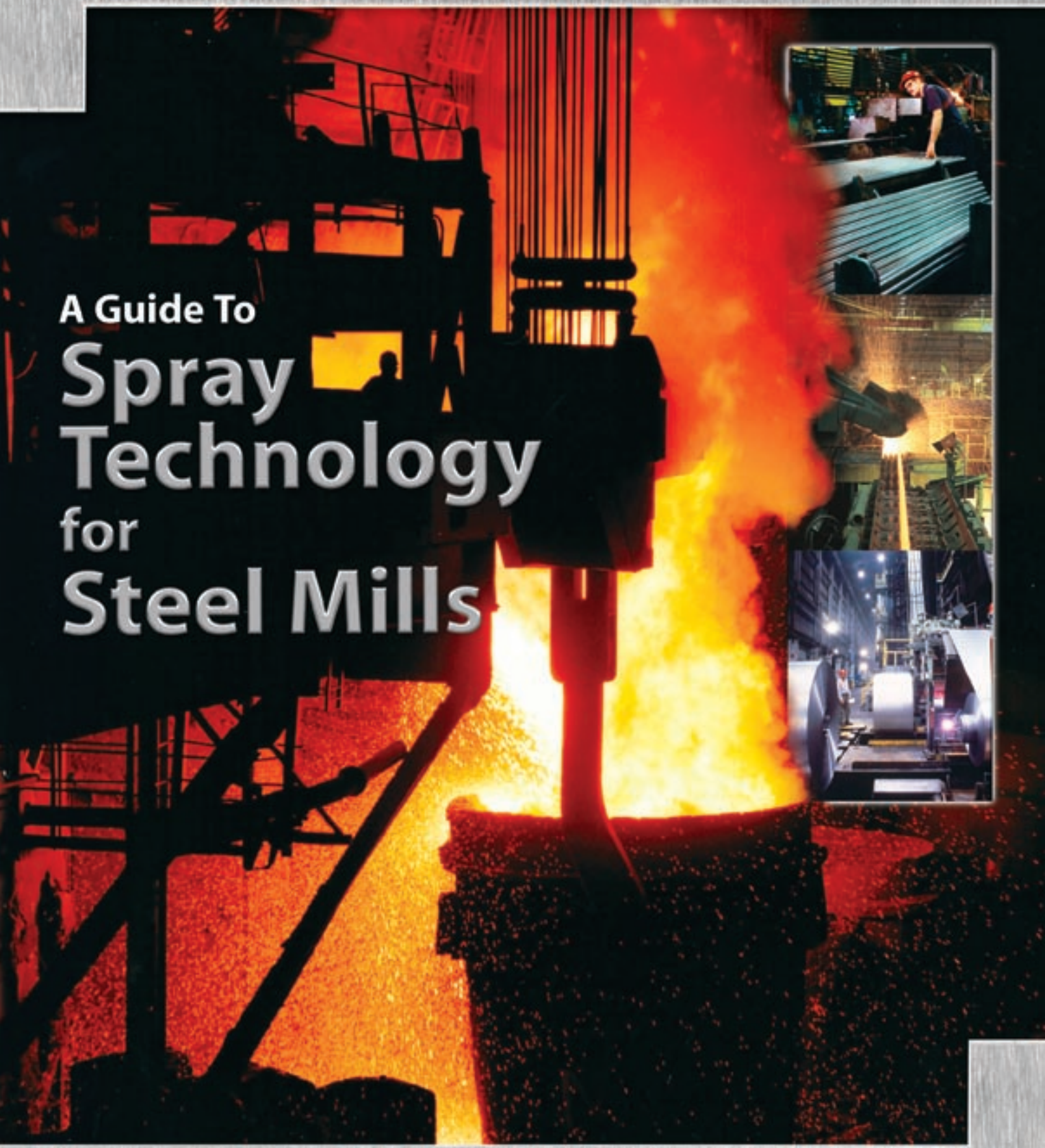

A Guide To Spray Technology for Steel Mills

Spraying Systems Co.®
Experts in Spray Technology

Spray Nozzles | Spray Control | Spray Analysis | Spray Fabrication

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A Guide To

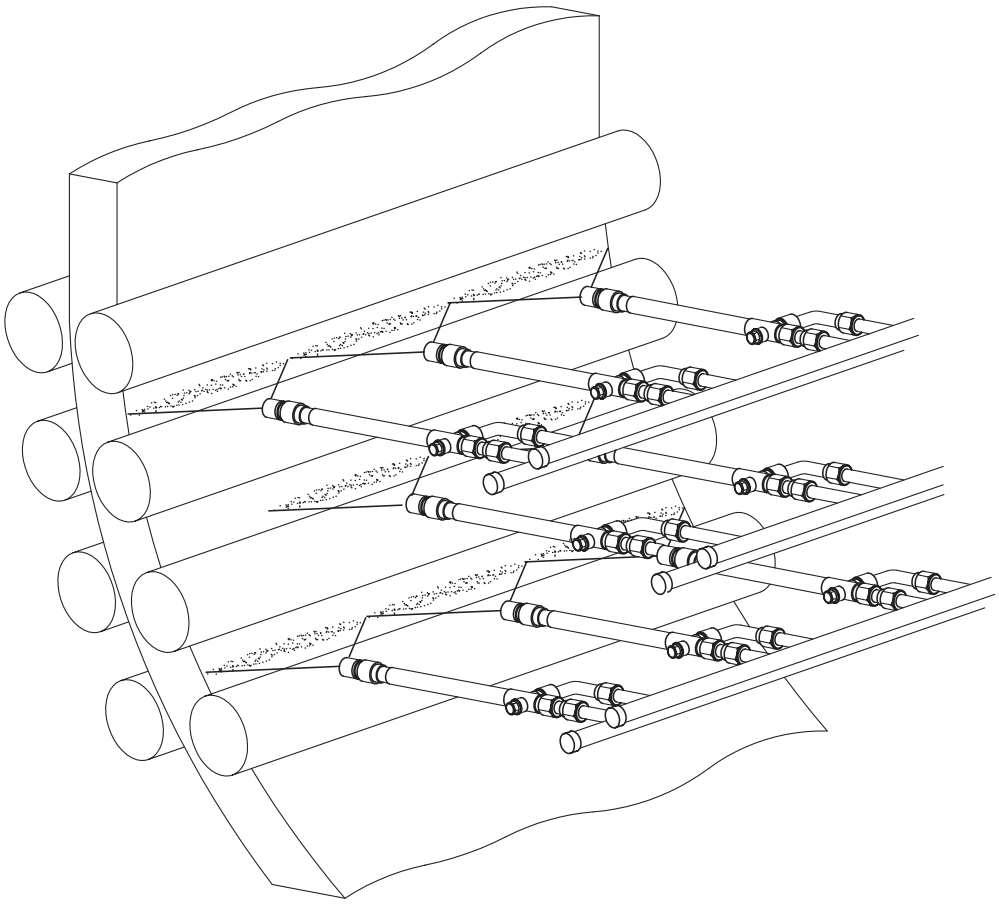
Spray Technology for Steel Mills

Table of Contents

CasterJet Nozzles — Unmatched for Secondary Cooling in the Caster

The key to the superior performance of CasterJet nozzles is a unique process for mixing air and water. This results in:

- Improved surface quality through uniform spray distribution and reduced water buildup under rollers
- Reduced water costs -- More effective heat transfer means less water is required for cooling and large free-passage openings mean lower quality water can be used
- Increased operating versatility -- Variable water flows can accommodate a wide range of steel types and alloys
- Reduced maintenance costs -- Fewer nozzles needed per installation so fewer nozzles need to be maintained; self-aligning spray tips and new detachable expansion tubes speed replacement; and less puddling between support rollers reduces clean up time and extends roller life
- A potential 25% reduction in air consumption on a continuous caster while maintaining the same performance (compared with older designs)



CasterJet Nozzles — How They Work

CasterJet nozzles use an atomization process based on a unique impingement principle involving three factors:

- A high velocity stream of water forced into an expansion chamber
- A target bolt, against which the water stream is shattered
- An air stream rushing past the target bolt to further break up the water stream

A recent design enhancement in the expansion chamber results in even more efficient mixing. CasterJet nozzles now provide more performance with a 25% reduction in air consumption. This means new caster lines may require fewer or smaller compressors. On existing caster lines, some compressors can be turned off. This translates into lower energy costs and longer compressor life.

The nozzle's target bolt also provides an even greater break-up efficiency than before and are now press-fit into the CasterJet nozzle body.

CasterJet nozzles offer a turndown ratio of 25:1. Flow can be reduced using water pressures as low as 5 psi (.3 bar) without a loss in performance. Wider operating ranges and consistent drop size distribution across the spray pattern allow greater flexibility in line speeds and the ability to run additional grades of steel.

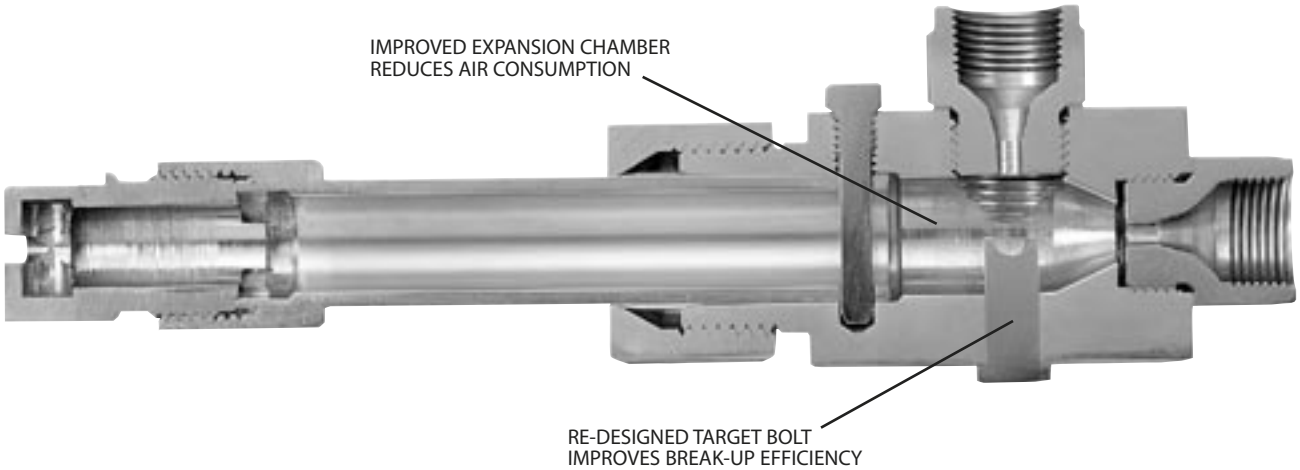
Easy to Maintain

CasterJet extension tubes feature broached connections for detachability with a ferrule for connecting and a locating pin for safety. Because tubes are detachable, a wide range of lengths can be used. And, when breakouts occur, maintenance is easier – simply replace the tube and tip instead of the entire nozzle assembly.

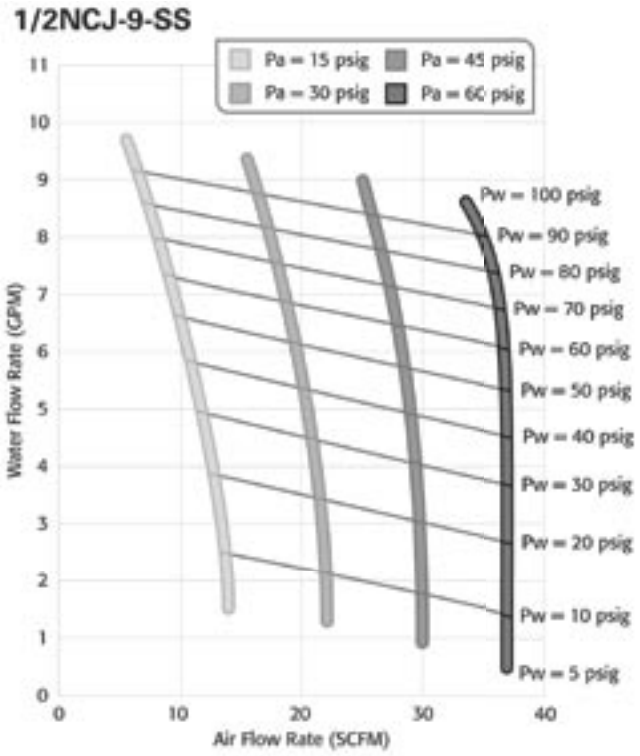
The CasterJet spray tip, with a new snap ring assembly, is even easier to remove for fast and simple changes. The spray tips are self-aligning and the entire nozzle assembly features smooth, clean passages. Nozzle wear is low due to generally low operating pressures.

Specifications:

- Operating range: 2 to 12 gpm (7.6 to 45.4 l/min) at 45 psi air and 100 psi liquid (3 bar air and 7 bar liquid)
- Spray angles: 60° to 135°
- Materials: Stainless steel wear components including spray tip orifices and target bolts. Brass bodies and extensions
- Inlet connection: 3/8" to 1/2"



Water Flow Rate vs. Air Flow Rate at Constant Air Pressure

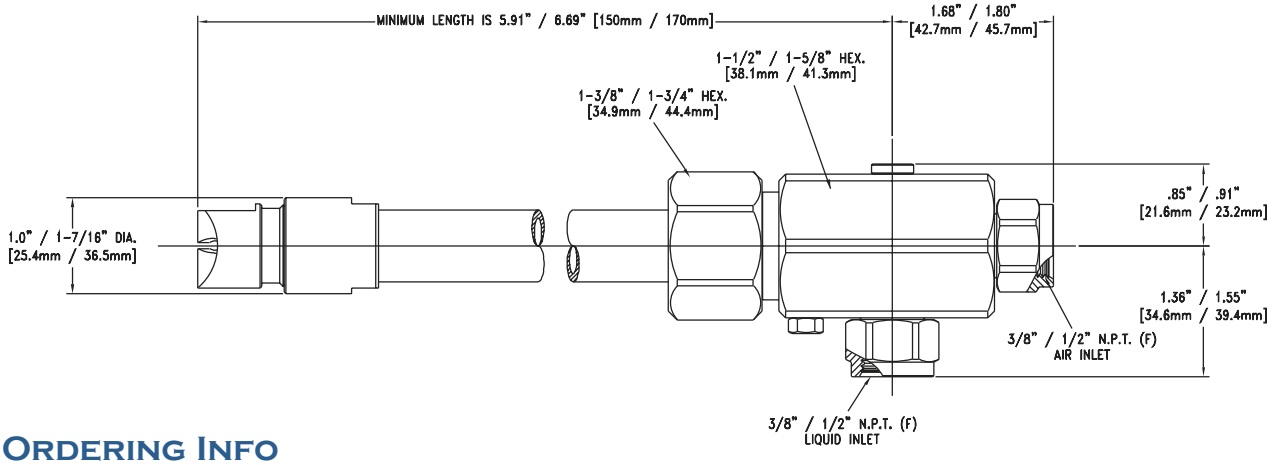


Performance

Nozzle Set-up 50070-	Water Flow 100 psi (gpm)	Air Flow 45 psi (scfm)
-NCJ-2--SS	2.0	5.2
-NCJ-2.5--SS	2.5	5.7
-NCJ-3--SS	3.0	6.1
-NCJ-3.5--SS	3.5	8.5
-NCJ-3.7--SS	3.7	9.0
-NCJ-4--SS	4.0	10.0
-NCJ-5--SS	5.0	10.2
-NCJ-6.5--SS	6.5	15.5

Nozzle Set-up 50085-	Water Flow 100 psi (gpm)	Air Flow 45 psi (scfm)
-NCJ-8--SS	8.0	18.5
-NCJ-9--SS	9.0	25.0
-NCJ-10--SS	10.0	22.5
-NCJ-12--SS	12.0	22.5

Dimensions 50070/50085



Ordering Info

50070/50085 Nozzle Set-Up

3/8NCJ – 3 – 120 – SS
1/2NCJ – 8 – 120 – SS

Inlet Conn. | Capacity Size | Spray Angle | Material

50070/50085 Assembly Style

50070 – BRSS + 50080 – 350
50085 – BRSS + 50094 – 400

Assembly Style | Length

26010 Air Atomizing Nozzles Provide Softer Continuous Cast Cooling

If you're only running a few grades of steel, our 26010 Air Atomizing nozzle may be a suitable alternative to our CasterJet® nozzles. An air mist style nozzle, the 26010 provides softer, impingement-type cooling – performance typically achieved by hydraulic nozzles. Performance can be visually identified by rings on air cap.

Specifications:

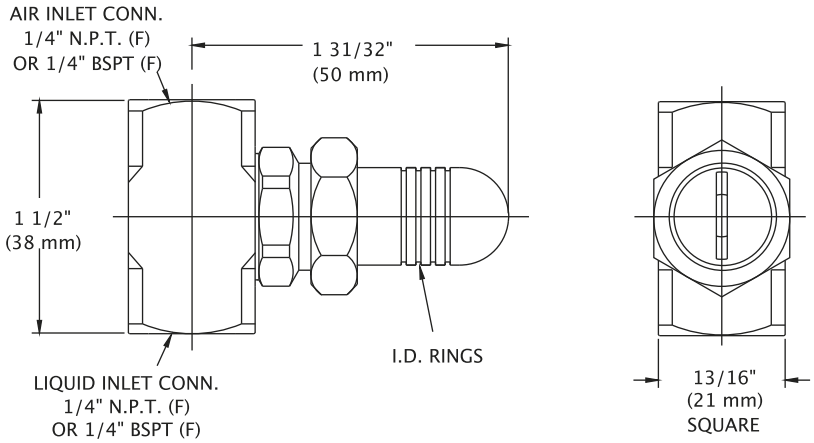
- All brass construction
- Inlet connection: 1/4"

Performance

Nozzle Assembly No.	Number of I.D. Rings	Spray Performance				Spray Angle (degree)
		Pressure (psi)		Capacity		
		Air	Fluid	Air (scfm)	Water (gpm)	
26010-0-1/4J	NONE	40	37	3.0	.5	90
26010-1-1/4J	1	40	33	9.7	1.0	90
26010-2-1/4J	2	40	35	10.5	1.5	90
26010-3-1/4J	3	40	60	6.2	2.8	90
26010-4-1/4J	4	40	35	10.5	1.5	120
26010-5-1/4J	5	40	60	5.5	2.8	120

Dimensions

26010



Ordering Info

26010 Air Atomizing Nozzle
26010 – 1 – 1/4J
Spray Set-Up | ID Rings | Nozzle Body

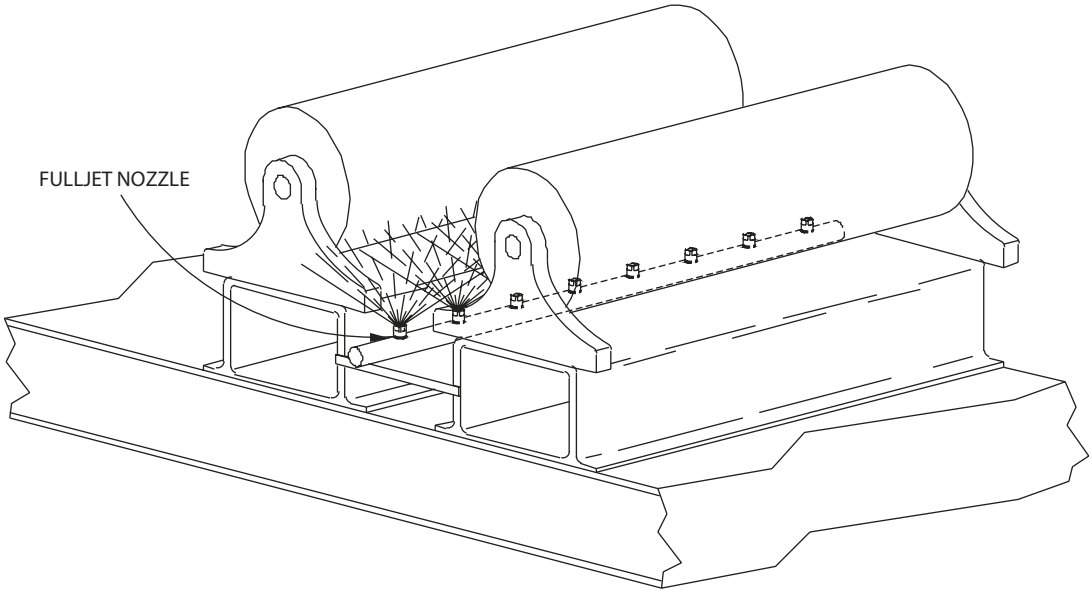
FullJet Nozzles – Uniform Distribution Enhances Steel Quality in Every Area of Your Mill

Hot spots, cracks and defects – all costly but common problems that can lead to waste. One way to avoid quality problems like these is to use our FullJet spray nozzles. These nozzles feature a unique vane design with large flow passages to provide a uniform spray over a wide range of flow rates and pressures. This even and consistent spray coverage results in center-to-edge cooling and defect-free steel.

Our line of FullJet nozzles is extensive. Choose from a wide assortment of styles, sizes, capacities, connections, spray angles, impact areas, materials and more.

Common uses for FullJet nozzles include:

- Uniform cooling in continuous cast slabs, continuous cast billets, finishing
- Fast and uniform quenching
- Thorough liquor flushing



HHX FullJet Nozzles – Provide Uniform Distribution, Reliable Operation and Simplified Maintenance in Billet Casters

Quality sprays contribute to better steel and increase the efficiency of your caster, and our HHX FullJet nozzles do exactly that – provide uniform cooling to ensure quality problems like diagonal cracks are avoided.

Key benefits and features include:

- A wide range of nozzle sizes allows you to select different spray densities to customize the spray zone cooling
- The HHX nozzle body features a hex body and allows the use of standard sockets for easy installation and removal
- A staked-in vane design ensures the vane is secure and will not fall out during caster operation

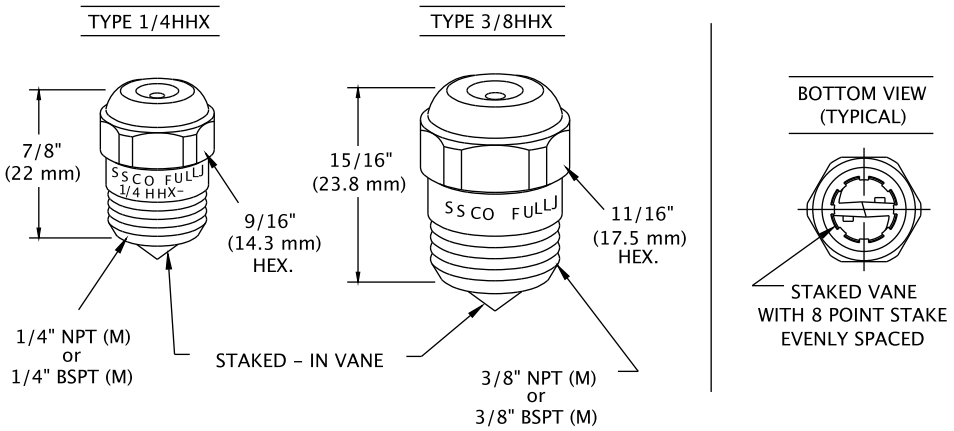
Specifications:

- Capacities range from .50 to 2.2 gpm (1.9 to 8.4 l/min) at 10 psi (.7 bar)
- All brass construction with a staked vane
- Inlet connections: 1/4" and 3/8"

Ordering Info

HHX FullJet Spray Nozzle		
1/4	HHX -	5
Inlet Conn.	Nozzle Type	Capacity Size

Dimensions



Performance

* At stated pressure in psi.

Nozzle Inlet Conn. NPT or BSPT (in.)	Nozzle No.	Orifice Dia. Nom.	Max. Free Passage Dia.	Capacity (Gallons per minute)*										Spray Angle Degree*		
		in.	in.	5	7	10	20	30	40	60	80	100	150	7	20	80
1/4	1/4HHX-5	5/64	3/64	.36	.42	.50	.69	.82	.95	1.2	1.3	1.5	1.8	60	65	61
	1/4HHX-6.5	3/32	1/16	.47	.55	.65	.89	1.1	1.3	1.5	1.7	1.9	2.3	45	50	46
	1/4HHX-8	7/64	3/64	.58	.68	.80	1.1	1.3	1.5	1.8	2.1	2.3	2.8	68	80	76
	1/4HHX-10	7/64	1/16	.73	.85	1.0	1.4	1.7	1.9	2.4	2.7	3.0	3.6	58	67	61
	1/4HHX-12	1/8	1/16	.87	1.0	1.2	1.7	2.0	2.3	2.7	3.1	3.5	4.2	71	81	72
	1/4HHX-14.5	9/64	1/16	1.05	1.2	1.45	2.0	2.4	2.7	3.3	3.8	4.2	5.0	78	89	75
3/8	3/8HHX-15	9/64	3/32	1.1	1.3	1.5	2.1	2.5	2.9	3.5	4.0	4.4	5.3	64	67	61
	3/8HHX-18	5/32	3/32	1.3	1.5	1.8	2.5	3.0	3.4	4.1	4.7	5.2	6.3	77	86	73
	3/8HHX-20	11/64	7/64	1.5	1.7	2.0	2.8	3.4	3.8	4.6	5.3	5.9	7.0	76	80	73
	3/8HHX-22	3/16	7/64	1.6	1.9	2.2	3.0	3.7	4.2	5.1	5.8	6.4	7.8	87	90	82

HHCC FullJet Nozzles – The Most Stable, Uniform Full Cone Spray Available

Typical full cone nozzles deliver water in a full cone spray. But liquid distribution can vary. Everything gets wet, but some spots get wetter than others. And this can lead to costly defects resulting from uneven cooling. The patent-pending design of our HHCC FullJet delivers a spray that is more uniform across the cone. This results in consistent, controlled cooling that meets even the most stringent demands.

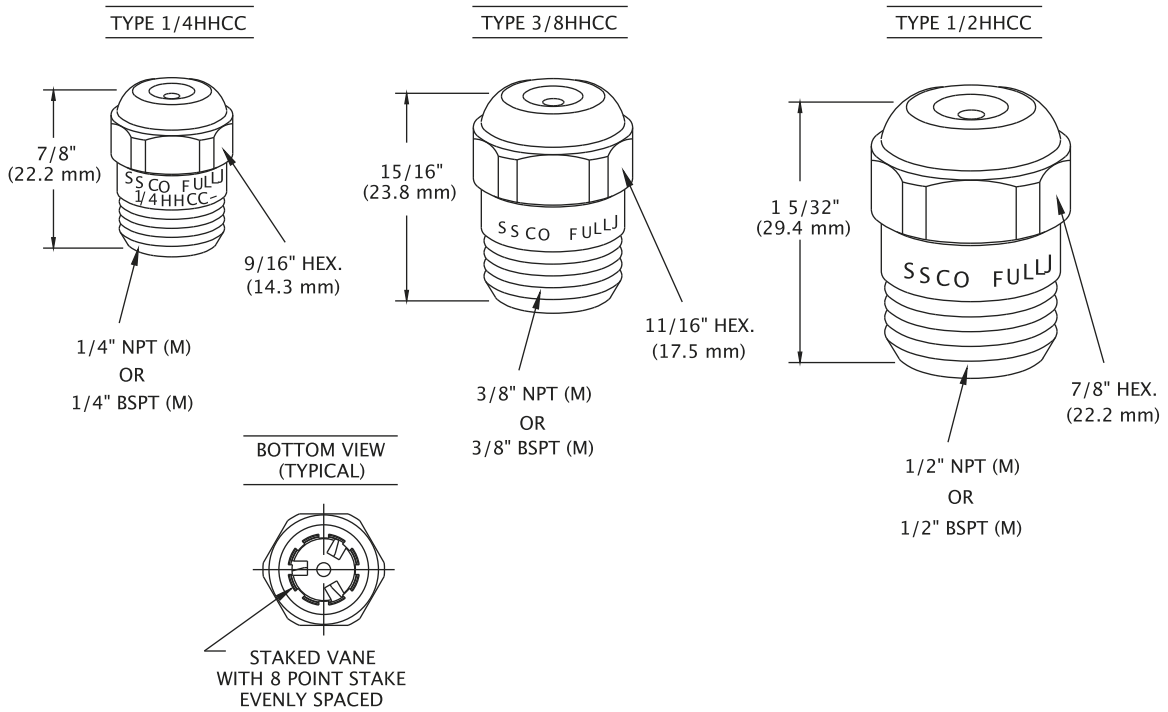
Here's how the HHCC FullJet helps control temperature of the strand, a critical component of maximizing uptime with high-speed continuous casting machines:

- New staked vane design yields a more uniform and stable spray over the operating range of 10 to 80 psi (.7 to 5.5 bar). Changes in pressure do not impact the nozzle's spray angle
- The vanes are precisely matched with each nozzle size to ensure exact performance
- Obtain the mass water flux you need for every casting application through a wide selection of nozzle sizes. There's a 25% nominal flow rate increase at every size increment, simplifying layout of flow rates for each segment

Specifications:

- Capacities range from .65 to 3.2 gpm (2.5 to 12.1 l/min) at 10 psi (.7 bar)
- Brass construction with a staked vane
- Inlet connections: 1/4", 3/8" and 1/2"

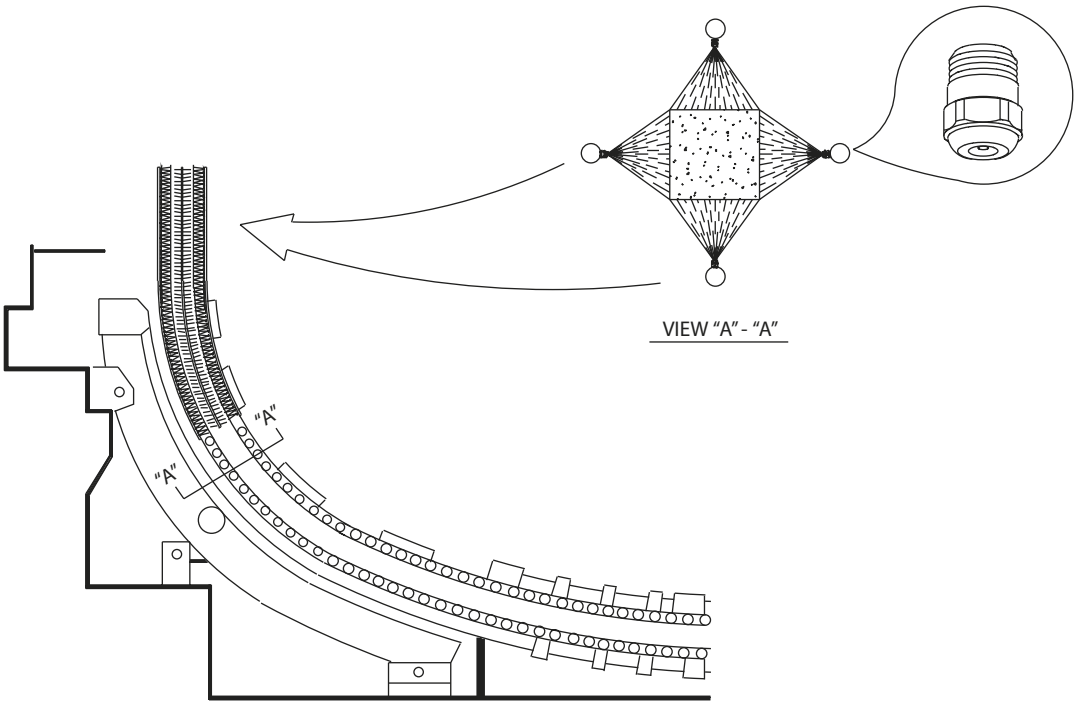
Dimensions



PERFORMANCE

* At stated pressure in psi.

Nozzle Inlet Conn. NPT or BSPT (in.)	Nozzle No.	Orifice Dia. Nom.	Max. Free Passage Dia.	Capacity (Gallons per minute)*										Spray Angle Degree*		
		in.	in.	10	20	30	40	50	60	70	80	90	100	20	40	80
1/4	1/4HHCC-6.5	.085	.068	.65	.89	1.1	1.3	1.4	1.5	1.6	1.7	1.8	1.9	68	68	68
	1/4HHCC-8	.088	.071	.80	1.1	1.3	1.5	1.7	1.8	2.0	2.1	2.2	2.3	68	68	68
	1/4HHCC-10	.098	.072	1.0	1.4	1.7	1.9	2.2	2.4	2.5	2.7	2.8	3.0	74	74	74
	1/4HHCC-12.5	.106	.075	1.25	1.7	2.1	2.4	2.7	2.9	3.1	3.3	3.5	3.7	74	74	74
3/8	3/8HHCC-15	.128	.085	1.5	2.1	2.5	2.9	3.2	3.5	3.7	4.0	4.2	4.4	74	74	74
1/2	1/2HHCC-20	.111	.101	2.0	2.8	3.4	3.8	4.3	4.6	5.0	5.3	5.6	5.8	74	74	74
	1/2HHCC-25	.119	.115	2.5	3.5	4.2	4.8	5.3	5.8	6.2	6.6	7.0	7.3	74	74	74
	1/2HHCC-32	.170	.120	3.2	4.5	5.4	6.1	6.8	7.4	7.9	8.4	8.9	9.4	74	74	74



ORDERING INFO

HHCC FullJet Spray Nozzle

1/4 HHCC – 6.5

Inlet Conn.	Nozzle Type	Capacity Size

FullJet Nozzles Are Ideal for Cooling in Semi-Finishing, Quenching, Liquor Flushing and More

Our FullJet nozzles produce a solid cone-shaped spray pattern consisting of medium to large sized drops with a round impact area. The spray pattern is uniform, providing even and thorough center-to-edge coverage to enhance steel quality. A unique vane design with large flow passages is responsible for the uniform coverage.

There's a FullJet nozzle for almost every cooling application in your mill. The nozzles are available in a wide variety of configurations, capacities, connections, materials, spray angles and sizes. Many models are available with a choice of impact areas of wide angle, square and oval.

G

Removable cap and vane
1/8" to 1/2" NPT or BSPT (F)

GG

Removable cap and vane
1/8" to 1/2" NPT or BSPT (M)

- G and GG FullJet nozzles feature removable caps and vanes for easy cleaning and inspection. The nozzle body can remain in the header or manifold.
- Available in standard spray, wide angle spray and square spray.

HH

One-piece body
1/8" to 1" NPT or BSPT (M)

- HH FullJet nozzles have a one-piece body and non-removable vanes.
- Available in standard spray, wide angle spray, square spray and wide angle square spray.

GA

Angle type
Removable cap and vane
1/8" to 1/2" NPT or BSPT (F)

GGA

Angle type
Removable cap and vane
1/8" to 1/2" NPT or BSPT (M)

- GA and GGA FullJet nozzles have a right angle design for installation on a pipe extension over the center of a spray zone or in a side-tapped header or manifold. The spray is projected from nozzle at an axis 90° from the axis of the nozzle inlet.
- Available in standard spray and wide angle spray.

GD

Wall mounted
Removable cap and vane
1/8" to 1/2" NPT or BSPT (F)

GGD

Wall mounted
Removable cap and vane
1/8" to 1/2" NPT or BSPT (M)

- GD and GGD FullJet nozzles feature a wall mount connection for installations where the piping for the nozzle must be installed on the exterior of the room, vessel or pipeline into which the nozzle will spray.
- Available in standard spray.

H

One piece body/vane
3/4" to 1" NPT or BSPT (F)

H

Removable vane/cast body
1-1/4" to 3" NPT or BSPT (F)

- H FullJet nozzles have a one-piece body with vane or a removable vane/cast body.
- Available in standard spray, wide angle spray, square spray and wide angle square spray.

GANV

Vaneless/removable cap
1/4" to 1/2" NPT
or BSPT (F)

GGANV

Vaneless/removable cap
1/4" to 1/2" NPT
or BSPT (M)

- Vaneless FullJet nozzles feature completely unrestricted internal flow passages with no vane. Spray is projected from the nozzle in a full cone pattern at an axis 90° from the axis of the nozzle inlet and is best used for applications requiring a coarser spray.

UniJet Bodies

T female body or

TT male body

Spray tip

Tip retainer

UniJet TG Spray Tip

One-piece spray tip
with vane

- TG UniJet spray tips are part of our UniJet System. Tips can be removed and replaced while the nozzle body remains in position. Plus, a variety of other UniJet components are available – strainers, valves, connectors and more.
- Available in standard spray, wide angle spray and square spray.

GVL

Removable cap and vane
3/8" NPT or BSPT

GGVL

Removable cap and vane
3/8" NPT or BSPT (M)

- Oval FullJet nozzles have a solid cone-shaped spray with an oval impact area that has a width approximately one-half its length. These nozzles are well suited for intensive cooling applications that require a heavy spray to be projected between rollers to the target surface. Oval FullJet nozzles feature removable caps and vanes for easy inspection and cleaning.

DistriboJet

R

2" to 8" NPT or BSPT (F)
(80°/95° orifice shown)

RR

2" to 8" NPT or BSPT (M)
(50°/65° orifice shown)

- DistriboJet FullJet large capacity nozzles feature an internal vane that is cast as part of the nozzle. Extra-large flow passages and a large open orifice assure non-clogging operation. Spray angles range from 50° to 95°.
- The operating range is 1 to 60 psi (.07 to 4 bar) with a full cone spray pattern developing at 1 psi (.07 bar). The 50° to 65° nozzles have specially designed grooved orifices for accurate flow rates and spray angle control. The 80° to 95° nozzles have smooth orifices with larger diameters for the same flow rates.

P45075 FullJet Nozzles

1/4" to 3/8" BSPP (F)

- Ideal for use on risers in billet casting, the P45075 FullJet nozzle features a low profile design. Like other FullJet nozzles, the P45075 provides a full cone pattern with even distribution and uses a secure, staked-in vane design. Plus, the hex body allows use of socket wrench for easy installation and removal.
- BSPP (F) inlet eliminates exposed thread on headers.

PERFORMANCE — STANDARD FULLJET NOZZLES

*At the stated pressure in psi.

