2	3.8	4.4	79	85	89
	●	D7-25	2.8	1.0	1.4	1.7	2.0	2.3	2.9	3.1	3.7	4.5	5.1	85	91	93
●	D8-25	3.2	1.2	1.7	2.0	2.4	2.8	3.4	3.7	4.4	5.3	6.2	91	96	97	
●	D10-25	4.0	1.5	2.1	2.4	3.0	3.5	4.2	4.5	5.5	6.7	7.7	97	102	103	
●	D12-25	4.8	1.8	2.5	3.0	3.7	4.3	5.2	5.6	6.7	8.2	9.5	103	109	112	
●	D14-25	5.6	1.9	2.7	3.3	4.1	4.7	5.8	6.3	7.5	9.1	10.2	108	113	114	

For nozzles using Orifice Disc Nos. 1, 1.5 and 2 or Core Nos. 13 and 23, Slotted Strainer No. 4514-20 equivalent to 25 mesh screen size is supplied. For all other larger capacity Discs and Cores, Slotted Strainer No. 4514-32 equivalent to 16 mesh screen size is supplied.

Other body types may be available. Contact your sales engineer for more information.

For additional information see Data Sheet 4498-1.

**Highlighted column shows the rated pressure.**



**S** PERFORMANCE DATA:  
STANDARD ANGLE SPRAY

Body Inlet Conn. (in.)	UniJet Tip Type	Orifice Disc No. – Core No.	Orifice Dia. Nom. (mm)	Flow Rate Capacity (liters per minute)										Spray Angle (°)		
				0.7 bar	1.5 bar	2 bar	3 bar	4 bar	6 bar	7 bar	10 bar	15 bar	20 bar	1.5 bar	3 bar	6 bar
1/4	●	D1-45	.79	–	–	–	.48	.56	.67	.72	.84	1.0	1.2	–	22	34
	●	D1.5-45	.91	–	–	.53	.64	.74	.90	.97	1.1	1.4	1.7	–	33	44
	●	D2-45	1.0	–	.45	.66	.80	.91	1.1	1.2	1.4	1.7	2.0	32	46	55
	●	D3-45	1.2	–	.51	.74	.91	1.0	1.3	1.4	1.6	2.0	2.3	40	53	60
	●	D4-45	1.6	.67	.95	1.1	1.4	1.6	2.0	2.2	2.5	3.1	3.6	62	69	72
	●	D5-45	2.0	.87	1.2	1.5	1.8	2.0	2.5	2.7	3.2	3.9	4.5	67	73	76
	●	D6-45	2.4	1.1	1.6	1.9	2.3	2.7	3.3	3.6	4.3	5.3	6.1	73	79	81
	●	D7-45	2.8	1.3	1.8	2.2	2.7	3.1	3.9	4.2	5.0	6.2	7.2	81	86	87
	●	D8-45	3.2	1.6	2.3	2.7	3.3	3.9	4.8	5.2	6.2	7.6	8.9	86	90	90
	●	D10-45	4.0	2.0	2.8	3.5	4.4	5.0	6.2	6.7	8.0	9.8	11.5	90	93	93
	●	D12-45	4.8	2.5	3.5	4.4	5.3	6.2	7.6	8.2	9.8	12.1	14.0	97	100	102
	●	D14-45	5.6	2.8	4.0	4.9	6.0	7.0	8.6	9.3	11.2	13.6	15.9	101	104	105
	●	D16-45	6.4	3.3	4.7	5.7	7.1	8.2	10.2	11.0	13.2	16.3	19.1	108	111	112
	●	D1-46	.79	–	–	–	.58	.66	.81	.87	1.0	1.3	1.5	–	13	15
	●	D1.5-46	.91	–	–	–	.84	.97	1.2	1.3	1.5	1.8	2.1	–	15	17
	●	D2-46	1.0	–	–	.89	1.1	1.2	1.5	1.6	1.9	2.2	2.5	–	18	21
	●	D3-46	1.2	–	.68	1.0	1.3	1.5	1.8	1.9	2.3	2.8	3.2	14	20	24
	●	D4-46	1.6	1.1	1.6	1.8	2.2	2.5	3.2	3.5	4.0	4.9	5.7	23	29	33
	●	D5-46	2.0	1.4	2.0	2.5	3.0	3.5	4.3	4.6	5.6	6.8	7.9	33	39	42
	●	D6-46	2.4	2.1	3.0	3.6	4.4	5.0	6.2	6.7	8.0	9.8	11.4	42	48	50
	●	D7-46	2.8	–	3.1	4.5	5.5	6.3	7.8	8.4	10.0	12.3	13.8	48	53	56
	●	D8-46	3.2	–	–	5.9	7.2	8.3	10.2	11.0	13.2	16.3	18.8	–	60	62
	●	D10-46	4.0	–	–	7.9	9.7	11.3	13.8	14.9	17.9	22	25	–	66	68
	●	D1-56	.79	–	–	–	–	.67	.82	.89	1.0	1.3	1.5	–	–	13
●	D1.5-56	.91	–	–	–	–	1.0	1.2	1.3	1.5	1.8	2.1	–	–	15	

