

STEINEN

Since 1907

HAHN MINING NOZZLE DIVISION

NOZZLE CATALOG AND DATA SHEETS



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Changes in Specifications

Steinen's Hahn Mining Nozzle product line has expanded and changed over the years to meet our mining customer's applications. We have made every attempt to make this catalog, and the product data within it, as accurate and complete as possible. However, spray nozzles are a complex product and new user and specification requirements are certain to continue to evolve.

Therefore, if you have any special requests for additional technical information or unlisted items, please call our sales service department at 973-887-6400. Steinen reserves the right to change or delete both product and specification data as required without notice.

Disclaimer and Errors

We believe that the information presented in this catalog is reliable and have carefully compiled and checked it. However, we assume no responsibility for possible errors or omissions. Because each application is unique, Steinen makes no warranty as to the merchantability or suitability of any product for a particular use, nor will we be liable for any indirect, incidental or consequential damages that may arise from the use or sale of our product.

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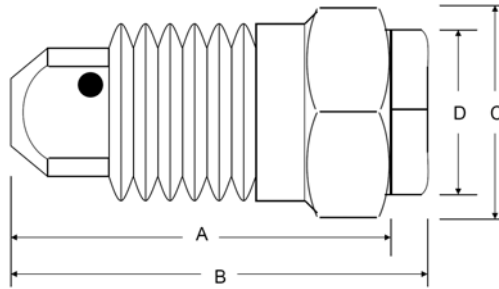
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SPRAYLET™ *HOLLOW CONE* NOZZLES TYPE SH (Steinen/Hahn) NOZZLE SUMMARY DATA

SH type Spraylet nozzles produce a uniform hollow cone spray and are generally used in mining and other applications for dust suppression.



DIMENSIONS & WEIGHTS

Nozzle Type	Material	Inlet Conn. (in.)	A (in.)	B (in.)	C (in.)	D (in.)	Weight Approx.(oz.)
All SH nozzles	Brass	3/8"	1 3/32"	1 7/32"	11/16"	1/2"	1

Steinen/Hahn	Spraying Sys	Joy Mining	BODY/TIP ORIFICE		RATED CAPACITY (gallons/minute)				SPRAY ANGLE	
			Decimal	Fraction	10 PSI	20 PSI	40 PSI	100 PSI	20 PSI	80 PSI
SH 2	BD 2		.078/.078	5/64 - 5/64	0.20	0.28	0.40	0.63	60°	70°
SH 3-1	BD 3-1	01566237-0007	.094/.063	3/32 - 1/16	-	0.18	0.26	0.40	49°	65°
SH 3-2	BD 3-2	01566237-0051	.094/.078	3/32 - 5/64	0.22	0.31	0.44	0.69	57°	74°
SH 3	BD 3	01566237-0006	.094/.094	3/32 - 3/32	0.30	0.42	0.60	0.95	64°	77°
SH 3-5	BD 3-5		.094/.125	3/32 - 1/8	0.34	0.48	0.68	1.1	80°	95°
SH 3-8	BD 3-8	01566237-0012	.094/.156	3/32 - 5/32	0.41	0.58	0.82	1.3	80°	95°
SH 5-2	BD 5-2		.109/.078	7/64 - 5/64	-	0.38	0.54	0.85	50°	65°
SH 5-3	BD 5-3		.109/.094	7/64 - 3/32	-	0.52	0.74	1.2	59°	75°
SH 5	BD 5	01566237-0047	.109/.125	7/64 - 1/8	0.50	0.71	1.0	1.6	67°	76°
SH 8	BD 8		.156/.156	5/32 - 5/32	0.80	1.1	1.6	2.5	65°	70°
SH 10	BD 10		.156/.172	5/32 - 11/64	1.0	1.4	2.0	3.2	65°	72°
SH 20-1	n/a		.156/.063	5/32 - 1/16	0.24	0.33	0.47	0.74	15°	25°
SH 20-2	n/a		.156/.078	5/32 - 5/54	0.38	0.54	0.75	1.20	25°	45°
SH 20-3	n/a		.156/.094	5/32 - 3/32	0.62	0.88	1.24	2.00	35°	45°

The Type SH Spraylet™ nozzle is manufactured by HAHN Industries, a Division of Steinen. These nozzles are direct replacements for equivalent Spraying Systems type BD WhirlJet® nozzles.

FOR MORE INFORMATION, EACH OF THE ABOVE NOZZLES HAS AN INDIVIDUAL SPECIFICATION DATA SHEET AVAILBLE AT www.steinen.com/hahn

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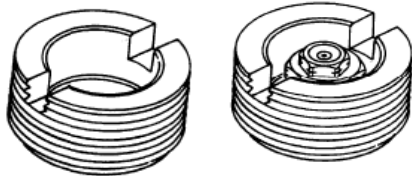
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SPRAYLET™ *HOLLOW CONE* NOZZLES ADAPTERS

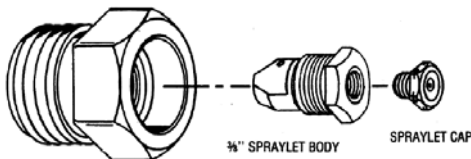
SH type Spraylet nozzles produce a uniform hollow cone spray and are generally used in mining and other applications for dust suppression.