Nozzle Inlet Conn. NPT or BSPT (in.)	Nozzle Type								Capacity Size	Max. Free Passage Dia. (in.)	Capacity (Gallons per minute)*										Spray Angle Degree*		
	Standard Type				Wall Mounted		Angle																
	G	H	GG	HH	GD	GGD	GA	GGA			5	7	10	20	30	40	60	80	100	150	7	20	80
1/8	●		●	●	●	●			1	.025	—	—	.10	.14	.17	.19	.23	.26	.30	.36	—	58	53
	●		●	●					1.5	.025	—	.13	.15	.21	.25	.29	.35	.40	.44	.53	52	65	59
	●		●	●	●	●	●	●	2	.040	.14	.17	.20	.28	.34	.38	.46	.53	.59	.70	43	50	46
	●		●	●	●	●	●	●	3	.040	.22	.26	.30	.42	.50	.57	.69	.79	.88	1.1	52	65	59
	●		●	●	●	●	●	●	3.5	.050	.25	.30	.35	.48	.58	.67	.81	.92	1.0	1.3	43	50	46
							●	●	3.9	.040	.28	.33	.39	.54	.65	.74	.89	1.0	1.1	—	77	84	79
	●		●	●	●	●	●	●	5	.050	.36	.42	.50	.69	.82	.95	1.2	1.3	1.5	1.8	52	65	59
1/4	●		●	●	●	●	●	●	6.5	.063	.47	.55	.65	.89	1.1	1.3	1.5	1.7	1.9	2.3	45	50	46
	●		●	●	●	●	●	●	10	.063	.73	.85	1.0	1.4	1.7	1.9	2.4	2.7	3.0	3.6	58	67	61
							●	●	12.5	.063	.91	1.1	1.3	1.7	2.1	2.4	2.9	3.3	3.6	—	69	74	68
3/8	●		●	●	●	●	●	●	9.5	.094	.69	.80	.95	1.3	1.6	1.8	2.2	2.5	2.8	3.4	45	50	46
	●		●	●	●	●	●	●	15	.094	1.1	1.3	1.5	2.1	2.5	2.9	3.5	4.0	4.4	5.3	64	67	61
1/2	●		●		●	●	●	●	16	.125	1.2	1.4	1.6	2.2	2.7	3.1	3.7	4.3	4.7	5.7	48	50	46
	●		●	●	●	●	●	●	25	.125	1.8	2.1	2.5	3.5	4.2	4.8	5.8	6.7	7.4	8.9	64	67	61
	●		●				●	●	32	.141	2.3	2.7	3.2	4.4	5.3	6.1	7.4	8.5	9.4	11.3	72	75	68
	●		●	●			●	●	40	.141	2.9	3.2	4.0	5.5	6.6	7.6	9.2	10.6	11.8	14.3	88	91	83
							●	●	50	.156	3.6	4.2	5.0	6.9	8.2	9.5	11.6	13.2	14.7	—	91	94	86
3/4		●		●					2.5	.172	2.1	2.5	3.0	4.1	4.9	5.6	6.8	7.8	8.6	10.4	48	50	46
		●		●					4.0	.172	3.4	4.0	4.7	6.5	7.8	8.9	10.7	12.4	13.7	16.6	67	70	63
		●		●					7.0	.203	6.0	7.0	8.3	11.4	13.8	15.8	19.1	22	24	29	89	92	84
1		●		●					7.0	.219	6.0	7.0	8.3	11.4	13.8	15.8	19.1	22	24	29	67	68	62
		●		●					8.0	.219	6.9	8.0	9.4	13.0	15.6	17.8	21	25	27	33	72	81	82
		●		●					10	.219	8.6	10.0	12.0	16.5	19.9	23	27	31	35	42	78	90	94
		●		●					12	.250	10.2	12.0	14.2	19.4	24	27	32	37	41	50	89	92	84
1-1/4		●		●					12	.250	10.2	12.0	14.2	19.4	24	27	32	37	41	50	89	92	84
1-1/2		●							10	.344	8.7	10.0	12.0	16.5	19.9	23	27	31	35	42	48	50	44
		●							16	.344	13.7	16.0	18.9	26	31	35	43	49	54	66	72	74	64
2		●							40	.438	34	40	47	64	77	88	108	124	137	166	78	80	70
		●							50	.563	43	50	59	82	99	113	135	156	173	210	83	85	75
		●							60	.563	51	60	71	96	118	140	163	186	203	250	98	100	86
2-1/2		●							60	.563	51	60	71	96	118	140	163	186	203	250	46	78	68
		●							70	.563	60	70	83	115	138	158	191	219	243	294	79	82	72
		●							80	.688	69	80	95	132	160	183	220	253	280	339	86	88	77
3		●							90	.688	77	90	108	148	180	202	248	282	316	383	86	89	77
		●							100	.688	86	100	119	164	198	228	274	314	349	419	92	95	83
		●							120	.813	102	120	142	194	235	269	324	370	411	500	102	105	89
4		●							160	.750	77	90	108	148	180	202	248	282	316	383	86	89	77
		●							180	.875	.875	100	119	164	198	228	274	314	349	419	92	95	83
		●							200	1.0	102	120	142	194	235	269	324	370	411	500	102	105	89
		●							210	1.0	102	120	142	194	235	269	324	370	411	500	102	105	89

Maximum Free Passage Diameter is the maximum diameter as listed of foreign matter that can pass through the nozzle without clogging.

ORDERING INFO

FullJet Spray Nozzle

1/4	G	–	SS	5
Inlet Conn.	Nozzle Type		Material Code	Capacity Size

PERFORMANCE — WIDE ANGLE, SQUARE AND EXTRA WIDE ANGLE FULLJET NOZZLES

*At the stated pressure in psi.

Nozzle Inlet Conn. NPT or BSPT (in.)	Nozzle Type						Capacity Size	Max. Free Passage Dia. (in.)	Capacity (Gallons per minute)*								Spray Angle Degree*		
	G	H	GG	HH	GA	GGA			5	7	10	20	30	40	60	80	7	20	80
1/8	●		●				1.5W	.025	—	—	.15	.20	.24	.28	.33	.37	—	120	86
	●		●	●			2.8W	.040	—	—	.28	.38	.45	.51	.61	.70	—	120	102
	●		●	●	●	●	4.3W	.040	—	—	.43	.58	.70	.79	.95	1.1	—	120	102
	●		●	●			4.8SQ	.050	.34	.40	.48	.66	.80	.91	1.1	1.3	48	63	57
	●		●				5.6W	.040	—	.48	.56	.76	.91	1.0	1.2	1.4	—	120	102
	●		●	●			6SQ	.050	.43	.51	.60	.83	1.0	1.1	1.4	1.6	60	66	60
	●		●	●	●	●	8W	.050	—	.68	.80	1.1	1.3	1.5	1.8	2.0	—	120	103
1/4	●		●				10W	.050	.74	.86	1.0	1.4	1.6	1.8	2.2	2.5	112	120	103
	●		●	●			10SQ	.063	.72	.85	1.0	1.4	1.7	1.9	2.3	2.6	62	67	61
	●		●				12W	.050	.89	1.0	1.2	1.6	1.9	2.2	2.6	3.0	114	120	103
	●		●	●			12SQ	.063	.86	1.0	1.2	1.7	2.0	2.3	2.8	3.2	70	75	68
	●		●	●	●	●	14W	1/16	1.0	1.2	1.4	1.9	2.3	2.6	3.1	3.5	114	120	103
				●			14WSQ	1/16	1.0	1.2	1.4	1.9	2.3	2.6	3.1	3.5	99	101	93
							14.5SQ	.063	1.1	1.2	1.5	2.0	2.4	2.8	3.3	3.8	78	82	75
3/8	●		●	●			18SQ	.094	1.3	1.5	1.8	2.5	3.0	3.4	4.1	4.7	71	75	68
	●		●	●	●	●	20W	3/32	1.5	1.7	2.0	2.7	3.2	3.7	4.4	5.0	114	120	104
				●			20WSQ	3/32	1.5	1.7	2.0	2.7	3.2	3.7	4.4	5.5	104	110	94
1/2	●		●	●			29SQ	.125	2.1	2.5	2.9	4.0	4.8	5.5	6.7	7.6	71	75	68
	●		●	●			30W	7/64	2.2	2.6	3.0	4.1	4.9	5.6	6.6	7.5	114	120	108
	●		●	●	●	●	35W	1/8	2.6	3.0	3.5	4.8	5.7	6.4	7.7	8.7	114	120	108
				●			35WSQ	1/8	2.6	3.0	3.5	4.8	5.7	6.4	7.7	8.7	104	110	102
	●		●	●			40W	1/8	3.0	3.4	4.0	5.4	6.5	7.4	8.8	10.0	114	120	108
	●		●	●			45W	9/64	3.3	3.9	4.5	6.1	7.3	8.3	9.9	11.2	114	120	110
	●		●	●	●	●	50W	5/32	3.7	4.3	5.0	6.8	8.1	9.2	11.0	12.5	114	120	112
3/4		●		●			6W	11/64	5.2	6.0	7.0	9.5	11.4	12.9	15.4	17.5	115	120	112
				●			50SQ	.172	3.7	4.3	5.0	7.0	8.4	9.6	11.5	13.2	71	75	68
		●		●			71WSQ	11/64	5.2	6.0	7.0	9.5	11.4	12.9	15.4	17.5	105	110	102
1		●		●			11W	33/64	9.5	11.0	12.9	17.5	21	24	28	32	107	120	117
		●		●			130WSQ	33/64	9.5	11.0	12.9	17.5	21	24	28	32	107	110	107
2		●					47W	7/16	41	47	55	75	89	101	121	137	120	124	119
		●					290SQ	.438	21	25	29	40	48	55	67	76	66	70	64
		●					560WSQ	7/16	41	47	55	75	89	101	121	137	110	114	109
2-1/2		●					70W	9/16	60	70	82	111	133	151	180	204	120	125	119
		●					830WSQ	9/16	60	70	82	111	133	151	180	204	110	115	109

Maximum Free Passage Diameter is the maximum diameter as listed of foreign matter that can pass through the nozzle without clogging.

ORDERING INFO

FullJet Spray Nozzle

1/4	G	–	SS	14W
Inlet Conn.	Nozzle Type		Material Code	Capacity Size

PERFORMANCE — STANDARD, SQUARE AND WIDE ANGLE SPRAY UNIJET NOZZLE WITH TG TIP

*At the stated pressure in psi.

Nozzle Inlet Conn. NPT or BSPT (in.)	Nozzle Type			Capacity Size	Max. Free Passage Dia. (in.)	Capacity (Gallons per minute)*								Spray Angle Degree*		
	TG	TG-W	TG-SQ			5	7	10	20	30	40	60	80	5	10	80
1/8		●		2.8W	.040	—	—	.28	.38	.45	.51	.61	.70	—	120	102
		●		4.3W	.040	—	—	.43	.58	.70	.79	.95	1.1	—	120	102
		●		5.6W	.040	—	.48	.56	.76	.91	1.0	1.2	1.4	—	120	102
		●		8W	.050	—	.68	.80	1.1	1.3	1.5	1.8	2.0	—	120	103
1/4	●			0.3	.016	—	—	—	.042	.052	.060	.073	.085	—	50	61
	●			0.4	.018	—	—	—	.057	.069	.080	.098	.11	—	56	63
	●			0.5	.020	—	—	—	.071	.087	.10	.12	.14	—	56	63
	●			0.6	.020	—	—	—	.085	.10	.12	.15	.17	—	54	62
	●			0.7	.020	—	—	—	.10	.12	.14	.17	.20	—	54	63
	●			1	.025	—	—	—	.14	.17	.19	.23	.26	—	58	53
	●			2	.040	—	—	.20	.28	.34	.38	.46	.53	—	50	46
		●		2.8W	.040	—	—	.28	.38	.45	.51	.61	.70	—	120	102
	●			3	.040	—	—	.30	.42	.50	.57	.69	.79	—	65	59
	●			3.5	.050	—	—	.35	.48	.58	.67	.81	.92	—	50	46
		●		4.3W	.040	—	—	.43	.58	.70	.79	.95	1.1	—	120	102
	●			5	.050	—	—	.50	.69	.82	.95	1.2	1.3	—	65	59
		●		5.6W	.040	—	.48	.56	.76	.91	1.0	1.2	1.4	—	120	102
			●	6SQ	.050	.43	.51	.60	.83	1.0	1.1	1.4	1.6	60	66	60
	●			6.5	.063	.47	.55	.65	.89	1.1	1.3	1.5	1.7	45	50	46
		●		8W	.050	—	.68	.80	1.1	1.3	1.5	1.8	2.0	—	120	103
			●	8SQ	.050	.58	.68	.80	1.1	1.3	1.5	1.8	2.1	70	75	68
	●			10	.063	.73	.85	1.0	1.4	1.7	1.9	2.4	2.7	58	67	61
		●		10W	.050	.74	.86	1.0	1.4	1.6	1.8	2.2	2.5	112	120	103
			●	10SQ	.063	.72	.85	1.0	1.4	1.7	1.9	2.3	2.6	62	66	60
		●		12W	.050	.89	1.0	1.4	1.6	1.9	2.2	2.6	3.0	114	120	103
			●	12SQ	.063	.86	1.0	1.2	1.7	2.0	2.3	2.8	3.2	70	75	68
		●		14W	.063	1.0	1.2	1.4	1.9	2.3	2.6	3.1	3.5	114	120	103
3/8			●	18SQ	.094	1.3	1.5	1.8	2.5	3.0	3.4	4.1	4.7	71	75	68

Maximum Free Passage Diameter is the maximum diameter as listed of foreign matter that can pass through the nozzle without clogging.

ORDERING INFO

UniJet Spray Nozzle

Nozzle Body					Spray Tip				
1/4	T	–	SS	+	TG	–	SS	10	
Inlet Conn.	Nozzle Type		Material Code		Tip Type		Material Code	Capacity Size	

PERFORMANCE — OVAL SPRAY FULLJET NOZZLES

*At the stated pressure in psi.

Nozzle Inlet Conn. NPT or BSPT (in.)	Capacity Size	Max. Free Passage Dia. (in.)	Capacity (Gallons per minute)*							Spray Angle Degree*							
			15	30	40	60	80	100	150	15		40		100		150	
										A	B	A	B	A	B	A	B
3/8	4.9VL	0.04	.59	.81	.93	1.1	1.3	1.4	1.7	104	66	90	60	86	52	83	47
	6.5VL	0.05	0.78	1.1	1.2	1.5	1.7	1.9	2.3	106	64	95	60	85	50	81	45
	8.1VL	0.05	0.98	1.3	1.5	1.8	2.1	2.3	2.8	102	64	100	65	84	50	80	45
	9.2VL	0.05	1.1	1.5	1.7	2.1	2.4	2.7	3.2	103	65	100	65	86	51	81	46

PERFORMANCE — VANELESS FULLJET NOZZLES

*At the stated pressure in psi.

Nozzle Inlet Conn. NPT or BSPT (in.)	Capacity Size	Orifice Dia. Nom. (in.)	Max. Free Passage Dia. (in.)	Capacity (Gallons per minute)*										Spray Angle Degree*		
				5	7	10	15	20	30	40	60	80	100	7	20	80
1/4	5	.109	.078	.35	.42	.50	.61	.71	.87	1.0	1.2	1.4	1.6	68	75	82
	7	.125	.094	.49	.59	.70	.86	.99	1.2	1.4	1.7	2.0	2.2	68	75	82
	8	.156	.109	.57	.67	.80	.98	1.1	1.4	1.6	1.9	2.3	2.5	75	80	85
	10	.156	.125	.71	.84	1.0	1.2	1.4	1.7	2.0	2.4	2.8	3.2	75	80	85
	11	.156	.141	.78	.92	1.1	1.3	1.6	1.9	2.2	2.7	3.1	3.5	75	80	85
3/8	11	.172	.125	.78	.92	1.1	1.3	1.6	1.9	2.2	2.7	3.1	3.5	75	85	83
	13	.172	.141	.92	1.1	1.3	1.6	1.8	2.3	2.6	3.2	3.7	4.1	75	85	83
	16	.172	.156	1.1	1.3	1.6	2.0	2.3	2.8	3.2	3.9	4.5	5.1	75	85	83
	20	.219	.172	1.4	1.7	2.0	2.4	2.8	3.5	4.0	4.9	5.7	6.3	75	85	83
	23	.219	.188	1.6	1.9	2.3	2.8	3.3	4.0	4.6	5.6	6.5	7.3	75	85	83
	26	.234	.203	1.8	2.2	2.6	3.2	3.7	4.5	5.2	6.4	7.4	8.2	75	85	83
	29	.234	.219	2.1	2.4	2.9	3.6	4.1	5.0	5.8	7.1	8.2	9.2	75	85	83
	33	.297	.234	2.3	2.8	3.3	4.0	4.7	5.7	6.6	8.1	9.3	10.4	75	85	83
1/2	32	.313	.203	2.2	2.7	3.2	3.9	4.5	5.5	6.4	7.8	9.1	10.1	85	90	95
	40	.313	.234	2.8	3.3	4.0	4.9	5.7	6.9	8.0	9.8	11.3	12.6	85	90	95
	48	.313	.281	3.4	4.0	4.8	5.9	6.8	8.3	9.6	11.8	13.6	15.2	85	90	95
	56	.391	.297	4.0	4.7	5.6	6.9	7.9	9.7	11.2	13.7	15.8	17.7	85	90	95
	64	.391	.328	4.5	5.4	6.4	7.8	9.1	11.1	12.8	15.7	18.1	20	85	90	95
	72	.391	.359	5.1	6.0	7.2	8.8	10.2	12.5	14.4	17.6	20	23	85	90	95

Maximum Free Passage Diameter is the maximum diameter as listed of foreign matter that can pass through the nozzle without clogging.

ORDERING INFO

Oval Spray Nozzle

3/8	G	–	SS	4.9VL
Inlet Conn.	Nozzle Type		Material Code	Capacity Size

Vaneless Spray Nozzle

1/4	GANV	–	SS	10
Inlet Conn.	Nozzle Type		Material Code	Capacity Size

PERFORMANCE - DISTRIBOJET SPRAY NOZZLES 50°/65°/80°/95°

*At the stated pressure in psi.

Nozzle Inlet Conn. NPT or BSPT (in.)	Nozzle Type								Capacity Size	Orifice Dia. Nom. (in.)	Capacity (Gallons per minute)*									
	R				RR															
	Spray Angle Degree				Spray Angle Degree															
	50	65	80	95	50	65	80	95			1	3	5	7	10	15	20	30	40	60
2	●				●				45	—	27	45	57	67	78	94	108	130	148	179
		●				●			45	—	27	45	57	67	78	94	108	130	148	179
				●				●	45	1.141	27	45	57	67	78	94	108	130	148	179
		●				●			60	—	36	60	76	89	104	126	144	174	199	239
				●				●	60	1.422	36	60	76	89	104	126	144	174	199	239
2-1/2	●				●				70	—	42	70	88	103	122	147	168	202	232	278
		●				●			70	—	42	70	88	103	122	147	168	202	232	278
				●				●	70	1.438	42	70	88	103	122	147	168	202	232	278
		●				●			90	—	54	90	113	133	157	189	216	260	297	358
				●				●	90	1.766	54	90	113	133	157	189	216	260	297	358
3	●				●				110	—	66	110	139	163	192	231	263	318	363	439
		●				●			110	—	66	110	139	163	192	231	263	318	363	439
				●				●	110	1.828	66	110	139	163	192	231	263	318	363	439
		●				●			140	—	84	140	177	207	243	293	335	404	463	557
				●				●	140	2.25	84	140	177	207	243	293	335	404	463	557

PERFORMANCE – P45075

*At the stated pressure in psi.

Nozzle Inlet Conn. NPT or BSPT (in.)	Nozzle No.	Orifice Dia. Nom. (in.)	Max. Free Passage Dia. (in.)	Capacity (Gallons per minute)*							Spray Angle Degree*	
				10	20	30	40	60	80	100	20	80
1/4	P45075-1/4H-4-65	.076	.047	.42	.57	.70	.81	.96	1.1	1.2	65	65
	P45075-1/4H-5.5-65	.084	.050	.56	.78	.96	1.1	1.3	1.5	1.6	65	65
	P45075-1/4H-7.5-45	.099	.050	.77	1.1	1.3	1.5	1.8	2.0	2.2	45	45
	P45075-1/4H-7.5-65	.099	.050	.77	1.1	1.3	1.5	1.8	2.0	2.2	65	65
3/8	P45075-3/8H-3-65	.060	.040	.28	.39	.48	.55	.61	.71	.79	65	65
	P45075-3/8H-3.5-65	.060	.040	.28	.39	.48	.55	.61	.71	.79	65	65
	P45075-3/8H-4-65	.072	.047	.42	.57	.70	.81	.96	1.1	1.2	65	65
	P45075-3/8H-5-65	.081	.063	.46	.65	.80	.93	1.1	1.3	1.5	65	65
	P45075-3/8H-5.5-65	.084	.050	.56	.78	.96	1.1	1.3	1.5	1.6	65	65
	P45075-3/8H-7-45	.084	.050	.56	.78	.96	1.1	1.3	1.5	1.6	45	45
	P45075-3/8H-7-65	.084	.050	.56	.78	.96	1.1	1.3	1.5	1.6	65	65
	P45075-3/8H-8.5-65	.103	.063	.85	1.2	1.5	1.7	2.0	2.2	2.5	65	65
	P45075-3/8H-10-45	.115	.109	.94	1.3	1.6	1.9	2.2	2.5	2.7	45	55
	P45075-3/8H-10-65	.109	.063	.94	1.3	1.6	1.9	2.2	2.5	2.7	65	65
	P45075-3/8H-14-60	.109	.063	.94	1.3	1.6	1.9	2.2	2.5	2.7	60	60
	P45075-3/8H-22-60	.166	.118	2.2	3.0	3.5	3.9	4.6	5.1	5.6	60	55
	P45075-3/8H-22-90	.166	.118	2.2	3.0	3.5	3.9	4.6	5.1	5.6	90	87
	P45075-3/8H-7W-120	.086	.050	.70	.90	1.0	1.1	1.3	1.5	1.6	120	85

Maximum Free Passage Diameter is the maximum diameter as listed of foreign matter that can pass through the nozzle without clogging.

ORDERING INFO

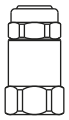
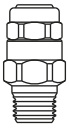
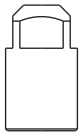
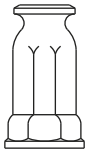
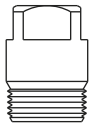
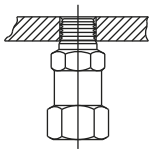
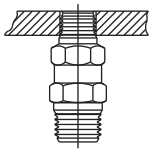
DistriboJet Spray Nozzle

2	RR	–	SS	50	45
Inlet Conn.	Nozzle Type		Material Code	Spray Angle	Capacity Size

P45075 Spray Nozzle

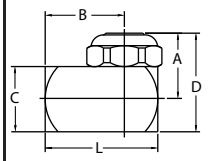
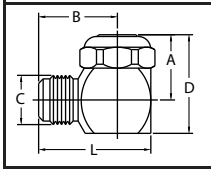
P45075	–	1/4H	–	SS	–	4	–	65
Nozzle Prefix		Inlet Conn.		Nozzle Type	Material Code		Capacity Size	Spray Angle

DIMENSIONS – STANDARD, WIDE ANGLE, SQUARE, WIDE ANGLE SQUARE

Nozzle Type (Conn.)		Inlet Conn. (in.)	Length		Hex.		Net Weight	
			(in.)	(mm)	(in.)	(mm)	(oz.)	(kg)
	G (F)	1/8	1-7/32	31	9/16	14.3	1	.03
		1/4	1-15/32	37.5	11/16	17.5	1-1/2	.04
		3/8	1-13/16	46	13/16	20.6	2-1/2	.07
		1/2	2-1/4	57	1	25.4	6	.17
	GG (M)	1/8	1-9/32	32.5	9/16	14.3	3/4	.02
		1/4	1-9/16	39.5	11/16	17.5	1-1/2	.04
		3/8	1-27/32	47	13/16	20.6	2-1/2	.07
		1/2	2-7/32	56.5	1	25.4	6	.17
	H Bar Stock (F)	3/4	2-3/16	55.5	1-1/4	32	7-1/4	.21
		1	2-3/4	70	1-1/2	38	13	.37
	H Cast (F)	1-1/4	3-7/16	87.5	2-1/16	53	1-1/4 lbs	.57
		1-1/2	4-1/16	103	2-5/16	59	1-3/4 lbs	.80
		2	5-7/16	138	3	76	3-3/4 lbs	1.7
		2-1/2	6-7/8	175	3-7/16	87	4-3/4 lbs	2.2
		3	7-23/32	196	4-1/8	105	6 lbs	2.7
		4	9-7/8	243	5-7/16	138	18 lbs	8.2
		5	12-1/4	311	6-3/4 oct.	172 oct.	38 lbs	17.3
		6	14-3/8	365	8 oct.	203 oct.	53 lbs	24.1
		8	18-1/2	470	9-1/2 oct.	241 oct.	92 lbs	41.8
	HH (M)	1/8	7/8	9.9	1/2	12.7 dia.	1	.03
		1/4	29/32	23	17/32	14.0 dia.	1/2	.01
		3/8	1-3/16	30	21/32	17.0 dia.	1	.03
		1/2	1-3/8	35	13/16	21.0 dia.	1-1/2	.04
		3/4	1-19/32	40.5	1-1/16	27	3-1/2	.10
		1	2-3/32	53	1-5/16	33	7	.20
	GD (F)	1/8	1-25/64	35.5	9/16	14.3	1	.03
		1/4	1-39/64	41	11/16	17.5	1-1/2	.04
		3/8	1-13/16	46	13/16	20.6	2-1/2	.07
		1/2	2-13/64	56	1	25.4	4-3/4	.13
	GGD (M)	1/8	1-29/64	37	9/16	14.3	1	.03
		1/4	1-45/64	43.5	11/16	17.5	1-1/2	.04
		3/8	1-27/32	47	13/16	20.6	2-1/2	.07
		1/2	2-11/64	55	1	25.4	4-1/2	.13

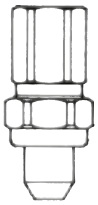
Based on largest/heaviest version of each type.

DIMENSIONS — STANDARD, WIDE ANGLE, SQUARE, WIDE ANGLE SQUARE

Nozzle Type (Conn.)		Inlet Conn. (in.)	A		B		C		D		L		Net Weight	
			(in.)	(mm)	(in.)	(mm)	(in. sq.)	(mm sq.)	(in.)	(mm)	(in.)	(mm)	(oz.)	(kg)
	GA (F)	1/8	11/16	17.5	5/8	16	9/16	14.3	31/32	24.5	29/32	23	1-1/2	.04
		1/4	7/8	22	25/32	20	11/16	17.5	1-7/32	31	1-5/32	29.5	2	.06
		3/8	1	25.5	7/8	22	13/16	20.6	1-7/16	36.5	1-9/32	32.5	3-1/4	.09
		1/2	1-17/32	39	1-1/16	27	1	25.4	2-1/32	51.5	1-9/16	40	6-1/4	18
	GGA (M)	1/8	11/16	17.5	21/32	16.5	9/16	14.3	31/32	24.5	15/16	24	1-1/2	.04
		1/4	7/8	22	13/16	20.5	11/16	17.5	1-1/4	32	1-5/32	29.5	2	.06
		3/8	1	25.5	29/32	23	13/16	20.6	1-7/16	36.5	1-5/16	33.5	3-1/4	.09
		1/2	1-17/32	39	1-1/8	28.5	1	25.4	2-1/32	51.5	1-5/8	41.5	6-1/4	.18

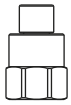
Based on largest/heaviest version of each type.

DIMENSIONS — UNIJET® NOZZLE WITH TG TIP

Nozzle Type (Conn.)		Length		Hex.		Net Weight	
		(in.)	(mm)	(in.)	(mm)	(oz.)	(kg)
	T+TG	1-31/32	50	13/16	20.6	2-1/2	.07
	TT+TG	1-31/32	50	13/16	20.6	2-1/4	.06

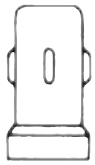
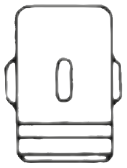
Based on largest/heaviest version of each type.

DIMENSIONS — OVAL

Nozzle Type (Conn.)		Inlet Conn. (in.)	Length		Hex.		Net Weight	
			(in.)	(mm)	(in.)	(mm)	(oz.)	(kg)
	GVL	3/8	1-1/2	38	13/16	21	2	.06

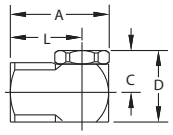
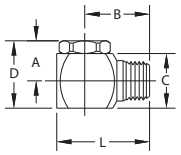
Based on largest/heaviest version of each type.

DIMENSIONS — DISTRIBOJET® 50°/65°/80°/95°

Nozzle Type (Conn.)		Inlet Conn. (in.)	Length		Dia.		Net Weight	
			(in.)	(mm)	(in.)	(mm)	(oz.)	(kg)
	R	2	4-7/16	113	2-15/16	75	3 lbs	1.4
		2-1/2	5-15/32	139	3-15/32	88	5-1/2 lbs	2.3
		3	6-1/2	165	4-1/8	105	7-1/2 lbs	3.4
		4	8-1/8	206	5	127	13-1/2 lbs	6.1
		5	10-1/32	255	6-3/8	162	33 lbs	15.0
		6	11-13/16	300	7-5/8	194	38-1/2 lbs	17.5
		8	15-5/16	389	9-1/2	241	75 lbs	34.1
	RR	2	3-1/4	82.5	2-3/8	60	2 lbs	.91
		2-1/2	4	102	2-7/8	73	5-1/4 lbs	2.4
		3	4-7/8	124	3-1/2	89	5-3/4 lbs	2.6
		4	6-1/2	165	4-1/2	114	10 lbs	4.5
		5	8-1/8	206	5-9/16	141	25 lbs	11.4
		6	9-3/4	248	6-5/8	168	29 lbs	13.2
		8	13	330	8-5/8	219	56 lbs	25.5

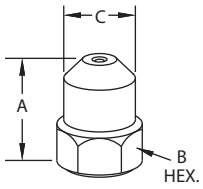
Based on largest/heaviest version of each type.

DIMENSIONS — VANELESS

Nozzle Type (Conn.)		Inlet Conn. (in.)	A		B		C		D		L		Net Weight	
			(in.)	(mm)	(in.)	(mm)	(in. sq.)	(mm sq.)	(in.)	(mm)	(in.)	(mm)	(oz.)	(kg)
	GANV	1/4	9/16	14.5	7/8	22.5	3/4	19	15/16	24	1-1/4	32	2-3/4	.08
		3/8	11/16	17.5	31/32	25	7/8	22	1-1/8	28.5	1-13/32	36	3-3/4	.11
		1/2	25/32	19.5	1-5/16	33.5	1	25.5	1-9-32	32.5	1-13/16	46	5-5/8	.16
	GGANV	1/4	9/16	14.5	7/8	22.5	3/4	19	15/16	24	1-1/4	32	2-1/2	.07
		3/8	11/16	17.5	31/32	25	7/8	22	1-1/8	28.5	1-13/32	36	3-1/2	.10
		1/2	25/32	19.5	1-3/8	35	1	25.5	1-9-32	32.5	1-7/8	48	5-3/8	.15

Based on largest/heaviest version of each type.

DIMENSIONS – P45075

P45075	Inlet Conn. (in.)	A		B		C		Net Weight	
		(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	(oz.)	(gr.)
	1/4	1-3/32	28	13/16	20.6	3/4	19	1.9	54
	3/8	1-3/64	26.5	7/8	22.2	53/64	21	1.9	54

Based on largest/heaviest version of each type.

MATERIALS – STANDARD, WIDE ANGLE, SQUARE, WIDE ANGLE SQUARE, UNIJET®

Material	Material Code	Nozzle Type								
		G	GG	H	HH	GD	GGD	GA	GGA	TG
Brass	(none)	●	●	●	●	●	●	●	●	●
Mild Steel	I	●	●	●	●	●	●	●	●	
303 Stainless Steel	SS	●	●	●	●	●	●	●	●	●
316 Stainless Steel	316SS	●	●	●	●					
Polyvinyl Chloride	PVC	●	●	●	●					
Cast: Brass	(none)			●						
Cast: Cast Iron	I			●						
Cast: 316 Stainless Steel	SS			●						

Material options may vary by spray pattern type. Contact us for options.

MATERIALS – VANELESS, OVAL DISTRIBOJET® 50°/65°/80°/95°/P45075

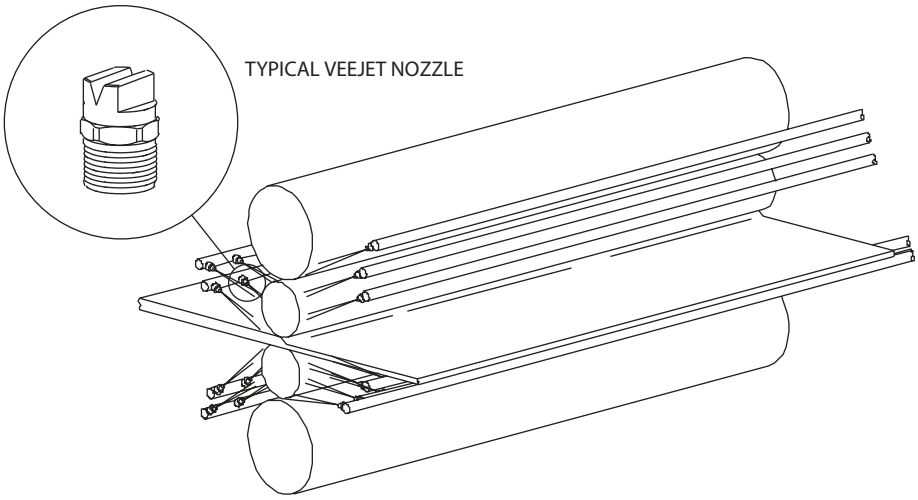
Material	Material Code	Nozzle Type						
		GANV	GGANV	G-VL	GG-VL	R	RR	P45075
Brass	(none)	●	●	●	●	●	●	●
303 Stainless Steel	SS	●	●	●	●			●
316 Stainless Steel	316SS					●	●	
Cast: Cast Iron	I					●	●	

VEEJET FLAT SPRAY NOZZLES PROVIDE MORE SURFACE CONTACT FOR EFFICIENT AND UNIFORM COOLING

When you need to remove heat during steel forming, our VeeJet spray nozzles are called for. Providing a flat tapered-edge spray pattern, VeeJets efficiently and uniformly cool the entire width and length of the rolls using overlapping spray patterns. The greater surface contact of the sprays helps utilize available water and controls steel expansion and contraction and ultimately contour distortion.

Our VeeJet nozzles offer the added advantage of being compact. This enables positioning a greater number of nozzles closer to the target to maximize heat removal, prevent scouring and extend roll life.

Available in a wide variety of sizes, capacities, spray angles, materials and connection types, VeeJet nozzles are often also used in cleaning and rinsing of pickled strip after an acid bath.



VEEJET SPRAY NOZZLES – EFFICIENT HEAT REMOVAL IN HOT STRIP AND ROLLING MILL APPLICATIONS; EFFECTIVE CLEANING IN OTHER AREAS

Our VeeJet flat spray nozzles produce a uniform distribution of small- to medium-size drops in a high-impact flat spray pattern with spray angles ranging from 15° to 110° at 40 psi (3 bar). Inlet connections range from 1/8" to 1/2", some with quick-connect spray tips. Most commonly used in roll cooling, VeeJet nozzles are also used in run-out tables, lubrication, strip wash and liquor flushing.

H-VV

1/8" to 1/4" NPT or BSPT (M)

- H-VV VeeJet nozzles feature flow rates below 1 gpm at 40 psi (3.9 l/min at 3 bar).
- H-VV and H-VVL nozzles are available with spray angles of 15° to 110° at 40 psi (3 bar).

H-VVL

Integral strainer
1/8" to 1/4" NPT or BSPT (M)

- H-VVL VeeJet nozzles offer the same flow rates as the H-VV but feature a built-in strainer.

H-U

1/8" to 1/2" NPT or BSPT (M)

- H-U VeeJet nozzles feature low flow rates of 1 gpm or greater at 40 psi (3.9 l/min at 3 bar).
- H-U nozzles feature spray angles of 15° to 110° at 40 psi (3 bar).

UniJet Bodies

T Female body or

TT male body

Screen Strainer

Spray Tip

Tip Retainer

UniJet TPU Spray Tip

Spray tip

- UniJet tips can be removed and replaced while the nozzle body remains in position.
- Spray tip orifices are recessed to protect against damage.
- Tips also feature unobstructed flow passage to minimize clogging.

Quick VeeJet Bodies

Typical spray nozzle assembly for QVVA and QUA spray tips

QJA and QLJA female bodies or

QJJA and QJJLA male bodies

Spray tip

- Quick VeeJet flat spray tips offer all the advantages of standard VeeJet nozzles plus these time saving features: quick connection of tip to body that requires a 1/4 turn and automatic spray pattern alignment. Brass versions of the Quick VeeJet nozzles have a Buna-N seal and 303 stainless steel versions are equipped with a VITON® seal.

Quick VeeJet Spray Tips

QUA/QLUA

Quick VeeJet nozzle spray tip

- QUA and QLUA spray tips provide flow rates of 1 gpm or greater at 40 psi (3.9 l/min at 3 bar).

QVVA

Quick VeeJet nozzle spray tip

- QVVA spray tips offer flow rates below 1 gpm at 40 psi (3.9 l/min at 3 bar).

PERFORMANCE — VEEJET STANDARD NOZZLES

*At the stated pressure in psi.

Spray Angle Degree at 40 psi	Nozzle Type / Inlet Conn. (in.)								Capacity Size	Equiv. Orifice Dia. (in.)	Capacity (Gallons per minute)*										Spray Angle Degree*		
	H-VV		H-VVL		H-U																		
	1/8	1/4	1/8	1/4	1/8	1/4	3/8	1/2			5	10	20	30	40	60	80	100	200	300	20	40	80
110	●	●	●	●					01	.026	.03	.05	.07	.09	.10	.12	.14	.16	.22	.27	94	110	121
	●	●	●	●					015	.032	.05	.07	.11	.13	.15	.18	.21	.24	.34	.41	97	110	121
	●	●	●	●					02	.035	.07	.10	.14	.17	.20	.25	.28	.32	.45	.55	98	110	120
	●	●	●	●					03	.043	.11	.15	.21	.26	.30	.37	.42	.47	.67	.82	99	110	120
	●	●	●	●					04	.050	.14	.20	.28	.35	.40	.49	.57	.63	.89	1.1	100	110	119
	●	●	●	●					05	.056	.18	.25	.35	.43	.50	.61	.71	.79	1.1	1.4	100	110	118
	●	●	●	●					06	.061	.21	.30	.42	.52	.60	.73	.85	.95	1.3	1.6	101	110	117
	●	●	●	●					08	.071	.28	.40	.56	.69	.80	.98	1.1	1.3	1.8	2.2	102	110	117
	●	●	●	●					10	.079	.35	.50	.71	.86	1.0	1.2	1.4	1.6	2.2	2.7	103	110	117
	●	●	●	●					15	.094	.53	.75	1.1	1.3	1.5	1.8	2.1	2.4	3.4	4.1	104	110	117
						●			20	.109	.71	1.0	1.4	1.7	2.0	2.5	2.8	3.2	4.5	5.5	105	110	117
95	●		●						0050	.018	—	—	.035	.043	.050	.06	.07	.08	.11	.14	81	95	105
	●	●	●	●					01	.026	.03	.05	.07	.09	.10	.12	.14	.16	.22	.27	81	95	105
	●		●	●					015	.032	.05	.07	.11	.13	.15	.18	.21	.24	.34	.41	82	95	105
	●	●	●	●					02	.035	.07	.10	.14	.17	.20	.25	.28	.32	.45	.55	82	95	105
	●	●	●	●					03	.043	.11	.15	.21	.26	.30	.37	.42	.47	.67	.82	83	95	104
	●	●	●	●					04	.050	.14	.20	.28	.35	.40	.49	.57	.63	.89	1.1	84	95	103
	●	●	●	●					05	.056	.18	.25	.35	.43	.50	.61	.71	.79	1.1	1.4	84	95	102
	●	●	●	●					06	.061	.21	.30	.42	.52	.60	.73	.85	.95	1.3	1.6	86	95	101
	●	●	●	●					08	.071	.28	.40	.56	.69	.80	.98	1.1	1.3	1.8	2.2	87	95	100
					●	●		●	10	.079	.35	.50	.71	.86	1.0	1.2	1.4	1.6	2.2	2.7	89	95	100
					●	●		●	15	.094	.53	.75	1.1	1.3	1.5	1.8	2.1	2.4	3.4	4.1	90	95	100
					●	●	●		20	.109	.71	1.0	1.4	1.7	2.0	2.5	2.8	3.2	4.5	5.5	90	95	100
					●	●		●	30	.133	1.1	1.5	2.1	2.6	3.0	3.7	4.2	4.7	6.7	8.2	91	95	101
						●	●	●	40	.153	1.4	2.0	2.8	3.5	4.0	4.9	5.7	6.3	8.9	11.0	92	95	100
						●		●	50	.172	1.8	2.5	3.5	4.3	5.0	6.1	7.1	7.9	11.2	13.7	93	95	99
						●		●	60	.188	2.1	3.0	4.2	5.2	6.0	7.3	8.5	9.5	13.4	16.4	93	95	99
						●	●	●	70	.203	2.5	3.5	4.9	6.1	7.0	8.6	9.9	11.1	15.7	19.2	93	95	99
								●	100	.243	3.5	5.0	7.1	8.6	10.0	12.2	14.1	15.8	22	27	93	95	99
								●	150	.297	5.3	7.5	10.6	13.0	15.0	18.4	21	24	34	41	93	95	99

PERFORMANCE — VEEJET STANDARD NOZZLES

*At the stated pressure in psi.