For nozzles using Orifice Disc Nos. 1, 1.5 and 2 or Core Nos. 13 and 23, Slotted Strainer No. 4514-20 equivalent to 25 mesh screen size is supplied. For all other larger capacity Discs and Cores, Slotted Strainer No. 4514-32 equivalent to 16 mesh screen size is supplied.

Other body types may be available. Contact your sales engineer for further information.

For additional information see Data Sheet 4498-1.

**Highlighted column shows the rated pressure.**





**S** PERFORMANCE DATA: **STANDARD ANGLE SPRAY**

Body Inlet Conn. (in.)	UniJet Tip Type	Capacity Size	Orifice Dia. Nom. (mm)	Core No.	Flow Rate Capacity (liters per hour)									Spray Angle (°)			
	TN				2 bar	3 bar	4 bar	7 bar	15 bar	20 bar	35 bar	45 bar	80 bar	3 bar	6 bar	20 bar	
1/4	●	.30	.41	106	–	–	–	–	–	–	3.1	4.0	4.6	6.1	–	–	51
	●	.40	.41	108	–	–	–	–	–	–	4.1	5.4	6.1	8.2	–	–	58
	●	.60	.41	206	–	–	–	3.6	5.3	6.1	8.1	9.2	12.2	–	35	65	
	●	1	.51	210	–	3.9	4.6	6.0	8.8	10.2	13.5	15.3	20	45	62	72	
	●	1.5	.51	216	4.8	5.9	6.8	9.0	13.2	15.3	20	23	31	65	70	72	
	●	2	.71	216	6.4	7.9	9.1	12.1	17.7	20	27	31	41	70	75	77	
	●	3	.71	220	9.7	11.8	13.7	18.1	26	31	40	46	61	65	70	73	
	●	4	1.1	220	12.9	15.8	18.2	24	35	41	54	61	82	72	81	84	
	●	6	1.1	225	19.3	24	27	36	53	61	81	92	122	73	79	81	
	●	8	1.5	225	26	32	36	48	71	82	108	122	163	85	89	91	
	●	10	1.6	420	32	39	46	60	88	102	135	153	204	82	84	86	
	●	12	1.9	420	39	47	55	72	106	122	162	183	245	78	82	85	
	●	14	1.9	421	45	55	64	84	124	143	189	214	285	85	88	90	
	●	18	1.9	422	58	71	82	109	159	183	243	275	367	81	84	86	
	●	22	1.9	625	71	87	100	133	194	224	297	336	449	70	72	75	
●	26	2.2	625	84	103	119	157	230	265	351	398	530	73	74	77		

Other body types may be available. Contact your sales engineer for more information.

Highlighted column shows the rated pressure.

**S** PERFORMANCE DATA: **STANDARD ANGLE SPRAY**

Body Inlet Conn. (in.)	UniJet Tip Type	Capacity Size	Orifice Dia. Nom. (mm)	Flow Rate Capacity (liters per hour)					Approximate Spray Pattern Dia. (at 30 cm distance) (cm)
	TN-SSTC			25 bar	50 bar	80 bar	100 bar	140 bar	
1/4	●	.60	.41	6.8	9.7	12.2	13.7	16.2	7.6
	●	.80	.34	9.1	12.9	16.3	18.2	22	7.6
	●	.90	.41	10.3	14.5	18.3	21	24	7.6
	●	1	.51	11.4	16.1	20	23	27	8.9
	●	1.5	.51	17.1	24	31	34	40	8.9
	●	1.8	.64	21	29	37	41	49	11.4
	●	2	.71	23	32	41	46	54	11.4
	●	3	.71	34	48	61	68	81	15.2

Spray pattern diameter is based on liquid with viscosity of 20 seconds #3 Zahn Cup spraying at 1600 psi (110 bar).