The Type SH Spraylet nozzle is manufactured by HAHN Industries, a Division of Steinen. Adapters for use with this nozzle converts the nozzles from a 3/8" male thread to either 3/4", 1-1/16" or 1-1/4" outside thread.



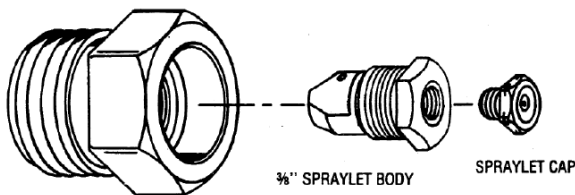
ASSEMBLED UNIT

Above - Spraylet adapter (363-00000) with a 1 1/4" outside thread.



3/8" SPRAYLET BODY SPRAYLET CAP

Above - Spraylet adapter (367-00000) with a 3/4" outside thread.

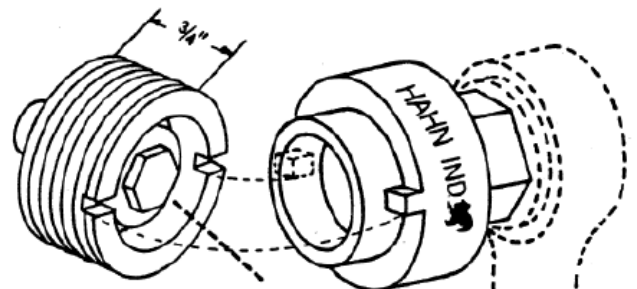


3/8" SPRAYLET BODY SPRAYLET CAP

Above - Spraylet adapter (368-00000) with a 1 1/16" outside thread.



Above - Shows a Type SH 3-2 Spraylet nozzle as it is being screwed into an adapter with a 1 1/4" outside thread (Part # 363-00000).



1 1/4" ADAPTER HEAD TOOL

Adapter Head Tool (Part # 501-00001)
for installing adapter Part # 363-00000.

DIMENSIONS

Adapter Part Numbers:	Material	Spraylet	Adapter
		Nozzle Conn. (in.)	Thread Conn. (in.)
Part # 363-00000	Brass	3/8"	1 - 1/4"
Part # 367-00000	Brass	3/8"	3/4"
Part # 368-00000	Brass	3/8"	1 - 1/16"

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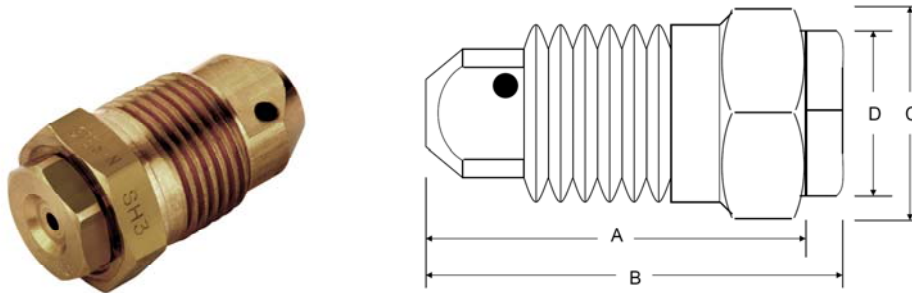


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SPRAYLET™ *HOLLOW CONE* NOZZLES TYPE SH (Steinen/Hahn)

SH type Spraylet nozzles produce a uniform hollow cone spray and are generally used in mining and other applications for dust suppression.

The SH 2 Spraylet nozzle is manufactured by HAHN Industries, a Division of Steinen. These nozzles are direct replacements for equivalent Spraying Systems BD 2 WhirlJet® nozzles.



DIMENSIONS & WEIGHTS									
	Nozzle Type	Inlet			A (in.)	B (in.)	C (in.)	D (in.)	Weight Approx.(oz.)
		Material	Conn. (in.)						
STEINEN/HAHN	SH 2	Brass	3/8"	1 3/32"	1 7/32"	11/16"	1/2"	1	
Spraying Systems	BD 2	Brass	3/8"	1 3/32"	1 1/4"	11/16"	1/2"	1	

	Nozzle Type	BODY/TIP ORIFICE		RATED CAPACITY (gallons/minute)				SPRAY ANGLE	
		Decimal	Fraction	10 PSI	20 PSI	40 PSI	100 PSI	20 PSI	80 PSI
STEINEN/HAHN	SH 2	.078/.078	5/64 - 5/64	0.20	0.28	0.40	0.63	60°	70°
Spraying Systems	BD 2	.078/.078	5/64 - 5/64	0.20	0.28	0.40	0.63	60°	70°

Order Steinen part # SH 2. Previously known as either part #281-00292, #281-00282 or #281-00202. Nozzles stamped 2-2 have older markings, but are otherwise the same as SH 2 nozzles.