Spray Angle Degree at 40 psi	Nozzle Type / Inlet Conn. (in.)								Capacity Size	Equiv. Orifice Dia. (in.)	Capacity (Gallons per minute)*										Spray Angle Degree*		
	H-VV		H-VVL		H-U																		
	1/8	1/4	1/8	1/4	1/8	1/4	3/8	1/2			5	10	20	30	40	60	80	100	200	300	20	40	80
80	●	●	●	●					0050	.018	—	—	.035	.043	.050	.06	.07	.08	.11	.14	61	80	95
	●	●	●	●					0067	.021	—	.03	.05	.06	.067	.08	.09	.11	.15	.18	67	80	94
	●	●	●	●					01	.026	—	.05	.07	.09	.10	.12	.14	.16	.22	.27	68	80	89
		●	●	●	●				015	.032	—	.07	.11	.13	.15	.18	.21	.24	.34	.41	68	80	89
	●	●	●	●					02	.035	.07	.10	.14	.17	.20	.25	.28	.32	.45	.55	69	80	88
	●	●	●	●					03	.043	.11	.15	.21	.26	.30	.37	.42	.47	.67	.82	70	80	87
	●	●	●	●					04	.050	.14	.20	.28	.35	.40	.49	.57	.63	.89	1.1	71	80	86
	●	●	●	●					05	.056	.18	.25	.35	.43	.50	.61	.71	.79	1.1	1.4	71	80	86
	●	●	●	●					06	.061	.21	.30	.42	.52	.60	.73	.85	.95	1.3	1.6	72	80	85
	●	●	●	●					08	.071	.28	.40	.56	.69	.80	.98	1.1	1.3	1.8	2.2	72	80	84
					●	●	●	●	10	.079	.35	.50	.71	.86	1.0	1.2	1.4	1.6	2.2	2.7	73	80	84
					●	●		●	15	.094	.53	.75	1.1	1.3	1.5	1.8	2.1	2.4	3.4	4.1	74	80	83
					●	●	●	●	20	.109	.71	1.0	1.4	1.7	2.0	2.5	2.8	3.2	4.5	5.5	74	80	83
					●	●	●	●	30	.133	1.1	1.5	2.1	2.6	3.0	3.7	4.2	4.7	6.7	8.2	74	80	83
					●	●	●	●	40	.153	1.4	2.0	2.8	3.5	4.0	4.9	5.7	6.3	8.9	11.0	74	80	83
						●	●	●	50	.172	1.8	2.5	3.5	4.3	5.0	6.1	7.1	7.9	11.2	13.7	74	80	83
						●	●	●	60	.188	2.1	3.0	4.2	5.2	6.0	7.3	8.5	9.5	13.4	16.4	75	80	83
						●	●	●	70	.203	2.5	3.5	4.9	6.1	7.0	8.6	9.9	11.1	15.7	19.2	75	80	83
							●	●	100	.243	3.5	5.0	7.1	8.6	10.0	12.2	14.1	15.8	22	27	75	80	83
							●	●	150	.297	5.3	7.5	10.6	13.0	15.0	18.4	21	24	34	41	73	80	84
								●	200	.343	7.1	10.0	14.1	17.3	20	25	28	32	44	55	74	80	82
73		●		●					0231	.038	.08	.12	.16	.20	.23	.28	.33	.37	.52	.63	56	73	83
	●	●	●	●					0308	.044	.11	.15	.22	.27	.31	.38	.44	.49	.69	.84	58	73	82
		●		●					0462	.054	.16	.23	.33	.40	.46	.57	.65	.73	1.0	1.3	60	73	80
	●		●						0770	.069	.27	.38	.54	.67	.77	.94	1.1	1.2	1.7	2.1	64	73	77
65	●	●	●	●					01	.026	—	.05	.07	.09	.10	.12	.14	.16	.22	.27	51	65	74
	●	●	●	●					015	.032	—	.07	.11	.13	.15	.18	.21	.24	.34	.41	51	65	74
	●	●	●	●					02	.035	.07	.10	.14	.17	.20	.25	.28	.32	.45	.55	52	65	73
	●		●						025	.039	.09	.13	.18	.22	.25	.31	.35	.40	.56	.68	52	65	73
	●	●	●	●					03	.043	.11	.15	.21	.26	.30	.37	.42	.47	.67	.82	53	65	72
	●	●	●	●					04	.050	.14	.20	.28	.35	.40	.49	.57	.63	.89	1.1	53	65	72
	●	●	●	●					05	.056	.18	.25	.35	.43	.50	.61	.71	.79	1.1	1.4	53	65	72
	●	●		●					06	.061	.21	.30	.42	.52	.60	.73	.85	.95	1.3	1.6	54	65	72
	●	●	●	●					08	.071	.28	.40	.56	.69	.80	.98	1.1	1.3	1.8	2.2	55	65	71
					●	●	●		10	.079	.35	.50	.71	.86	1.0	1.2	1.4	1.6	2.2	2.7	56	65	71
					●	●	●	●	15	.094	.53	.75	1.1	1.3	1.5	1.8	2.1	2.4	3.4	4.1	56	65	70
					●	●		●	20	.109	.71	1.0	1.4	1.7	2.0	2.5	2.8	3.2	4.5	5.5	57	65	70
					●	●	●		30	.133	1.1	1.5	2.1	2.6	3.0	3.7	4.2	4.7	6.7	8.2	58	65	69
					●	●	●		40	.153	1.4	2.0	2.8	3.5	4.0	4.9	5.7	6.3	8.9	11.0	59	65	68
					●	●	●	●	50	.172	1.8	2.5	3.5	4.3	5.0	6.1	7.1	7.9	11.2	13.7	60	65	68
						●	●	●	60	.188	2.1	3.0	4.2	5.2	6.0	7.3	8.5	9.5	13.4	16.4	60	65	68
						●	●	●	70	.203	2.5	3.5	4.9	6.1	7.0	8.6	9.9	11.1	15.7	19.2	60	65	68
							●	●	100	.243	3.5	5.0	7.1	8.6	10.0	12.2	14.1	15.8	22	27	58	65	69
							●	●	150	.297	5.3	7.5	10.6	13.0	15.0	18.4	21	24	34	41	59	65	68
								●	200	.343	7.1	10.0	14.1	17.3	20	25	28	32	44	55	60	65	67

PERFORMANCE — VEEJET STANDARD NOZZLES

*At the stated pressure in psi.

Spray Angle Degree at 40 psi	Nozzle Type / Inlet Conn. (in.)								Capacity Size	Equiv. Orifice Dia. (in.)	Capacity (Gallons per minute)*										Spray Angle Degree*		
	H-VV		H-VVL		H-U																		
	1/8	1/4	1/8	1/4	1/8	1/4	3/8	1/2			5	10	20	30	40	60	80	100	200	300	20	40	80
50	●	●	●	●					01	.026	—	.05	.07	.09	.10	.12	.14	.16	.22	.27	37	50	59
	●	●	●	●					02	.035	—	.10	.14	.17	.20	.25	.28	.32	.45	.55	39	50	57
	●	●	●	●					03	.043	.11	.15	.21	.26	.30	.37	.42	.47	.67	.82	40	50	56
	●	●	●	●					04	.050	.14	.20	.28	.35	.40	.49	.57	.63	.89	1.1	42	50	56
	●	●	●	●					05	.056	.18	.25	.35	.43	.50	.61	.71	.79	1.1	1.4	44	50	56
	●	●	●	●					06	.061	.21	.30	.42	.52	.60	.73	.85	.95	1.3	1.6	45	50	56
	●	●	●	●					08	.071	.28	.40	.56	.69	.80	.98	1.1	1.3	1.8	2.2	45	50	56
					●	●	●		10	.079	.35	.50	.71	.86	1.0	1.2	1.4	1.6	2.2	2.7	45	50	55
						●	●	●	15	.094	.53	.75	1.1	1.3	1.5	1.8	2.1	2.4	3.4	4.1	45	50	55
					●	●	●	●	20	.109	.71	1.0	1.4	1.7	2.0	2.5	2.8	3.2	4.5	5.5	45	50	55
					●	●	●	●	30	.133	1.1	1.5	2.1	2.6	3.0	3.7	4.2	4.7	6.7	8.2	45	50	55
					●	●	●		40	.153	1.4	2.0	2.8	3.5	4.0	4.9	5.7	6.3	8.9	11.0	46	50	54
					●	●	●		50	.172	1.8	2.5	3.5	4.3	5.0	6.1	7.1	7.9	11.2	13.7	46	50	54
						●	●		60	.188	2.1	3.0	4.2	5.2	6.0	7.3	8.5	9.5	13.4	16.4	46	50	54
						●	●	●	70	.203	2.5	3.5	4.9	6.1	7.0	8.6	9.9	11.1	15.7	19.2	46	50	54
							●	●	100	.243	3.5	5.0	7.1	8.6	10.0	12.2	14.1	15.8	22	27	44	50	52
							●		120	.266	4.2	6.0	8.5	10.4	12.0	14.7	17.0	19.0	27	33	44	50	53
							●	●	150	.297	5.3	7.5	10.6	13.0	15.0	18.4	21	24	34	41	45	50	52
								●	200	.343	.71	10.0	14.1	17.3	20	25	28	32	44	55	46	50	52
40	●	●	●	●					01	.026	—	—	.07	.09	.10	.12	.14	.16	.22	.27	26	40	52
	●	●	●	●					015	.032	—	—	.11	.13	.15	.18	.21	.24	.34	.41	27	40	52
	●	●	●	●					02	.035	—	.10	.14	.17	.20	.25	.28	.32	.45	.55	29	40	51
	●	●	●	●					03	.043	—	.15	.21	.26	.30	.37	.42	.47	.67	.82	30	40	50
	●	●	●	●					04	.050	—	.20	.28	.35	.40	.49	.57	.63	.89	1.1	30	40	50
	●	●	●	●					05	.056	—	.25	.35	.43	.50	.61	.71	.79	1.1	1.4	31	40	49
	●	●	●	●					06	.061	—	.30	.42	.52	.60	.73	.85	.95	1.3	1.6	31	40	49
	●	●	●	●					08	.071	.28	.40	.56	.69	.80	.98	1.1	1.3	1.8	2.2	31	40	47
					●	●	●		10	.079	.35	.50	.71	.86	1.0	1.2	1.4	1.6	2.2	2.7	32	40	45
					●	●	●	●	15	.094	.53	.75	1.1	1.3	1.5	1.8	2.1	2.4	3.4	4.1	32	40	45
					●	●	●	●	20	.109	.71	1.0	1.4	1.7	2.0	2.5	2.8	3.2	4.5	5.5	32	40	45
					●	●	●		30	.133	1.1	1.5	2.1	2.6	3.0	3.7	4.2	4.7	6.7	8.2	33	40	45
					●	●	●		40	.153	1.4	2.0	2.8	3.5	4.0	4.9	5.7	6.3	8.9	11.0	34	40	45
						●	●	●	50	.172	1.8	2.5	3.5	4.3	5.0	6.1	7.1	7.9	11.2	13.7	35	40	45
						●	●	●	60	.188	2.1	3.0	4.2	5.2	6.0	7.3	8.5	9.5	13.4	16.4	35	40	45
						●	●	●	70	.203	2.5	3.5	4.9	6.1	7.0	8.6	9.9	11.1	15.7	19.2	35	40	45
						●			80	.217	2.8	4.0	5.7	6.9	8.0	9.8	11.3	12.6	17.9	22	35	40	44
							●	●	100	.243	3.5	5.0	7.1	8.6	10.0	12.2	14.1	15.8	22	27	34	40	43
							●	●	150	.297	5.3	7.5	10.6	13.0	15.0	18.4	21	24	34	41	35	40	43
								●	200	.343	7.1	10.0	14.1	17.3	20	25	28	32	44	55	36	40	42

PERFORMANCE — VEEJET STANDARD NOZZLES

*At the stated pressure in psi.

Spray Angle Degree at 40 psi	Nozzle Type / Inlet Conn. (in.)								Capacity Size	Equiv. Orifice Dia. (in.)	Capacity (Gallons per minute)*										Spray Angle Degree*		
	H-VV		H-VVL		H-U																		
	1/8	1/4	1/8	1/4	1/8	1/4	3/8	1/2			5	10	20	30	40	60	80	100	200	300	20	40	80
25	●	●	●	●					01	.026	—	—	.07	.09	.10	.12	.14	.16	.22	.27	14	25	34
	●	●	●	●					02	.035	—	—	.14	.17	.20	.25	.28	.32	.45	.55	15	25	33
	●	●	●	●					03	.043	—	—	.21	.26	.30	.37	.42	.47	.67	.82	15	25	33
	●	●	●	●					04	.050	—	.20	.28	.35	.40	.49	.57	.63	.89	1.1	16	25	32
	●	●	●	●					05	.056	—	.25	.35	.43	.50	.61	.71	.79	1.1	1.4	16	25	32
	●	●	●	●					06	.061	—	.30	.42	.52	.60	.73	.85	.95	1.3	1.6	17	25	31
	●	●	●	●					08	.071	—	.40	.56	.69	.80	.98	1.1	1.3	1.8	2.2	17	25	31
					●	●			10	.079	—	.50	.71	.86	1.0	1.2	1.4	1.6	2.2	2.7	18	25	31
					●	●	●		15	.094	—	.75	1.1	1.3	1.5	1.8	2.1	2.4	3.4	4.1	18	25	31
					●	●	●		20	.109	—	1.0	1.4	1.7	2.0	2.5	2.8	3.2	4.5	5.5	19	25	31
					●	●	●		30	.133	1.1	1.5	2.1	2.6	3.0	3.7	4.2	4.7	6.7	8.2	20	25	30
						●	●		40	.153	1.4	2.0	2.8	3.5	4.0	4.9	5.7	6.3	8.9	11.0	21	25	29
						●	●		50	.172	1.8	2.5	3.5	4.3	5.0	6.1	7.1	7.9	11.2	13.7	21	25	29
						●	●		60	.188	2.1	3.0	4.2	5.2	6.0	7.3	8.5	9.5	13.4	16.4	22	25	29
						●	●	●	70	.203	2.5	3.5	4.9	6.1	7.0	8.6	9.9	11.1	15.7	19.2	22	25	29
							●	●	100	.243	3.5	5.0	7.1	8.6	10.0	12.2	14.1	15.8	22	27	23	25	28
							●	●	150	.297	5.3	7.5	10.6	13.0	15.0	18.4	21	24	34	41	24	25	28
								●	200	.343	7.1	10.0	14.1	17.3	20	25	28	32	44	55	24	25	26
15	●	●		●	●				01	.026	—	—	—	.09	.10	.12	.14	.16	.22	.27	—	15	24
	●		●						02	.035	—	—	.14	.17	.20	.25	.28	.32	.45	.55	6	15	22
	●	●	●	●					03	.043	—	—	.21	.26	.30	.37	.42	.47	.67	.82	6	15	22
	●	●	●	●					04	.050	—	—	.28	.35	.40	.49	.57	.63	.89	1.1	7	15	21
	●	●	●	●					05	.056	—	—	.35	.43	.50	.61	.71	.79	1.1	1.4	7	15	21
	●	●	●	●					06	.061	—	.30	.42	.52	.60	.73	.85	.95	1.3	1.6	8	15	21
	●	●	●	●					08	.071	—	.40	.56	.69	.80	.98	1.1	1.3	1.8	2.2	9	15	20
					●	●			10	.079	—	.50	.71	.86	1.0	1.2	1.4	1.6	2.2	2.7	10	15	19
					●	●	●		15	.094	—	.75	1.1	1.3	1.5	1.8	2.1	2.4	3.4	4.1	10	15	19
					●	●	●		20	.109	—	1.0	1.4	1.7	2.0	2.5	2.8	3.2	4.5	5.5	10	15	19
					●	●	●		30	.133	—	1.5	2.1	2.6	3.0	3.7	4.2	4.7	6.7	8.2	10	15	19
					●	●	●		40	.153	—	2.0	2.8	3.5	4.0	4.9	5.7	6.3	8.9	11.0	10	15	18
						●	●	●	50	.172	—	2.5	3.5	4.3	5.0	6.1	7.1	7.9	11.2	13.7	11	15	18
						●	●		60	.188	—	3.0	4.2	5.2	6.0	7.3	8.5	9.5	13.4	16.4	11	15	18
						●	●	●	70	.203	—	3.5	4.9	6.1	7.0	8.6	9.9	11.1	15.7	19.2	11	15	18
							●	●	100	.243	3.5	5.0	7.1	8.6	10.0	12.2	14.1	15.8	22	27	13	15	17
							●		120	.266	4.2	6.0	8.5	10.4	12.0	14.7	17.0	19.0	27	33	13	15	17
								●	150	.297	5.3	7.5	10.6	13.0	15.0	18.4	21	24	34	41	14	15	17
								●	200	.343	7.1	10.0	14.1	17.3	20	25	28	32	44	55	14	15	17

ORDERING INFO

VeeJet Spray Nozzle

H	1/4	VV	–	SS	110	10
Nozzle Prefix	Inlet Conn.	Nozzle Type		Material Code	Spray Angle	Capacity Size

PERFORMANCE — QUICK VEEJET AND UNIJET NOZZLES

*At the stated pressure in psi.

Spray Angle at 40 psi	Quick FullJet Tips			UniJet Tip	Capacity Size	Equiv. Orifice Diam. (in.)	Capacity (Gallons per minute)*										Spray Angle Degree*		
	QVVA	QUA	QLUA	TPU			5	10	20	30	40	60	80	100	200	300	20	40	80
110	●			●	01	.026	.03	.05	.07	.09	.10	.12	.14	.16	.22	.27	94	110	121
	●			●	015	.032	.05	.07	.11	.13	.15	.18	.21	.24	.34	.41	97	110	121
	●			●	02	.036	.07	.10	.14	.17	.20	.25	.28	.32	.45	.55	98	110	120
	●			●	03	.043	.11	.15	.21	.26	.30	.37	.42	.47	.67	.82	99	110	120
	●			●	04	.050	.14	.20	.28	.35	.40	.49	.57	.63	.89	1.1	100	110	119
	●			●	05	.056	.18	.25	.35	.43	.50	.61	.71	.79	1.1	1.4	100	110	118
	●			●	06	.061	.21	.30	.42	.52	.60	.73	.85	.95	1.3	1.6	101	110	117
	●			●	08	.071	.28	.40	.56	.69	.80	.98	1.1	1.3	1.8	2.2	102	110	117
	●			●	10	.079	.35	.50	.71	.86	1.0	1.2	1.4	1.6	2.2	2.7	103	110	117
	●			●	15	.094	.53	.75	1.1	1.3	1.5	1.8	2.1	2.4	3.4	4.1	104	110	117
	●			●	20	.109	.71	1.0	1.4	1.7	2.0	2.5	2.8	3.2	4.5	5.5	105	110	117
95	●			●	0050	.018	—	—	.035	.043	.050	.06	.07	.08	.11	.14	61	80	95
	●			●	01	.026	.03	.05	.07	.09	.10	.12	.14	.16	.22	.27	81	95	105
	●			●	015	.032	.05	.07	.11	.13	.15	.18	.21	.24	.34	.41	82	95	105
	●			●	02	.036	.07	.10	.14	.17	.20	.25	.28	.32	.45	.55	82	95	105
	●			●	03	.043	.11	.15	.21	.26	.30	.37	.42	.47	.67	.82	83	95	104
	●			●	04	.050	.14	.20	.28	.35	.40	.49	.57	.63	.89	1.1	84	95	103
	●			●	05	.056	.18	.25	.35	.43	.50	.61	.71	.79	1.1	1.4	84	95	102
	●			●	06	.061	.21	.30	.42	.52	.60	.73	.85	.95	1.3	1.6	86	95	101
	●			●	08	.071	.28	.40	.56	.69	.80	.98	1.1	1.3	1.8	2.2	87	95	100
		●		●	10	.079	.35	.50	.71	.86	1.0	1.2	1.4	1.6	2.2	2.7	89	95	100
		●		●	15	.094	.53	.75	1.1	1.3	1.5	1.8	2.1	2.4	3.4	4.1	90	95	100
		●		●	20	.109	.71	1.0	1.4	1.7	2.0	2.5	2.8	3.2	4.5	5.5	90	95	100
		●		●	30	.133	1.1	1.5	2.1	2.6	3.0	3.7	4.2	4.7	6.7	8.2	91	95	101
		●		●	40	.153	1.4	2.0	2.8	3.5	4.0	4.9	5.7	6.3	8.9	11.0	92	95	100
		●		●	50	.172	1.8	2.5	3.5	4.3	5.0	6.1	7.1	7.9	11.2	13.7	93	95	99
		●		●	60	.188	2.1	3.0	4.2	5.2	6.0	7.3	8.5	9.5	13.4	16.4	93	95	99
		●		●	70	.203	2.5	3.5	4.9	6.1	7.0	8.6	9.9	11.1	15.7	19.2	93	95	99
			●		100	.243	3.5	5.0	7.1	8.6	10.0	12.2	14.1	15.8	22	27	93	95	99
	●				150	.297	5.3	7.5	10.6	13.0	15.0	18.4	21	24	34	41	93	95	99
80	●			●	0050	.018	—	—	.035	.043	.050	.06	.07	.08	.11	.14	61	80	95
	●			●	0067	.021	—	.03	.05	.06	.067	.08	.09	.11	.15	.18	67	80	94
	●			●	01	.026	—	.05	.07	.09	.10	.12	.14	.16	.22	.27	68	80	89
	●			●	015	.032	—	.07	.11	.13	.15	.18	.21	.24	.34	.41	68	80	89
	●			●	02	.036	.07	.10	.14	.17	.20	.25	.28	.32	.45	.55	82	95	105
	●			●	03	.043	.11	.15	.21	.26	.30	.37	.42	.47	.67	.82	70	80	87
	●			●	04	.050	.14	.20	.28	.35	.40	.49	.57	.63	.89	1.1	71	80	86
	●			●	05	.056	.18	.25	.35	.43	.50	.61	.71	.79	1.1	1.4	71	80	86
	●			●	06	.061	.21	.30	.42	.52	.60	.73	.85	.95	1.3	1.6	72	80	85
	●			●	08	.071	.28	.40	.56	.69	.80	.98	1.1	1.3	1.8	2.2	72	80	84
		●		●	10	.079	.35	.50	.71	.86	1.0	1.2	1.4	1.6	2.2	2.7	73	80	84
		●		●	15	.094	.53	.75	1.1	1.3	1.5	1.8	2.1	2.4	3.4	4.1	74	80	83
		●		●	20	.109	.71	1.0	1.4	1.7	2.0	2.5	2.8	3.2	4.5	5.5	74	80	83
		●		●	30	.133	1.1	1.5	2.1	2.6	3.0	3.7	4.2	4.7	6.7	8.2	74	80	83
		●		●	40	.153	1.4	2.0	2.8	3.5	4.0	4.9	5.7	6.3	8.9	11.0	74	80	83
		●		●	50	.172	1.8	2.5	3.5	4.3	5.0	6.1	7.1	7.9	11.2	13.7	74	80	83
		●		●	60	.188	2.1	3.0	4.2	5.2	6.0	7.3	8.5	9.5	13.4	16.4	75	80	83
		●		●	70	.203	2.5	3.5	4.9	6.1	7.0	8.6	9.9	11.1	15.7	19.2	75	80	83
			●		100	.243	3.5	5.0	7.1	8.6	10.0	12.2	14.1	15.8	22	27	75	80	83
			●		150	.297	5.3	7.5	10.6	13.0	15	18.4	21	24	34	41	75	80	84
			●		200	.343	7.1	10.0	14.1	17.3	20	25	28	32	44	55	74	80	82

PERFORMANCE — QUICK VEEJET AND UNIJET NOZZLES

*At the stated pressure in psi.

Spray Angle at 40 psi	Quick FullJet Tips			UniJet Tip	Capacity Size	Equiv. Orifice Diam. (in.)	Capacity (Gallons per minute)*										Spray Angle Degree*		
	QVVA	QUA	QLUA	TPU			5	10	20	30	40	60	80	100	200	300	20	40	80
73	●			●	0231	.038	.08	.12	.16	.20	.23	.28	.33	.37	.52	.63	56	73	83
	●			●	0308	.044	.11	.15	.22	.27	.31	.38	.44	.49	.69	.84	58	73	82
	●			●	0462	.054	.16	.23	.33	.40	.46	.57	.65	.73	1.0	1.3	60	73	80
	●			●	0770	.069	.27	.38	.54	.67	.77	.94	1.1	1.2	1.7	2.1	64	73	77
65	●			●	01	.026	—	.05	.07	.09	.10	.12	.14	.16	.22	.27	51	65	74
	●			●	015	.032	—	.07	.11	.13	.15	.18	.21	.24	.34	.41	51	65	74
	●			●	02	.036	.07	.10	.14	.17	.20	.25	.28	.32	.45	.55	52	65	73
				●	025	.039	.09	.13	.18	.22	.25	.31	.35	.40	.56	.68	80	65	73
	●			●	03	.043	.11	.15	.21	.26	.30	.37	.42	.47	.67	.82	53	65	72
	●			●	04	.050	.14	.20	.28	.35	.40	.49	.57	.63	.89	1.1	53	65	72
	●			●	05	.056	.18	.25	.35	.43	.50	.61	.71	.79	1.1	1.4	53	65	72
	●			●	06	.061	.21	.30	.42	.52	.60	.73	.85	.95	1.3	1.6	54	65	72
	●			●	08	.071	.28	.40	.56	.69	.80	.98	1.1	1.3	1.8	2.2	55	65	71
		●		●	10	.079	.35	.50	.71	.86	1.0	1.2	1.4	1.6	2.2	2.7	56	65	71
				●	15	.097	.53	.75	1.1	1.3	1.5	1.8	2.1	2.4	3.4	4.1	56	65	70
		●		●	20	.109	.71	1.0	1.4	1.7	2.0	2.5	2.8	3.2	4.5	5.5	57	65	70
		●		●	30	.133	1.1	1.5	2.1	2.6	3.0	3.7	4.2	4.7	6.7	8.2	58	65	69
		●		●	40	.153	1.4	2.0	2.8	3.5	4.0	4.9	5.7	6.3	8.9	11.0	59	65	68
		●		●	50	.172	1.8	2.5	3.5	4.3	5.0	6.1	7.1	7.9	11.2	13.7	60	65	68
		●		●	60	.188	2.1	3.0	4.2	5.2	6.0	7.3	8.5	9.5	13.4	16.4	60	65	68
		●		●	70	.203	2.5	3.5	4.9	6.1	7.0	8.6	9.9	11.1	15.7	19.2	60	65	68
			●		100	.243	3.5	5.0	7.1	8.6	10.0	12.2	14.1	15.8	22	27	58	65	68
			●		150	.297	5.3	7.5	10.6	13.0	15.0	18.4	21	24	34	41	59	65	68
			●		200	.343	7.1	10.0	14.1	17.3	20	25	28	32	44	55	60	65	67
50	●			●	01	.026	—	.05	.07	.09	.10	.12	.14	.16	.22	.27	37	50	59
	●			●	02	.036	—	.10	.14	.17	.20	.25	.28	.32	.45	.55	39	50	57
	●			●	03	.043	.11	.15	.21	.26	.30	.37	.42	.47	.67	.82	40	50	56
	●			●	04	.050	.14	.20	.28	.35	.40	.49	.57	.63	.89	1.1	42	50	56
	●			●	05	.056	.18	.25	.35	.43	.50	.61	.71	.79	1.1	1.4	44	50	56
	●			●	06	.061	.21	.30	.42	.52	.60	.73	.85	.95	1.3	1.6	45	50	56
	●			●	08	.071	.28	.40	.56	.69	.80	.98	1.1	1.3	1.8	2.2	45	50	55
		●		●	10	.079	.35	.50	.71	.86	1.0	1.2	1.4	1.6	2.2	2.7	45	50	55
		●		●	15	.094	.53	.75	1.1	1.3	1.5	1.8	2.1	2.4	3.4	4.1	45	50	55
		●		●	20	.109	.71	1.0	1.4	1.7	2.0	2.5	2.8	3.2	4.5	5.5	45	50	55
		●		●	30	.133	1.1	1.5	2.1	2.6	3.0	3.7	4.2	4.7	6.7	8.2	45	50	55
		●		●	40	.153	1.4	2.0	2.8	3.5	4.0	4.9	5.7	6.3	8.9	11.0	46	50	54
		●		●	50	.172	1.8	2.5	3.5	4.3	5.0	6.1	7.1	7.9	11.2	13.7	46	50	54
		●		●	60	.188	2.1	3.0	4.2	5.2	6.0	7.3	8.5	9.5	13.4	16.4	46	50	54
		●		●	70	.203	2.5	3.5	4.9	6.1	7.0	8.6	9.9	11.1	15.7	19.2	46	50	54
			●		100	.243	3.5	5.0	7.1	8.6	10.0	12.2	14.1	15.8	22	27	44	50	52
			●		120	.266	4.2	6.0	8.5	10.4	12.0	14.7	17.0	19.0	27	33	44	50	53
			●		150	.297	5.3	7.5	10.6	13.0	15.0	18.4	21	24	34	41	45	50	52
			●		200	.343	7.1	10.0	14.1	17.3	20	25	28	32	44	55	46	50	52

Performance — Quick VeeJet and UniJet Nozzles

*At the stated pressure in psi.

Spray Angle at 40 psi	Quick FullJet Tips			UniJet Tip	Capacity Size	Equiv. Orifice Diam. (in.)	Capacity (Gallons per minute)*										Spray Angle Degree*		
	QVVA	QUA	QLUA	TPU			5	10	20	30	40	60	80	100	200	300	20	40	80
40	●			●	01	.026	—	—	.07	.09	.10	.12	.14	.16	.22	.27	26	40	52
	●			●	015	.032	—	—	.11	.13	.15	.18	.21	.24	.34	.41	27	40	52
				●	02	.035	—	.10	.14	.17	.20	.25	.28	.32	.45	.55	29	40	51
	●			●	03	.043	—	.15	.21	.26	.30	.37	.42	.47	.67	.82	30	40	50
	●			●	04	.050	—	.20	.28	.35	.40	.49	.57	.63	.89	1.1	30	40	50
	●				05	.056	—	.25	.35	.43	.50	.61	.71	.79	1.1	1.4	31	40	49
	●			●	06	.061	—	.30	.42	.52	.60	.73	.85	.95	1.3	1.6	31	40	49
	●			●	08	.071	.28	.40	.56	.69	.80	.98	1.1	1.3	1.8	2.2	31	40	47
		●			10	.079	.35	.50	.71	.86	1.0	1.2	1.4	1.6	2.2	2.7	32	40	45
		●		●	15	.094	.53	.75	1.1	1.3	1.5	1.8	2.1	2.4	3.4	4.1	32	40	45
		●		●	20	.109	.71	1.0	1.4	1.7	2.0	2.5	2.8	3.2	4.5	5.5	32	40	45
		●		●	30	.133	1.1	1.5	2.1	2.6	3.0	3.7	4.2	4.7	6.7	8.2	33	40	45
		●		●	40	.153	1.4	2.0	2.8	3.5	4.0	4.9	5.7	6.3	8.9	11.0	34	40	45
		●		●	50	.172	1.8	2.5	3.5	4.3	5.0	6.1	7.1	7.9	11.2	13.7	35	40	45
		●		●	60	.188	2.1	3.0	4.2	5.2	6.0	7.3	8.5	9.5	13.4	16.4	35	40	45
		●		●	70	.203	2.5	3.5	4.9	6.1	7.0	8.6	9.9	11.1	15.7	19.2	35	40	45
		●			80	.217	2.8	4.0	5.7	6.9	8.0	9.8	11.3	12.6	17.9	22	35	40	44
			●		100	.243	3.5	5.0	7.1	8.6	10.0	12.2	14.1	15.8	22	27	34	40	43
			●		150	.297	5.3	7.5	10.6	13.0	15.0	18.4	21	24	34	41	35	40	43
			●		200	.343	7.1	10.0	14.1	17.3	20	25	28	32	44	55	36	40	42
25	●			●	01	.026	—	—	.07	.09	.10	.12	.14	.16	.22	.27	14	25	34
	●			●	02	.036	—	—	.14	.17	.20	.25	.28	.32	.45	.55	15	25	33
	●			●	03	.043	—	—	.21	.26	.30	.37	.42	.47	.67	.82	15	25	33
	●			●	04	.050	—	.20	.28	.35	.40	.49	.57	.63	.89	1.1	16	25	32
	●			●	05	.056	—	.25	.35	.43	.50	.61	.71	.79	1.1	1.4	16	25	32
	●			●	06	.061	—	.30	.42	.52	.60	.73	.85	.95	1.3	1.6	17	25	31
	●			●	08	.071	—	.40	.56	.69	.80	.98	1.1	1.3	1.8	2.2	17	25	31
		●		●	10	.079	—	.50	.71	.86	1.0	1.2	1.4	1.6	2.2	2.7	18	25	31
		●		●	15	.097	—	.75	1.1	1.3	1.5	1.8	2.1	2.4	3.4	4.1	18	25	31
		●		●	20	.112	—	1.0	1.4	1.7	2.0	2.5	2.8	3.2	4.5	5.5	19	25	31
		●		●	30	.133	1.1	1.5	2.1	2.6	3.0	3.7	4.2	4.7	6.7	8.2	20	25	30
		●		●	40	.153	1.4	2.0	2.8	3.5	4.0	4.9	5.7	6.3	8.9	11.0	21	25	29
		●		●	50	.172	1.8	2.5	3.5	4.3	5.0	6.1	7.1	7.9	11.2	13.7	21	25	29
		●		●	60	.188	2.1	3.0	4.2	5.2	6.0	7.3	8.5	9.5	13.4	16.4	22	25	29
		●		●	70	.203	2.5	3.5	4.9	6.1	7.0	8.6	9.9	11.1	15.7	19.2	22	25	29
			●		100	.243	3.5	5.0	7.1	8.6	10.0	12.2	14.1	15.8	22	27	23	25	28
			●		150	.297	5.3	7.5	10.6	13.0	15.0	18.4	21	24	34	41	24	25	28
			●		200	.343	7.1	10.0	14.1	17.3	20	25	28	32	44	55	24	25	26

PERFORMANCE — QUICK VEEJET AND UNIJET NOZZLES

*At the stated pressure in psi.

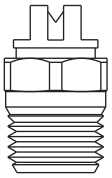
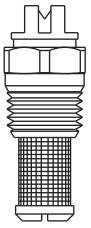
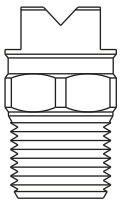
Spray Angle at 40 psi	Quick FullJet Tips			UniJet Tip	Capacity Size	Equiv. Orifice Diam. (in.)	Capacity (Gallons per minute)*										Spray Angle Degree*		
	QVVA	QUA	QLUA	TPU			5	10	20	30	40	60	80	100	200	300	20	40	80
15	●			●	01	.026	—	—	—	.09	.10	.12	.14	.16	.22	.27	—	15	24
	●			●	02	.036	—	—	.14	.17	.20	.25	.28	.32	.45	.55	6	15	22
	●			●	03	.043	—	—	.21	.26	.30	.37	.42	.47	.67	.82	6	15	22
	●			●	04	.050	—	—	.28	.35	.40	.49	.57	.63	.89	1.1	7	15	21
	●			●	05	.055	—	—	.42	.53	.61	.66	.74	.79	.97	1.3	7	15	21
	●			●	06	.061	—	—	.42	.52	.60	.73	.85	.95	1.3	1.6	8	15	21
	●			●	08	.071	—	—	.56	.69	.80	.98	1.1	1.3	1.8	2.2	9	15	20
		●		●	10	.079	—	—	.71	.86	1.0	1.2	1.4	1.6	2.2	2.7	10	15	19
		●		●	15	.097	—	.75	1.1	1.3	1.5	1.8	2.1	2.4	3.4	4.1	10	15	19
		●		●	20	.109	—	1.0	1.4	1.7	2.0	2.5	2.8	3.2	4.5	5.5	10	15	19
		●		●	30	.133	—	1.5	2.1	2.6	3.0	3.7	4.2	4.7	6.7	8.2	10	15	19
		●		●	40	.153	—	2.0	2.8	3.5	4.0	4.9	5.7	6.3	8.9	11.0	10	15	18
		●		●	50	.172	—	2.5	3.5	4.3	5.0	6.1	7.1	7.9	11.2	13.7	11	15	18
		●		●	60	.188	—	3.0	4.2	5.2	6.0	7.3	8.5	9.5	13.4	16.7	11	15	18
		●		●	70	.203	—	3.5	4.9	6.1	7.0	8.6	9.9	11.1	15.7	19.2	11	15	18
			●		100	.243	3.5	5.0	7.1	8.6	10.0	12.2	14.1	15.8	22	27	13	15	17
			●		120	.266	4.2	6.0	8.5	10.4	12.0	14.7	17.0	19.0	27	33	13	15	17
			●		150	.297	5.3	7.5	10.6	13.0	15.0	18.4	21	24	34	41	14	15	17
			●		200	.343	7.1	10.0	14.1	17.3	20	25	28	32	44	55	14	15	17

ORDERING INFO

QuickJet Spray Nozzle

Nozzle Body				Spray Tip			
1/4	QJJA –	SS	+	QVVA –	SS	110	10
Inlet Conn.	Body Type	Material Code		Tip Type	Material Code	Spray Angle	Capacity Size

Dimensions – VeeJet Nozzles

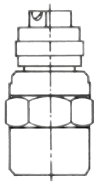
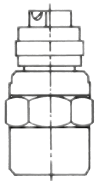
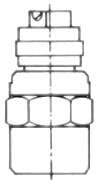
Nozzle Type (Conn.)		Inlet Conn. (in.)	Length		Hex.		Net Weight	
			(in.)	(mm)	(in.)	(mm)	(oz.)	(kg)
	H-VV (M)	1/8	7/8	22	1/2	12.7	1/2	.014
		1/4	29/32	23	9/16	14.3	3/4	.02
	H-VVL (M)	1/8	1-13/32	36	1/2	12.7	3/4	.02
		1/4	1-1/2	38	9/16	14.3	1	.03
	H-U (M)	1/8	7/8	22	1/2	12.7	1/2	.014
		1/4	1	25	9/16	14.3	3/4	.02
		3/8	1-1/4	32	11/16	17.5	1-1/2	.04
		1/2	1-1/2	38	7/8	22.2	2-1/4	.06

Based on largest/heaviest version of each type.

Body Types – Quick VeeJet Nozzles

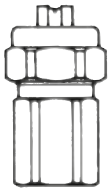
Inlet Conn. (in.)	Standard Body			
	Conn. F		Conn. M	
	QJA	QJLA	QJJA	QJJLA
1/8	●		●	
1/4	●		●	
3/8	●	●	●	●
1/2	●	●	●	●

DIMENSIONS — QUICK VEEJET NOZZLES

Nozzle Type		Length		Hex.		Net Weight	
		(in.)	(mm)	(in.)	(mm)	(oz.)	(kg)
	QJA+QVVA	2-5/32	55	1	25.4	2/1/2	.07
	QJJA+QVVA	2-1/16	53	1	25.4	2	.06
	QJA+QUA	2	51	1	25.4	2-3/4	.08
	QJJLA+QUA	1-29/32	49	1	25.4	2-1/4	.06
	QJLA+QLUA	2-5/16	59	1-1/8	28.6	4-3/4	.13
	QJJLA+QLUA	2-11/32	60	1-1/8	28.6	4-1/4	.12

Based on largest/heaviest version of each type.

DIMENSIONS — UNIJET NOZZLE WITH TPU TIP

Nozzle Type		Length		Hex.		Net Weight	
		(in.)	(mm)	(in.)	(mm)	(oz.)	(kg)
	T+TPU	1-57/64	48	13/16	20.6	2-1/4	.06
	TT+TPU	1-57/64	48	13/16	20.6	2	.06

Based on largest/heaviest version of each type.