Coverage will vary with viscosities and pressures. Tabulated capacities are based on water.

Other body types may be available. Contact your sales engineer for more information.

Calibration pressure = 40 psi (3 bar).



**S** PERFORMANCE DATA:  
**STANDARD ANGLE SPRAY**

Body Inlet Conn. (in.)	UniJet Tip Type	Capacity Size	Orifice Dia. Nom. (mm)	Flow Rate Capacity (liters per hour)					Approximate Spray Pattern Dia. (at 30 cm distance) (cm)
	TN-SSTC			25 bar	50 bar	80 bar	100 bar	140 bar	
1/4	●	4	1.1	46	64	82	91	108	20.3
	●	6	1.1	68	97	122	137	162	25.4
	●	8	1.5	91	129	163	182	216	30.5
	●	9	1.5	103	145	183	205	243	35.6
	●	10	1.6	114	161	204	228	270	40.6
	●	12	1.9	137	193	245	274	324	45.7
	●	14	1.9	160	226	285	319	378	35.6
	●	15	2.1	171	242	306	342	405	40.6
	●	16	2.2	182	258	326	365	432	45.7
	●	18	1.9	205	290	367	410	485	40.6
	●	20	2.1	228	322	408	456	539	45.7
	●	22	1.9	251	355	449	501	593	30.5
	●	24	2.1	274	387	489	547	647	33
	●	26	2.2	296	419	530	593	701	35.6

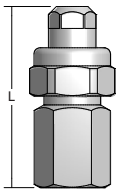
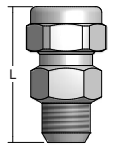
Spray pattern diameter is based on liquid with viscosity of 20 seconds #3 Zahn Cup spraying at 1600 psi (110 bar).

Coverage will vary with viscosities and pressures. Tabulated capacities are based on water.

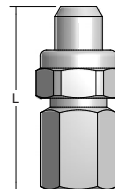
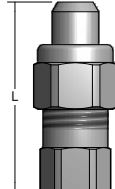
Other body types may be available. Contact your sales engineer for more information.

Calibration pressure = 40 psi (3 bar).

**DIMENSIONS AND WEIGHTS**

Nozzle	Nozzle Type	Inlet Conn. (in.)	L (mm)	Hex. (in.)	Net Weight (kg)
	<b>T (F) + TX TT (M) + TX</b>	1/4	47.6	13/16	0.07
	<b>T (F) + T-W TT (M) + T-W</b>	1/4	47.6	13/16	0.07
	<b>T (F) + D TT (M) + D</b>	1/4	38.1	13/16	0.07

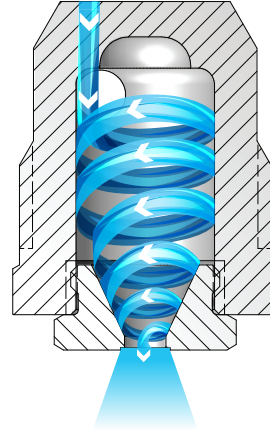
Based on the largest/heaviest version of each type.

Nozzle	Nozzle Type	Inlet Conn. (in.)	L (mm)	Hex. (in.)	Net Weight (kg)
	<b>T (F) + TN TT (M) + TN</b>	1/4	48.4	13/16	0.07
	<b>T (F) + TN-SSTC TT (M) + TN-SSTC</b>	1/4	48.4	13/16	0.07
	<b>11430 (F) + TN-SSTC</b>	1/4	49.2	13/16	0.07

Based on the largest/heaviest version of each type.

**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**



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



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



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



**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
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**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
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**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
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**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
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**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
<b>BD</b>	M	3/8 to 1-1/2	Brass, 303 stainless steel (SS)	D29	D32
<b>BD-W</b>	M	3/8 to 3/4	Brass, 303 stainless steel (SS)	D30	
<b>BDM</b>	M	3/8	Nylon/Brass cap	D30	
<b>BA</b>	M	3/8 to 1/2	Brass, 303 stainless steel (SS), 309 stainless steel (309SS)	D31	
<b>8686</b>	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.