CALCULATED FLOW RATES (gallons/minute)							
45 PSI	50 PSI	55 PSI	60 PSI	65 PSI	70 PSI	75 PSI	80 PSI
0.42	0.45	0.47	0.49	0.51	0.53	0.55	0.57
85 PSI	90 PSI	95 PSI	100 PSI	105 PSI	110 PSI	115 PSI	120 PSI
0.58	0.60	0.62	0.63	0.65	0.66	0.68	0.69

Calculated flow rates accurate to within ±5%

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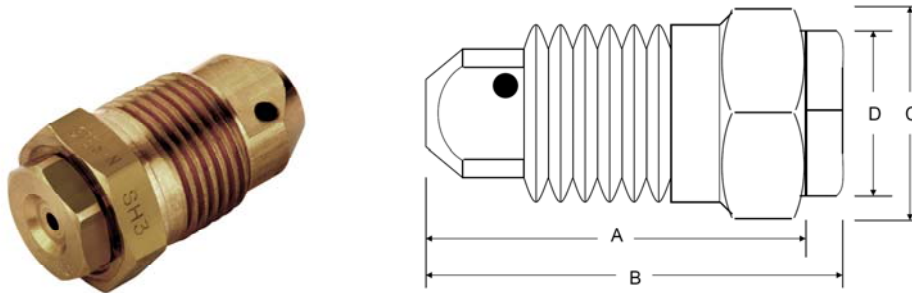


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SPRAYLET™ *HOLLOW CONE* NOZZLES TYPE SH (Steinen/Hahn)

SH type Spraylet nozzles produce a uniform hollow cone spray and are generally used in mining and other applications for dust suppression.

The SH 3-1 Spraylet nozzle is manufactured by HAHN Industries, a Division of Steinen. These nozzles are direct replacements for equivalent Spraying Systems BD 3-1 WhirlJet® nozzles.



DIMENSIONS & WEIGHTS								
	Nozzle Type	Material	Inlet				D (in.)	Weight Approx.(oz.)
			Conn. (in.)	A (in.)	B (in.)	C (in.)		
STEINEN/HAHN	SH 3-1	Brass	3/8"	1 3/32"	1 7/32"	11/16"	1/2"	1
Spraying Systems	BD 3-1	Brass	3/8"	1 3/32"	1 1/4"	11/16"	1/2"	1

Nozzle Type	BODY/TIP ORIFICE		RATED CAPACITY (gallons/minute)				SPRAY ANGLE		
	Decimal	Fraction	10 PSI	20 PSI	40 PSI	100 PSI	20 PSI	80 PSI	
STEINEN/HAHN	SH 3-1	.094/.063	3/32 - 1/16	-	0.18	0.26	0.40	49°	65°
Spraying Systems	BD 3-1	.094/.063	3/32 - 1/16	-	0.18	0.26	0.40	49°	60°*

Order Steinen part # SH 3-1. Previously known as either part #281-00391, #281-00381 or #281-00301. * Spray Angle at 100 PSI

CALCULATED FLOW RATES (gallons/minute)

45 PSI	50 PSI	55 PSI	60 PSI	65 PSI	70 PSI	75 PSI	80 PSI
0.28	0.29	0.30	0.32	0.33	0.34	0.36	0.37
85 PSI	90 PSI	95 PSI	100 PSI	105 PSI	110 PSI	115 PSI	120 PSI
0.38	0.39	0.40	0.40	0.42	0.43	0.44	0.45

Calculated flow rates accurate to within ±5%

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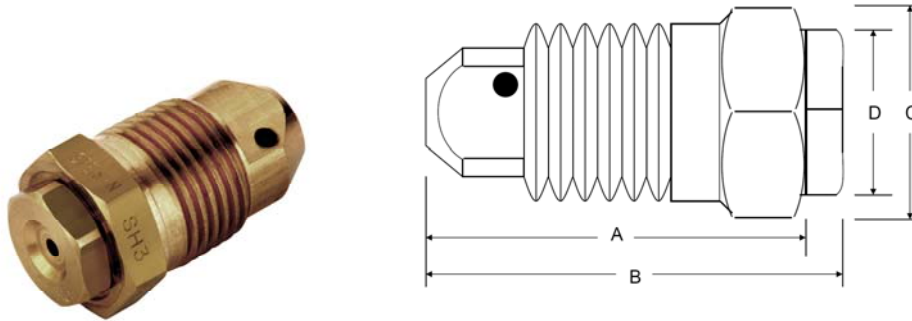


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SPRAYLET™ *HOLLOW CONE* NOZZLES

TYPE SH (Steinen/Hahn)

SH type Spraylet nozzles produce a uniform hollow cone spray and are generally used in mining and other applications for dust suppression.