MATERIALS — VEEJET NOZZLES

Material	Material Code	Nozzle Type						
		H-VV	H-VVL	H-U	QVVA	QUA	QLUA	TPU
Brass	(none)	●	●	●	●	●	●	●
Mild Steel	I	●		●				
303 Stainless Steel	SS	●	●	●	●	●	●	●
316 Stainless Steel	316SS	●	●	●				
Polyvinyl Chloride	PVC			●				

DOVETAIL VEEJET NOZZLES – CONSISTENT, REPEATABLE SPRAYS CONTRIBUTE TO IMPROVED STEEL QUALITY

The dovetail groove feature of our 1/4" and 3/8" Dovetail VeeJet nozzles is what provides the repeatable pattern positioning without an elastomeric seal. The self-aligning, interchangeable spray tips slide into the groove with the spray pattern offset by 5° ensuring exact alignment every time after nozzle disassembly. The spray tip slides into the body and stays in place, making it easy to slip the cap on and secure the tip.

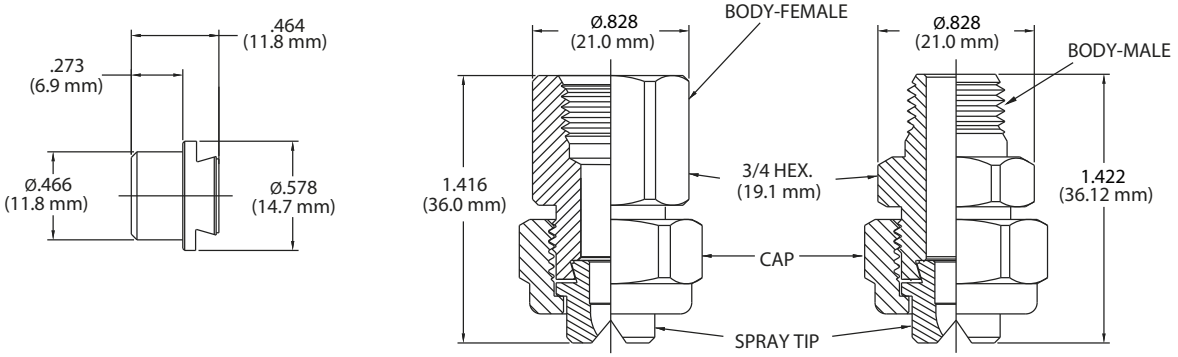
Specifications:

- Small capacity versions range from .067 to .80 gpm at 40 psi (.26 to 3.03 l/min at 3 bar)
- Large capacity versions range from .80 to 7 gpm at 40 psi (3.03 to 27.63 l/min at 3 bar)
- Brass, 303 or 316 stainless steel material options
- Spray angles of 65°, 80°, 95° and 110°
- 1/4" and 3/8" nozzle bodies are available with male, female or weld connections

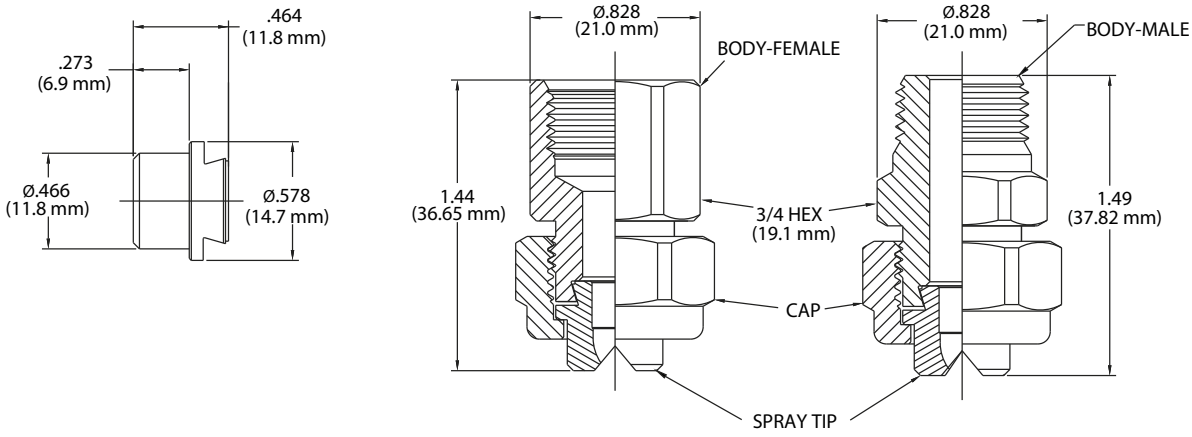
ORDERING INFO

Dovetail VeeJet Spray Nozzle
49805 – 3/8M – SS + 49807 – SS 6504
Assembly No. | Nozzle Body Material | Nozzle No. | Tip Material Code | Spray No.

DIMENSIONS – 1/4" 50870 DOVETAIL



DIMENSIONS – 3/8" 49805 DOVETAIL



Performance – 1/4" & 3/8" Dovetail Nozzles

*At the stated pressure in psi.

Spray Nozzle No.	Capacity (Gallons per minute)*						Spray Angle Degree at 40 psi
	20	40	60	80	100	150	
49805-3/8-0501	.07	.10	.12	.14	.16	.19	5
50870-1/4-0501							
49805-3/8-1501	.07	.10	.12	.14	.16	.19	15
50870-1/4-1501							
49805-3/8-250067	.05	.067	.08	.09	.11	.13	25
50870-1/4-250067							
49805-3/8-25015	.11	.15	.18	.21	.24	.29	25
50870-1/4-25015							
49805-3/8-65015	.11	.15	.18	.21	.24	.29	65
50870-1/4-65015							
49805-3/8-6502	.14	.20	.25	.28	.32	.39	65
50870-1/4-6502							
49805-3/8-6504	.28	.40	.49	.57	.63	.78	65
50870-1/4-6504							
49805-3/8-6506	.42	.60	.73	.85	.95	1.16	65
50870-1/4-6506							
49805-3/8-6508	.56	.80	.98	1.13	1.26	1.55	65
50870-1/4-6508							
49805-3/8-8001	.07	.10	.12	.14	.16	.19	80
50870-1/4-8001							
49805-3/8-8002	.14	.20	.25	.28	.32	.39	80
50870-1/4-8002							
49805-3/8-8004	.28	.40	.49	.57	.63	.78	80
50870-1/4-8004							
49805-3/8-8006	.42	.60	.73	.85	.95	1.16	80
50870-1/4-8006							
49805-3/8-8008	.56	.80	.98	1.13	1.26	1.55	80
50870-1/4-8008							
49805-3/8-9502	.14	.20	.25	.28	.32	.39	95
50870-1/4-9502							
49805-3/8-9504	.28	.40	.49	.57	.63	.78	95
50870-1/4-9504							
49805-3/8-9506	.42	.60	.73	.85	.95	1.16	95
50870-1/4-9506							
49805-3/8-9508	.56	.80	.98	1.13	1.26	1.55	95
50870-1/4-9508							
49805-3/8-1100067	.05	.067	.08	.09	.11	.13	110
50870-1/4-1100067							
49805-3/8-11002	.14	.20	.25	.28	.32	.39	110
50870-1/4-11002							
49805-3/8-11004	.28	.40	.49	.57	.63	.78	110
50870-1/4-11004							
49805-3/8-11006	.42	.60	.73	.85	.95	1.16	110
50870-1/4-11006							
49805-3/8-11008	.56	.80	.98	1.13	1.26	1.55	110
50870-1/4-11008							

Spray Nozzle No.	Capacity (Gallons per minute)*						Spray Angle Degree at 40 psi
	20	40	60	80	100	150	
49805-3/8-4050	3.53	5.00	6.12	7.07	7.90	9.68	45
50870-1/4-4050							
49805-3/8-5030	2.12	3.00	3.67	4.25	4.74	5.80	50
50870-1/4-5030							
49805-3/8-5050	3.53	5.00	6.12	7.07	7.90	9.68	50
50870-1/4-5050							
49805-3/8-5070	4.95	7.00	8.57	9.90	11.07	13.56	50
50870-1/4-5070							
49805-3/8-6050	3.53	5.00	6.12	7.07	7.90	9.68	60
50870-1/4-6050							
49805-3/8-6510	.71	1.00	1.22	1.41	1.58	1.94	65
50870-1/4-6510							
49805-3/8-6515	1.06	1.50	1.84	2.12	2.37	2.90	65
50870-1/4-6515							
49805-3/8-6520	1.41	2.00	2.45	2.83	3.16	3.87	65
50870-1/4-6520							
49805-3/8-6530	2.12	3.00	3.67	4.25	4.74	5.80	65
50870-1/4-6530							
49805-3/8-6540	2.83	4.00	4.89	5.65	6.32	7.74	65
50870-1/4-6540							
49805-3/8-6550	3.53	5.00	6.12	7.07	7.90	9.68	65
50870-1/4-6550							
49805-3/8-7550	3.53	5.00	6.12	7.07	7.90	9.68	75
50870-1/4-7550							
49805-3/8-8010	.71	1.00	1.22	1.41	1.58	1.94	80
50870-1/4-8010							
49805-3/8-8015	1.06	1.50	1.84	2.12	2.37	2.90	80
50870-1/4-8015							
49805-3/8-8020	1.41	2.00	2.45	2.83	3.16	3.87	80
50870-1/4-8020							
49805-3/8-8030	2.12	3.00	3.67	4.25	4.74	5.80	80
50870-1/4-8030							
49805-3/8-8040	2.83	4.00	4.89	5.65	6.32	7.74	80
50870-1/4-8040							
49805-3/8-8050	3.53	5.00	6.12	7.07	7.90	9.68	80
50870-1/4-8050							
49805-3/8-9510	.71	1.00	1.22	1.41	1.58	1.94	95
50870-1/4-9510							
49805-3/8-9515	1.06	1.50	1.84	2.12	2.37	2.90	95
50870-1/4-9515							
49805-3/8-9520	1.41	2.00	2.45	2.83	3.16	3.87	95
50870-1/4-9520							
49805-3/8-9530	2.12	3.00	3.67	4.25	4.74	5.80	95
50870-1/4-9530							
49805-3/8-9540	2.83	4.00	4.89	5.65	6.32	7.74	95
50870-1/4-9540							
49805-3/8-9550	3.53	5.00	6.12	7.07	7.90	9.68	95
50870-1/4-9550							
49805-3/8-11040	2.83	4.00	4.89	5.65	6.32	7.74	110
50870-1/4-11040							
49805-3/8-11050	3.53	5.00	6.12	7.07	7.90	9.68	110
50870-1/4-11050							

18897 Dovetail VeeJet Nozzles – Repeatable, Dependable Performance in High Temperature Roll Cooling

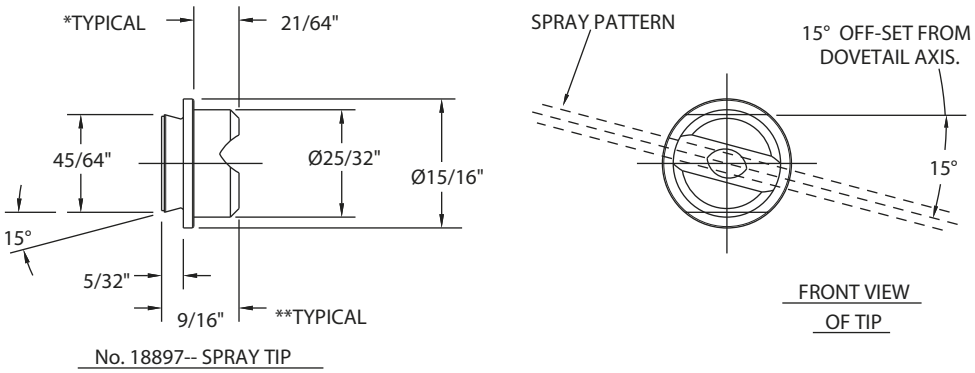
Similar to our 1/4" and 3/8" Dovetail VeeJet nozzles, the 18897 Dovetail VeeJet is a self-aligning nozzle ensuring performance remains unaltered after replacement or maintenance. In just a matter of seconds, tips can be changed. Simply loosen the cap, replace the tip and replace the cap to secure the tip.

The spray pattern is offset by 15° from the dovetail axis for trouble-free performance. Nozzle bodies fitted with metal seals are welded into the header. Since elastomeric seals are not used, 18897 Dovetail VeeJet nozzles are ideal for high temperature applications.

Specifications:

- Capacities range from 2 to 20 gpm at 40 psi (7.6 to 75.7 l/min at 3 bar)
- Weld and standard body connection options
- Brass, 303 stainless steel and hardened stainless steel material options

Dimensions



No. 18897-- SPRAY TIP

APPROX. TIP WEIGHT - 1.4 oz.

* 19/32" LENGTH FOR TIP SIZE--200

** 53/64" LENGTH FOR TIP SIZE--200

Ordering Info

18897 Dovetail VeeJet Spray Nozzle		
18897 –	**5050**	**SS**
Spray Tip Prefix	Spray Tip Size	Tip Material Code

Performance – 18897 Dovetail Nozzles

*At the stated pressure in psi.

Spray Tip No.		Equiv. Orifice Dia. (in.)	Capacity (Gallons per minute)*							Spray Angle Degree*	
Spray Tip Prefix	Spray Tip Size		10	20	40	60	80	100	200	40	80
18897-	1520	7/64	1.0	1.4	2.0	2.5	2.8	3.2	4.5	15	19
	1525	1/8	1.3	1.8	2.5	3.1	3.5	4.0	5.6	15	19
	1530	9/64	1.5	2.1	3.0	3.7	4.2	4.7	6.7	15	19
	1540	5/32	2.0	2.8	4.0	4.9	5.7	6.3	9.0	15	19
	1550	11/64	2.5	3.5	5.0	6.1	7.1	7.9	11.2	15	19
	1560	3/16	3.0	4.2	6.0	7.3	8.5	9.5	13.4	15	19
	1580	7/32	4.0	5.6	8.0	9.8	11.3	12.6	17.9	15	19
	15120	17/64	6.0	8.5	12.0	14.7	17.0	19.0	27	15	17
18897-	2520	7/64	1.0	1.4	2.0	2.5	2.8	3.2	4.5	25	32
	2525	1/8	1.3	1.8	2.5	3.1	3.5	4.0	5.6	25	32
	2530	9/64	1.5	2.1	3.0	3.7	4.2	4.7	6.7	25	32
	2540	5/32	2.0	2.8	4.0	4.9	5.7	6.3	9.0	25	32
	2550	11/64	2.5	3.5	5.0	6.1	7.1	7.9	11.2	25	32
	2560	3/16	3.0	4.2	6.0	7.3	8.5	9.5	13.4	25	33
	2580	7/32	4.0	5.6	8.0	9.8	11.3	12.6	17.9	25	33
	25100	1/4	5.0	7.1	10.0	12.2	14.1	15.8	22	25	33
	25120	17/64	6.0	8.5	12.0	14.7	17.0	19.0	27	25	33
	25200	11/32	10.0	14.1	20	25	28	32	44	25	33
18897-	4020	7/64	1.0	1.4	2.0	2.5	2.8	3.2	4.5	40	45
	4025	1/8	1.3	1.8	2.5	3.1	3.5	4.0	5.6	40	45
	4030	9/64	1.5	2.1	3.0	3.7	4.2	4.7	6.7	40	45
	4040	5/32	2.0	2.8	4.0	4.9	5.7	6.3	9.0	40	45
	4050	11/64	2.5	3.5	5.0	6.1	7.1	7.9	11.2	40	43
	4060	3/16	3.0	4.2	6.0	7.3	8.5	9.5	13.4	40	43
	4080	7/32	4.0	5.6	8.0	9.8	11.3	12.6	17.9	40	43
	4090	15/64	4.5	6.4	9.0	11.0	12.7	14.2	20	40	43
	40100	1/4	5.0	7.1	10.0	12.2	14.1	15.8	22	40	43
	40120	17/64	6.0	8.5	12.0	14.7	17.0	19.0	27	40	43
	40200	11/32	10.0	14.1	20	25	28	32	44	40	44
18897-	5020	7/64	1.0	1.4	2.0	2.5	2.8	3.2	4.5	50	55
	5025	1/8	1.3	1.8	2.5	3.1	3.5	4.0	5.6	50	54
	5030	9/64	1.5	2.1	3.0	3.7	4.2	4.7	6.7	50	54
	5040	5/32	2.0	2.8	4.0	4.9	5.7	6.3	9.0	50	53
	5050	11/64	2.5	3.5	5.0	6.1	7.1	7.9	11.2	50	53
	5060	3/16	3.0	4.2	6.0	7.3	8.5	9.5	13.4	50	53
	5080	7/32	4.0	5.6	8.0	9.8	11.3	12.6	17.9	50	53
	50120	17/64	6.0	8.5	12.0	14.7	17.0	19.0	27	50	53
	50200	11/32	10.0	14.1	20	25	28	32	44	50	52

PERFORMANCE – 18897 DOVETAIL NOZZLES

*At the stated pressure in psi.

Spray Tip No.		Equiv. Orifice Dia. (in.)	Capacity (Gallons per minute)*							Spray Angle Degree*	
Spray Tip Prefix	Spray Tip Size		10	20	40	60	80	100	200	40	80
18897-	6520	7/64	1.0	1.4	2.0	2.5	2.8	3.2	4.5	65	72
	6525	1/8	1.3	1.8	2.5	3.1	3.5	4.0	5.6	65	72
	6530	9/64	1.5	2.1	3.0	3.7	4.2	4.7	6.7	65	72
	6540	5/32	2.0	2.8	4.0	4.9	5.7	6.3	9.0	65	72
	6550	11/64	2.5	3.5	5.0	6.1	7.1	7.9	11.2	65	73
	6560	3/16	3.0	4.2	6.0	7.3	8.5	9.5	13.4	65	73
	6580	7/32	4.0	5.6	8.0	9.8	11.3	12.6	17.9	65	74
	65100	1/4	5.0	7.1	10.0	12.2	14.1	15.8	22	65	72
	65120	17/64	6.0	8.5	12.0	14.7	17.0	19.0	27	65	69
	65200	11/32	10.0	14.1	20	25	28	32	44	65	69
18897-	8020	7/64	1.0	1.4	2.0	2.5	2.8	3.2	4.5	80	83
	8025	1/8	1.3	1.8	2.5	3.1	3.5	4.0	5.6	80	84
	8030	9/64	1.5	2.1	3.0	3.7	4.2	4.7	6.7	80	84
	8040	5/32	2.0	2.8	4.0	4.9	5.7	6.3	9.0	80	85
	8050	11/64	2.5	3.5	5.0	6.1	7.1	7.9	11.2	80	85
	8060	3/16	3.0	4.2	6.0	7.3	8.5	9.5	13.4	80	86
	8080	7/32	4.0	5.6	8.0	9.8	11.3	12.6	17.9	80	89
	80120	17/64	6.0	8.5	12.0	14.7	17.0	19.0	27	80	83
	80200	11/32	10.0	14.1	20	25	28	32	44	80	82
18897-	11020	7/64	1.0	1.4	2.0	2.5	2.8	3.2	4.5	110	117
	11025	1/8	1.3	1.8	2.5	3.1	3.5	4.0	5.6	110	117
	11030	9/64	1.5	2.1	3.0	3.7	4.2	4.7	6.7	110	117
	11040	5/32	2.0	2.8	4.0	4.9	5.7	6.3	9.0	110	117
	11050	11/64	2.5	3.5	5.0	6.1	7.1	7.9	11.2	110	117
	11060	3/16	3.0	4.2	6.0	7.3	8.5	9.5	13.4	110	116
	11080	7/32	4.0	5.6	8.0	9.8	11.3	12.6	17.9	110	116
	110120	11/64	6.0	8.5	12.0	14.7	17.0	19.0	27	110	116
	110200	11/32	10.0	14.1	20	25	28	32	44	110	116

DRAMATICALLY INCREASE COOLING EFFICIENCY WITH OUR EXTRA-THICK (XT) VEEJET NOZZLES

Using open passages, the XT VeeJet nozzle provides a wider flat footprint – 30" (762 mm) – than other nozzles. This increased surface contact results in better cooling efficiency. Plus, the compact size of the nozzle enables positioning for greater spray overlap. The result? Maximum heat removal, increased production and better steel quality.

The spray of the XT VeeJet nozzle is offset 20° to prevent spray interference. Interchangeable with most spray tips used in many cooling operations, the XT VeeJet nozzles offer an easy way to increase cooling efficiency without major line retooling or expensive equipment upgrades. And, similar to our other dovetail nozzles, the XT VeeJet is self-aligning and features a one-piece construction that eliminates internal obstructions, prevents clogging and simplifies maintenance.

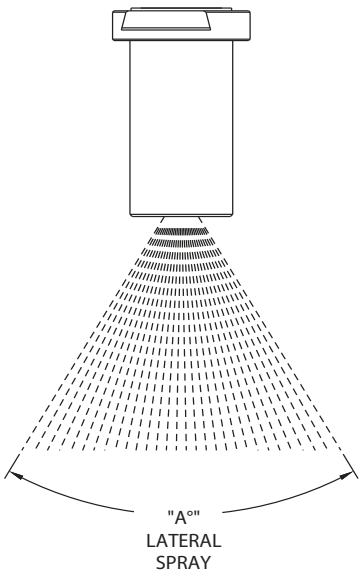
Specifications:

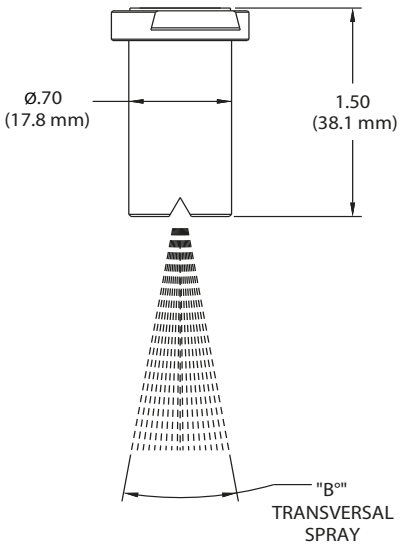
- Capacities range from 2 to 12 gpm at 40 psi (7.6 to 45.4 l/min at 3 bar)
- Spray angle options of 65° or 80°
- Brass or 303 stainless steel construction
- Weld and standard body connection options

PERFORMANCE

*At the stated pressure in psi.

Spray Tip No. 49784-	Capacity (Gallons per minute)*					
	20	40	60	80	100	150
XT___-___20	1.41	2.00	2.45	2.83	3.16	3.87
XT___-___30	2.12	3.00	3.67	4.25	4.74	5.80
XT___-___40	2.83	4.00	4.89	5.65	6.32	7.74
XT___-___50	3.53	5.00	6.12	7.07	7.90	9.68
XT___-80120	8.60	12.0	14.4	16.4	18.0	21.9





SPRAY ANGLE

Nozzle No. 49784-	Spray Angle Degree	
	"A"	"B"
XT___-65___	65	30
XT___-80___	80	

ORDERING INFO

XT VeeJet Spray Nozzle

49784 – XT – SS 65 40

- 49784 – XT: Nozzle No.
- SS: Material Code
- 65: Spray Angle
- 40: Capacity No.

Rectangular VeeJet Nozzles Provide Thick Sprays and Uniform Cooling

For other cooling operations that require uniform cooling, our Rectangular VeeJet nozzles provide even distribution of a thick spray pattern. Using a smaller orifice than our XT VeeJet nozzles, Rectangular VeeJets minimize fluttering, maximize cooling efficiency and enhance steel quality.

Specifications:

- Capacities range from 10 to 59 gpm at 40 psi (37.9 to 223 l/min at 3 bar)
- Brass or 303 stainless steel material options
- Weld and standard body connection options

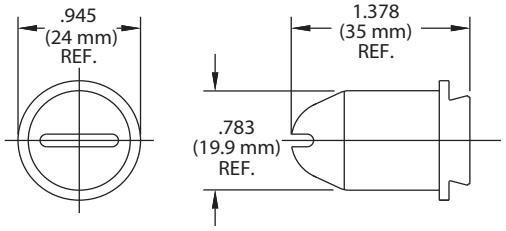
Ordering Info

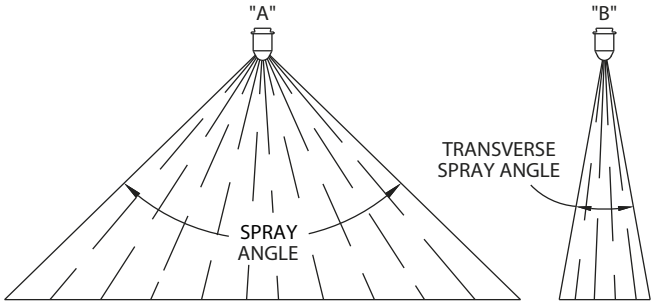
Rectangular VeeJet Spray Nozzle

25381 - SS - 28 - 90/20

Nozzle No.	Material Code	Capacity Size	Spray Angle

Dimensions





Performance

*At the stated pressure in psi.

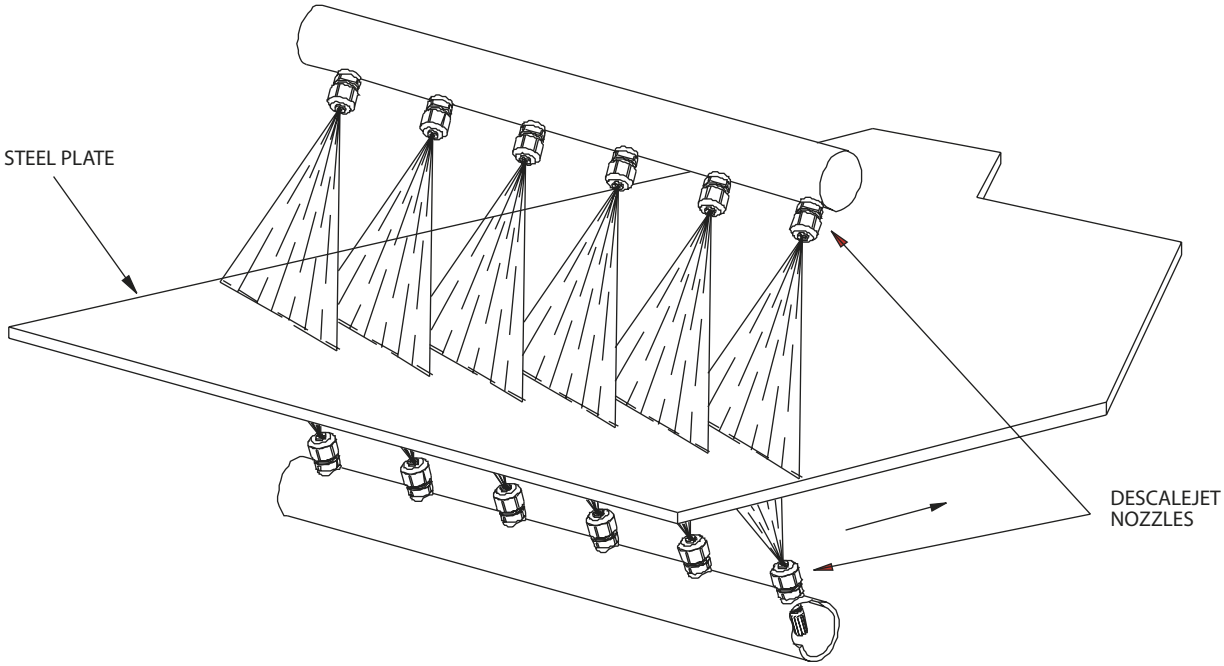
Spray Tip No.	Capacity (Gallons per minute)*					Spray Angle Degree at 40 psi	
	20	40	70	100	200	A	B
25381-6-90/20	.44	.59	.75	.88	1.3	90	20
25381-6-70/20						70	20
25381-8-90/20	.58	.78	.99	1.2	1.6	90	20
25381-8-70/20						70	20
25381-9-90/20	.65	.89	1.2	1.6	1.75	90	20
25381-9-70/20						70	20
25381-13-90/20	.90	1.3	1.7	1.85	2.4	90	20
25381-13-70/30						70	30
25381-13-70/20						70	20
25381-14-90/20	1.1	1.5	1.8	2.1	2.9	90	20
25381-14-70/30						70	30
25381-14-70/20						70	20
25381-19-90/20	1.4	1.8	2.5	2.8	3.9	90	20
25381-19-70/20						70	20
25381-21-90/20	1.6	2.1	2.7	3.2	4.5	90	20
25381-21-70/30						70	30
25381-21-70/20						70	20

Spray Tip No.	Capacity (Gallons per minute)*					Spray Angle Degree at 40 psi	
	20	40	70	100	200	A	B
25381-28-90/20	1.9	2.6	3.6	4.2	5.9	90	20
25381-28-70/30						70	30
25381-28-70/20						70	20
25381-35-90/20	2.5	3.5	4.5	5.2	7.2	90	20
25381-35-70/30						70	30
25381-35-70/20						70	20
25381-46-90/20	3.4	4.6	5.9	6.9	9.0	90	20
25381-46-70/30						70	30
25381-46-70/20						70	20
25381-61-90/20	4.5	6.1	7.9	9.0	12.5	90	20
25381-61-70/30						70	30
25381-61-70/20						70	20
25381-100-90/20	7.3	10.0	14.0	15.5	20.1	90	20
25381-100-70/30						70	30
25381-100-70/20						70	20

DescaleJet Nozzles: High Impact and Long Wear-Life

Descaling is another critical component when ensuring steel quality. High-impact spray nozzles are used to remove the scale that is formed during rolling. Our line of DescaleJet nozzles offers more than 50% greater impact force than conventional nozzles and provides a fine finish. They also offer long wear-life to extend the intervals between maintenance/replacement and make efficient use of water to keep operating costs low.

Choose from our full range of standard DescaleJet nozzles or our AA214 DescaleJet for high-pressure, low-flow, thin slab descaling.

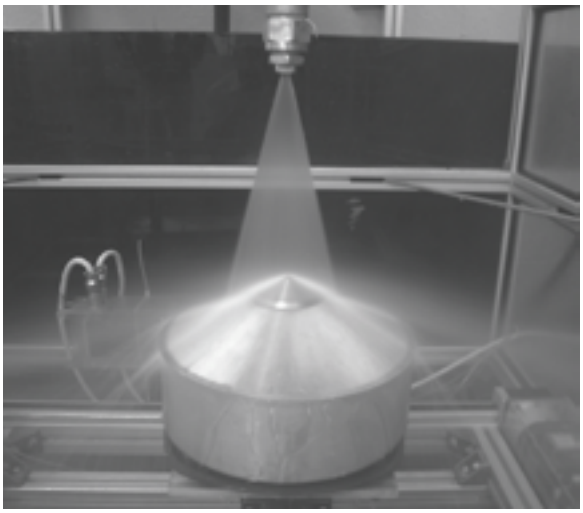


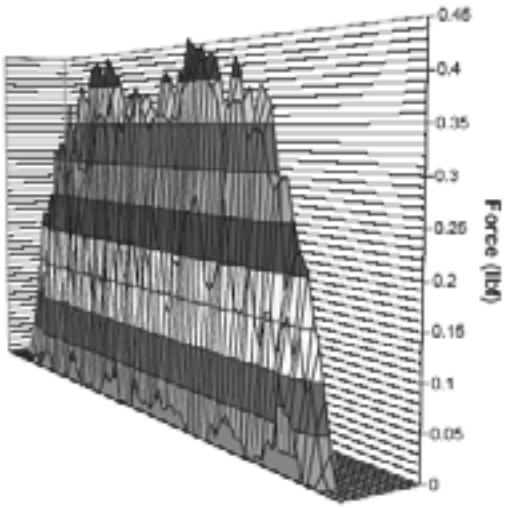
Unique Two-Axis Impact Tester Provides More Precise Performance Testing

Decades of experience in spray technology have enabled us to lead the way in development of innovative new products for the steel industry. Our engineers are continually working on new designs to improve performance in a variety of applications. During the development process, new product prototypes are put through rigorous testing in our spray laboratories. For testing our descaling nozzles, we even developed a unique measuring device to obtain the performance data we required.

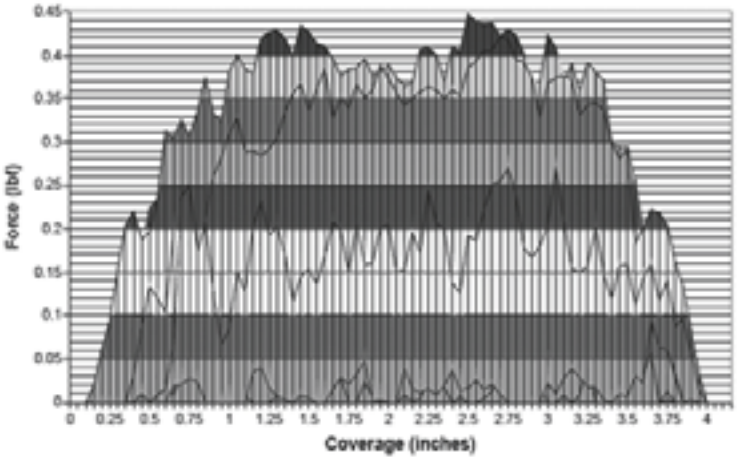
Our impact tester collects data in two axes. The load cell first moves to the outside of the spray pattern. Then it transverses through the spray, taking measurements at intervals along the way. The load cell keeps going back and forth through the spray until the entire spray area has been covered. When the test is complete, a data matrix is available for further analysis.

In addition to using our impact tester in our own research and development, we use it frequently when working with customers to troubleshoot spray problems or in proof-of-concept testing for specialized requirements.





This display shows a 3-D image of the data taken. The units are in force pounds. Each color shows a range of data and illustrates the amount of data collected.



This graph shows the lateral distribution. Each bar on the graph is one row in the transverse direction through the spray and shows the maximum impact for each row. Note the even coverage produced by our DescaleJet nozzles.

Optimizing Spray Applications in Your Mill

AutoJet® Technologies is the turnkey systems division of Spraying Systems Co. Our systems ensure that you obtain the very best performance possible from your spray nozzles. That can only happen if your entire spray system operates efficiently, so our systems control all components – nozzles, pumps, sensors and other hydraulic and pneumatic components.

Your spray system is a small but important part of your steelmaking operation. Nozzle performance can have a tremendous impact on steel quality and operating costs.

That's why our spray controllers and systems are designed to yield process improvements with fast payback. In fact, automating your spray application can often pay for itself in just a few months by:

- Improving product quality through precise and uniform cooling, cleaning and coating
- Reducing manual labor by minimizing set-up, maintenance and monitoring of spray system operation
- Improving regulatory compliance and emission control

For maximum flexibility, AutoJet Spray Systems can operate independently or can be integrated with other plant control systems.

Spraying Systems Co.®
Experts in Spray Technology

Flowline of

Electric Arc Furnace

Emission Control
(SpiralJet®)

Dust Suppression
(FloMax®)

SpiralJet

Direct Reduction

Scrap

Electric Furnace

Cooling
NCJ Ca
HHX Fu
Atomizi

Continuous

Pollution Control

Gas Conditioning
(FloMax)

Dust Suppression
(SpiralJet)

FloMax

Blast Furnace

Oxygen

Basic Oxygen Furnace or Q-Bop

Slag

Molten Iron

Blast Furnace

Liquor
(DistriboJet® or Large VeeJet®)

Emission Control
(SpiralJet)

Dust Suppression
(FloMax)

DistriboJet

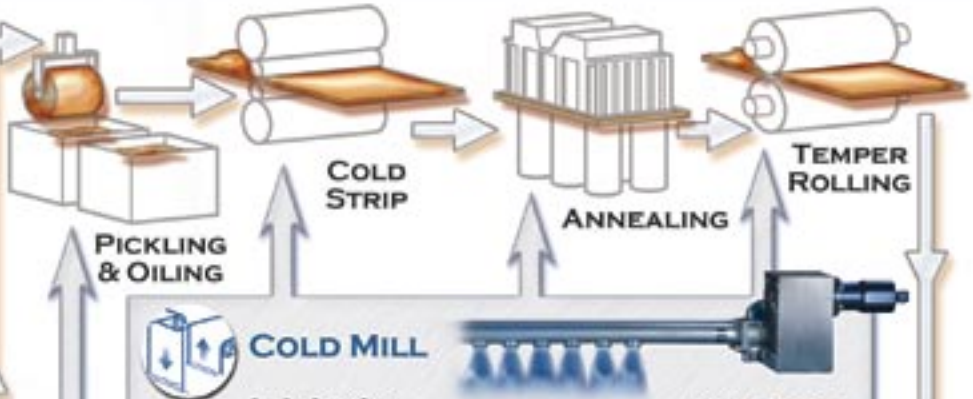
Spraying Systems Co.®
Experts in Spray Technology

Steelmaking

CONTINUOUS SLAB CASTER

sterJet®, CJL CasterJet, Extra Thick VeeJet,
llJet®, HHCC FullJet or 26010-1/4J Air
ng Nozzle

S CASTING



COLD MILL

Lubrication
(Shower Header, VeeJet,
P45075 FullJet, UniJet® or TC Tip)

Strip Wash
(Shower Header, VeeJet, Self-Aligning Dovetail,
VeeJet, WindJet® or Blow-Off Nozzle)

Galvinizing
(1/4J Air Atomizing Nozzle)

HOT STRIP MILL / ROLLING MILL

Descaling
(DescaleJet®)

Slab Cooling
(HHX FullJet or HHCC FullJet)

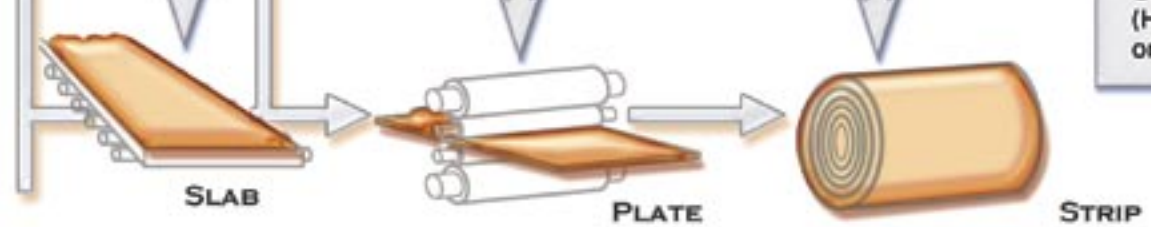
Roll Cooling
(VeeJet or Self-Aligning Dovetail VeeJet)

Run-out Table
(Laminar Flow Header, VeeJet
or FullJet)

GALVANIZED & OTHER COATED FLAT ROLL STEEL PRODUCTS

BILLET CASTER (NOT SHOWN)

Cooling
(HHX FullJet or HHCC FullJet
or P45075 FullJet)



Photos courtesy of United States Steel Corporation and MACSTEEL®.

Areas of Your Mill that May Benefit from Spray System Automation

Gas Conditioning: Reduce Gas Temperature and Volume Prior to Baghouse Entry

A major producer of hot-rolled, cold-rolled and coated sheets turned to AutoJet® Technologies for a gas conditioning system that would:

- Reliably and effectively reduce gas temperature, humidity and volume to prevent damage to baghouse filters, ensure efficient baghouse operation and maximize uptime
- Lower gas temperature without wetting ducts to ensure maximum air flow and prevent sludge from forming and creating maintenance problems and increased disposal costs

The turnkey solution for this particular application incorporated ten FloMax® FM-10 air atomizing nozzle lances monitored and controlled by a Model 2250 AutoJet Spray Controller using closed loop temperature control. Based on input from multiple temperature sensors, the system automatically adjusts the liquid flow to maintain the desired outlet gas temperature. Independent flow monitoring of each nozzle's lance water and air supply ensures peak performance without interruption.

Marking Defects in Steel Quality during Quality Checks

Some mills utilize a quality control system that marks steel defects with color. These systems often use a digital signal to convey that a defect has been identified. AutoJet Spray Systems can be integrated with the quality system to mark the defect with a thin strip of a colored solution to prevent sub-standard product from being shipped.

Dispensing Oil at Varying Flow Rates Using a Zoned Spray Header

If you need to apply different oil products at variable flow rates, a zoned header system may be just what you need to ensure precise application of the proper oil. An AutoJet Spray Controller can monitor and control the spray process, maintaining the proper flow rate as line speed varies and ensuring that various strip widths are accurately coated.

Photos courtesy of United States Steel Corporation.