S PERFORMANCE DATA:  
STANDARD ANGLE SPRAY



Inlet Conn. (in.)	Nozzle Type BD	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	●	2	2.4	2.0	.41	.58	.64	.76	.91	1.1	1.3	1.6	1.8	2.2	2.4	51	60	70
	●	3	2.4	2.4	.61	.86	.97	1.1	1.4	1.7	1.9	2.4	2.7	3.4	3.6	52	64	77
	●	5	2.8	3.2	1.0	1.4	1.6	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	2.6	3.1	3.6	4.5	5.2	6.3	7.3	8.9	9.6	56	65	70
	●	10	4.0	4.4	2.0	2.9	3.2	3.8	4.6	5.6	6.4	7.9	9.1	11.2	12.1	55	65	72
	●	20-10	4.0*	4.4	–	4.0	4.5	5.3	6.4	7.8	9.0	11.1	12.8	15.6	16.9	61	65	67
1/2	●	5	3.2	3.6	1.0	1.4	1.6	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	2.6	3.1	3.6	4.5	5.2	6.3	7.3	8.9	9.6	61	69	73
	●	10	4.4	4.4	2.0	2.9	3.2	3.8	4.6	5.6	6.4	7.9	9.1	11.2	12.1	63	70	74
	●	15	4.4*	5.2	3.1	4.3	4.8	5.7	6.8	8.4	9.7	11.8	13.7	16.8	18.1	60	67	70
	●	20	4.8*	6.0	4.1	5.8	6.4	7.6	9.1	11.2	12.9	15.8	18.2	22	24	63	65	69
	●	25	5.2*	7.1	5.1	7.2	8.1	9.5	11.4	14.0	16.1	19.7	23	28	30	59	63	68
3/4	●	5	3.6	3.2	1.0	1.4	1.6	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	2.6	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	3.2	3.8	4.6	5.6	6.4	7.9	9.1	11.2	12.1	64	72	75
	●	15	6.4	5.6	3.1	4.3	4.8	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	6.4	7.6	9.1	11.2	12.9	15.8	18.2	22	24	63	70	74
	●	25	7.1	7.5	5.1	7.2	8.1	9.5	11.4	14.0	16.1	19.7	23	28	30	63	70	74
	●	50-50.3	7.1*	9.5	10.2	13.3	16.1	19.1	23	28	32	39	46	56	60	70	72	73
1-1/2	●	40	9.5*	7.9	8.2	11.5	12.9	15.3	18.2	22	26	32	36	45	48	70	73	74
	●	50	9.5*	9.5	10.2	13.3	16.1	19.1	23	28	32	39	46	56	60	72	75	77
	●	60	9.5*	11.1	12.2	17.3	19.3	23	27	34	39	47	55	67	72	74	76	79
	●	70	9.5*	12.7	14.3	20	23	27	32	39	45	55	64	78	84	76	79	83
	●	80	9.5*	14.3	16.3	23	26	31	36	45	52	63	73	89	96	78	82	84
	●	90	9.5*	14.7	18.3	26	29	34	41	50	58	71	82	101	109	81	84	84
	●	100	9.5*	15.9	20	29	32	38	46	56	64	79	91	112	121	83	86	86
	●	110	9.5*	17.1	22	32	35	42	50	61	71	87	100	123	133	85	88	88
	●	120	9.5*	18.3	24	35	39	46	55	67	77	95	109	134	145	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. (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	●	3-2W	2.4	2.0	–	–	.73	.84	1.0	1.2	1.4	1.7	2.0	2.5	2.7	112	109	90