		DIMENSIONS & WEIGHTS						
Nozzle Type	Material	Inlet Conn. (in.)	A (in.)	B (in.)	C (in.)	D (in.)	Weight Approx.(oz.)	
STEINEN/HAHN	SH 3-2	Brass	3/8"	1 3/32"	1 7/32"	11/16"	1/2"	1
Spraying Systems	BD 3-2	Brass	3/8"	1 3/32"	1 1/4"	11/16"	1/2"	1

Nozzle Type	BODY/TIP ORIFICE		RATED CAPACITY (gallons/minute)				SPRAY ANGLE	
	Decimal	Fraction	10 PSI	20 PSI	40 PSI	100 PSI	20 PSI	80 PSI
STEINEN/HAHN	.094/.078	3/32 - 5/64	0.22	0.31	0.44	0.69	57°	74°
Spraying Systems	BD 3-2	.094/.078	3/32 - 5/64	0.22	0.31	0.44	0.69	57° 68°*

Order Steinen part # SH 3-2. Previously known as either part #281-00392, #281-00382 or #281-00302. * Spray Angle at 100 PSI

CALCULATED FLOW RATES (gallons/minute)

45 PSI	50 PSI	55 PSI	60 PSI	65 PSI	70 PSI	75 PSI	80 PSI
0.47	0.49	0.52	0.54	0.56	0.58	0.60	0.62
85 PSI	90 PSI	95 PSI	100 PSI	105 PSI	110 PSI	115 PSI	120 PSI
0.64	0.66	0.68	0.69	0.71	0.73	0.75	0.76

Calculated flow rates accurate to within ±5%

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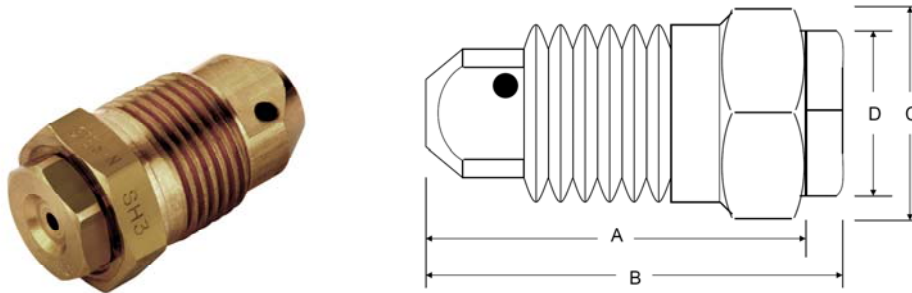


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SPRAYLET™ *HOLLOW CONE* NOZZLES TYPE SH (Steinen/Hahn)

SH type Spraylet nozzles produce a uniform hollow cone spray and are generally used in mining and other applications for dust suppression.

The SH 3 Spraylet nozzle is manufactured by HAHN Industries, a Division of Steinen. These nozzles are direct replacements for equivalent Spraying Systems BD 3 WhirlJet® nozzles.



		DIMENSIONS & WEIGHTS						
Nozzle Type		Material	Inlet Conn. (in.)	A (in.)	B (in.)	C (in.)	D (in.)	Weight Approx.(oz.)
STEINEN/HAHN	SH 3	Brass	3/8"	1 3/32"	1 7/32"	11/16"	1/2"	1
Spraying Systems	BD 3	Brass	3/8"	1 3/32"	1 1/4"	11/16"	1/2"	1

Nozzle Type		BODY/TIP ORIFICE		RATED CAPACITY (gallons/minute)				SPRAY ANGLE	
		Decimal	Fraction	10 PSI	20 PSI	40 PSI	100 PSI	20 PSI	80 PSI
STEINEN/HAHN	SH 3	.094/.094	3/32 - 3/32	0.30	0.42	0.60	0.95	64°	77°
Spraying Systems	BD 3	.094/.094	3/32 - 3/32	0.30	0.42	0.60	0.95	64°	77°

Order Steinen part # SH 3. Previously known as Hahn 3-3 or as part #281-00393, #281-00383 or #281-00303. Nozzles stamped 3-3 have older markings, but are otherwise the same as SH 3 nozzles.