Lower Costs and Improve Steel Quality in CSP mills with AA214 DescaleJet

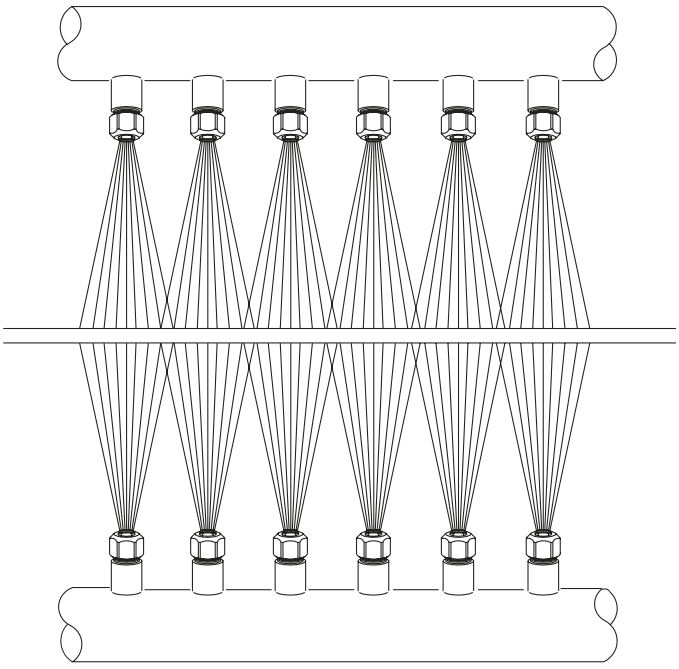
A new design coupled with a harder, finer grade of carbide allows our AA214 DescaleJet nozzle to offer better wear resistance and longer intervals between maintenance than ever before. The more robust carbide insert is now pressed directly into the body. Plus, fluid passages have been re-engineered to reduce turbulence, improve nozzle durability and increase impact by producing a thinner spray.

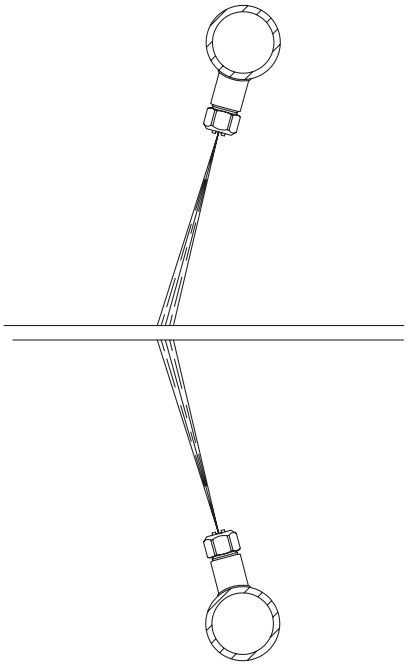
The AA214 DescaleJet nozzle is more compact than standard descaling nozzles so nozzles can be installed closer together allowing for less coverage per nozzle. Less coverage produces greater impact and a more effective, uniform spray is produced. Better surface cleaning is the result.

AA214 DescaleJet nozzles also offer exceptionally low flow rates – 4.8 to 18.1 gpm (18.2 to 68.5 l/min) at 2000 psi (138 bar) and a maximum operating pressure of 5800 psi (400 bar). Lower water consumption means lower costs and a savings that goes right to the bottom line.

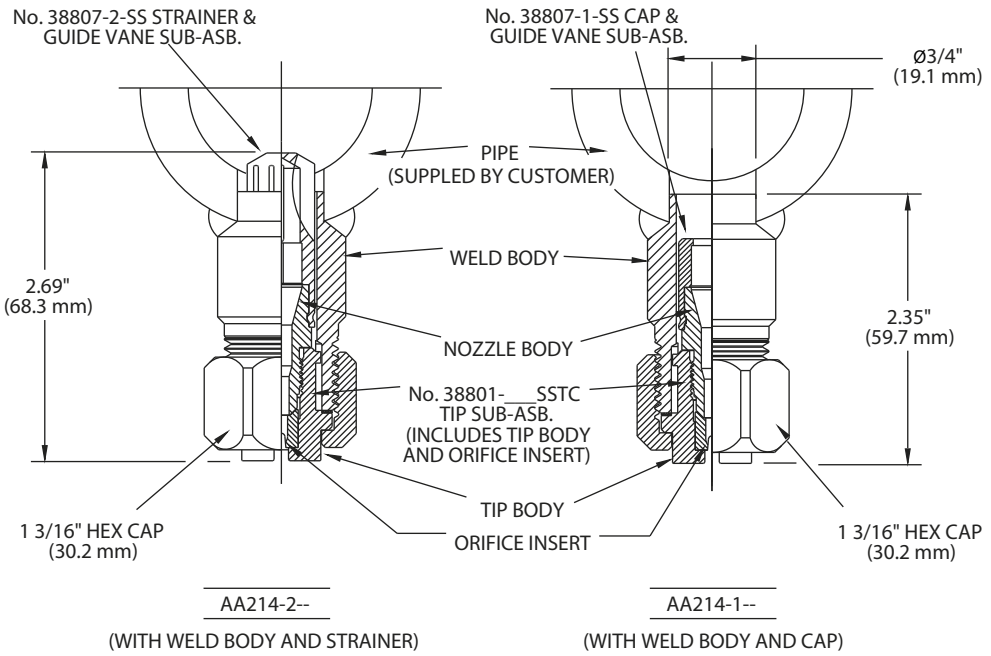
Specifications:

- Spray angles: 18°, 25°, 42° and 40°
- Materials: Stainless steel with tungsten carbide orifice insert
- Rigid weld configuration fits any pipe assembly



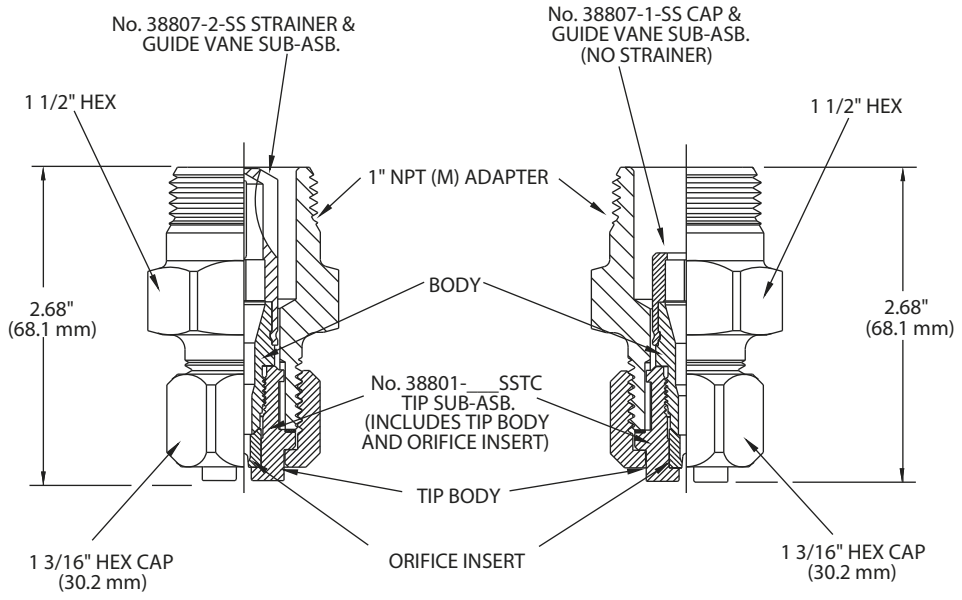


DIMENSIONS – AA214 DESCALEJET



AA214-2--
(WITH WELD BODY AND STRAINER)

AA214-1--
(WITH WELD BODY AND CAP)



AA214-2-1
(WITH ADAPTER AND STRAINER)

AA214-1-1
(WITH ADAPTER AND CAP)

PERFORMANCE – DESCALEJET 214

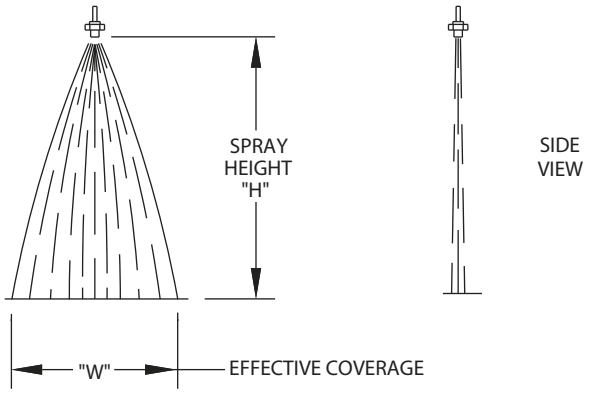
*At the stated pressure in psi

Tip Sub-Asb. No. 38801-	Nozzle Orifice Insert No.	Equiv. Orifice Dia.	Capacity (Gallons per minute)*				
		in.	3000	3500	4000	4500	5000
2504E-SSTC	TC2504E	.052	3.5	3.7	4.0	4.2	4.5
4004E-SSTC	TC4004E						
2505E-SSTC	TC2505E	.057	4.3	4.7	5.0	5.3	5.6
4005E-SSTC	TC4005E						
2506E-SSTC	TC2506E	.062	5.2	5.6	6.0	6.4	6.7
4006E-SSTC	TC4006E						
2507E-SSTC	TC2507E	.067	6.1	6.6	7.0	7.4	7.8
4007E-SSTC	TC4007E						
2508E-SSTC	TC2508E	.072	6.9	7.5	8.0	8.5	8.9
4008E-SSTC	TC4008E						
2509E-SSTC	TC2509E	.076	7.8	8.4	9.0	9.6	10.1
4009E-SSTC	TC4009E						
2510E-SSTC	TC2510E	.078	8.7	9.4	10.0	10.6	11.2
4010E-SSTC	TC4010E						
2515E-SSTC	TC2515E	.099	13.0	14.0	15.0	15.9	16.8
4015E-SSTC	TC4015E						

CAPACITY

Spray Height "H" (in.)	"W" - Coverage for Various Spray Angle Series (in.)	
	#25--E	#40--E
2	1-7/16	2
3	2-1/8	3
4	2-7/8	4
6	4-1/4	6

COVERAGE TABULATION BASED ON MINI DESCALEJET NOZZLE SPRAYING STRAIGHT DOWN - (NOT INCLINED OR ANGLED).



FOR ACTUAL INSTALLATION, OVER-LAPPING OF ADJACENT SPRAY PATTERNS IS SUGGESTED.

ORDERING INFO

AA214 DescaleJet with Weld Body

AA214 – 1 – L + TC2504E

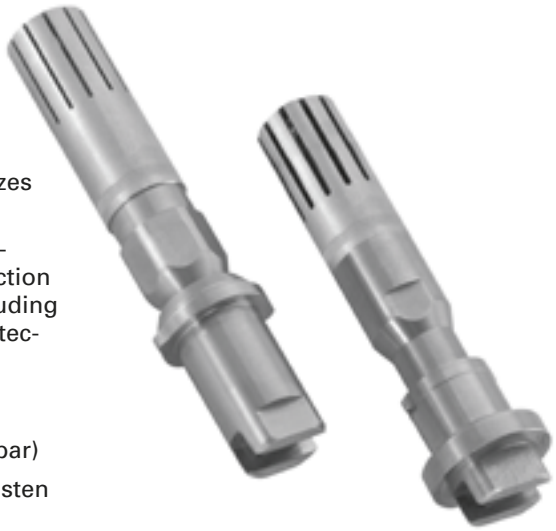
- AA214 – Nozzle Number
- 1 – Cap/Strainer (1 = Cap, 2 = Strainer)
- L – Offset (L = Left, R = Right)
- TC2504E – Orifice Insert Number

AA214 DescaleJet with Adapter

AA214 – 2 – R + TC4005E

- AA214 – Nozzle Number
- 2 – Cap/Strainer (1 = Cap, 2 = Strainer)
- R – Offset (L = Left, R = Right)
- TC4005E – Spray Tip

Standard DescaleJet Nozzles: Ideal for Descaling Ingots, Slabs, Bars, Plates and More



Several basic models of self-aligning DescaleJet nozzles are available for use in hot strip mills where spray heights of 6" to 12" (152 mm to 305 mm) are required. Used after the roughing stands, these nozzles deliver a flat spray pattern with up to 50% more impact than conventional nozzles. An internal vane stabilizes the spray and enables higher impact to be achieved.

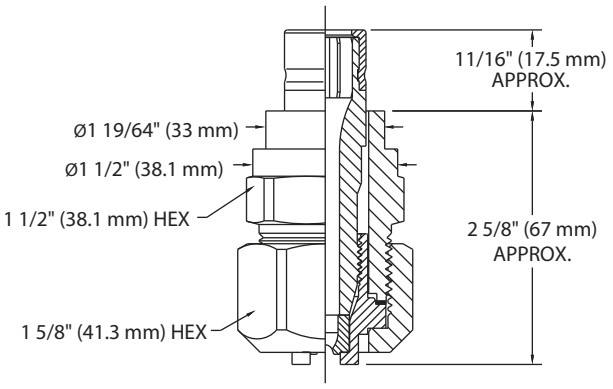
Basic DescaleJet nozzles feature self-aligning spray tips. A stainless steel body and spray tip holder provides heavy outer protection from splash-back wear and flying debris. All working parts, including alignment elements, are positioned internally for maximum protection.

Specifications:

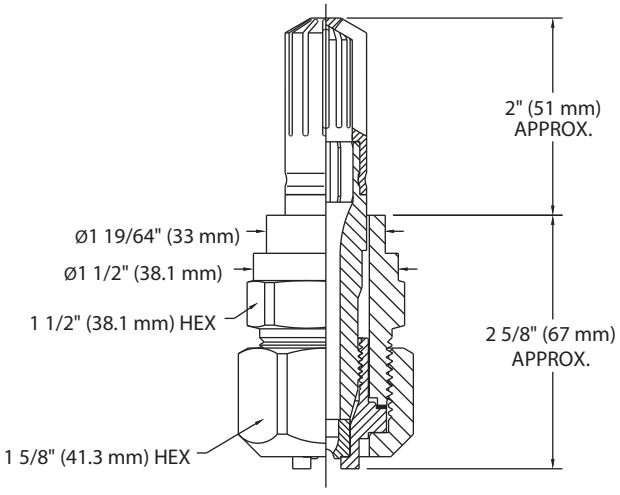
- Capacities: 15 to 52 gpm (56.8 to 196.8 l/min) at 2000 psi (138 bar)
- Materials: Stainless steel with hardened stainless steel or tungsten carbide inserts
- Spray angles: 15°, 18°, 25°, 32° and 40°
- 1" inlet connections

Dimensions – 26180 DescaleJet

NO. 26180-1 DescaleJet NOZZLE WITH
NO. 21331-1 HI-IMPACT ATTACHMENT



NO. 26180-2 DescaleJet NOZZLE WITH
NO. 21331-2 HI-IMPACT ATTACHMENT

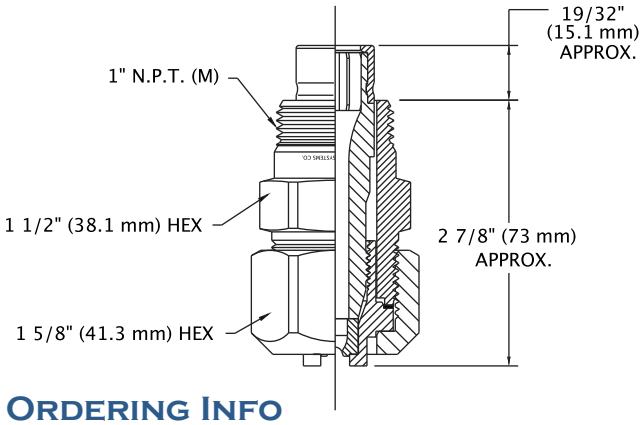


Ordering Info

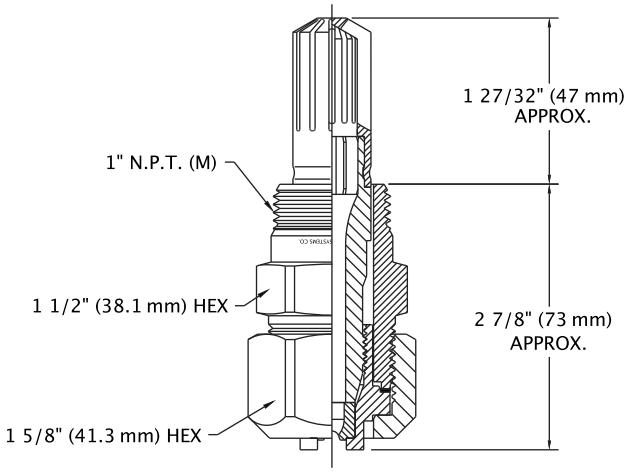
26180 DescaleJet Spray Nozzle		
26180	**– 1 +**	**TC2530E**
Nozzle Number	Cap 1 = Cap 2 = Strainer	Orifice Insert Number

Dimensions – 26190 DescaleJet

NO. 26190-1 DescaleJet NOZZLE WITH
NO. 21331-1 HI-IMPACT ATTACHMENT



NO. 26190-2 DescaleJet NOZZLE WITH
NO. 21331-2 HI-IMPACT ATTACHMENT



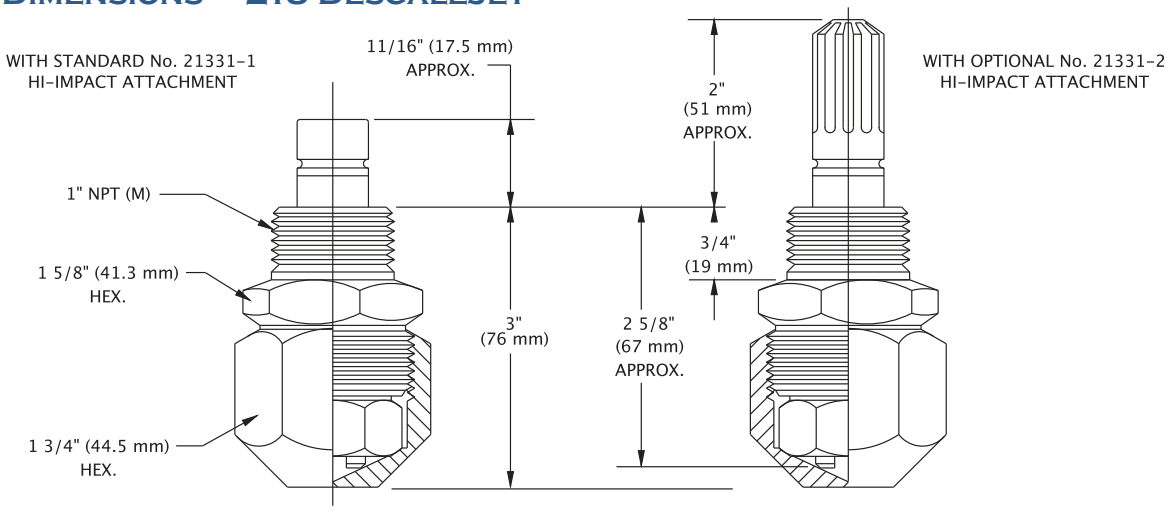
Ordering Info

26190 DescaleJet Spray Nozzle		
26190	**– 1 +**	**TC2530E**
Nozzle Number	Cap [1 = Cap, 2 = Strainer]	Orifice Insert Number

Dimensions – 218 DescaleJet

WITH STANDARD No. 21331-1
HI-IMPACT ATTACHMENT

WITH OPTIONAL No. 21331-2
HI-IMPACT ATTACHMENT



Ordering Info

218 DescaleJet Spray Nozzle		
AA218C	**– 1 +**	**TC2530E**
Nozzle Number	Cap [1 = Cap, 2 = Strainer]	Orifice Insert Number

PERFORMANCE – 26180, 26190, 218 DESCALEJET NOZZLES

*At the stated pressure in psi.

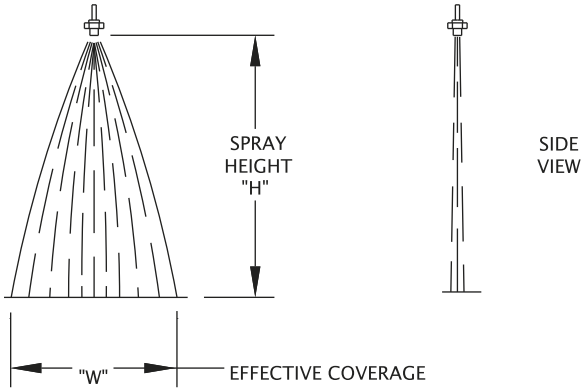
Nozzle Orifice Insert No.	Equiv. Orifice Dia. (in.)	Capacity (Gallons per minute)*								
		600	800	1000	1200	1400	1600	1800	2000	2200
TC1510E*	5/64	3.9	4.5	5.0	5.5	5.9	6.3	6.7	7.1	7.4
TC1520E*	7/64	7.7	8.9	10.0	10.9	11.8	12.6	13.4	14.2	14.8
TC1530E	9/64	11.6	13.4	15.0	16.4	17.8	19.0	20	21	22
TC1540E	5/32	15.5	17.9	20	22	24	25	27	28	30
TC1550E	11/64	19.4	22	25	27	30	32	34	35	37
TC1560E	3/16	23	27	30	33	36	38	40	42	45
TC1570E	13/64	27	31	35	38	41	44	47	50	52
TC1808E*	.072	3.1	3.6	4.0	4.4	4.7	5.1	5.4	5.7	5.9
TC1812E*	.082	4.6	5.4	6.0	6.6	7.1	7.6	8.0	8.5	8.9
TC1820E*	7/64	7.7	8.9	10.0	10.9	11.8	12.6	13.4	14.2	14.8
TC1830E	9/64	11.6	13.4	15.0	16.4	17.8	19.0	20	21	22
TC1840E	5/32	15.5	17.9	20	22	24	25	27	28	30
TC1850E	11/64	19.4	22	25	27	30	32	34	35	37
TC1855E*	.180	21	25	28	30	33	35	37	39	41
TC1860E	3/16	23	27	30	33	36	38	40	42	45
TC2508E*	.072	3.1	3.6	4.0	4.4	4.7	5.1	5.4	5.7	5.9
TC2510E*	5/64	3.9	4.5	5.0	5.5	5.9	6.3	6.7	7.1	7.4
TC2512E*	.082	4.6	5.4	6.0	6.6	7.1	7.6	8.0	8.5	8.9
TC2515E*	3/32	5.8	6.7	7.5	8.2	8.9	9.5	10.1	10.6	11.1
TC2520E*	7/64	7.7	8.9	10.0	10.9	11.8	12.6	13.4	14.2	14.8
TC2525E	1/8	9.7	11.2	12.5	13.7	14.8	15.8	16.8	17.7	18.5
TC2530E	9/64	11.6	13.4	15.0	16.4	17.8	19.0	20	21	22
TC2535E*	.140	13.6	15.7	17.5	19.2	21	22	23	25	26
TC2540E	5/32	15.5	17.9	20	22	24	25	27	28	30
TC2550E	11/64	19.4	22	25	27	30	32	34	35	37
TC2555E*	.180	21	25	28	30	33	35	37	39	41
TC2560E	3/16	23	27	30	33	36	38	40	42	45
TC2570E	13/64	27	31	35	38	41	44	47	50	52
TC3208E*	.072	3.1	3.6	4.0	4.4	4.7	5.1	5.4	5.7	5.9
TC3210E*	5/64	3.9	4.5	5.0	5.5	5.9	6.3	6.7	7.1	7.4
TC3212E*	.082	4.6	5.4	6.0	6.6	7.1	7.6	8.0	8.5	8.9
TC3215E*	3/32	5.8	6.7	7.5	8.2	8.9	9.5	10.1	10.6	11.1
TC3220E*	7/64	7.7	8.9	10.0	10.9	11.8	12.6	13.4	14.2	14.8
TC3230E	9/64	11.6	13.4	15.0	16.4	17.8	19.0	20	21	22
TC3240E	5/32	15.5	17.9	20	22	24	25	27	28	30
TC3250E	11/64	19.4	22	25	27	30	32	34	35	37
TC3255E*	.180	21	25	28	30	33	35	37	39	41
TC3260E	3/16	23	27	30	33	36	38	40	42	45
TC3270E	13/64	27	31	35	38	41	44	47	50	52
TC4030E	9/64	11.6	13.4	15.0	16.4	17.8	19.0	20	21	22
TC4040E	5/32	15.5	17.9	20	22	24	25	27	28	30
TC4050E	11/64	19.4	22	25	27	30	32	34	35	37
TC4060E	3/16	23	27	30	33	36	38	40	42	45

*Not used with AA218C, AA218AC, 26180-1, 26180-2, 26190-1 and 26190-2 DescaleJet Nozzles.

SPRAY ANGLE – 26180, 26190, 218 DESCALEJET NOZZLES

Spray Height "H" (in.)	"W" - Coverage for Various Spray Angle Series (in.)				
	#15--E	#18--E	#25--E	#32--E	#40--E
8	3-1/4	3-1/2	5	6	7-1/8
9	3-1/2	3-7/8	5-3/4	6-1/2	7-3/4
10	3-3/4	4-3/8	6-1/8	7-1/8	8-1/2
11	4-1/8	4-3/4	6-5/8	7-5/8	9-1/4
12	4-3/8	5-1/8	7-1/8	8-1/4	10
13	4-3/4	5-1/2	7-3/8	8-3/4	10-1/2
14	5	6	7-7/8	9-3/8	11-1/4
16	5-5/8	6-3/4	8-3/4	10-3/8	12-1/2
18	6-1/8	7-5/8	9-5/8	11-3/8	13-5/8
20	6-1/2	8-3/8	10-1/4	12	14-1/2
22	7	9-1/4	10-3/4	12-1/2	15
24	7-1/8	10-1/4	11-1/4	12-3/4	15-1/4

COVERAGE TABULATION BASED ON DESCALEJET NOZZLE
SPRAYING STRAIGHT DOWN – (NOT INCLINED OR ANGLED).



HIGH IMPACT COOLING AND RINSING SOLUTIONS: FLATJET AND FLOODJET SPRAY NOZZLES

FlatJet and FloodJet spray nozzles are used in a variety of steel mill applications typically in areas where high impact sprays are needed and/or clogging is a concern. For example, FlatJet and FloodJet nozzles are often used to blow loose scale across and off the strip. Another common use is in quenching applications where the water source may be filled with contaminants.

FlatJet nozzles use a deflector plane to produce a high impact flat spray pattern with narrow spray angles. These nozzles feature a one-piece design and a large, unobstructed flow passage to minimize clogging.

FloodJet spray nozzles feature a wide-angle flat spray pattern with medium impact. Similar to FlatJet nozzles, they produce a uniform spray distribution of medium-sized drops and have large, unobstructed flow passages to minimize clogging. Suitable for use with liquid or air and steam, the nozzle's deflector surface provides dependable, accurate control of deflection and spray angle.

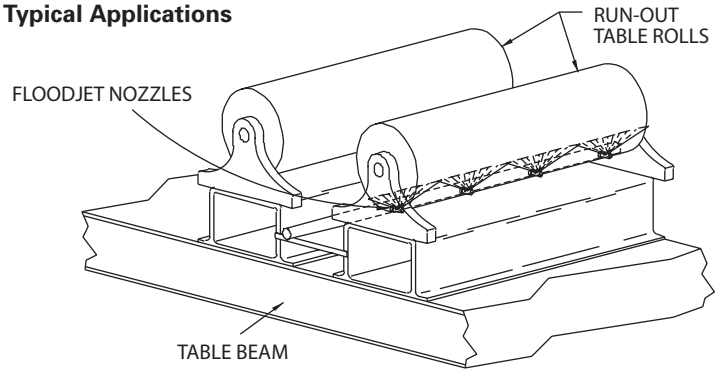
FlatJet nozzle specifications

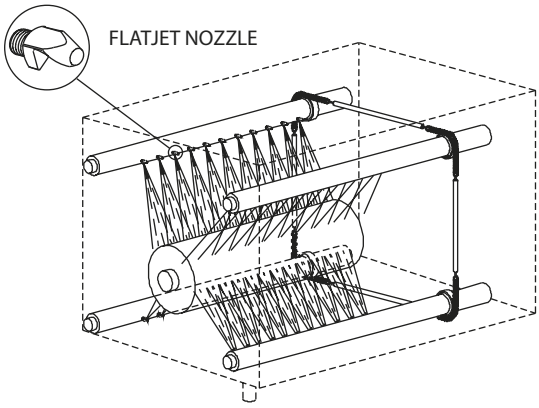
- Capacities: 0.50 to 20 gpm at 40 psi (2.0 to 75.7 l/min at 3 bar)
- Materials: Brass, mild steel, 303 stainless steel, 316 stainless steel
- Spray angles: 50°, 40°, 35°, 25° and 15°
- 1/8" to 3/4" inlet connections

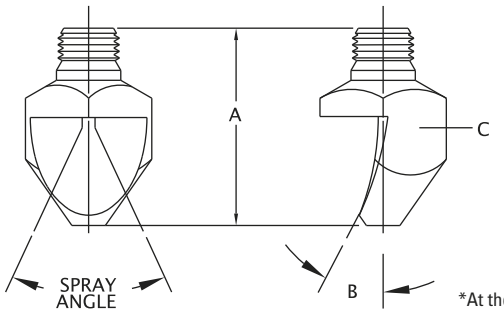
FloodJet nozzle specifications

- Capacities – Liquid: 0.05 to 90 gpm at 40 psi (0.2 to 340.7 l/min at 3 bar)
- Capacities – Air: 0.35 to 25.4 SCFM at 40 psi (10.5 to 760 l/min at 3 bar). Steam: 0.78 to 56.9 lb/hr at 40 psi (0.37 to 27 kg/hr at 3 bar)
- 1/8" to 1" inlet connections
- Materials: Brass, 303 stainless steel, 316 stainless steel and polyvinyl chloride

Typical Applications







PERFORMANCE – FLATJET NOZZLES

*At the stated pressure in psi.

Spray Angle Degree at 40 psi	Nozzle Inlet Conn. NPT or BSPT (in.)					Capacity Size	Equiv. Orifice Dia. (in.)	Capacity (Gallons per minute)*								Spray Angle Degree*			Dimensions			
	1/8	1/4	3/8	1/2	3/4			15	20	30	40	60	80	100	150	15	40	100	A Length (in.)	B Deflection Angle Degree	C Bar Size (in. sq.)	Net Weight (oz.)
50		●				05	.052	.31	.36	.44	.50	.60	.70	.80	.95	33	50	60	1-7/32	60	5/8	1
		●				10	.074	.61	.71	.87	1.0	1.2	1.4	1.6	1.9	34	50	60	1-7/32	60	5/8	1
		●	●			25	.117	1.5	1.8	2.2	2.5	3.1	3.5	3.9	4.8	42	50	59	1/5-8	42	3/4	3
		●	●			40	.148	2.5	2.8	3.5	4.0	4.9	5.7	6.3	7.7	39	50	60	1-27/32	45	3/4	3
			●			60	.181	3.7	4.2	5.2	6.0	7.3	8.5	9.5	11.6	42	50	53	2-5/32	37	1	5
			●			100	.234	6.1	7.1	8.7	10.0	12.2	14.1	15.8	19.4	43	50	55	2-27/32	40	1-1/4	11-1/2
			●			125	.261	7.6	8.8	10.8	12.5	15.3	17.7	19.7	24	38	50	59	2-27/32	38	1-1/4	11
			●			160	.296	9.8	11.3	13.9	16.0	19.6	23	25	31	44	50	55	2-27/32	37	1-1/4	11
			●			200	.331	12.2	14.2	17.0	20	24	28	32	39	46	50	53	2-27/32	32	1-1/4	11
40			●			40	.148	2.5	2.8	3.5	4.0	4.9	5.7	6.3	7.7	31	40	50	2-3/8	35	7/8	5
			●			50	.165	3.1	3.5	4.3	5.0	6.1	7.1	8.0	9.7	31	40	49	2-1/2	33	1	7
			●			60	.181	3.7	4.2	5.2	6.0	7.3	8.5	9.5	11.6	32	40	49	2-27/32	33	1	8
			●			70	.196	4.3	5.0	6.1	7.0	8.6	9.9	11.0	13.5	32	40	49	2-31/32	29	1	9
			●			80	.209	4.9	5.7	6.9	8.0	9.8	11.3	12.6	15.5	32	40	48	3-1/32	26	1	9
			●			90	.222	5.5	6.4	7.8	9.0	11.0	12.7	14.2	17.4	34	40	44	3-1/32	28	1	8
			●			100	.234	6.1	7.1	8.7	10	12.2	14.1	15.8	19.4	35	40	44	3-13/32	28	1	9
35	●					04	.047	.25	.28	.35	.40	.49	.57	.63	.77	20	35	41	29/32	40	7/16	1/2
		●				10	.074	.61	.71	.87	1.0	1.2	1.4	1.6	1.9	18	35	39	1-7/16	36	5/8	2
		●	●			20	.105	1.2	1.4	1.7	2.0	2.4	2.8	3.2	3.9	24	35	40	1-21/32	30	3/4	2
			●			25	.117	1.5	1.8	2.2	2.5	3.1	3.5	3.9	4.8	24	35	39	1-15/16	28	3/4	3
			●			30	.128	1.8	2.1	2.6	3.0	3.7	4.2	4.7	5.8	26	35	41	2-1/16	28	3/4	3
			●			40	.148	2.5	2.8	3.5	4.0	4.9	5.7	6.3	7.7	28	35	38	2-9/32	26	7/8	4
			●			50	.165	3.1	3.5	4.3	5.0	6.1	7.1	8	9.7	31	35	38	2-1/2	23	7/8	5
				●		60	.181	3.7	4.2	5.2	6.0	7.3	8.5	9.5	11.6	29	35	39	2-7/8	27	1	8
				●		80	.209	4.9	5.7	6.9	8.0	9.8	11.3	12.6	15.5	26	35	40	3-3/16	24	1	9
				●		100	.234	6.1	7.1	8.7	10.0	12.2	14.1	15.8	19.4	26	35	40	3-1/2	19	1	9
					●	160	.296	9.8	11.3	13.9	16.0	19.6	23	25	31	26	35	40	4-1/2	23	1-1/4	20
					●	200	.331	12.2	14.2	17.0	20	24	28	32	39	25	35	40	4-13/16	22	1-1/4	20
25		●				40	.148	2.5	2.8	3.5	4.0	4.9	5.7	6.3	7.7	15	25	34	2-9/16	25	3/4	4
15		●				10	.074	—	.71	.87	1.0	1.2	1.4	1.6	1.9	—	15	23	1-7/8	22	5/8	2
		●				20	.105	—	1.4	1.7	2.0	2.4	2.8	3.2	3.9	—	15	19	2-1/8	19	5/8	2
			●			30	.128	1.8	2.1	2.6	3.0	3.7	4.2	4.7	5.8	6	15	24	2-27/32	25	3/4	4
			●			40	.148	2.5	2.8	3.5	4.0	4.9	5.7	6.3	7.7	8	15	21	3-5/8	18	7/8	8
			●			50	.165	3.1	3.5	4.3	5.0	6.1	7.1	8.0	9.7	9	15	20	3-9/16	15	7/8	6
				●		60	.181	3.7	4.2	5.2	6.0	7.3	8.5	9.5	11.6	10	15	19	4-15/16	14	1	12
				●		80	.209	4.9	5.7	6.9	8.0	9.8	11.3	12.6	15.5	11	15	18	5-1/8	14	1	12
				●		100	.234	6.1	7.1	8.7	10.0	12.2	14.1	15.8	19.4	11	15	18	5-3/8	14	1	14
					●	200	.331	12.2	14.2	17.0	20	24	28	32	39	12	15	18	7-1/2	14	1-1/4	32

PERFORMANCE — FLOODJET NOZZLES

*At the stated pressure in psi.

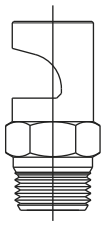
Nozzle Inlet Conn. NPT or BSPT (in.)						Capacity Size	Equiv. Orifice Dia. (in.)	Capacity (Gallons per minute)*									Spray Angle Degree		
1/8	1/4	3/8	1/2	3/4	1			3	5	7	10	15	20	30	40	60	7	20	60
●						.25	.017	—	—	—	—	.03	.04	.04	.05	.06	—	83	117
●						.50	.023	—	—	—	—	.06	.07	.08	.10	.12	—	89	122
●						.75	.029	—	—	—	.08	.09	.11	.13	.15	.18	—	106	125
●						1	.033	—	—	—	.10	.12	.14	.17	.20	.24	—	103	128
●						1.5	.040	—	—	.12	.15	.18	.21	.26	.30	.37	73	103	125
●	●					2	.047	—	—	.17	.20	.24	.28	.35	.40	.49	83	113	129
●	●					2.5	.052	—	.18	.21	.25	.31	.35	.43	.50	.61	98	122	133
●	●					3	.057	—	.21	.25	.30	.37	.42	.52	.60	.73	86	112	126
●						4	.066	—	.28	.33	.40	.49	.57	.69	.80	.98	97	123	132
●	●					5	.074	.27	.35	.42	.50	.61	.71	.87	1.0	1.2	114	128	142
●	●					7.5	.091	.41	.53	.63	.75	.92	1.1	1.3	1.5	1.8	101	119	134
●	●					10	.105	.55	.71	.84	1.0	1.2	1.4	1.7	2.0	2.5	115	133	145
●	●					12	.115	.66	.85	1.0	1.2	1.5	1.7	2.1	2.4	2.9	128	139	153
●	●					15	.128	.82	1.1	1.3	1.5	1.8	2.1	2.6	3.0	3.7	98	113	123
●	●					18	.140	.99	1.3	1.5	1.8	2.2	2.5	3.1	3.6	4.4	106	120	131
●	●					20	.148	1.1	1.4	1.7	2.0	2.4	2.8	3.5	4.0	4.9	110	122	133
	●					22	.155	1.2	1.6	1.8	2.2	2.7	3.1	3.8	4.4	5.4	113	125	136
	●					24	.162	1.3	1.7	2.0	2.4	2.9	3.4	4.2	4.8	5.9	115	131	144
	●					27	.172	1.5	1.9	2.3	2.7	3.3	3.8	4.7	5.4	6.6	119	135	148
		●				30	.181	1.6	2.1	2.5	3.0	3.7	4.2	5.1	6.0	7.3	100	110	121
		●				35	.196	1.9	2.5	2.9	3.5	4.3	5.0	6.1	7.0	8.6	105	118	128
		●	●			40	.209	2.2	2.8	3.3	4.0	4.9	5.7	6.9	8.0	9.8	111	126	136
		●				45	.222	2.5	3.2	3.8	4.5	5.5	6.4	7.8	9.0	11	115	130	140
			●			50	.234	2.7	3.5	4.2	5.0	6.1	7.0	8.7	10.0	12.3	117	131	140
			●			60	.256	3.3	4.2	5.0	6.0	7.3	8.5	10.4	12.0	14.7	120	134	142
			●			70	.277	3.8	5.0	5.9	7.0	8.6	9.9	12.1	14.0	17.2	123	137	146
			●			80	.296	4.4	5.6	6.7	8.0	9.8	11.3	13.8	16.0	19.6	127	138	149
				●		90	.317	4.9	6.4	7.5	9.0	11.0	12.7	15.6	18.0	20	120	133	140
				●		100	.334	5.5	7.1	8.4	10.0	12.3	14.1	17.3	20	24	123	136	145
				●		110	.350	6.0	7.8	9.2	11.0	13.5	15.6	19.0	22	27	125	138	148
				●		120	.366	6.6	8.5	10.0	12.0	14.7	17.0	21	24	29	129	143	150
				●		140	.395	7.7	9.9	11.7	14.0	17.1	19.8	24	28	34	118	127	135
				●		160	.423	8.8	11.3	13.4	16.0	19.6	23	28	32	39	121	130	137
				●		180	.448	10.0	12.7	15.1	18.0	22	25	31	36	44	124	133	139
				●		210	.484	11.5	14.8	17.5	21	26	30	36	42	51	128	139	145
					●	300	.579	16.5	21	25	30	37	43	52	60	74	110	128	135
					●	450	.709	25	32	38	45	55	64	78	90	111	118	132	138

AIR & STEAM PERFORMANCE – FLOODJET NOZZLES

*At the stated pressure in bar.