	●	3-3W	2.4	2.8	–	–	.96	1.1	1.4	1.7	1.9	2.4	2.7	3.4	3.6	115	112	97
	●	3-5W	2.4	3.2	–	–	1.1	1.3	1.6	1.9	2.2	2.7	3.1	3.8	4.2	117	113	103
	●	5-5W	2.8	3.2	–	–	1.6	1.9	2.3	2.8	3.2	3.9	4.5	5.6	6.1	115	112	102
	●	5-10W	2.8	4.4	–	1.5	2.1	2.5	3.0	3.6	4.1	5.1	6.0	7.2	8.0	119	119	109
	●	8-8W	3.9	3.9	–	1.8	2.6	3.1	3.6	4.4	5.2	6.3	7.4	9.0	9.5	116	110	98
	●	8-10W	3.9	4.4	–	2.1	2.9	3.4	4.1	5.1	6.0	7.1	8.2	9.9	10.7	118	113	101
	●	10-10W	3.9	4.4	–	2.3	3.2	3.8	4.5	5.5	6.3	7.9	9.3	11.0	11.8	118	111	100
1/2	●	5-3W	3.2	2.8	.67	.75	1.0	1.2	1.5	1.8	2.0	2.5	2.9	3.5	3.8	118	113	100
	●	5-5W	3.2	3.2	1.0	1.1	1.6	1.9	2.3	2.8	3.2	3.9	4.5	5.6	6.1	121	116	102
	●	8-8W	3.9	3.9	1.6	1.8	2.6	3.1	3.6	4.4	5.2	6.3	7.4	9.0	9.5	119	113	103
	●	10-15W	4.4	5.6	2.5	2.8	3.9	4.6	5.6	6.7	7.8	9.5	11.1	13.4	14.5	120	112	102
	●	15-15W*	4.4	5.6	3.0	3.4	5.0	5.7	6.7	8.3	9.7	11.9	14.1	16.7	18.3	117	111	104
3/4	●	8-25W	4.4	7.5	2.6	2.9	4.2	5.0	6.0	7.5	8.6	10.3	11.9	14.6	15.6	124	120	111
	●	10-10W	5.2	4.4	2.0	2.2	3.2	3.8	4.5	5.5	6.3	7.9	9.3	11.0	11.8	118	111	100
	●	10-30W	5.2	7.9	3.7	4.1	6.2	7.2	8.6	10.3	11.9	14.6	16.8	21	23	124	117	108
	●	15-15W	6.4	5.6	3.0	3.4	5.0	5.7	6.7	8.3	9.7	11.9	13.8	16.7	18.3	117	112	102
	●	15-25W	6.4	7.5	4.1	4.6	6.2	7.3	8.9	10.7	12.6	15.4	17.9	22	23	119	114	106
	●	20-25W	7.1	7.5	4.8	5.4	8.1	9.5	11.5	13.8	16.0	19.7	23	28	30	118	112	105
	●	20-30W	7.1	7.9	5.2	5.8	8.5	9.9	11.9	14.6	16.8	21	24	29	31	118	112	105
	●	25-25W	7.1	7.5	5.2	5.8	8.1	9.5	11.5	13.8	16.0	19.7	23	28	30	117	110	103
	●	25-30W	7.1	7.9	5.6	6.3	8.9	10.7	12.7	15.8	18.2	22	26	31	34	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. (mm)	Flow Rate Capacity (liters per minute)								Spray Angle (°)		
				0.7 bar	1.5 bar	3 bar	7 bar	15 bar	20 bar	25 bar	35 bar	1.5 bar	7 bar	35 bar
3/8	●	2-0.5	1.2	–	–	.63	.96	1.4	1.6	1.8	2.2	–	52	45
	●	2-1	1.6	–	.61	.87	1.3	1.9	2.2	2.5	3.0	53	65	50
	●	2	2.0	.76	1.1	1.6	2.4	3.5	4.1	4.6	5.4	60	69	62
	●	3-2	2.0	.84	1.2	1.7	2.7	3.9	4.5	5.0	5.9	57	68	58
	●	3	2.4	1.1	1.7	2.4	3.6	5.3	6.1	6.8	8.1	64	75	64
	●	5	3.2	1.9	2.8	3.9	6.0	8.8	10.2	11.4	13.5	73	78	72
	●	10-2	2.0	1.3	2.0	2.8	4.2	6.2	7.1	8.0	9.4	30	46	40
	●	20-10	4.4	5.3	7.8	11.1	16.9	25	29	32	38	61	60	49