CALCULATED FLOW RATES (gallons/minute)

45 PSI	50 PSI	55 PSI	60 PSI	65 PSI	70 PSI	75 PSI	80 PSI
0.64	0.67	0.70	0.73	0.76	0.79	0.82	0.85
85 PSI	90 PSI	95 PSI	100 PSI	105 PSI	110 PSI	115 PSI	120 PSI
0.87	0.90	0.92	0.95	0.97	0.99	1.02	1.04

Calculated flow rates accurate to within ±5%

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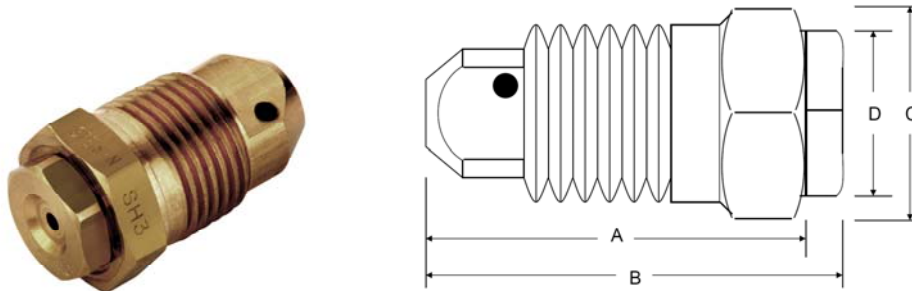


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SPRAYLET™ *HOLLOW CONE* NOZZLES TYPE SH (Steinen/Hahn)

SH type Spraylet nozzles produce a uniform hollow cone spray and are generally used in mining and other applications for dust suppression.

The SH 3-5 Spraylet nozzle is manufactured by HAHN Industries, a Division of Steinen. These nozzles are direct replacements for equivalent Spraying Systems BD 3-5 WhirlJet® nozzles.



DIMENSIONS & WEIGHTS									
Nozzle Type	Material	Inlet Conn. (in.)	A (in.)	B (in.)	C (in.)	D (in.)	Weight Approx.(oz.)		
STEINEN/HAHN	SH 3-5	Brass	3/8"	1 3/32"	1 7/32"	11/16"	1/2"	1	
Spraying Systems	BD 3-5	Brass	3/8"	1 3/32"	1 1/4"	11/16"	1/2"	1	

Nozzle Type	BODY/TIP ORIFICE		RATED CAPACITY (gallons/minute)				SPRAY ANGLE		
	Decimal	Fraction	10 PSI	20 PSI	40 PSI	100 PSI	20 PSI	80 PSI	
STEINEN/HAHN	SH 3-5	.094/.125	3/32 - 1/8	0.34	0.48	0.68	1.1	80°	95°
Spraying Systems	BD 3-5	.094/.125	3/32 - 1/8	0.34	0.48	0.68	1.1	80°	86°*

Order Steinen part # SH 3-5. Previously known as either part #281-00395, #281-00385 or #281-00305. * Spray Angle at 100 PSI

CALCULATED FLOW RATES (gallons/minute)

45 PSI	50 PSI	55 PSI	60 PSI	65 PSI	70 PSI	75 PSI	80 PSI
0.72	0.76	0.80	0.83	0.87	0.90	0.93	0.96
85 PSI	90 PSI	95 PSI	100 PSI	105 PSI	110 PSI	115 PSI	120 PSI
0.99	1.02	1.05	1.10	1.11	1.13	1.15	1.18

Calculated flow rates accurate to within ±5%

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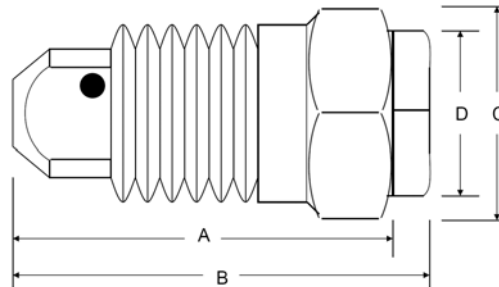
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SPRAYLET™ *HOLLOW CONE* NOZZLES

TYPE SH (Steinen/Hahn)

SH type Spraylet nozzles produce a uniform hollow cone spray and are generally used in mining and other applications for dust suppression.

The SH 3-8 Spraylet nozzle is manufactured by HAHN Industries, a Division of Steinen. These nozzles are direct replacements for equivalent Spraying Systems BD 3-8 WhirlJet® nozzles.



DIMENSIONS & WEIGHTS

Nozzle Type	Material	Inlet			Weight			
		Conn. (in.)	A (in.)	B (in.)	C (in.)	D (in.)	Approx.(oz.)	
STEINEN/HAHN	SH 3-8	Brass	3/8"	1 3/32"	1 7/32"	11/16"	1/2"	1
Spraying Systems	BD 3-8	Brass	3/8"	1 3/32"	1 1/4"	11/16"	1/2"	1

Nozzle Type	BODY/TIP ORIFICE		RATED CAPACITY (gallons/minute)				SPRAY ANGLE		
	Decimal	Fraction	10 PSI	20 PSI	40 PSI	100 PSI	20 PSI	80 PSI	
STEINEN/HAHN	SH 3-8	.094/.156	3/32 - 5/32	0.41	0.58	0.82	1.30	80°	95°
Spraying Systems	BD 3-8	.094/.156	3/32 - 5/32	0.41	0.58	0.82	1.30	84°	89°*