Nozzle Inlet Conn. NPT or BSPT (in.)	Capacity Size	Equiv. Orfice Dia. (in.)	Capacity – for Air (scfm)*			Capacity – for Steam (pounds per hour)*				Coverage at 6" Distance from Nozzle (in.)*	
			10	30	60	10	20	40	50	10	50
1/8, 1/4, 3/8	.50	.023	.16	.30	.40	.35	.49	.78	.92	2	5
	.75	.029	.22	.40	.60	.50	.70	1.1	1.3	2-1/2	5-1/2
	1	.033	.34	.60	.90	.76	1.1	1.7	2.0	3	6
	1.5	.040	.54	1.0	1.5	1.2	1.7	2.7	3.2	3-1/2	6-1/2
	2	.047	.68	1.2	1.9	1.5	2.1	3.4	4.0	4	7-1/2
	2.5	.052	.94	1.7	2.6	2.1	2.9	4.7	5.6	4	7-1/2
	3	.057	1.1	2.1	3.1	2.5	3.6	5.7	6.7	5	8
	4	.066	1.4	2.5	4.0	3.1	4.5	6.8	8.6	5	9
	5	.074	1.9	3.4	5.1	4.2	5.9	9.3	11.0	6	10-1/2
	7.5	.091	2.8	5.2	7.8	6.4	8.9	14.2	16.8	6»	10-1/2
	10	.105	3.9	7.1	10.6	8.7	12.2	19.3	22.9	7	11
	15	.128	6.4	11.7	17.4	14.3	20.2	31.9	37.7	7	12
	20	.148	7.9	14.5	21.7	17.7	25.0	39.5	46.7	8-1/2	14-1/2
	30	.181	11.4	20.7	31.1	25.5	35.7	56.9	67.2	8-1/2	15-1/2

DIMENSIONS

Nozzle Type (Conn.)		Inlet Conn. (in.)	Length (in.)	Length (mm)	Hex. (in.)	Hex. (mm)	Net Weight (oz.)	Net Weight (kg)
	K (M)	1/8	1	25.4	7/16	11.1	.5	.015
		1/4	1-7/32	30.9	9/16	14.3	1	.03
		3/8	1-3/4	44.5	11/16	17.5	2	.06
		1/2	2	51	7/8	22.2	4	.11
		3/4	2-9/16	65.1	1-1/2	38.1	14	.40
		1	3-5/8	92.1	1-7/8	47.6	32	.91

Based on largest/heaviest version of each type.

ORDERING INFO

FloodJet Spray Nozzle

1/8	K	–	SS	0.5
Inlet Conn.	Nozzle Type		Material Code	Capacity Size

FlatJet Spray Nozzle

3/8	P	–	SS	–	50	60
Inlet Conn.	Nozzle Type		Material Code		Spray Angle	Capacity Size

High Impact Spot Spraying Solutions: WashJet Spray Nozzles

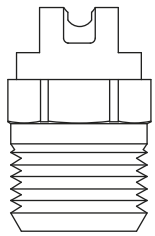
WashJet high-pressure spray nozzles operate at pressures from 300 to 4000 psi (20 to 275 bar) and feature a high impact solid stream (0°) or flat spray pattern with spray angles of 5° to 65°. Ideal for spot cleaning or light descaling of billets, blooms or rounds, WashJet nozzles use an internal guide vane to stabilize liquid turbulence to provide maximum spray integrity and impact.

Milled flats parallel to the plane of the spray pattern provide a visual reference for quick and easy spray alignment. Specialty hardened stainless steel construction provides longer wear-life and flow control accuracy. Or, for maximum erosion resistance, specify WashJet nozzles with tungsten carbide orifice inserts.

Specifications:

- Capacities: .1 to 3 gpm at 40 psi (.39 to 11.8 at 3 bar)
- Material – MEG WashJet nozzles: Specialty hardened stainless steel
- Material – MEG-SSTC WashJet nozzles: Stainless steel with tungsten carbide orifice inserts
- Spray angles: 65°, 50°, 45°, 25°, 15° and 0°
- 1/8" to 1/4" inlet connections

Dimensions

Nozzle Type (Conn.)		Inlet Conn. (in.)	Length (in.)	Length (mm)	Hex. (in.)	Hex. (mm)	Flats (in.)	Flats (mm)	Net Weight (oz.)	Net Weight (kg)
	MEG (M)	1/8	7/8	22	1/2	12.7	5/16	7.9	.61	.02
		1/4	29/32 flat	23 flat	9/16	14.3	13/32	10.3	.76	.02
			1-1/64 solid	26 solid						

Based on largest/heaviest version of each type.

Ordering Info

WashJet Spray Nozzle			
1/4	MEG -	15	04
Inlet Conn.	Nozzle Type	Spray Angle	Capacity Size

PERFORMANCE — WASHJET SPRAY NOZZLES

*At the stated pressure in psi.

Nozzle Type and Spray Angle Degree																					Capacity Size	Capacity (Gallons per minute)*										
1/8 MEG							1/4 MEG							1/4 MEG-SSTC																		
00	5	15	25	40	50	65	00	5	15	25	40	50	65	00	5	15	25	40	50	65		300	400	500	600	700	800	1000	1500	2000	2500	3000
									●					●		●			●		01	.28	.32	.36	.39	.42	.45	.50	.60	.70	.80	.85
									●												015	.41	.47	.53	.58	.63	.68	.75	.90	1.1	1.2	1.3
●	●	●	●	●			●	●	●	●	●		●	●		●		●	●		02	.55	.63	.71	.77	.84	.89	1.0	1.2	1.4	1.6	1.7
													●								025	.70	.80	.90	.97	1.0	1.1	1.3	1.5	1.8	2.0	2.2
●		●	●	●	●		●	●	●	●	●	●	●	●		●			●	●	03	.82	.95	1.1	1.2	1.3	1.4	1.5	1.8	2.1	2.4	2.6
							●		●	●	●										035	.98	1.1	1.3	1.4	1.5	1.6	1.8	2.2	2.5	2.8	3.1
●		●	●	●	●	●	●	●	●	●	●	●	●	●		●	●		●	●	04	1.1	1.3	1.4	1.6	1.7	1.8	2.0	2.5	2.8	3.2	3.5
●		●	●	●		●	●		●	●	●		●			●	●				045	1.2	1.4	1.6	1.7	1.9	2.0	2.3	2.8	3.2	3.6	3.9
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●		05	1.4	1.6	1.8	1.9	2.1	2.2	2.5	3.1	3.5	4.0	4.3
●		●	●	●	●	●	●	●	●	●	●	●	●	●		●	●				055	1.5	1.7	1.9	2.1	2.3	2.5	2.8	3.4	3.9	4.3	4.8
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●			06	1.6	1.9	2.1	2.3	2.5	2.7	3.0	3.7	4.2	4.7	5.2
●		●	●	●			●		●	●	●		●								065	1.8	2.1	2.3	2.5	2.7	2.9	3.3	4.0	4.6	5.1	5.6
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●		07	1.9	2.2	2.5	2.7	2.9	3.1	3.5	4.3	4.9	5.5	6.1
●		●	●	●			●		●	●	●										075	2.1	2.4	2.7	2.9	3.1	3.4	3.8	4.6	5.3	5.9	6.5
●		●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●		●	08	2.2	2.5	2.8	3.1	3.4	3.6	4.0	4.9	5.7	6.3	6.9
●		●	●	●			●		●	●	●										085	2.3	2.7	3.0	3.3	3.6	3.8	4.3	5.2	6.0	6.7	7.4
●		●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●		●	09	2.5	2.9	3.2	3.5	3.8	4.0	4.5	5.5	6.4	7.1	7.8
		●	●				●			●											095	2.6	3.0	3.4	3.7	4.0	4.2	4.8	5.8	6.7	7.5	8.2
●		●	●	●	●	●	●		●	●	●	●	●	●		●	●				10	2.7	3.2	3.5	3.9	4.2	4.5	5.0	6.1	7.1	7.9	8.7
●			●				●		●	●	●										11	3.0	3.5	3.9	4.3	4.6	4.9	5.5	6.7	7.8	8.7	9.5
●		●	●																		115	3.1	3.6	4.1	4.5	4.8	5.1	5.8	7.0	8.1	9.1	10.0
●				●			●	●	●	●	●	●	●			●					12	3.3	3.8	4.2	4.6	5.0	5.4	6.0	7.3	8.5	9.5	10.4
●							●		●	●	●										125	3.4	4.0	4.4	4.8	5.2	5.6	6.3	7.7	8.8	9.9	10.8
●							●		●	●	●										13	3.6	4.1	4.6	5.0	5.4	5.8	6.5	8.0	9.2	10.3	11.3
	●								●	●											14	3.8	4.4	4.9	5.4	5.9	6.3	7.0	8.6	9.9	11.1	12.1
●		●	●				●	●	●	●	●	●	●	●		●		●		●	15	4.1	4.7	5.3	5.8	6.3	6.7	7.5	9.2	10.6	11.9	13.0
		●					●		●												16	4.4	5.1	5.7	6.2	6.7	7.2	8.0	9.8	11.3	12.6	13.9
							●		●	●	●			●							18	4.9	5.7	6.4	7.0	7.5	8.0	9.0	11.0	12.7	14.2	15.6
●							●	●	●	●	●	●	●	●							20	5.5	6.3	7.1	7.7	8.4	8.9	10.0	12.3	14.1	15.8	17.3
							●	●	●	●	●										25	6.9	7.9	8.9	9.7	10.5	11.2	12.5	15.3	17.7	19.8	22
							●	●	●	●	●		●								30	8.2	9.5	10.6	11.6	12.5	13.4	15.0	18.4	21	24	26
							●		●	●	●										35	9.6	11.1	12.4	13.6	14.6	15.7	17.5	21	25	28	30
							●	●	●	●	●										40	11.0	12.6	14.1	15.5	16.7	17.9	20	24	28	32	35
							●		●	●	●										50	13.7	15.8	17.7	19.4	21	22	25	31	35	40	43
							●		●	●	●										60	16.4	19.0	21	23	25	27	30	37	42	47	52
							●														70	19.2	22	25	27	29	31	35	43	49	55	61
							●														80	22	25	28	31	33	36	40	49	57	63	69
							●														90	25	28	32	35	38	40	45	55	64	71	78
									●												105	29	33	37	41	44	47	53	64	75	83	91

Need Efficient Cooling on Runout Tables? Choose From These Cost-Effective Solutions

Our Laminar Flow Header with VeeJet® spray nozzles produces a rod-like column of water that has proven superior to conventional U-tube nozzle cooling. And with operating pressures as low as 0.9 psi (0.06 bar), laminar cooling uses water more effectively. At these low pressures, less water is used, runout tables can be shortened and cost-savings on piping can result.

A long, smooth approach ensures nozzle inlets are always high in the water manifold. Since the entire header doesn't have to fill or drain to interrupt the flow pattern, header sequencing is much easier and more precise. Also, lag time is greatly reduced.

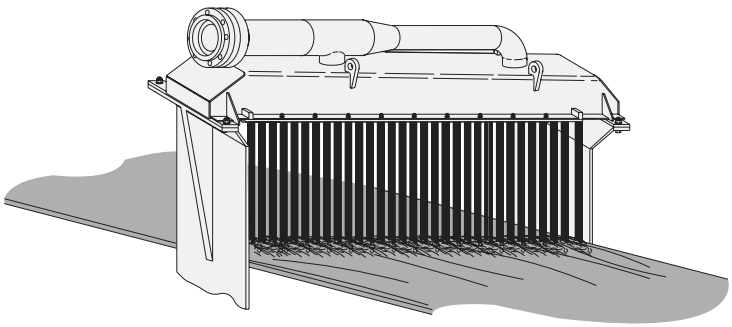
The flow header also features an internal baffle plate that allows for precise flow distribution across the header without sizing. This simplifies maintenance and replacement.

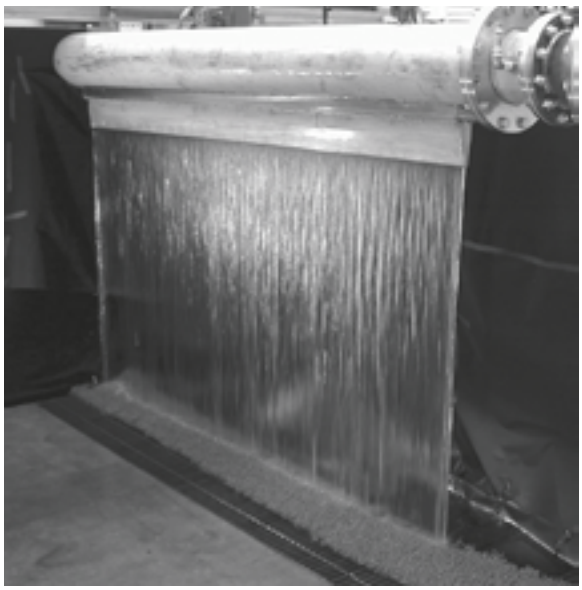
Solid stream VeeJet nozzles are used on the flow header and feature recessed orifices that remain in adjustment to ensure even flow and minimal maintenance time.

Another option is our slit-style laminar flow header. It produces a curtain-like sheet of water. The even distribution of water provided by the header ensures consistent sheet cooling and helps minimize cracking and other defects. The slit-design is clog resistant and eliminates the need for maintaining or replacing nozzles. In the event of a shut down, after water has had time to settle, the slit-type laminar flow header can be started up again without the worry of plugged nozzles. This eliminates the checking of nozzles before startup and saves time for mill personnel.

Specifications:

- Types: Top and bottom
- Materials – Headers: Hot rolled steel; Nozzles: brass
- Capacities: 300 to 1800 gpm (1136 to 6813 l/min) at pressure less than 4 psi (0.3 bar)





Spray Headers are Ideal for Cooling, Cleaning and Rinsing

Our custom-designed spray headers improve product quality, reduce water consumption, eliminate frequent clogging of spray nozzles and minimize production downtime for nozzle maintenance.

Common uses for our spray headers include cooling before the coiler to eliminate cracking and extend roll life, cleaning strip steel before galvanizing, cooling rolls on a reducing mill and high temperature/ high pressure rinsing in a sheet steel pickling operation.

Spray headers feature an internal rotating brush assembly that sweeps debris away from the nozzle without shutting the system down. During the cleaning cycle, the brushes scrub the interior wall of the header as well as the nozzle orifices. In a matter of seconds, accumulated debris is removed and discharged through a flush-out valve restoring full liquid flow to the system without contaminating the sprayed surface.

There are three styles from which to choose:

- Brushless
- Manual brush type with handwheel operation
- Automatic brush type with motor and timer for completely automated operation

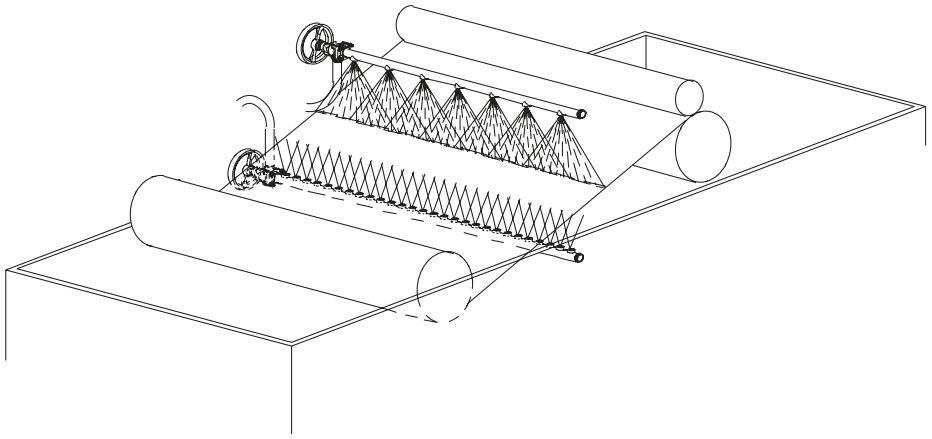
Specifications:

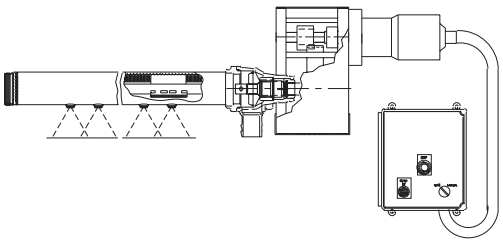
- Capacities: 0.04 to 53.74 gpm (0.15 to 203.4 l/min)
- 1-1/2" to 6" pipe sizes with customer specified lengths
- Material: Stainless steel
- Spray angles: 60°, 30° and 0°

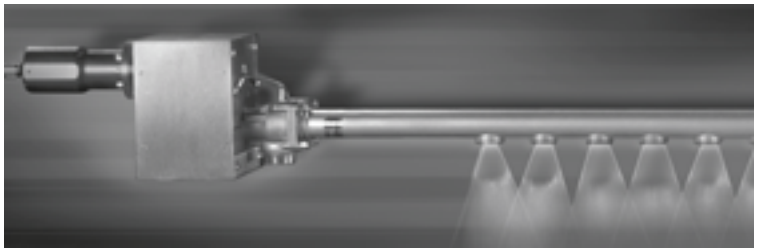
How to order:

Contact your local sales engineer with the following information for a no-obligation quotation.

- Pipe size
- Material
- No. of showers
- No. of nozzles per shower
- Nozzle orifice size
- Spray angle
- Operating pressure
- Total flow rate per shower
- Type of liquid being sprayed
- Machine manufacturer and model
- Control unit or control unit plus optional timer







PERFORMANCE – SPRAY HEADERS

*At the stated pressure in psi.

Spray Angle Degree at 60 psi	Nozzle Size Number	Orifice Diameter (in.)	Capacity (Gallons per minute)*				
			40	60	100	250	750
0	00004	.014	.04	.05	.06	.10	.17
	00007	.018	.07	.09	.11	.18	.30
	00009	.02	.09	.11	.14	.23	.39
	0001	.025	.13	.16	.21	.33	.56
	0002	.039	.23	.28	.36	.58	1.00
	0003	.047	.33	.40	.52	.83	1.43
	0004	.052	.43	.53	.68	1.08	1.86
	0008	.073	.79	.97	1.25	1.98	3.42
	0012	.094	1.24	1.52	1.96	3.10	5.37
	0020	.125	1.98	2.43	3.13	4.95	8.57
30	3002	.039	.23	.28	.36	.58	1.00
	3003	.047	.33	.40	.52	.83	1.43
	3004	.059	.43	.53	.68	1.08	1.86
	3006	.071	.61	.75	.96	1.53	2.64
	3008	.079	.79	.97	1.25	1.98	3.42
	3010	.089	1.02	1.25	1.61	2.55	4.42
	3012	.099	1.24	1.52	1.96	3.10	5.37
	3016	.110	1.61	1.97	2.55	4.03	6.97
	3020	.118	1.98	2.43	3.13	4.95	8.57
60	6002	.039	.23	.28	.36	0.58	1.00
	6003	.047	.33	.40	.52	0.83	1.43
	6004	.059	.43	.53	.68	1.08	1.86
	6006	.071	.61	.75	.96	1.53	2.64
	6008	.079	.79	.97	1.25	1.98	3.42
	6010	.089	1.02	1.25	1.61	2.55	4.42
	6012	.099	1.24	1.52	1.96	3.10	5.37
	6016	.110	1.61	1.97	2.55	4.03	6.97
	6020	.118	1.98	2.43	3.13	4.95	8.57
	6025	.138	2.56	3.14	4.05	6.4	11.09
	6031	.157	3.14	3.85	4.96	7.85	13.6
	6040	.177	4.03	4.94	6.37	10.08	17.45
	6049	.197	4.91	6.01	7.76	12.28	21.26
	6078	.236	7.85	9.62	12.41	19.63	33.99
	6099	.276	9.88	12.10	15.62	24.7	42.78
	60124	.315	12.41	15.20	19.62	31.03	53.74

FOR FAST AND EFFECTIVE BLOW-OFF AND DRYING, WINDJET NOZZLES ARE UNSURPASSED

For cleaning and drying cut sheets, rolls or other surfaces, our WindJet Air Control Nozzles, WindJet Air Knives and Air Cannons are cost-effective solutions.

AA707 and AA727 WindJet nozzles convert a low-pressure volume of compressed air into a targeted, high-velocity, concentrated stream or flat fan of high-impact air. This creates a better pattern than open pipes and/or drilled holes and ensures cost effective, streak-free drying.

AA707 WindJet nozzle specifications:

- 1/4" male inlet connection
- Produces a round spray pattern with minimum noise
- Extended ribs protect the recessed orifices from external damage
- Ribs provide an air escape should the nozzle be placed against a flat surface
- Materials: ABS plastic, aluminum, polyphenylene sulfide (PPS), stainless steel and PVDF
- Aluminum and stainless steel versions feature interchangeable caps that control air usage
- Aluminum caps are color-coded for easy identification of flow rates

AA727/Y727 WindJet nozzle specifications:

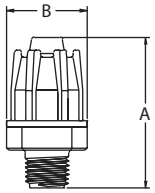
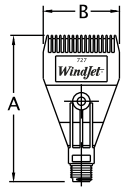
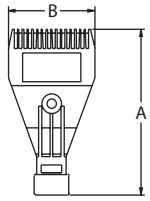
- 1/4" inlet connection
- Produces a flat fan spray pattern
- Air stream is discharged through 16 precision orifices
- Materials: ABS plastic, aluminum, polyphenylene sulfide (PPS) and stainless steel
- Produces a tightly directed flat spray pattern with minimum noise levels
- Extended ribs protect the recessed orifices against external damage
- Ribs also provide an air escape should the nozzle be placed against a flat surface and they accommodate a deep well socket
- A convenient mounting hole on the ABS, PPS and stainless steel versions ensures correct positioning on the header or manifold for fixed applications

PERFORMANCE — WINDJET NOZZLES

Inlet Conn. NPT or BSPT (in.)	Nozzle Type	Capacity Size	Cap* Color	Capacity (scfm)*			
				10	30	60	90
1/4	AA707	11	green	5.2	9.6	16.0	22.3
		15	yellow	6.4	12.4	21.0	29.4
		23	red	10.4	19.2	32.3	45.0
1/4	AA727 Y727	11	—	5.0	8.9	14.4	19.8
		15	—	6.8	12.8	21.3	29.6
		23	—	9.9	18.4	30.9	43.4

* Model AA707-AL (aluminum) only.

DIMENSIONS

Nozzle Type (Conn.)		Inlet Conn. (in.)	A (in.)	A (mm)	B (in.)	B (mm)	Net Weight (oz.)	Net Weight (kg)
	AA707 (M)	1/4	1-7/8	48	1	25	1.6	.05
	AA727 (M)	1/4	3-9/16	91	2	51	2.0	.06
	Y727 (F)	1/4	3-9/16	91	2	51	2.2	.06

ORDERING INFO

WindJet Nozzle

AA707 — 1/4 — AL — 11

Nozzle Type | Inlet Conn. | Material Code | Capacity Size

AA727 — 1/4 — RY — 15

Nozzle Type | Inlet Conn. | Material Code | Capacity Size

Y727 – AL

Nozzle Type | Material Code

WindJet Air Knife

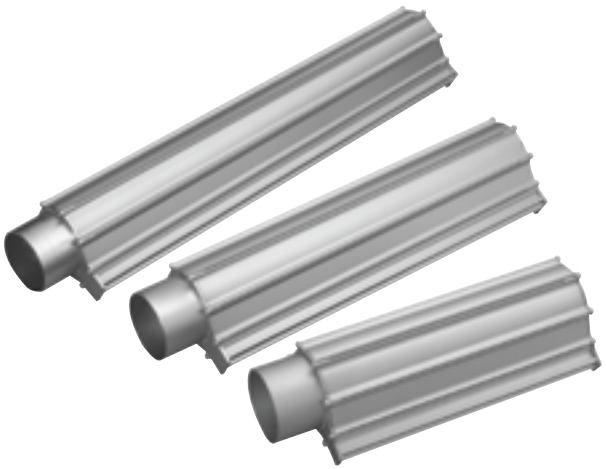
If your application allows nozzle placement close to the target and the ambient environment is clean, our WindJet Air knife is ideal for quick and even drying after washing or rinsing. The WindJet Air knife features a unique protruding leading edge that extends 1/8" beyond the air slot along the length of the knife. Because of this pronounced edge, the flow of air is directed out of the knife in a straight stream. This leads to a stream that retains its integrity in a more controlled manner.

The extended edge also improves the air entrainment around the Air Knife body. The WindJet Air Knife operates on the principles of the Coanda effect and air entrainment to provide a steady, consistent, high-volume stream of air. The longer edge of the Air Knife takes advantage of the Coanda effect, which induces the supplied air to attach itself to the surface of the knife. The integrity of the air stream is maintained further downstream and a condition conducive to the entraining of ambient air is present, increasing the total volume of air.

In addition to producing a uniform, controlled air stream, our leading edge helps application set-up. The extended edge provides a visual guide as to where the air stream is headed. It literally points out the direction of the flow, so you can accurately position the knife for optimum performance.

Specifications:

- Two air slot sizes: 0.04" (1.02 mm) and 0.06" (1.52 mm) for a higher flow rate
- 3" flanged air inlet with threaded mounting insert
- Available in six lengths: 6", 12", 18", 24", 30" and 36" (154, 305, 457, 610, 762, 914 mm)
- Standard lengths up to 3' (91.44 cm); custom lengths available
- Materials: Corrosion-resistant anodized aluminum or stainless steel for long life and durability



Our WindJet Air Knives are powered by electric regenerative blowers. These blowers offer performance comparable to more costly multi-stage or positive displacement blowers and operate trouble-free with minimal maintenance. Be sure to request more information about our complete WindJet Air knife Drying Packages.

Air Cannon

The 55155 Air Cannon delivers a high-velocity air stream into holes and crevices of irregularly shaped parts, perfect for beam blanks or extruded sections. The air cannon can also be used for blowing out or cleaning areas needing high air concentration, like in tubing applications.

Specifications:

- Materials: Anodized aluminum or 316 stainless steel
- Three orifice sizes – 1/2", 3/4" or 1" (12.7, 19.1 or 25.4 mm) diameter
- Built-in mounting spacer for easy repositioning
- Available separately or as part of an Air Knife drying package

Dimensions – WindJet Air Knife

Part Number	Knife Length (in.)	Air Slot (in.)	Material
50750-06-040	6	.040	Aluminum
50750-06-060	6	.060	Aluminum
50750-12-040	12	.040	Aluminum
50750-12-060	12	.060	Aluminum
50750-18-040	18	.040	Aluminum
50750-18-060	18	.060	Aluminum
50750-24-040	24	.040	Aluminum
50750-24-060	24	.060	Aluminum
50750-30-040	30	.040	Aluminum
50750-30-060	30	.060	Aluminum
50750-36-040	36	.040	Aluminum
50750-36-060	36	.060	Aluminum
50700-06-040	6	.040	Stainless Steel
50700-12-040	12	.040	Stainless Steel
50700-18-040	18	.040	Stainless Steel
50700-24-040	24	.040	Stainless Steel
50700-30-040	30	.040	Stainless Steel
50700-36-040	36	.040	Stainless Steel

Hundreds of Air Atomizing Options for Dozens of Cold Mill Operations

Air atomizing nozzles are among the most versatile of spray nozzle types with many diverse uses in mills. Zinc dip, galvanizing, soft quenching and oiling are just a few of the more common applications. Our line of air atomizing nozzles is extensive with a wide choice of air and liquid inlet locations, built-in strainers and check valves and multiple spray assemblies. Whether it be an application where drop size control is critical as in the galvanizing line or where rapid quenching is the goal, Spraying Systems Co. offers a wide variety of products with different operating characteristics. Plus, we offer a wide variety of materials, spray angles and flow rates. Various mounting options are also available.

Optimize the Performance of Your Automatic Spray Nozzles with Integrated Spray Control

Powered by SprayLogic® firmware and software, AutoJet® Spray Controllers accurately monitor and precisely adjust spray variables. Our controllers can monitor and control multiple spray nozzles or manifolds and include eight built-in regulation modes for open-loop or closed-loop spray control.

Adding an AutoJet Spray Controller can improve the performance and efficiency of air atomizing nozzles in a variety of ways:

- Accurately control liquid, atomizing air and fan pressures for proper drop size, flow rate and spray angle
- Increase cycle speed for automatic spray nozzles and control spray timing more precisely
- Easily program system setpoint parameters
- Use Pulse Width Modulation to improve the efficiency of electric spray nozzles
- Notify operators or shut down on specified faults
- Assist with troubleshooting spray system problems
- Integrate spray control with existing mill control systems

Variable Spray Air Atomizing Options Allow Fine-Tuning of Spray Performance

Our VAU and VMAU Air Atomizing nozzles allow you to adjust the atomizing air, fan air and liquid flow independently. For example, you can reduce the atomizing air to produce a larger drop size. Or, you can adjust the fan air line to regulate the spray pattern and coverage without affecting the drop size or flow rate. Independent control of the liquid flow also allows you to achieve various distribution patterns with the use of just one nozzle. An additional inlet/outlet port allows for liquid recirculation that effectively maintains the flow of viscous liquids such as oils.

The VMAU allows for a slightly finer adjustment of the spray for applications requiring high precision. It also features a modular design approach for maximum flexibility. Other unique features of the VMAU include:

- O-ring sealed air cap on the fluid tip for positive alignment and sealing
- Patent-pending modular body and threadless fluid tip design
- Available with anti-bearding set-ups
- Use of a baffling system for supplying the atomizing and fan air. This system distributes both the fan and atomizing air equally, providing a more uniform spray pattern.

Current VAU customers can easily change to the VMAU since the centerline distance and mounting thread is the same on both nozzles.

VAU nozzles are available with seven different spray set-ups with flows ranging from 0.74 to 47 gph (2.8 to 179 l/h). For complete performance data, request data sheets 37459-V67B, 37459-V67A, 37459-V67, 37459-V113A, 37459-V113, 37459-128 and 37459-V152.

VMAU nozzles can utilize any of eight different spray set-ups that provide flow rates ranging from 0.74 to 73 gph (2.8 to 276 l/h). The following chart provides liquid capacity data for each of the available set-ups. Refer to the data sheets listed for additional details and spray performance data.

PERFORMANCE – VMAU NOZZLES

*At the stated pressure in psi.

Spray Set-up Number	Liquid Capacity (Gallons per hour)*		Data Sheet Number
	3	20	
SUVM67A-SS	0.74	2.9	52530-001
SUVM67B-SS	1.1	1.9	52530-002
SUVM67-SS	2.2	5.6	52530-003
SUVM113A-SS	3.6	9.4	52530-004
SUVM113-SS	4.9	12.8	52530-005
SUVM128-SS	10.8	28	52530-006
SUVM152-SS	19	50	52530-007
SUVM189-SS	28	73	52530-008

ORDERING INFO

VMAU Air Atomizing Nozzle

1/4VMAU – 316SS (Model # | Material Code)

SUVM113A – 316SS (Spray Set-up | Material Code)

Note: body, actuator and spray set-up must be ordered separately.

STANDARD AIR ATOMIZING NOZZLES

Our J Series of air atomizing nozzles include:

Low-Capacity Series. Our 1/8J and 1/4J models range in capacity from 0.13 to 72 gph (0.49 to 280 l/h).

Medium-Capacity Series. Our 1/2J models range in capacity from 4.1 to 306 gph (15.5 to 1158 l/h).

High-Capacity Series. Our 1J models range in capacity from 24 to 1740 gph (91 to 6586 l/h).

These models are designed to operate at air pressures ranging from 10 to 60 psi (0.7 to 4.0 bar) and can be specified with pressure or siphon/gravity liquid-fed spray set-ups. They are available in an array of body styles and with a variety of options. Material choices include nickel-plated brass, 303 stainless steel, 316 stainless steel along with other machineable materials. All J Series nozzles are available in drip-free versions.

Detailed information on the options and performance of the air atomizing nozzles most commonly used in steel mills can be found in our Industrial Spray Products Catalog or by contacting your local sales representative.

J

- The J basic nozzle assembly features air and liquid inlets in opposite positions with an end plug. 1/8" and 1/4" inlet connections are available.

SINGLE AIR LINE

- The 6218-1/4JAU features a single air line used both for spray atomization and for operation of the air cylinder. The single air line is regulated at the desired "on/off" cycle time causing simultaneous flow of atomizing air and liquid. The nozzle operates up to 180 cycles per minute and requires a minimum air pressure of 30 psi (2 bar).

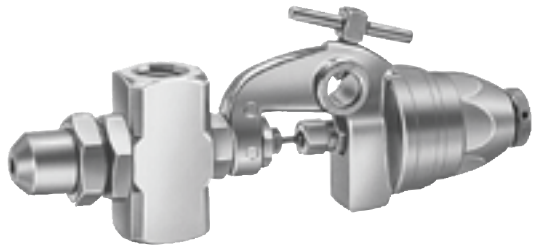
STANDARD

- The 1/4JAU features 1/4" NPT (F) air and liquid inlets and 1/8" NPT (F) control valve air inlets.

1/4 JAUH

- The 1/4JAUH is a compact air actuated automatic spray gun. It can be used with any UniJet® spray tip to provide precise automated control of intermittent spraying.

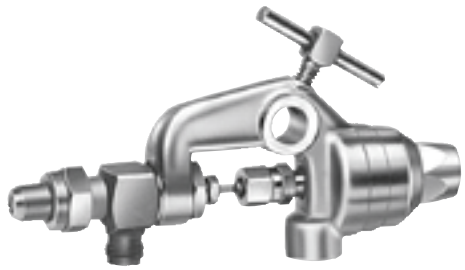
10535-1/4J, 10536-1/2J, 10537-1J



- The J Series Air Atomizing nozzles mix air and liquid supplied at line pressures up to 125 psi (9 bar) to produce fine atomization. The self-contained air cylinder provides controlled "on/off" operation at any desired frequency up to 180 cycles per minute. The J Series features a spray nozzle body assembly that is completely separate from the air cylinder assembly for minimal maintenance and fast, easy cleaning of the nozzle. The TEFLON® packings and gaskets in the nozzle withstand continuous use at temperatures up to 400°F (205°C) and the air cylinder packing is recommended for temperatures up to 150°F (65°C).

  Available with 1/4". 1/2" and 1" inlet connections.

22AUH



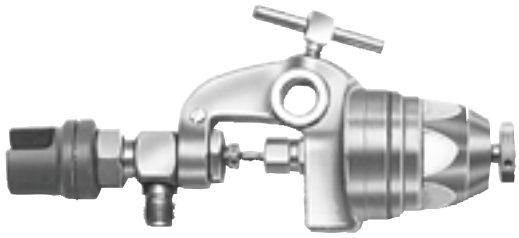
- A 1/2" (12.7 mm) diameter mounting hole and locking screw allows quick installation and positioning of the 22AUH Air Atomizing nozzle on a mounting bar. Constructed of brass with nickel-plated external surfaces, the 22AUH also features a TEFLON® valve seat and packings and stainless steel valve stem. A variety of spray tips are available in flat, hollow cone and full cone spray patterns. The 22AUH is also available with an inlet body and cap assembly of stainless steel.

  Cycles/min: 180

  Pressure: 600 psi (40 bar)

  Capacity: 2 gpm (7.6 l/min)

24AUA



- 24AUA Air Atomizing nozzles feature a 1/2" (12.7 mm) diameter mounting hole and locking screw for quick installation and easy positioning on a mounting bar. The shut-off needle and valve seat are available in tungsten carbide or stainless steel. The valve seat is located directly behind the spray tip for drip-free shut off. A rear knob locks the shut-off needle in place to prevent accidental discharge while changing spray tips. The liquid inlet connection is available in the standard down position or one of seven other positions in intervals of 45°.

  Cycles/min: 180

  Pressure: 4000 psi (280 bar)

  Capacity: 0.6 gpm (2.3 l/min)

24AUA-20190

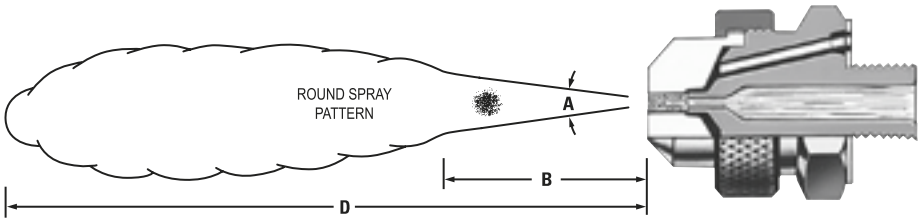
- Offering similar features to the standard 24AUA, this version has an aluminum support body and end cap for a total nozzle weight of 1.25 lbs (0.6 kg). Operating at liquid pressures up to 3000 psi (210 bar), the 24AUA-20190 requires a minimum air pressure of 42 psi (3 bar) for the air cylinder.