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

Highlighted column shows the rated pressure.



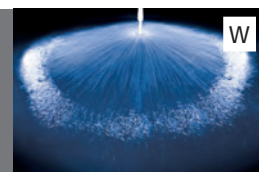
**S** PERFORMANCE DATA:  
**STANDARD ANGLE SPRAY**



Inlet Conn. (in.)	Nozzle Type BA	Capacity Size	Inlet Dia. Nom. (mm)	Orifice Dia. Nom. (mm)	Flow Rate Capacity (liters per minute)						Spray Angle (°)		
					0.4 bar	0.7 bar	1.5 bar	3 bar	4 bar	7 bar	0.5 bar	1.5 bar	6 bar
3/8	●	3	2.4	2.4	.86	1.1	1.7	2.4	2.7	3.6	52	64	77
	●	5	3.6	3.2	1.4	1.9	2.8	3.9	4.6	6.0	64	73	79
	●	8	4.8	4.0	2.3	3.1	4.5	6.3	7.3	9.6	62	70	74
	●	10	5.2	4.4	2.9	3.8	5.6	7.9	9.1	12.1	64	72	75
	●	15	6.4	5.6	4.3	5.7	8.4	11.8	13.7	18.1	64	72	74
	●	20	7.1	6.4	5.8	7.6	11.2	15.8	18.2	24	63	70	74
	●	25	7.5	7.5	7.2	9.5	14.0	19.7	23	30	63	70	74
1/2	●	25	9.5	6.4	7.2	9.5	14.0	19.7	23	30	63	66	71
	●	30	9.5	7.5	8.6	11.4	16.8	24	27	36	67	71	75
	●	40	9.5	9.1	11.5	15.3	22	32	36	48	72	76	78
	●	50	9.5	11.1	14.4	19.1	28	39	46	60	74	79	82
	●	60	9.5	13.1	17.3	23	34	47	55	72	77	82	86

Highlighted column shows the rated pressure.

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

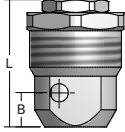
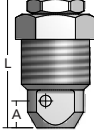
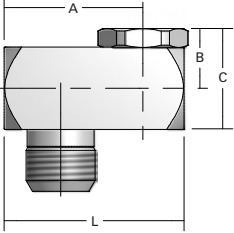
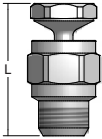


Inlet Conn. (in.)	Nozzle Type DeflectoJet® 8686	Capacity Size	Flow Rate Capacity (liters per minute)						
			0.4 bar	0.7 bar	1.5 bar	3 bar	4 bar	6 bar	7 bar
1/8	●	.37	1.1	1.4	2.1	3.0	3.4	4.2	4.5
	●	.5	1.4	1.9	2.8	4.0	4.6	5.6	6.0
	●	.75	2.2	2.9	4.2	5.9	6.8	8.4	9.0
1/4	●	1	2.9	3.8	5.6	7.9	9.1	11.2	12.1
	●	1.5	4.3	5.7	8.3	11.8	13.7	16.8	18.1
	●	2	5.8	7.7	11.2	15.8	18.2	22	24
	●	2.5	7.2	9.5	13.9	19.7	23	28	30
3/8	●	3	8.8	11.6	17.0	24	27	34	36
	●	3.5	10.4	13.7	20	28	32	39	42
	●	4	11.9	15.7	23	32	36	45	48
	●	4.5	12.9	17.1	25	36	41	50	54
	●	5	14.4	19.1	28	39	46	56	60

Highlighted column shows the rated pressure.



**DIMENSIONS AND WEIGHTS**

Nozzle	Nozzle Type	Inlet Conn. (in.)	L (mm)	Hex. (in.)	A (mm)	B (mm)	C (mm)	Net Weight (kg)
	<b>BD (M)</b>	3/8	31.8	11/16	–	6.7	–	0.03
		1/2	37.3	7/8	–	8.0	–	0.06
		3/4	44.5	1-1/16	–	9.5	–	0.11
		1-1/2	66.7	2	–	8.0	–	0.60
	<b>BD-W (M)</b>	3/8	31.8	11/16	–	6.7	–	0.03
		1/2	37.3	7/8	–	7.9	–	0.06
		3/4	44.4	1-1/16	–	9.5	–	0.11
	<b>BDM (M)</b>	3/8	32.5	11/16	6.7	–	–	0.01
	<b>BA (M)</b>	3/8	38.1	–	26.6	14.7	24.2	0.11
		1/2	55.6	–	42.9	14.7	27.4	0.27
	<b>8686 (M)</b>	1/8	30.2	1/2	–	–	–	0.02
		1/4	33.3	5/8	–	–	–	0.03
		3/8	44.5	7/8	–	–	–	0.08

Based on the largest/heaviest version of each type.