Order Steinen part # SH 3-8. Previously known as either part #281-00398, #281-00388 or #281-00308. * Spray Angle at 100 PSI

CALCULATED FLOW RATES (gallons/minute)

45 PSI	50 PSI	55 PSI	60 PSI	65 PSI	70 PSI	75 PSI	80 PSI
0.87	0.92	0.96	1.00	1.05	1.08	1.12	1.16
85 PSI	90 PSI	95 PSI	100 PSI	105 PSI	110 PSI	115 PSI	120 PSI
1.20	1.23	1.26	1.30	1.33	1.36	1.39	1.42

Calculated flow rates accurate to within ±5%

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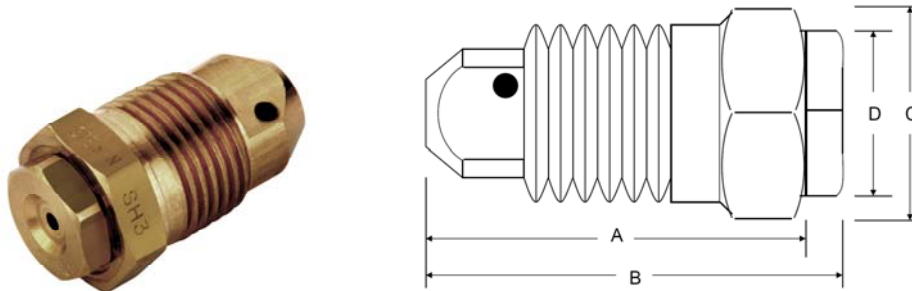


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SPRAYLET™ *HOLLOW CONE* NOZZLES TYPE SH (Steinen/Hahn)

SH type Spraylet nozzles produce a uniform hollow cone spray and are generally used in mining and other applications for dust suppression.

The SH 5-2 Spraylet nozzle is manufactured by HAHN Industries, a Division of Steinen. These nozzles are direct replacements for equivalent Spraying Systems BD 5-2 WhirlJet® nozzles.



DIMENSIONS & WEIGHTS

	Nozzle Type	Material	Inlet				Weight Approx.(oz.)
			Conn. (in.)	A (in.)	B (in.)	C (in.)	
STEINEN/HAHN	SH 5-2	Brass	3/8"	1 3/32"	1 7/32"	11/16"	1
Spraying Systems	BD 5-2	Brass	3/8"	1 3/32"	1 1/4"	11/16"	1

Nozzle Type	BODY/TIP ORIFICE	RATED CAPACITY (gallons/minute)				SPRAY ANGLE			
		Decimal	Fraction	10 PSI	20 PSI	40 PSI	100 PSI	20 PSI	80 PSI
STEINEN/HAHN	SH 5-2	.109/.078	7/64 - 5/64	-	0.38	0.54	0.85	50°	65°
Spraying Systems	BD 5-2	.109/.078	7/64 - 5/64	-	0.38	0.54	0.85	50°	61°*

Order Steinen part # SH 5-2. Previously known as either part #281-00592, #281-00582 or #281-00502. * Spray Angle at 100 PSI

CALCULATED FLOW RATES (gallons/minute)

45 PSI	50 PSI	55 PSI	60 PSI	65 PSI	70 PSI	75 PSI	80 PSI
0.57	0.60	0.63	0.66	0.69	0.71	0.74	0.76
85 PSI	90 PSI	95 PSI	100 PSI	105 PSI	110 PSI	115 PSI	120 PSI
0.79	0.81	0.83	0.85	0.87	0.90	0.92	0.94

Calculated flow rates accurate to within ±5%

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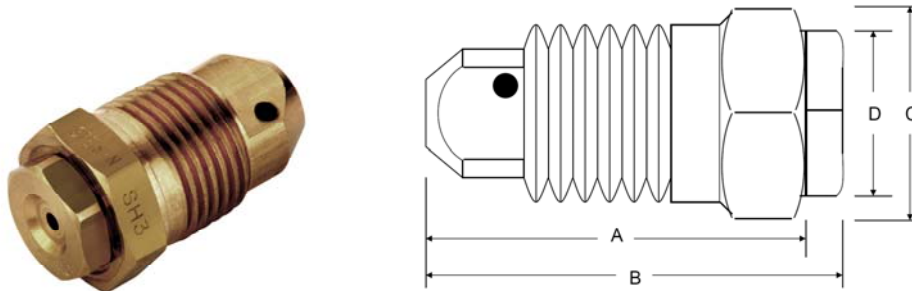


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SPRAYLET™ *HOLLOW CONE* NOZZLES TYPE SH (Steinen/Hahn)

SH type Spraylet nozzles produce a uniform hollow cone spray and are generally used in mining and other applications for dust suppression.