  Cycles/min: 180

  Pressure: 3000 psi (210 bar)

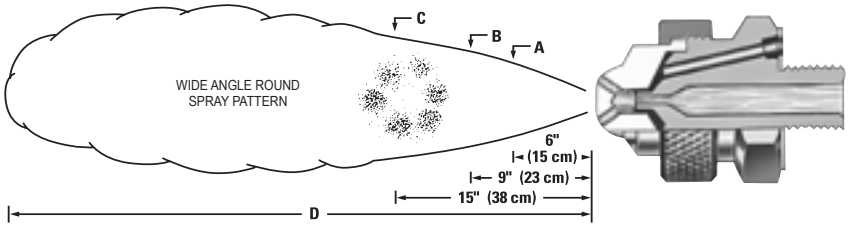
  Capacity: 0.6 gpm (2.3 l/min)

PERFORMANCE – AIR ATOMIZING ROUND SPRAY NOZZLES



Spray Set-up No.	Spray Set-up Consists of Fluid and Air Cap Combination	Liquid Capacity (gallons per hour) and Air Capacity (standard cubic feet per minute)															Spray Dimensions				
		Liquid Pressure (psi)																			
		10			20			30			40			60							
		Air Press. psi	gph	scfm	Air Press. psi	gph	scfm	Air Press. psi	gph	scfm	Air Press. psi	gph	scfm	Air Press. psi	gph	scfm	Air (psi)	Liquid (psi)	Spray Angle Degree A	B (in.)	D (ft.)
SU11	Fluid Cap 2050 + Air Cap 67147	10	0.66	0.55	14	1.5	0.4	24	1.68	0.56	32	1.86	0.68	50	2.28	0.98					
		12	0.48	0.67	18	1.23	0.5	28	1.44	0.63	36	1.62	.80	54	2.05	1.07	12	10	13	12	9
		14	0.36	0.78	22	0.99	0.63	32	1.08	0.82	40	1.32	0.93	58	1.8	1.19	24	20	13	13	10
		—	—	—	24	0.86	0.7	36	0.84	0.96	44	1.08	1.07	62	1.56	1.36	36	30	13	14	11
		—	—	—	26	0.72	0.76	38	0.72	1.03	48	0.85	1.23	66	1.32	1.52	44	40	14	15-1/2	12-1/2
		—	—	—	28	.60	0.82	40	0.66	1.11	50	0.72	1.33	68	1.23	1.58	62	60	15	17-1/2	14-1/2
		—	—	—	30	0.45	0.93	42	0.54	1.19	52	0.66	1.38	70	1.11	1.66					
SU12A	Fluid Cap 2050 + Air Cap 73160	10	0.66	0.66	18	1.44	0.87	24	1.98	1.0	30	2.4	1.14	40	3.3	1.36					
		12	0.54	0.77	20	1.32	0.98	28	1.68	1.17	34	2.16	1.29	46	2.94	1.54	12	10	12	17	12
		14	0.42	0.9	22	1.2	1.06	32	1.44	1.35	38	1.92	1.47	52	2.58	1.83	20	20	13	18	13
		—	—	—	24	1.08	1.16	34	1.32	1.46	42	1.62	1.68	58	2.28	2.09	34	30	13	19	14
		—	—	—	26	0.9	1.26	36	1.2	1.57	44	1.5	1.78	62	2.1	2.26	42	40	13	20	15
		—	—	—	—	—	—	38	1.11	1.66	46	1.38	1.88	66	1.86	2.46	58	60	15	22	17
		—	—	—	—	—	—	40	1.02	1.76	48	1.32	1.98	70	1.68	2.67					
SU12	Fluid Cap 2850 + Air Cap 73160	12	1.26	0.73	22	2.16	1.05	30	2.9	1.24	36	4.32	1.26	48	5.82	1.5					
		16	1.08	0.94	26	1.74	1.26	34	2.46	1.42	40	3.85	1.36	52	5.28	1.65	22	10	12	19	13
		20	0.9	1.15	30	1.44	1.47	38	2.1	1.65	44	3.55	1.56	56	4.92	1.73	34	20	13	20	14
		22	0.81	1.25	34	1.26	1.67	42	1.74	1.87	48	2.8	1.78	60	4.56	1.88	42	30	13	21	15
		24	0.78	1.36	38	1.08	1.87	46	1.5	2.03	52	2.46	2.01	64	4.08	2.08	48	40	14	22	16
		26	0.77	1.43	40	1.02	1.96	50	1.24	2.25	56	2.16	2.2	68	3.72	2.25	60	60	15	23-1/2	17-1/2
		28	0.76	1.56	42	0.94	2.04	52	1.2	2.36	60	1.86	2.36	70	3.6	2.34					
SU22B	Fluid Cap 40100 + Air Cap 1401110	16	3.44	2.68	28	5.03	3.71	40	6.1	4.72	48	7.75	5.3	65	10.7	6.74					
		20	2.35	3.2	32	3.7	4.17	44	5.03	5.17	55	5.95	6.07	75	8.67	7.73	24	10	18	26	16
		22	1.9	3.46	36	2.64	4.65	48	3.95	5.65	65	3.55	7.28	80	7.65	8.25	40	20	20	30	20
		24	1.54	3.7	40	1.85	5.13	55	2.3	6.5	75	1.95	8.5	85	6.65	8.8	55	30	20	32	22
		26	1.23	3.97	44	1.3	5.63	60	1.56	7.12	80	1.4	9.1	90	5.64	9.4	75	40	21	36	26
		28	0.96	4.22	48	0.9	6.1	65	1.08	7.75	85	1.0	9.7	95	4.63	10.0	85	60	21	38	30
		30	0.72	4.48	50	0.76	6.36	70	0.73	8.35	90	0.72	10.3	100	3.62	10.6					
SU22	Fluid Cap 60100 + Air Cap 1401110	12	8.1	2.0	20	13.6	2.55	30	16.3	3.25	38	19.5	3.74	54	25.7	4.66					
		14	6.6	2.32	22	12.0	2.85	34	13.1	3.75	42	16.5	4.2	60	21.8	5.34	14	10	17	24	16
		16	4.9	2.66	24	10.2	3.15	38	9.9	4.32	46	13.6	4.71	65	18.5	5.98	26	20	18	27	19
		18	3.4	3.0	26	8.6	3.45	40	8.7	4.61	50	10.8	5.3	70	15.2	6.68	40	30	20	30	22
		—	—	—	28	7.2	3.75	42	7.6	4.9	52	9.6	5.58	75	12.2	7.8	50	40	20	31	23
		—	—	—	30	5.9	4.05	44	6.6	5.2	54	8.6	5.85	80	10.0	8.14	70	60	21	36	28
		—	—	—	32	4.6	4.35	46	5.6	5.5	56	7.6	6.14	85	8.0	8.9					
SU42	Fluid Cap 100150 + Air Cap 1891125	14	11.7	3.05	20	27.5	3.04	28	36.6	3.55	32	49.4	3.31	42	70.6	3.17					
		16	8.5	3.6	22	23.0	3.49	30	32.6	3.96	36	42.2	4.1	46	65.0	3.85	14	10	19	35	20
		—	—	—	24	18.0	3.95	32	28.7	4.36	40	35.1	4.9	50	59.0	4.63	24	20	20	39	23
		—	—	—	26	14.4	4.4	34	24.8	4.78	44	28.0	5.66	54	53.2	5.4	34	30	21	41	25
		—	—	—	28	11.3	4.85	36	20.9	5.2	46	24.5	6.05	58	47.4	6.16	44	40	21	42	26
		—	—	—	—	—	—	38	17.5	5.6	48	21.3	6.45	65	37.8	7.54	54	60	22	46	30
		—	—	—	—	—	—	40	14.6	6.03	50	18.4	6.86	70	30.0	8.55					

PERFORMANCE — AIR ATOMIZING WIDE-ANGLE ROUND SPRAY NOZZLES

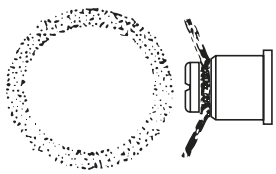


Spray Set-up No.	Spray Set-up Consists of Fluid and Air Cap Combination	Liquid Capacity (gallons per hour) and Air Capacity (standard cubic feet per minute)															Spray Dimensions					
		Liquid Pressure (psi)																				
		10			20			30			40			60								
		Air Press. psi	gph	scfm	Air Press. psi	gph	scfm	Air Press. psi	gph	scfm	Air Press. psi	gph	scfm	Air Press. psi	gph	scfm	Air (psi)	Liquid (psi)	A (in.)	B (in.)	C (in.)	D (ft.)
SU16	Fluid Cap 2050 + Air Cap 67-6-20-70°	8	1.41	0.36	14	2.1	0.42	22	2.36	0.56	30	2.53	0.68	44	2.95	0.81						
		10	1.14	0.43	16	1.9	.50	26	2.02	0.69	34	2.23	0.81	48	2.72	0.94	10	10	5-1/2	7	9	5
		12	0.79	.50	18	1.68	0.56	30	1.61	0.83	38	1.9	0.94	55	2.3	1.2	20	20	6	7-1/2	9-1/2	6
		14	0.45	.60	20	1.44	0.64	34	1.15	1.00	42	1.5	1.1	60	1.92	1.4	34	30	6-1/2	8	10	7
		—	—	—	22	1.17	0.71	36	0.91	1.07	46	1.1	1.26	65	1.5	1.6	42	40	6-1/2	8	10-1/2	9
		—	—	—	24	0.91	.80	38	0.68	1.16	48	.90	1.35	70	1.07	1.8	60	60	7-1/2	9	12	13
		—	—	—	26	0.55	.90	40	0.43	1.25	50	0.69	1.45	75	0.65	2.05						
SU26B	Fluid Cap 40100 + Air Cap 140-6-37-70°	12	1.85	1.78	22	3.3	2.3	30	5.1	2.54	38	6.4	2.84	54	8.76	3.44						
		14	0.55	2.2	24	2.2	2.67	32	4.25	2.85	42	4.7	3.42	56	8.1	3.74	12	10	7	9-1/2	12-1/2	6
		—	—	—	26	1.2	3.05	34	3.35	3.18	44	3.9	3.72	58	7.44	4.03	24	20	7-1/2	10	13	8
		—	—	—	—	—	—	36	2.5	3.5	46	3.06	4.05	60	6.76	4.32	34	30	7-1/2	10	13	10-1/2
		—	—	—	—	—	—	38	1.6	3.85	48	2.25	4.42	65	5.1	5.1	46	40	8	10-1/2	13-1/2	13-1/2
		—	—	—	—	—	—	40	.70	4.3	50	1.4	4.84	70	3.5	6.0	60	60	8-1/2	11	14-1/2	19-1/2
		—	—	—	—	—	—	—	—	—	52	.60	5.34	75	1.85	6.95						
SU26	Fluid Cap 60100 + Air Cap 140-6-37-70°	10	6.3	1.14	20	9	1.6	30	11.2	2.04	40	12.4	2.54	56	16.2	2.75						
		12	3.6	1.54	22	6.9	2.0	32	9.3	2.44	42	10.6	2.92	58	14.8	3.11	12	10	8	10	14	7
		14	2.0	2.00	24	5.1	2.4	34	7.4	2.8	44	8.8	3.33	60	13.8	3.5	22	20	8	10-1/2	14-1/2	10-1/2
		—	—	—	26	3.3	2.8	36	5.4	3.2	46	7.1	3.72	65	9.8	4.42	34	30	8	10-1/2	14-1/2	13-1/2
		—	—	—	—	—	—	38	3.6	3.6	48	5.4	4.14	70	6.5	5.36	46	40	8	11	15	16-1/2
		—	—	—	—	—	—	40	2.3	3.98	50	3.6	4.51	75	4.0	6.31	65	60	8	11	15-1/2	22-1/2
		—	—	—	—	—	—	—	—	—	52	2.2	4.91	80	2.4	6.51						
SU29	Fluid Cap 60100 + Air Cap 140-6-52-70°	18	9.4	3.0	30	13.4	4.15	44	15.3	5.45	60	15.6	7.05	80	21.4	8.55						
		22	7.7	3.6	34	11.9	4.65	48	13.8	5.9	70	12.5	8.25	85	19.5	9.15	28	10	8	10	13	18
		26	6.0	4.13	38	10.3	5.1	55	11.3	6.75	80	9.3	9.45	90	17.9	9.75	42	20	8	10-1/2	13-1/2	21
		28	5.2	4.4	42	8.9	5.6	65	7.8	8.0	85	7.8	10.05	95	16.5	10.35	65	30	8-1/2	11	14-1/2	27
		30	4.4	4.7	46	7.3	6.1	70	6.1	8.6	90	6.2	10.7	100	15.1	10.95	85	40	9	11-1/2	15	30
		32	3.7	5.0	50	5.8	6.65	75	4.5	9.25	95	4.8	11.3	—	—	—	90	60	9-1/2	12-1/2	16	34
		34	3.0	5.25	60	2.4	7.95	80	3.3	9.85	100	3.7	11.9	—	—	—						
SU30	Fluid Cap 40100 + Air Cap 120-6-35-60°	16	3.24	1.43	28	4.6	1.96	42	5.27	2.67	55	5.69	3.3	80	7.1	4.5						
		18	2.61	1.59	32	3.37	2.27	46	4.0	2.96	60	4.24	3.68	85	5.8	4.88	22	10	6	7-1/2	9	9
		20	2.08	1.75	36	2.45	2.55	48	3.45	3.11	65	3.15	4.06	90	4.65	5.27	40	20	6-1/2	8	9-1/2	15
		22	1.62	1.9	40	1.75	2.85	50	3.03	3.26	70	2.31	4.44	95	3.75	5.65	50	30	6-1/2	8	9-1/2	18
		24	1.3	2.06	42	1.45	3.0	55	2.11	3.63	75	1.72	4.82	100	3.0	6.03	70	40	7	8-1/2	10	24
		26	1.04	2.2	44	1.21	3.14	60	1.47	3.98	80	1.32	5.2	—	—	—	90	60	7-1/2	9-1/2	11	31
		28	0.82	2.35	46	1.0	3.28	65	1.03	4.36	85	1.05	5.58	—	—	—						
SU46	Fluid Cap 100150 + Air Cap 189-6-62-70°	24	6.7	5.5	38	10.7	7.4	48	16.5	8.8	60	18.6	10.4	85	29.2	13.7						
		26	5.2	5.9	42	7.6	8.3	52	12.5	9.6	65	13.7	11.4	90	24.6	14.7	28	10	9-1/2	13	18	18
		28	4.0	6.3	44	6.2	8.7	56	9.2	10.4	70	10.0	12.4	95	20.7	15.8	46	20	10	13-1/2	18-1/2	21
		30	3.0	6.8	46	5.0	9.1	60	6.6	11.3	75	7.4	13.5	100	17.5	16.9	60	30	11	14-1/2	20	24
		32	2.0	7.2	48	4.0	9.5	62	5.6	11.7	80	5.5	14.5	—	—	—	75	40	11-1/2	15	21	26
		—	—	—	50	3.0	9.9	65	4.4	12.3	85	4.0	15.5	—	—	—	90	60	13	16-1/2	23	32
		—	—	—	52	2.4	10.3	70	2.6	13.3	90	2.5	16.6	—	—	—						

Performance – Air Atomizing Deflected Flat Spray Nozzles

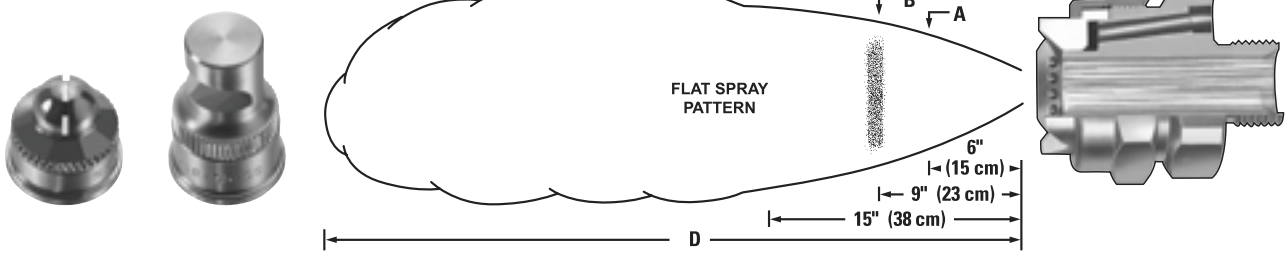
Spray Set-up No.	Spray Set-up Consists of Fluid and Air Cap Combination	Liquid Capacity (gallons per hour) and Air Capacity (standard cubic feet per minute)														
		Liquid Pressure (psi)														
		10			20			30			40			60		
		Air Press. psi	gph	scfm	Air Press. psi	gph	scfm	Air Press. psi	gph	scfm	Air Press. psi	gph	scfm	Air Press. psi	gph	scfm
SU240E	Fluid Cap 28150 + Air Cap 189110-75°	6	2.9	1.6	14	3.9	2.6	22	4.7	3.3	26	5.8	3.6	38	7.4	4.6
		8	2.5	1.9	16	3.5	2.8	24	4.3	3.6	32	4.8	4.4	46	6.4	5.5
		10	2.0	2.3	18	3.1	3.1	26	4.0	3.8	38	3.8	5.3	54	5.3	6.6
		12	1.5	2.7	20	2.8	3.5	30	3.3	4.5	44	2.8	6.2	62	4.2	7.8
		-	-	-	22	2.3	3.8	34	2.3	5.2	46	2.3	6.6	70	2.8	9.4

Performance – Air Atomizing 360˚ Circular Spray Nozzles



Spray Set-up No.	Spray Set-up Consists of Fluid and Air Cap Combination	Liquid Capacity (gallons per hour) and Air Capacity (standard cubic feet per minute)														
		Liquid Pressure (psi)														
		10			20			30			40			60		
		Air Press. psi	gph	scfm	Air Press. psi	gph	scfm	Air Press. psi	gph	scfm	Air Press. psi	gph	scfm	Air Press. psi	gph	scfm
SU340C	Fluid Cap 60150 + Air Cap 189-6-62-160HC	20	4.0	2.45	34	6.6	4.09	50	7.1	6.38	60	11.0	7.6	85	14.4	11.8
		22	2.8	2.7	38	4.4	4.8	52	6.2	6.75	65	8.3	8.63	90	12.0	13.0
		24	2.0	2.97	42	2.8	5.5	56	4.4	7.55	70	6.1	9.78	95	9.8	14.1
		26	1.5	3.3	46	1.7	6.34	60	3.2	8.41	80	3.1	12.44	100	7.8	15.4
		28	1.1	3.62	48	1.3	6.85	70	1.3	11.75	90	1.4	15.4	—	—	—

PERFORMANCE – AIR ATOMIZING FLAT SPRAY NOZZLES

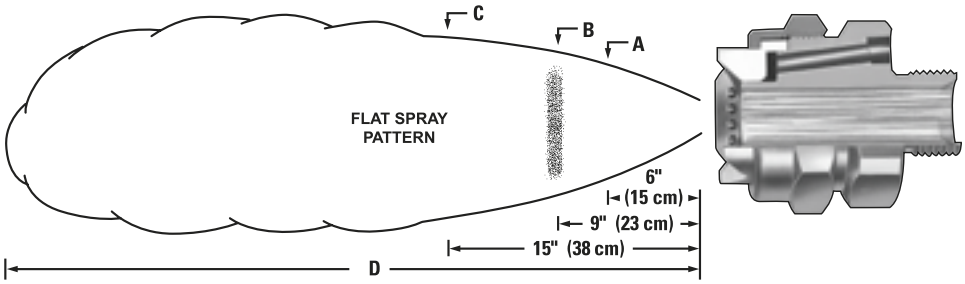


Spray Set-up No.	Spray Set-up Consists of Fluid and Air Cap Combination	Liquid Capacity (gallons per hour) and Air Capacity (standard cubic feet per minute)															Spray Dimensions					
		Liquid Pressure (psi)																				
		10			20			30			40			60								
		Air Press. psi	gph	scfm	Air Press. psi	gph	scfm	Air Press. psi	gph	scfm	Air Press. psi	gph	scfm	Air Press. psi	gph	scfm	Air (psi)	Liquid (psi)	A (in.)	B (in.)	C (in.)	D (ft.)
SU13A	Fluid Cap 2050 + Air Cap 73328	10	1.44	0.84	18	2.17	1.12	28	2.49	1.47	38	2.77	1.84	55	3.41	2.43						
		12	1.25	0.96	22	1.82	1.31	32	2.19	1.64	42	2.49	2.01	65	2.83	2.85	16	10	10	14	18	8-1/2
		14	1.09	1.08	26	1.5	1.5	36	1.89	1.82	46	2.2	2.19	75	2.26	3.26	30	20	14	19	26	10
		16	0.93	1.2	30	1.2	1.68	40	1.58	2.0	50	1.93	2.37	85	1.69	3.67	40	30	15	21	30	10-1/2
		18	0.79	1.32	34	0.93	1.87	44	1.3	2.18	60	1.25	2.81	90	1.4	3.88	50	40	18-1/2	24	34	11
		20	0.65	1.43	38	0.68	2.07	48	1.03	2.36	65	0.93	3.02	95	1.13	4.09	85	60	22	29	37	13
		22	0.53	1.55	40	0.57	2.16	55	0.65	2.68	70	0.65	3.25	100	0.88	4.29						
SU13	Fluid Cap 2850 + Air Cap 73328	12	2.17	0.7	20	3.35	0.96	30	3.98	1.27	38	4.66	1.49	65	4.8	2.38						
		14	1.8	0.82	24	2.71	1.14	34	3.41	1.45	42	4.14	1.65	70	4.21	2.62	16	10	14	18	28	7
		16	1.45	0.95	28	2.06	1.34	38	2.85	1.64	46	3.6	1.85	75	3.63	2.86	30	20	17	24	32	8
		18	1.08	1.07	30	1.76	1.45	42	2.29	1.85	50	3.08	2.05	80	3.05	3.1	42	30	20	26	35	8-1/2
		20	0.77	1.2	32	1.44	1.56	46	1.72	2.07	60	1.76	2.58	85	2.48	3.35	50	40	23	30	38	9
		—	—	—	34	1.18	1.67	48	1.43	2.18	65	1.2	2.84	90	1.98	3.6	80	60	23	30	38	10-1/2
		—	—	—	36	.94	1.78	50	1.2	2.28	70	0.76	3.09	95	1.57	3.85						
SUN13	Fluid Cap 2850 + Air Cap 73335	14	2.4	0.89	22	3.2	1.13	34	3.4	1.63	40	4.4	1.77	60	5	2.53						
		16	2.1	1.05	26	2.8	1.38	38	2.9	1.86	44	3.8	1.99	65	4.4	2.73	20	10	4	5	7	10
		18	1.7	1.14	30	2.1	1.62	42	2.3	2.07	48	3.3	2.22	70	3.9	3.0	34	20	5	6	8	12
		20	1.4	1.26	34	1.5	1.87	46	1.8	2.36	54	2.6	2.55	75	3.4	3.25	46	30	5	7	9	13
		24	0.81	1.54	38	1.2	2.1	50	1.4	2.58	60	1.9	2.98	80	3.0	3.57	54	40	6	9	11	14
		28	0.54	1.76	42	0.72	2.38	60	.60	3.16	70	1.1	3.53	90	2.3	4.12	75	60	8	10	13	16
		32	.30	1.96	48	0.39	2.69	70	0.33	3.65	85	0.4	4.27	100	2.0	4.65						
SU14	Fluid Cap 2850 + Air Cap 73320	18	1.04	1.05	30	1.56	1.43	42	2.06	1.75	55	2.16	2.15	75	3.2	2.66						
		20	0.8	1.15	34	1.1	1.61	44	1.8	1.85	60	1.6	2.38	80	2.66	2.9	22	10	10	13	18	6
		22	0.62	1.25	36	.90	1.7	46	1.57	1.94	65	1.15	2.62	85	2.19	3.13	38	20	14	20	27	6-1/2
		24	0.47	1.35	38	0.74	1.79	48	1.35	2.04	70	0.76	2.85	90	1.75	3.36	46	30	23	29	36	6-1/2
		26	0.35	1.45	40	0.6	1.88	50	1.13	2.13	—	—	—	—	—	—	60	40	24	29	37	7
		28	0.25	1.55	42	0.47	1.97	55	.70	2.36	—	—	—	—	—	—	80	60	25	30	38	7-1/2
		—	—	—	44	0.35	2.07	—	—	—	—	—	—	—	—	—						

PERFORMANCE – AIR ATOMIZING FLAT SPRAY NOZZLES

Spray Set-up No.	Spray Set-up Consists of Fluid and Air Cap Combination	Liquid Capacity (gallons per hour) and Air Capacity (standard cubic feet per minute)															Spray Dimensions					
		Liquid Pressure (psi)																				
		10			20			30			40			60								
		Air Press. psi	gph	scfm	Air Press. psi	gph	scfm	Air Press. psi	gph	scfm	Air Press. psi	gph	scfm	Air Press. psi	gph	scfm	Air (psi)	Liquid (psi)	A (in.)	B (in.)	C (in.)	D (ft.)
SUN23	Fluid Cap 60100 + Air Cap 125340	14	4.5	0.8	24	7.5	1.24	34	9.5	1.74	44	11.1	2.2	56	19.8	2.56						
		16	2.9	0.97	26	6.0	1.44	36	7.8	1.96	46	9.7	2.46	60	16.7	2.97	16	10	4	5	6	8
		18	2.0	1.17	28	4.5	1.68	38	6.5	2.2	48	8.4	2.69	65	13.5	3.5	30	20	4	5	7	10
		20	0.84	1.42	30	3.4	1.82	40	5.2	2.53	52	5.7	3.3	70	9.7	4.33	40	30	5	7	9	11
		—	—	—	32	2.4	2.06	42	4.1	2.65	56	3.9	3.84	80	4.8	5.73	52	40	6	8	11	12
		—	—	—	34	1.3	2.32	46	2.6	3.25	60	2.4	4.36	90	1.8	7.4	70	60	8	10	14	13
		—	—	—	36	.80	2.61	50	1.1	3.72	65	1.1	5.04	95	.70	8.38						
SU23B	Fluid Cap 40100 + Air Cap 125328	16	2.95	1.92	28	4.45	2.66	38	5.94	3.22	46	7.5	3.66	65	9.7	4.8						
		18	2.25	2.1	30	3.87	2.84	40	5.4	3.4	50	6.45	3.97	70	8.6	5.2	20	10	6	7	8	10
		20	1.72	2.3	32	3.3	3.04	42	4.86	3.55	52	5.9	4.15	75	7.5	5.6	32	20	9	11	13	10-1/2
		22	1.32	2.5	34	2.78	3.22	44	4.32	3.74	54	5.4	4.32	80	6.4	6.0	42	30	10	13	18	11
		24	1.00	2.7	36	2.28	3.4	46	3.78	3.93	56	4.87	4.5	85	5.3	6.48	54	40	12	15	18	11-1/2
		—	—	—	—	—	—	48	3.25	4.12	58	4.34	4.7	90	4.25	6.96	75	60	13	16	19	13
		—	—	—	—	—	—	—	—	—	60	3.84	4.9	—	—	—						
SU23	Fluid Cap 60100 + Air Cap 125328	12	7	1.15	22	11.5	1.65	34	12.4	2.2	46	13.7	2.75	65	18.3	3.56						
		14	5.4	1.35	26	8.3	2.02	38	9.8	2.57	50	10.9	3.14	75	12.6	4.47	16	10	7	9	12	11
		16	4.2	1.57	30	6.0	2.4	42	7.8	2.95	54	8.7	3.51	80	10.6	4.95	32	20	9	12	16	11-1/2
		18	3.3	1.69	32	5.1	2.6	46	5.9	3.34	56	7.8	3.7	85	8.7	5.4	46	30	10	13	17	12
		20	2.7	1.97	34	4.3	2.78	48	5.0	3.52	60	6.4	4.06	90	6.9	5.85	56	40	12	15	19	12-1/2
		22	2	2.2	36	3.6	2.97	50	4.3	3.71	65	4.6	4.53	95	5.5	6.3	85	60	13	16	20	14-1/2
		—	—	—	38	3.0	3.16	52	3.7	3.9	70	3.3	5.0	100	4.5	6.76						
SU43	Fluid Cap 100150 + Air Cap 189351	14	7.7	3.17	26	10.5	4.55	34	20.8	4.75	42	29.4	5.15	58	44.7	6.05						
		16	5	3.83	28	7.0	5.15	36	16.6	5.25	44	25.1	5.6	60	41.0	6.42	14	10	7	8	10	11
		—	—	—	—	—	—	38	12.8	5.8	46	20.8	6.05	65	31.4	7.45	26	20	10	12	17	12-1/2
		—	—	—	—	—	—	40	9.5	6.35	48	16.7	6.6	70	22.5	8.75	38	30	10	12	18	14
		—	—	—	—	—	—	42	6.7	6.85	50	13.1	7.15	75	15.0	10.1	48	40	13	16	21	15
		—	—	—	—	—	—	—	—	—	52	10.0	7.75	80	8.7	11.45	70	60	14	17	23	17
		—	—	—	—	—	—	—	—	—	54	7.3	8.3	—	—	—						

PERFORMANCE – AIR ATOMIZING FLAT EXTERNAL MIX SPRAY NOZZLES



Spray Set-up No.	Spray Set-up Consists of Fluid and Air Cap Combination	Liquid Capacity (gallons per hour) and Air Capacity (standard cubic feet per minute)															Spray Dimensions					
		Liquid Pressure (psi)																				
		3			5			10			20			40								
		Air Press. psi	scfm	gph	Air Press. psi	scfm	gph	Air Press. psi	scfm	gph	Air Press. psi	scfm	gph	Air Press. psi	scfm	gph	Air (psi)	Liquid (psi)	A (in.)	B (in.)	C (in.)	D (ft.)
SUE15B	Fluid Cap 1650 + Air Cap 67228-45°	3	0.89	.80	5	0.93	1.0	10	1.1	1.4	20	1.6	2.0	40	2.6	2.8	3	3	3-1/2	6	9	3
		5	0.93	.80	10	1.1	1.0	15	1.4	1.4	25	1.9	2.0	50	3.0	2.8	15	3	3-1/2	6	9	4
		10	1.1	.80	15	1.4	1.0	20	1.6	1.4	30	2.1	2.0	60	3.6	2.8	20	5	4	6	9	4
		15	1.4	.80	20	1.6	1.0	25	1.9	1.4	40	2.6	2.0	70	4.2	2.8	20	20	4-1/2	7	10	5
		20	1.6	.80	25	1.9	1.0	30	2.1	1.4	50	3.0	2.0	75	4.5	2.8	25	10	4-1/2	6	9-1/2	5
		25	1.9	.80	30	2.1	1.0	40	2.6	1.4	60	3.6	2.0	80	4.9	2.8	40	20	5	7	11	6
		30	2.1	.80	40	2.6	1.0	50	3.0	1.4	80	4.9	2.0	90	5.6	2.8	70	40	6	7	9-1/2	8
SUE18B	Fluid Cap 1650 + Air Cap 62240-60°	5	0.78	.80	5	0.78	1.0	6	0.88	1.4	8	1.0	2.0	10	1.2	2.8	8	20	11	14	18	6
		6	0.88	.80	6	0.88	1.0	8	1.0	1.4	10	1.2	2.0	15	1.6	2.8	15	20	11	13	17	8
		7	0.97	.80	8	1.0	1.0	10	1.2	1.4	15	1.6	2.0	25	2.2	2.8	20	20	10	12	16	9
		8	1.0	.80	10	1.2	1.0	12	1.4	1.4	20	1.9	2.0	35	2.8	2.8	15	30	11	14	19	8-1/2
SUE15A	Fluid Cap 2050 + Air Cap 67228-45°	5	0.93	1.2	10	1.1	1.6	15	1.4	2.2	25	1.9	3.1	45	2.9	4.4	5	3	3	5-1/2	8-1/2	3-1/2
		10	1.1	1.2	15	1.4	1.6	20	1.6	2.2	30	2.1	3.1	50	3.0	4.4	20	3	3-1/2	6	8-1/2	5-1/2
		15	1.4	1.2	20	1.6	1.6	25	1.9	2.2	40	2.6	3.1	60	3.6	4.4	25	5	4	6-1/2	9	6
		20	1.6	1.2	25	1.9	1.6	30	2.1	2.2	50	3.0	3.1	70	4.2	4.4	25	20	5	7-1/2	11-1/2	7
		25	1.9	1.2	30	2.1	1.6	40	2.6	2.2	60	3.6	3.1	75	4.5	4.4	30	10	5	7	10	6
		30	2.1	1.2	40	2.6	1.6	50	3.0	2.2	70	4.2	3.1	90	5.6	4.4	50	20	5	8-1/2	12	8
		40	2.6	1.2	50	3.0	1.6	60	3.6	2.2	90	5.6	3.1	95	5.8	4.4	75	40	6	7-1/2	10	10
SUE18A	Fluid Cap 2050 + Air Cap 62240-60°	5	0.78	1.2	5	0.78	1.6	8	1.0	2.2	10	1.2	3.1	15	1.6	4.4	15	10	12	15	19	7
		8	1.0	1.2	10	1.2	1.6	10	1.2	2.2	20	1.9	3.1	20	1.9	4.4	10	20	15	18	23	6
		10	1.2	1.2	15	1.6	1.6	20	1.9	2.2	30	2.5	3.1	30	2.5	4.4	20	20	14	17	22	8
		15	1.6	1.2	20	1.9	1.6	30	2.5	2.2	35	2.8	3.1	35	2.8	4.4	35	20	13	16	20	10
SUE15	Fluid Cap 2850 + Air Cap 67228-45°	10	1.1	2.3	15	1.4	3.0	20	1.6	4.2	35	2.4	6.0	50	3.0	8.4	10	3	5	6-1/2	10	4
		15	1.4	2.3	20	1.6	3.0	25	1.9	4.2	40	2.6	6.0	60	3.6	8.4	25	3	5	6-1/2	10	6
		20	1.6	2.3	25	1.9	3.0	30	2.1	4.2	50	3.0	6.0	70	4.2	8.4	30	5	5	7	9-1/2	6
		25	1.9	2.3	30	2.1	3.0	40	2.6	4.2	60	3.6	6.0	75	4.5	8.4	35	20	5-1/2	8	12-1/2	6
		30	2.1	2.3	40	2.6	3.0	50	3.0	4.2	70	4.2	6.0	80	4.9	8.4	40	10	5-1/2	7-1/2	12	7-1/2
		40	2.6	2.3	50	3.0	3.0	60	3.6	4.2	80	4.9	6.0	90	5.6	8.4	60	20	5-1/2	8	14	10
		50	3.0	2.3	60	3.6	3.0	70	4.2	4.2	90	5.6	6.0	100	6.2	8.4	75	40	6-1/2	8	12	13
SUE18	Fluid Cap 2850 + Air Cap 62240-60°	6	0.88	2.3	6	0.88	3.0	6	0.88	4.2	10	1.2	6.0	20	1.9	8.4	8	10	14	19	25	5
		7	0.97	2.3	8	1.0	3.0	8	1.0	4.2	12	1.4	6.0	25	2.2	8.4	10	20	15	19	25	6
		8	1.0	2.3	9	1.1	3.0	10	1.2	4.2	15	1.6	6.0	30	2.5	8.4	15	20	16	20	26	7
		10	1.2	2.3	10	1.2	3.0	12	1.4	4.2	20	1.9	6.0	35	2.8	8.4	20	20	17	21	26	8

PERFORMANCE – AIR ATOMIZING FLAT EXTERNAL MIX SPRAY NOZZLES

Spray Set-up No.	Spray Set-up Consists of Fluid and Air Cap Combination	Liquid Capacity (gallons per hour) and Air Capacity (standard cubic feet per minute)															Spray Dimensions					
		Liquid Pressure (psi)																				
		3			5			10			20			40								
		Air Press. psi	scfm	gph	Air Press. psi	scfm	gph	Air Press. psi	scfm	gph	Air Press. psi	scfm	gph	Air Press. psi	scfm	gph	Air (psi)	Liquid (psi)	A (in.)	B (in.)	C (in.)	D (ft.)
SUE25B	Fluid Cap 35100 + Air Cap 134255-45°	10	3.0	3.6	15	3.6	4.7	20	4.1	6.6	35	6.3	9.4	45	7.5	13.2	10	3	5	7-1/2	10	5-1/2
		15	3.6	3.6	20	4.1	4.7	25	4.9	6.6	40	6.9	9.4	50	8.2	13.2	25	3	5	7-1/2	10	9
		20	4.1	3.6	25	4.9	4.7	30	5.5	6.6	50	8.0	9.4	55	9	13.2	30	5	6	7-1/2	11	10
		25	4.9	3.6	30	5.5	4.7	35	6.3	6.6	60	9.4	9.4	60	9.7	13.2	35	10	6	8-1/2	11	11-1/2
		30	5.5	3.6	40	6.9	4.7	40	6.9	6.6	70	11.0	9.4	70	11.1	13.2	35	20	6-1/2	9	14	12
		40	6.9	3.6	50	8.0	4.7	50	8.0	6.6	80	12.7	9.4	80	12.7	13.2	60	20	6-1/2	9	14-1/2	14
		50	8.0	3.6	60	9.4	4.7	60	9.4	6.6	90	14.5	9.4	90	14.5	13.2	70	40	6-1/2	8-1/2	12-1/2	16
SUE28B	Fluid Cap 35100 + Air Cap 122281-60	8	3.2	3.6	10	3.6	4.7	20	5.5	6.6	30	7.4	9.4	45	10.0	13.2	30	20	14	18	23	13
		10	3.6	3.6	15	4.6	4.7	30	7.4	6.6	40	9.1	9.4	60	12.6	13.2	45	20	15	19	26	15
		15	4.6	3.6	25	6.5	4.7	35	8.3	6.6	50	10.9	9.4	75	15.2	13.2	60	20	15	19	25	17
		20	5.5	3.6	30	7.4	4.7	40	9.1	6.6	60	12.6	9.4	80	16.0	13.2	55	30	16	20	27	15
SUE25A	Fluid Cap 40100 + Air Cap 134255-45°	10	3.0	4.8	20	4.1	6.1	25	4.9	8.7	40	6.9	12.3	50	8.2	17.4	10	3	6	7-1/2	10-1/2	7
		15	3.6	4.8	25	4.9	6.1	30	5.5	8.7	45	7.5	12.3	60	9.7	17.4	25	3	6	7-1/2	10-1/2	10
		20	4.1	4.8	30	5.5	6.1	35	6.3	8.7	50	8.0	12.3	70	11.1	17.4	35	5	6	8-1/2	13	11
		25	4.9	4.8	35	6.3	6.1	40	6.9	8.7	60	9.4	12.3	75	12.0	17.4	40	10	6	8-1/2	14	12-1/2
		30	5.5	4.8	40	6.9	6.1	50	8.0	8.7	70	11.0	12.3	80	12.7	17.4	40	20	6-1/2	10	14-1/2	13
		40	6.9	4.8	50	8.0	6.1	60	9.4	8.7	80	12.7	12.3	90	14.5	17.4	60	20	6-1/2	10	14-1/2	16
		50	8.0	4.8	60	9.4	6.1	70	11.0	8.7	90	14.5	12.3	95	15.1	17.4	75	40	7	9	14	19
SUE28A	Fluid Cap 40100 + Air Cap 122281-60°	8	3.2	4.8	10	3.6	6.1	15	4.6	8.7	35	8.3	12.3	50	10.9	17.4	25	10	14	19	25	10
		15	4.6	4.8	20	5.5	6.1	25	6.5	8.7	45	10.0	12.3	65	13.5	17.4	35	20	15	18	25	12-1/2
		20	5.5	4.8	25	6.5	6.1	35	8.3	8.7	55	11.7	12.3	85	16.8	17.4	45	20	13	17	24	14
		25	6.5	4.8	30	7.4	6.1	40	9.1	8.7	60	12.6	12.3	95	18.5	17.4	60	20	12	17	23	16
SUE28	Fluid Cap 60100 + Air Cap 122281-60°	10	3.6	9.9	15	4.6	12.7	25	6.5	18.0	45	10.0	25.5	75	15.2	36.0	40	10	18	23	32	13
		15	4.6	9.9	20	5.5	12.7	30	7.4	18.0	50	10.9	25.5	85	16.8	36.0	45	20	19	23	31	14
		20	5.5	9.9	30	7.4	12.7	40	9.1	18.0	70	14.3	25.5	95	18.5	36.0	65	20	17	21	30	16
		25	6.5	9.9	35	8.3	12.7	45	10.0	18.0	80	16.0	25.5	100	19.4	36.0	80	20	15	20	26	19
SUE25	Fluid Cap 60100 + Air Cap 134255-45°	15	3.6	9.9	25	4.9	12.7	35	6.3	18.0	45	7.5	25.5	55	9.0	36.0	15	3	6	8	10	9
		20	4.1	9.9	30	5.5	12.7	40	6.9	18.0	50	8.0	25.5	60	9.7	36.0	30	3	6	8-1/2	11-1/2	10
		25	4.9	9.9	35	6.3	12.7	45	7.5	18.0	55	8.7	25.5	65	10.5	36.0	40	5	7	9-1/2	14	11-1/2
		30	5.5	9.9	40	6.9	12.7	50	8.0	18.0	60	9.4	25.5	70	11.1	36.0	45	20	8	11	15-1/2	12
		35	6.3	9.9	45	7.5	12.7	60	9.4	18.0	70	11.0	25.5	80	12.7	36.0	50	10	7-1/2	10-1/2	15	13
		40	6.9	9.9	50	8.0	12.7	70	11.0	18.0	80	12.7	25.5	90	14.5	36.0	60	20	8	11	15-1/2	14
		50	8.0	9.9	60	9.4	12.7	80	12.7	18.0	90	14.5	25.5	100	16.0	36.0	80	40	7	9-1/2	15	19-1/2
SUE45B	Fluid Cap 60150 + Air Cap 200278-45°	25	8.3	10.0	25	8.3	12.9	35	10.5	18.0	55	14.5	25.5	—	—	—	25	3	6	8	11-1/2	10
		30	9.2	10.0	30	9.2	12.9	40	11.6	18.0	60	15.7	25.5	—	—	—	40	3	6	8	12	11
		35	10.5	10.0	35	10.5	12.9	45	12.5	18.0	65	17.0	25.5	—	—	—	40	5	6	8	12	13
		40	11.6	10.0	40	11.6	12.9	50	13.4	18.0	70	18.4	25.5	—	—	—	50	10	6-1/2	8-1/2	12-1/2	14
		45	12.5	10.0	45	12.5	12.9	55	14.5	18.0	75	20.0	25.5	—	—	—	55	20	6-1/2	8-1/2	13-1/2	15
		50	13.4	10.0	50	13.4	12.9	60	15.7	18.0	80	21.2	25.5	—	—	—	60	15	6-1/2	9	13	15-1/2
		60	15.7	10.0	60	15.7	12.9	70	18.4	18.0	90	24.2	25.5	—	—	—	70	20	6-1/2	9	13-1/2	18

PERFORMANCE – AIR ATOMIZING FLAT EXTERNAL MIX SPRAY NOZZLES

Spray Set-up No.	Spray Set-up Consists of Fluid and Air Cap Combination	Liquid Capacity (gallons per hour) and Air Capacity (standard cubic feet per minute)															Spray Dimensions					
		Liquid Pressure (psi)																				
		3			5			10			20			40								
		Air Press. psi	scfm	gph	Air Press. psi	scfm	gph	Air Press. psi	scfm	gph	Air Press. psi	scfm	gph	Air Press. psi	scfm	gph	Air (psi)	Liquid (psi)	A (in.)	B (in.)	C (in.)	D (ft.)
SUE45A	Fluid Cap 80150 + Air Cap 200278-45°	30	9.2	17.4	40	11.6	22.5	55	14.5	31.5	70	18.4	44.7	—	—	—	30	3	6-1/2	9-1/2	13-1/2	11-1/2
		35	10.5	17.4	45	12.5	22.5	60	15.7	31.5	75	20.0	44.7	—	—	—	45	3	7	9-1/2	14	14
		40	11.6	17.4	50	13.4	22.5	65	17.0	31.5	80	21.2	44.7	—	—	—	55	5	7	10	14	16
		45	12.5	17.4	55	14.5	22.5	70	18.4	31.5	85	22.5	44.7	—	—	—	70	10	7	10	14	18
		50	13.4	17.4	60	15.7	22.5	75	20.0	31.5	90	24.2	44.7	—	—	—	70	20	8	10	15	18
		60	15.7	17.4	70	18.4	22.5	80	21.2	31.5	—	—	—	—	—	—	75	15	7	10	15	19
		70	18.4	17.4	80	21.2	22.5	90	24.2	31.5	—	—	—	—	—	—	80	20	8	10	15	20
SUE45	Fluid Cap 100150 + Air Cap 200278-45°	40	11.6	27.9	50	13.4	36.0	65	17.0	50.6	80	21.2	72.0	—	—	—	40	3	7-1/2	10	14	15
		45	12.5	27.9	55	14.5	36.0	70	18.4	50.6	85	22.5	72.0	—	—	—	55	3	8	10	14-1/2	16
		50	13.4	27.9	60	15.7	36.0	75	20.0	50.6	90	24.2	72.0	—	—	—	65	5	8	10	14-1/2	17
		55	14.5	27.9	65	17.0	36.0	80	21.2	50.6	—	—	—	—	—	—	75	10	8-1/2	10-1/2	15	18
		60	15.7	27.9	70	18.5	36.0	85	22.5	50.6	—	—	—	—	—	—	80	15	8-1/2	10-1/2	16	18
		65	17.0	27.9	75	20.0	36.0	90	24.2	50.6	—	—	—	—	—	—	80	20	8-1/2	10-1/2	16	19
		70	18.4	27.9	80	21.2	36.0	—	—	—	—	—	—	—	—	—	85	20	8-1/2	10-1/2	16	20

Effective Dust Control and Gas Conditioning Depends on Drop Size... And We Have the Systems, Nozzles and Data You Need

Whether you're looking for hydraulic spray nozzles for dust control or gas cooling, energy-efficient air atomizing nozzles for evaporative cooling or a fully automated system for gas conditioning, you'll find we have a wide assortment of proven solutions.