The SH 5-3 Spraylet nozzle is manufactured by HAHN Industries, a Division of Steinen. These nozzles are direct replacements for equivalent Spraying Systems BD 5-3 WhirlJet® nozzles.



DIMENSIONS & WEIGHTS

	Nozzle Type	Inlet		A (in.)	B (in.)	C (in.)	D (in.)	Weight Approx.(oz.)
		Material	Conn. (in.)					
STEINEN/HAHN	SH 5-3	Brass	3/8"	1 3/32"	1 7/32"	11/16"	1/2"	1
Spraying Systems	BD 5-3	Brass	3/8"	1 3/32"	1 1/4"	11/16"	1/2"	1

	Nozzle Type	BODY/TIP ORIFICE		RATED CAPACITY (gallons/minute)				SPRAY ANGLE	
		Decimal	Fraction	10 PSI	20 PSI	40 PSI	100 PSI	20 PSI	80 PSI
STEINEN/HAHN	SH 5-3	.109/.094	7/64 - 3/32	-	0.52	0.74	1.2	59°	75°
Spraying Systems	BD 5-3	.109/.094	7/64 - 3/32	-	0.52	0.74	1.2	59°	66°*

Order Steinen part # SH 5-3. Previously known as either part #281-00593, #281-00583 or #281-00503.

* Spray Angle at 100 PSI

CALCULATED FLOW RATES (gallons/minute)

45 PSI	50 PSI	55 PSI	60 PSI	65 PSI	70 PSI	75 PSI	80 PSI
0.78	0.83	0.87	0.91	0.94	0.98	1.01	1.05
85 PSI	90 PSI	95 PSI	100 PSI	105 PSI	110 PSI	115 PSI	120 PSI
1.08	1.11	1.15	1.20	1.21	1.23	1.25	1.28

Calculated flow rates accurate to within ±5%

WhirlJet® is a registered trademark of the Spraying Systems Co.

HAHN

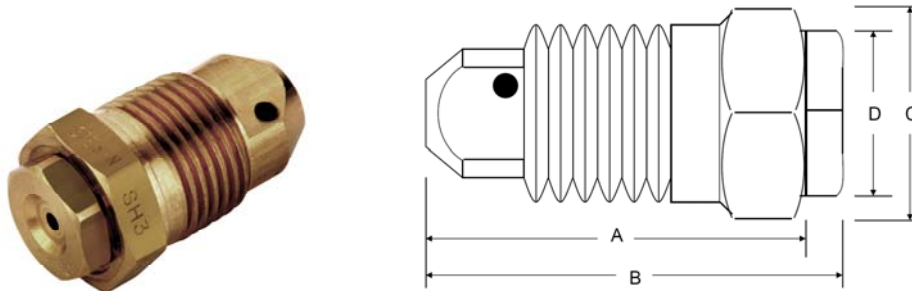


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SPRAYLET™ *HOLLOW CONE* NOZZLES TYPE SH (Steinen/Hahn)

SH type Spraylet nozzles produce a uniform hollow cone spray and are generally used in mining and other applications for dust suppression.

The SH 5 Spraylet nozzle is manufactured by HAHN Industries, a Division of Steinen. These nozzles are direct replacements for equivalent Spraying Systems BD 5 WhirlJet® nozzles.



DIMENSIONS & WEIGHTS

Nozzle Type	Material	Inlet		A (in.)	B (in.)	C (in.)	D (in.)	Weight Approx.(oz.)
		Conn. (in.)						
STEINEN/HAHN	SH 5	Brass	3/8"	1 3/32"	1 7/32"	11/16"	1/2"	1
Spraying Systems	BD 5	Brass	3/8"	1 3/32"	1 1/4"	11/16"	1/2"	1

Nozzle Type	BODY/TIP ORIFICE	RATED CAPACITY (gallons/minute)				SPRAY ANGLE			
		Decimal	Fraction	10 PSI	20 PSI	40 PSI	100 PSI	20 PSI	80 PSI
STEINEN/HAHN	SH 5	.109/.125	7/64 - 1/8	0.50	0.71	1.0	1.6	67°	76°
Spraying Systems	BD 5	.109/.125	7/64 - 1/8	0.50	0.71	1.0	1.6	67°	76°

Order Steinen part # SH 5. Previously known as Hahn 5-5 or as part #281-00595, #281-00585 or #281-00505. Nozzles stamped 5-5 have older markings, but are otherwise the same as SH 5 nozzles.

CALCULATED FLOW RATES (gallons/minute)

45 PSI	50 PSI	55 PSI	60 PSI	65 PSI	70 PSI	75 PSI	80 PSI
1.06	1.12	1.16	1.20	1.26	1.32	1.37	1.40
85 PSI	90 PSI	95 PSI	100 PSI	105 PSI	110 PSI	115 PSI	120 PSI
1.45	1.50	1.55	1.60	1.63	1.66	1.70	1.73

Calculated flow rates accurate to within ±5%

WhirlJet® is a registered trademark of the Spraying Systems Co.