WhirlJet and SpiralJet® Nozzles – Ideal for Dust Absorption and Gas Cooling

Standard WhirlJet spray nozzles feature a hollow cone spray pattern with a ring-shaped impact area. They produce a uniform distribution of small- to medium-sized drops over a wide range of flow rates and pressures and are well-suited to pollution control applications in mills that require good atomization of liquids at lower pressures, quick heat transfer or effective airborne drop impingement. WhirlJet nozzles also feature large and unobstructed flow passages, which minimize or eliminate clogging.

Specifications:

- Model A and B WhirlJet spray nozzles have removable caps and the original WhirlJet whirlchamber design
- Model AX and BX WhirlJet spray nozzles feature the same uniform spray distribution and two-piece construction as the A and B Series plus a slope-bottom design which reduces the "drilling effect" of the fluid vortex in the whirlchamber
- Model C and D WhirlJet spray nozzles feature one-piece cast construction with a precision-machined finish and the original WhirlJet whirlchamber design for uniform spray distribution
- Model CX slope-bottom WhirlJet nozzles feature the same uniform spray performance as the C Series, plus the added advantage of the patented, longer-life, slope-bottom design to reduce the "drilling effect" of the liquid vortex in the whirlchamber
- Model CRC two-piece WhirlJet spray nozzles feature a hollow cone spray pattern with a ring-shaped impact area. They are available in two spray angle series: narrow angle 45° to 52° and standard angle 60° to 86° with flow rate of 140 gpm at 7 psi (530 l/min at .5 bar)

SpiralJet nozzles are also widely used in dust control and gas cooling. Choose from three types: BSJ, HHSJ or HHSJX SpiralJets.

Similar to WhirlJet® nozzles, BSJ SpiralJet nozzles produce a hollow cone spray pattern. These compact nozzles permit maximum liquid output for a given pipe size and the free passage design minimizes clogging.

BSJ Specifications:

- Spray angles: 50° to an extra wide angle of 180°
- Materials: Brass, 316 stainless steel, PVC or TEFLON®
- Brass nozzles have hex or flats design depending on connection size
- Stainless steel nozzles have hex or flats design depending on capacity size
- PVC and TEFLON® nozzles have rounded design
- Designed with precision impact blade angles that distribute the spray drops for excellent coverage
- Flanged versions available in reaction-bonded silicon carbide
- Custom-sized for your installation and available in several abrasion-resistant materials

HHSJ SpiralJet nozzles produce a full cone spray pattern. Similar to our hollow cone SpiralJet nozzles, the HHSJ nozzles permit maximum liquid output for a given pipe size and feature a clog-resistant free passage design.

HHSJ Specifications:

- 3" and 4" sizes are available in brass and stainless steel
- Brass version is available with hex design. Stainless steel nozzles are available with flats
- TEFLON® and PVC nozzles have a rounded design

HHSJX Specifications:

HHSJX Extra Large Free Passage SpiralJet nozzles minimize the possibility of plugging in high-flow pollution control applications. With a simple one-piece design, the inlet orifice is the smallest opening that liquid passes through. The outlet helix orifice is proportionately larger than the inlet opening. This virtually eliminates plugging and allows for maximum liquid output.

- Standard materials: Brass, cast 316 stainless steel, PVC and polypropylene
- Additional materials available upon request: TEFLON®, silicon carbide, Stellite®, Hastelloy® C and ceramic
- Spray Angles: 90° or 120° with full cone spray patterns
- HHSJX nozzle is available in threaded/hex, threaded/round and threaded/flats

PERFORMANCE – WHIRLJET NOZZLES

*At the stated pressure in psi.

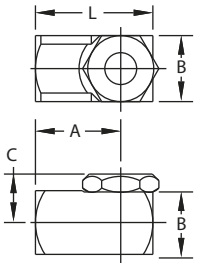
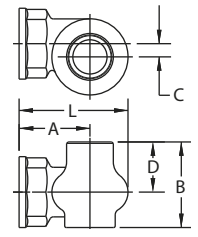
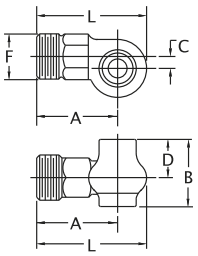
Nozzle Inlet Conn. NPT or BSPT (in.)	Nozzle Type				Capa-city Size	Inlet Dia. Nom. (in.)	Orifice Dia. Nom. (in.)	Capacity (Gallons per minute)*										Spray Angle Degree*		
	A	AX	B	BX				3	5	10	15	20	30	40	60	80	100	10	20	80
1/8	●	●	●	●	.5	.031	.047	—	—	.05	.06	.07	.09	.10	.12	.14	.16	—	58	69
	●	●	●	●	1	.063	.063	—	—	.10	.12	.14	.17	.20	.24	.28	.31	—	64	76
	●	●	●	●	2	.078	.078	—	.14	.20	.25	.28	.35	.40	.48	.56	.63	52	61	69
	●	●	●	●	3	.094	.094	—	.21	.30	.37	.42	.52	.60	.73	.85	.95	52	64	77
	●	●	●	●	5	.125	.125	.27	.35	.50	.61	.70	.86	1.0	1.2	1.4	1.6	56	67	76
	●	●	●	●	8	.156	.156	.44	.57	.80	.98	1.1	1.4	1.6	2.0	2.3	2.5	56	65	70
	●	●	●	●	10	.172	.172	.55	.71	1.0	1.2	1.4	1.7	2.0	2.5	2.8	3.2	55	65	72
1/4	●	●	●	●	1	.063	.063	—	—	.10	.12	.14	.17	.20	.24	.28	.31	—	53	67
	●	●	●	●	2	.078	.078	—	—	.20	.25	.28	.35	.40	.48	.56	.63	—	62	71
	●	●	●	●	3	.094	.094	—	.21	.30	.37	.42	.52	.60	.73	.85	.95	51	65	78
	●	●	●	●	5	.141	.141	.27	.35	.50	.61	.70	.86	1.0	1.2	1.4	1.6	63	73	79
	●	●	●	●	8	.156	.156	.44	.56	.80	.98	1.1	1.4	1.6	2.0	2.3	2.5	61	69	73
	●	●	●	●	10	.188	.172	.55	.71	1.0	1.2	1.4	1.7	2.0	2.5	2.8	3.2	63	70	74
	●	●	●	●	15	.234	.203	.82	1.1	1.5	1.8	2.1	2.6	3.0	3.7	4.2	4.7	63	71	72
3/8	●	●	●	●	5	.140	.125	.27	.35	.50	.61	.70	.86	1.0	1.2	1.4	1.6	64	73	79
	●	●	●	●	8	.172	.156	.44	.56	.80	.98	1.1	1.4	1.6	2.0	2.3	2.5	62	70	74
	●	●	●	●	10	.203	.172	.55	.72	1.0	1.2	1.4	1.7	2.0	2.4	2.8	3.1	64	72	75
	●	●	●	●	15	.234	.219	.82	1.1	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	2.0	2.4	2.8	3.5	4.0	4.9	5.6	6.3	63	70	74
	●	●	●	●	25	.297	.297	1.4	1.8	2.5	3.0	3.5	4.3	5.0	6.1	7.1	7.9	63	70	74
	●	●	●	●	30	.328	.313	1.6	2.1	3.0	3.7	4.2	5.2	6.0	7.3	8.5	9.5	63	70	74
	●		●		15-30.1	.234	.313	1.3	1.6	2.3	2.8	3.2	4.0	4.6	5.6	6.5	7.3	40	50	54
	●		●		25-30.1	.297	.313	1.5	2.0	2.8	3.4	4.0	4.8	5.6	6.9	8.0	8.9	40	47	51
	●		●		50-50.1	.344	.375	2.7	3.5	5.0	6.1	7.1	8.7	10.0	12.3	14.2	15.8	40	47	50
	●		●		50-50.3	.344	.375	2.7	3.5	5.0	6.1	7.1	8.7	10.0	12.3	14.2	15.8	72	76	78
1/2	●	●	●	●	25	.375	.25	1.4	1.8	2.5	3.1	3.5	4.3	5.0	6.1	7.1	7.9	63	66	71
	●	●	●	●	30	.375	.297	1.6	2.1	3.0	3.7	4.2	5.2	6.0	7.3	8.5	9.5	67	71	75
	●	●	●	●	40	.375	.359	2.2	2.8	4.0	4.9	5.7	6.9	8.0	9.8	11.3	12.6	72	76	78
	●	●	●	●	50	.375	.438	2.7	3.5	5.0	6.1	7.1	8.5	10.0	12.3	14.2	15.8	74	79	82
	●	●	●	●	60	.375	.516	3.3	4.3	6.0	7.3	8.5	10.4	12.0	14.7	17.0	19.0	77	82	86
3/4	●	●	●	●	40	.500	.297	2.3	2.9	4.0	4.7	5.3	6.5	7.4	9.1	10.3	11.4	70	73	74
	●	●	●	●	50	.500	.344	2.8	3.6	5.0	6.0	6.8	8.3	9.4	11.4	13.1	14.5	72	75	77
	●	●	●	●	60	.500	.406	3.4	4.3	6.0	7.2	8.3	10.0	11.5	13.9	16.1	17.8	74	76	79
	●	●	●	●	70	.500	.469	3.9	5.0	7.0	8.4	9.6	11.7	13.4	16.3	18.7	21	76	79	83
	●	●	●	●	80	.500	.531	4.4	5.6	8.0	9.6	11.0	13.4	15.3	18.7	22	24	78	82	84
	●	●	●	●	90	.500	.578	5.0	6.4	9.0	10.9	12.5	15.2	17.4	21	24	27	81	84	84
	●	●	●	●	100	.500	.625	5.4	7.0	10.0	11.9	13.5	16.7	19.2	23	27	30	83	86	86
	●	●	●	●	110	.500	.672	6.0	7.8	11.0	13.2	15.1	18.5	21	26	30	33	85	88	88
	●	●	●	●	120	.500	.719	6.7	8.6	12.0	14.6	16.7	20	23	29	33	36	87	90	90

PERFORMANCE – WHIRLJET CX, C, D NOZZLES

*At the stated pressure in psi.

Nozzle Inlet Conn. NPT or BSPT (in.)	Nozzle Type			Capa-city Size	Inlet Dia. Nom. (in.)	Orifice Dia. Nom. (in.)	Capacity (Gallons per minute)*												Spray Angle Degree*		
	CX	C	D				3	4	5	7	10	15	20	30	40	60	80	100	10	20	60
1/2		●		3	.438	.297	2.0	2.3	2.5	3.0	3.6	4.4	5.1	6.2	7.2	8.8	10.1	11.3	60	63	65
		●		4	.438	.375	2.6	3.0	3.4	4.0	4.8	5.8	6.8	8.3	9.5	11.7	13.5	15.1	68	71	73
		●		5	.438	.453	3.3	3.8	4.2	5.0	6.0	7.3	8.4	10.4	11.9	14.6	16.9	18.9	74	77	80
		●		7	.438	.531	4.6	5.3	5.9	7.0	8.4	10.3	11.9	14.5	16.7	21	24	26	77	80	83
			●	3	.438	.313	2.0	2.3	2.5	3.0	3.6	4.4	5.1	6.2	7.2	8.8	10.1	11.3	62	65	67
			●	4	.438	.391	2.6	3.0	3.4	4.0	4.8	5.8	6.8	8.3	9.5	11.7	13.5	15.1	68	71	73
			●	5	.438	.469	3.3	3.8	4.2	5.0	6.0	7.3	8.4	10.4	11.9	14.6	16.9	18.9	74	77	80
			●	7	.438	.547	4.6	5.3	5.9	7.0	8.4	10.3	11.9	14.5	16.7	21	24	26	77	80	83
3/4	●	●	●	5	.594	.391	3.3	3.8	4.2	5.0	6.0	7.3	8.4	10.4	11.9	14.6	16.9	18.9	59	61	63
	●	●	●	6	.594	.453	3.9	4.5	5.1	6.0	7.2	8.8	10.2	12.4	14.3	17.5	20	23	62	64	66
	●	●	●	7	.594	.500	4.6	5.3	5.9	7.0	8.4	10.3	11.9	14.5	16.7	21	24	26	70	71	72
	●	●	●	10	.594	.656	6.5	7.6	8.4	10	11.9	14.6	16.9	21	24	29	34	38	73	75	77
1	●			7	.688	.453	4.6	5.3	5.9	7.0	8.4	10.3	11.9	14.5	16.7	21	24	26	64	65	66
	●			8	.688	.500	5.2	6.0	6.8	8.0	9.6	11.7	13.5	16.5	19.1	23	27	30	65	66	67
	●			9	.688	.563	5.9	6.8	7.6	9.0	10.8	13.2	15.2	18.6	22	26	30	34	66	67	69
	●			10	.688	.609	6.5	7.6	8.4	10.0	11.9	14.6	16.9	21	24	29	34	38	67	69	71
	●			12	.688	.672	7.8	9.1	10.2	12.0	14.3	17.5	20	25	29	35	41	45	70	73	75
	●			15	.688	.813	9.8	11.3	12.7	15.0	17.9	22	25	31	36	44	51	57	76	79	81
1-1/4	●			10	.844	.563	6.5	7.6	8.4	1.0	11.9	14.6	16.9	21	24	29	34	38	65	67	67
	●			12	.844	.641	7.8	9.1	10.2	12.0	14.3	17.5	20	25	29	35	41	45	68	70	71
	●			14	.844	.719	9.2	10.6	11.8	14.0	16.7	21	24	29	34	41	47	53	71	73	75
	●			16	.844	.797	10.5	12.1	13.5	16.0	19.1	23	27	33	38	47	54	60	74	75	77
	●			20	.844	.953	13.1	15.1	16.9	20	24	29	34	41	48	59	68	76	76	77	79
1-1/2	●			16	1.094	.688	10.5	12.1	13.5	16.0	19.1	23	27	33	38	47	54	60	64	67	69
	●			20	1.094	.859	13.1	15.1	16.9	20	24	29	34	41	48	59	68	76	69	72	74
	●			25	1.094	1.016	16.4	18.9	21	25	30	37	42	52	60	73	85	95	72	74	76
	●			30	1.094	1.125	20	23	25	30	36	44	51	62	72	88	101	113	74	76	78
2	●			30	1.438	.938	20	23	25	30	36	44	51	62	72	88	101	113	66	67	70
	●			35	1.438	1.063	23	26	30	35	42	51	59	72	84	103	118	132	68	70	73
	●			40	1.438	1.188	26	30	34	40	48	59	68	83	96	117	135	151	70	72	75
	●			45	1.438	1.297	29	34	38	45	54	66	76	93	108	132	152	170	72	74	78
	●			50	1.438	1.422	33	38	42	50	60	73	84	104	119	146	169	189	74	77	82
	●			60	1.438	1.563	39	45	51	60	72	88	102	124	143	175	203	227	77	79	84
2-1/2	●			60	1.875	1.422	39	45	51	60	72	88	102	124	143	175	203	227	67	68	71
				70	1.875	1.594	46	53	59	70	84	103	119	145	167	205	237	264	69	71	74
				80	1.875	1.734	52	60	68	80	96	117	135	165	191	234	270	302	71	73	77
				90	1.875	1.875	59	68	76	90	108	132	152	186	215	264	304	340	73	75	80
				100	1.875	2.000	65	76	84	100	120	146	169	207	239	293	338	378	77	79	83

Dimensions – WhirlJet Nozzles

Nozzle Type (Conn.)		Inlet Conn. (in.)	A (in.)	A (mm)	B (in.)	B (mm)	C (in.)	C (mm)	D (in.)	D (mm)	L (in.)	L (mm)	Net Weight (oz.)	Net Weight (kg)
	A, AX (F)	1/8	11/16	17.5	5/8	16.0	15/32"	12.0	25/32	20	1	25.5	1-1/2	.04
		1/4	7/8	22.5	3/4	19.0	17/32"	13.5	29/32	23	1-1/4	32	2-3/4	.08
		3/8	1-1/32	26.5	7/8	22.5	11/16"	17.5	1-1/8	28.5	1-15/32	37.5	4-1/4	.12
		1/2	1-3/8	35	1-1/8	28.5	27/32"	21.5	1-13/32	36	1-15/16	49.5	8-3/4	.25
		3/4	1-9/16	40	1-1/4	32	15/16	24	1-9/16	40	2-3/16	55.5	11	.31
	B, BX (M)	1/8	7/8	22.5	5/8	16.0	15/32"	12.0	25/32	20	1-3/16	30.5	1-1/2	.04
		1/4	1	25.5	3/4	19.0	17/32	13.5	29/32	23	1-3/8	35	2-1/2	.07
		3/8	1-1/8	28.5	7/8	22.5	11/16	17.5	1-1/8	28.5	1-9/16	40	4	.11
		1/2	1-3/8	35	1-1/8	28.5	27/32	21.5	1-13/32	36	1-15/16	49.5	7	.20
		3/4	1-5/8	41.5	1-1/4	32	15/16	24	1-9/16	40	2-1/4	57.5	10-3/4	.31
	C (F)	1/2	1-5/16	33.5	1-5/16	33.5	7/32	5.5	23/32	18.5	1-7/8	48	4-1/2	.13
		3/4	1-1/2	38	1-21/32	42	19/64	7.5	29/32	23	2-9/32	58	7	.20
	CX (F)	1	1-3/4	44.5	1-27/32	47	11/32	9.0	1-1/32	26	2-5/8	66.5	11	.31
		1-1/4	2-1/16	50.9	2-3/16	55.6	7/16	11.1	1-1/4	31.7	3-1/16	77.8	20	.57
		1-1/2	2-7/16	61.9	2-7/8	73	9/16	14.3	1-21/32	42.1	3-11/16	93.6	28	.79
		2	2-15/16	74.6	3-11/16	93.6	23/32	18.2	2-3/32	53.1	4-17/32	115.1	48	1.4
		2-1/2	3-1/2	88.9	4-1/2	114.3	15/16	23.8	2-11/16	68.3	5-17/32	140.5	68	1.9
	D (M)	1/2	1-3/4	44.5	1-5/16	33.5	1/4	6.5	23/32	18.5	2-5/16	59	5	.14
		3/4	2	51	1-21/32	42	5/16	8.0	15/16	24	2-23/32	69	7-1/2	.21

Based on largest/heaviest version of each type.

Materials – WhirlJet Nozzles

Material	Material	Nozzle						
		A	AX	B	BX	C	CX	D
Brass	(none)	●	●	●	●			●
Mild Steel	I	●	●	●	●			
303 Stainless Steel	SS	●	●	●	●			
316 Stainless Steel	316SS	●	●	●	●			
Polyvinyl Chloride	PVC	●		●				
Cast: Iron	I					●	●	●
Cast: Brass	(none)					●	●	
Cast: 316 Stainless Steel	SS					●	●	

Other materials availbale upon request.

Ordering Info

WhirlJet Spray Nozzle

1/4 A — SS 10

Inlet Conn.	Nozzle Type	Material Code	Capacity Size

PERFORMANCE – SPIRALJET BSJ NOZZLES

*At the stated pressure in psi.

Nozzle Inlet Conn. NPT or BSPT (in.)	Spray Angle Degree at 10 psi					Capacity Size	Orifice Dia. Nom. (in.)	Max. Free Passage Dia. (in.)	Capacity (Gallons per minute)*					
	50	60	90	120	180				5	10	20	40	100	400***
1/4**	●	●	●	●		07	.094	.094	.49	.70	.99	1.4	2.2	4.4
	●	●	●	●	●	13	.125	.125	.92	1.3	1.8	2.6	4.1	8.2
	●	●	●	●	●	20	.156	.125	1.4	2.0	2.8	4.0	6.3	12.6
3/8**	●	●	●	●	●	30	.188	.125	2.1	3.0	4.2	6.0	9.5	19.0
	●	●	●	●	●	40	.219	.125	2.8	4.0	5.7	8.0	12.6	25
	●	●	●	●	●	53	.250	.125	3.7	5.3	7.5	10.6	16.8	34
	●	●	●	●	●	82	.313	.125	5.8	8.2	11.6	16.4	26	52
1/2	●	●	●	●	●	120	.375	.188	8.5	12.0	17.0	24	38	76
	●	●	●	●	●	164	.438	.188	11.6	16.4	23	33	52	104
3/4	●	●	●	●	●	210	.500	.188	14.8	21	30	42	66	133
1		●	●	●	●	340	.625	.250	24	34	48	68	108	215
		●	●	●	●	470	.750	.250	33	47	66	94	149	297
1-1/2		●	●	●	●	640	.875	.313	45	64	91	128	202	405
		●	●	●	●	820	1.000	.313	58	82	116	164	259	519
		●	●	●	●	960	1.125	.313	68	96	136	192	304	607
2		●	●	●	●	1400	1.375	.438	99	140	198	280	443	885
		●	●	●	●	1780	1.500	.438	126	178	252	356	563	1125
3		●	●	●		2560	1.750	.563	181	256	362	512	810	1620
		●	●	●		3360	2.000	.563	238	336	475	672	1060	2120
4		●	●	●		5250	2.500	.625	371	525	743	1050	1660	3320

** For all 1/4 and 3/8 connection size SpiralJets, optimum spray angle is achieved at 40 psi (3 bar).
*** Maximum operating pressure depends on material, size and application. Call for specific recommendations.

DIMENSIONS

Nozzle Type		Inlet Conn. (in.)	Length (in.)	Length (mm)	Hex. (in.)	Hex (mm)	Net Weight (oz.)	Net Weight (kg)
	BSJ (M)	1/4	1-7/8	47.6	9/16	14.3	1.0	.03
		3/8	1-7/8	47.6	11/16	17.5	1.8	.05
		1/2	2-1/2	63.5	7/8	22.2	3.0	.08
		3/4	2-3/4	69.8	1-1/16	27	5	.14
		1	3-5/8	92.1	1-3/8	34.9	11	.31
		1-1/2	4-3/8	111.1	2	50.8	1.7 lbs.	.77
		2	6-7/8	174.6	2-1/2	63.5	3 lbs.	1.4
		3	8	203.2	3-3/4	95.2	7.8 lbs.	3.6
		4	9	228.6	4-1/2	114.3	12.3 lbs.	5.6

Based on largest/heaviest version of each type.

MATERIALS

Material	Material Code	Nozzle Type
		BSJ
Brass	(none)	●
TEFLON	TEF	●
Polyvinyl Chloride	PVC	●
Cast: 316 Stainless Steel	SS	●

Other materials available upon request.

ORDERING INFO

SpiralJet Spray Nozzle

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

PERFORMANCE – SPIRALJET HHSJ NOZZLES

*At the stated pressure in psi.

Nozzle Inlet Conn. NPT or BSPT (in.)	Spray Angle Degree at 10 psi					Capacity Size	Orifice Dia. Nom. (in.)	Max. Free Passage Dia. (in.)	Capacity (Gallons per minute)*				
	60	90	120	150	170				10	20	40	100	400***
1/4**	●	●	●			07	.094	.094	.70	.99	1.4	2.2	4.4
	●	●	●	●	●	13	.125	.125	1.3	1.8	2.6	4.1	8.2
	●	●	●	●	●	20	.156	.125	2.0	2.8	4.0	6.3	12.6
3/8**	●					07	.094	.094	.70	.99	1.4	2.2	4.4
	●					13	.125	.125	1.3	1.8	2.6	4.1	8.2
	●					20	0.156	.125	2.0	2.8	4.0	6.3	12.6
	●	●	●	●	●	30	0.188	.125	3.0	4.2	6.0	9.5	19.0
	●	●	●	●	●	40	0.219	.125	4.0	5.7	8.0	12.6	25
	●	●	●	●	●	53	0.25	.125	5.3	7.5	10.6	16.8	34
	●	●	●	●	●	82	0.313	.125	8.2	11.6	16.4	26	52
1/2	●	●	●	●	●	120	0.375	.188	12.0	17.0	24	38	76
	●	●	●	●	●	164	0.438	.188	16.4	23	33	52	104
					●	210	0.5	.188	21	30	42	66	133
3/4	●	●	●	●	●	210	0.5	.188	21	30	42	66	133
1	●	●	●	●	●	340	0.625	.250	34	48	68	108	215
	●	●	●	●	●	470	0.75	.250	47	66	94	149	297
1-1/2	●	●	●	●	●	640	0.875	.313	64	91	128	202	405
	●	●	●	●	●	820	1	.313	82	116	164	259	519
	●	●	●	●	●	960	1.125	.313	96	136	192	304	607
2	●	●	●	●	●	1400	1.375	.438	140	198	280	443	885
	●	●	●	●	●	1780	1.5	.438	178	252	356	563	1125
3	●	●	●			2560	1.75	.563	256	362	512	810	1620
	●	●	●			3360	2	.563	336	475	672	1060	2120
4	●	●	●			5250	2.5	.625	525	743	1050	1660	3320

** For all 1/4 and 3/8 connection size SpiralJets, optimum spray angle is achieved at 40 psi (3 bar)
*** Maximum operating pressure depends on material, size and application. Call for specific recommendations.

DIMENSIONS

Nozzle Type (Conn.)		Inlet Conn. (in.)	Length (in.)	Length (mm	Hex. (in.)	Hex (mm)	Net Weight (oz.)	Net Weight (kg)
	HHSJ (M)	1/4	2-1/8	53.9	9/16	14.3	1	.03
		3/8	2-3/8	60.3	11/16	17.5	1-3/4	.05
		1/2	3-1/8	79.4	7/8	22.2	3.5	.10
		3/4	3-7/16	87.3	1-1/16	27	5.4	.15
		1	4-9/16	116	1-3/8	34.9	10.1	.29
		1-1/2	6-3/4	171	2	50.8	27	.77
		2	6-7/8	175	2-1/2	63.5	35	.99
		3	11-7/8	302	3-3/4	95.3	5 lbs. 12 oz	2.6
		4	9	229	4-1/2	114.3	10 lbs. 3 oz	4.6

Based on largest/heaviest version of each type.

MATERIALS

Material	Material Code	Nozzle Type
		HHSJ
Brass	(none)	●
Polyvinyl Chloride	PVC	●
TEFLON	TEF	●
Cast: 316 Stainless Steel	SS	●

Other materials available upon request

ORDERING INFO

SpiralJet HHSJ Spray Nozzle

3/4 HHSJ — SS 120 210

Inlet Conn.	Nozzle Type	Material	Spray Angle	Capacity Code

PERFORMANCE – SPIRALJET HHSJX NOZZLES

*At the stated pressure in psi.

Nozzle Inlet Conn. NPT or BSPT (in.)	Spray Angle Degree at 10 psi		Capacity Size	Orifice Dia. Nom. (in.)	Max. Free Passage Dia. (in.)	Capacity (Gallons per minute)*				
	90	120				10	20	40	100	400***
3/8**	●	●	30	.188	.188	3.0	4.2	6.0	9.5	19.0
	●	●	40	.219	.219	4.0	5.7	8.0	12.6	25
	●	●	53	.250	.250	5.3	7.5	10.6	16.8	34
	●	●	82	.313	.313	8.2	11.6	16.4	26	52
1/2	●	●	120	.375	.375	12.0	17.0	24	38	76
	●	●	164	.438	.438	16.4	23	33	52	104
3/4	●	●	210	.500	.500	21	30	42	66	133
1	●	●	340	.625	.625	34	48	68	108	215
	●	●	470	.750	.750	47	66	94	149	297
1-1/2	●	●	640	.875	.875	64	91	128	202	405
	●	●	820	1.000	1.000	82	116	164	259	519
	●	●	960	1.125	1.125	96	136	192	304	607
2	●	●	1400	1.375	1.375	140	198	280	443	885
	●	●	1780	1.500	1.500	178	252	356	563	1125

** For all 1/4 and 3/8 connection size SpiralJets, optimum spray angle is achieved at 40 psi (3 bar)

*** Maximum operating pressure depends on material, size and application. Call for specific recommendations.

DIMENSIONS

Nozzle Type (Conn.)		Inlet Conn. (in.)	Length (in.)	Length (mm	Hex. (in.)	Hex (mm)	Net Weight (oz.)	Net Weight (kg)
	HHSJX (M)	3/8	2-3/4	69	7/8	22.2	3	.09
		1/2	3-3/8	85	1-1/16	26.9	4.5	.18
		3/4	4-5/8	117	1-3/8	34.9	8	.23
		1	5-1/8	130	1-3/4	44.5	18	.51
		1-1/2	6-3/4	171	2	50.8	30	.85
		2	11	279	3	76.2	5 lbs. 8 oz.	2.5

Based on largest/heaviest version of each type.

MATERIALS

Material	Material Code	Nozzle Type
		HHSJX
Brass	(none)	●
Polypropylene	PP	●
Polyvinyl Chloride	PVC	●
Cast: 316 Stainless Steel	SS	●

Other materials available upon request.

ORDERING INFO

SpiralJet HHSJX Spray Nozzle

3/4	HHSJX	—	SS	120	210
Inlet Conn.	Nozzle Type		Material Angle	Spray Code	Capacity Size

FloMax Nozzles Provide Unmatched Efficiency in Evaporative Gas Cooling

Very few air atomizing nozzles are suitable for use in gas conditioning since tight control of drop size and spray coverage is required to cool hot gases and reduce gas volume. And, of those that are suitable, none offer the performance of our FloMax Air Atomizing nozzles. FloMax nozzles use a patented three-stage atomization process to produce very small drops using less air than competitive nozzles.

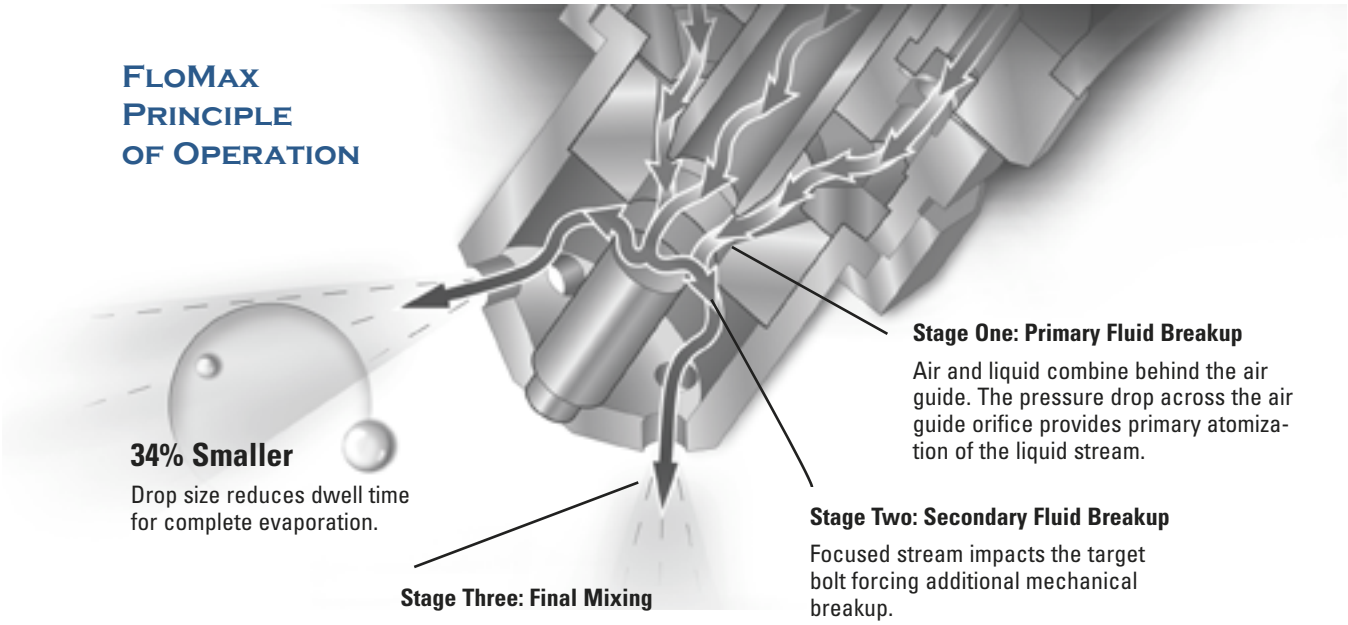
The competitive advantages of FloMax nozzles extend beyond drop size.

- Higher turndown ratios
- Large flow rates per nozzle so fewer nozzles are required for cooling
- Special materials such as Hastelloy® and Stellite® are available in addition to 316 and 310 stainless steel
- Large free passage allows flexibility in water sources

FloMax nozzles are available in a wide range of flow rates:

Nozzle Type	Capacity (gpm)	Capacity (l/min)
FM 1	0.5 to 2.5	1.8 to 9.5
FM 5	2.0 to 7.0	7.6 to 26.5
FM 10	4.0 to 13.0	15.0 to 49.2
FM 25	15.0 to 30.0	57.0 to 114
FM 40	14.0 to 52.0	53.0 to 197

FloMax Principle of Operation



34% Smaller

Drop size reduces dwell time for complete evaporation.

Stage One: Primary Fluid Breakup

Air and liquid combine behind the air guide. The pressure drop across the air guide orifice provides primary atomization of the liquid stream.

Stage Two: Secondary Fluid Breakup

Focused stream impacts the target bolt forcing additional mechanical breakup.

Stage Three: Final Mixing

Air cap acts as a final mixing chamber. As liquid crosses multiple orifices, an additional pressure drop provides the final atomization.

AUTOJET GAS CONDITIONING SYSTEMS: A COMPLETELY AUTOMATED SOLUTION THAT RESULTS IN EVEN GREATER EFFICIENCIES

Many mills can benefit from a totally automated solution to ensure optimal gas cooling and reduce labor costs and downtime. Our AutoJet® Gas Conditioning System is designed to maximize the performance of FloMax nozzles and provides total automation.

System Overview:

- Our AutoJet Spray Controller, with patent-pending SprayLogic® firmware and software, monitors and automatically adjusts the closed loop system. By regulating liquid and air flow to the nozzles based on data gathered from RTD temperature sensors, the controller offers the highest level of reactivity and accuracy for the system.
- The AutoJet Spray Controller is pre-programmed with parameters and function screens specific to gas conditioning applications, saving time and money during system implementation.
- All system components – nozzles, pumps, sensors and other hydraulic/pneumatic components – are controlled by the AutoJet Spray Controller. If a problem is detected that the controller can't resolve automatically, operator warnings will be displayed or sounded.
- Multiple lance zones can be configured to allow greater turndown of flow rate under variable system conditions. The AutoJet Spray Controller can precisely control spray performance of multiple FloMax nozzle lances in multiple lance zones.
- Variable Frequency Drive (VFD) pumps provide proportional liquid regulation and significant electricity savings. In addition, energy-efficient proportional air regulation reduces air consumption and operating costs.
- The AutoJet Spray Controller is easy to use and is equipped with complete spray "knowledge". Just provide information about your operation using the menu system and the controller will essentially configure itself.
- The AutoJet Gas Conditioning System can operate independently or can be integrated with other plant control systems.

Other Capabilities

Custom Header Fabrication

Our sales engineers work closely with our factory engineers to understand your process and performance requirements so we can assist with header specifications. In addition to having more than 100 years of cumulative experience in spray technology, our engineers have both state-of-the-art and proprietary tools to help with header specification. Computational Fluid Dynamics (CFD) software is used for application simulation and modeling and a proprietary software program is used for heat transfer calculations.

Design and construction to globally recognized standards:

- ASME Boiler and Pressure Vessel Code
- ASME B31.1 Power Piping Code
- ASME B31.3 Process Piping Code
- Welding to ASME B&PV Code Section IX
- Other requirements can be met upon request

Testing in accordance with ANSI and ASTM standards. Destructive and non-destructive examinations:

- Ultrasonic
- Radiographic
- Liquid penetrant
- Hardness testing
- Hydrostatic testing
- Spray and flow testing
- Magnetic particle examination
- Positive material identification

Typical Applications

- Descale lines
- Roll cooling
- Quenching
- Pickle lines
- Oiling/coating

Trademarks

Spraying Systems Co.®
Experts in Spray Technology

Other Helpful Resources:

Industrial Spray Products

Catalog 60
Features our complete line of spray nozzles and accessories. U.S. and Metric versions available.

FloMax Air Atomizing Nozzles

Bulletin 487B
Features details and performance data on the unmatched energy-efficient FloMax® nozzles and lances.

An Engineer's Practical Guide to Drop Size

Bulletin 459
An invaluable technical guide. We've taken 60 years of spray drop knowledge and condensed it into a 28-page booklet to teach you the fundamentals of evaluating and interpreting drop size data.

Optimizing System Performance with Precision Spray Control

Bulletin AT103B
Provides an overview of the benefits of automated spray systems. Included are application examples that show how to reduce overspray, improve product quality, increase throughput and improve regulatory compliance.

Model 2250 AutoJet Spray Controller

Bulletin AT105B
Features the specification information and details of our unique control package that automates and optimizes spray performance.

Optimizing Your Spray System

Technical Manual 410
Explains how to maximize performance and quality in your spray application.

iSpray™

Easily specify and order your nozzles online at **www.spray.com/iSpray**

Spraying Systems Co.®
Experts in Spray Technology

Spray Nozzles | Spray Control | Spray Analysis | Spray Fabrication

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