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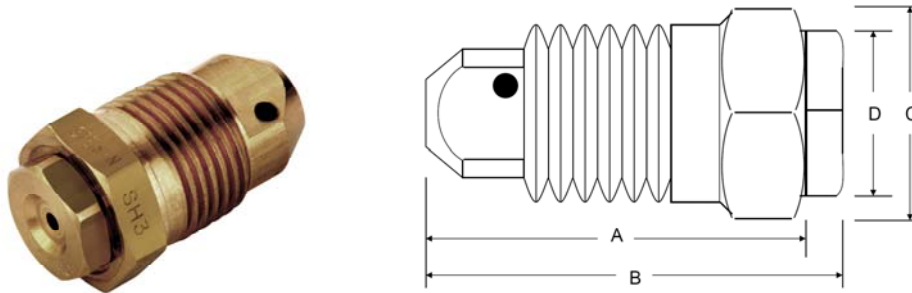


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SPRAYLET™ *HOLLOW CONE* NOZZLES TYPE SH (Steinen/Hahn)

SH type Spraylet nozzles produce a uniform hollow cone spray and are generally used in mining and other applications for dust suppression.

The SH 8 Spraylet nozzle is manufactured by HAHN Industries, a Division of Steinen. These nozzles are direct replacements for equivalent Spraying Systems BD 8 WhirlJet® nozzles.



DIMENSIONS & WEIGHTS									
Nozzle		Inlet			Weight				
Type	Material	Conn. (in.)	A (in.)	B (in.)	C (in.)	D (in.)	Approx.(oz.)		
STEINEN/HAHN	SH 8	Brass	3/8"	1 3/32"	1 7/32"	11/16"	1/2"	1	
Spraying Systems	BD 8	Brass	3/8"	1 3/32"	1 1/4"	11/16"	1/2"	1	

Nozzle		BODY/TIP ORIFICE		RATED CAPACITY (gallons/minute)				SPRAY ANGLE	
Type		Decimal	Fraction	10 PSI	20 PSI	40 PSI	100 PSI	20 PSI	80 PSI
STEINEN/HAHN	SH 8	.156/.156	5/32 - 5/32	0.80	1.1	1.6	2.5	65°	70°
Spraying Systems	BD 8	.156/.156	5/32 - 5/32	0.80	1.1	1.6	2.5	65°	70°

Order Steinen part # SH 8. Previously known as Hahn 8-8 or as part #281-01098, #281-01088 or #281-01008. Nozzles stamped 8-8 have older markings, but are otherwise the same as SH 8 nozzles.

CALCULATED FLOW RATES (gallons/minute)

45 PSI	50 PSI	55 PSI	60 PSI	65 PSI	70 PSI	75 PSI	80 PSI
1.70	1.80	1.90	2.00	2.05	2.10	2.20	2.30
85 PSI	90 PSI	95 PSI	100 PSI	105 PSI	110 PSI	115 PSI	120 PSI
2.35	2.40	2.45	2.50	2.58	2.65	2.71	2.77

Calculated flow rates accurate to within ±5%

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HAHN

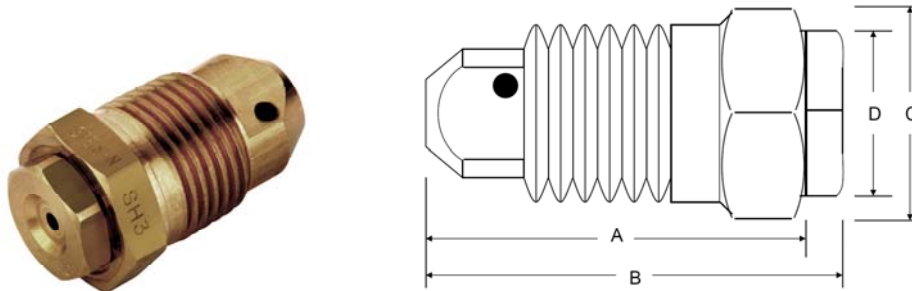


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SPRAYLET™ HOLLOW CONE NOZZLES TYPE SH (Steinen/Hahn)

SH type Spraylet nozzles produce a uniform hollow cone spray and are generally used in mining and other applications for dust suppression.

The SH 10 Spraylet nozzle is manufactured by HAHN Industries, a Division of Steinen. These nozzles are direct replacements for equivalent Spraying Systems BD 10 WhirlJet® nozzles.



DIMENSIONS & WEIGHTS

	Nozzle Type	Material	Inlet					D (in.)	Weight Approx.(oz.)
			Conn. (in.)	A (in.)	B (in.)	C (in.)	D (in.)		
STEINEN/HAHN	SH 10	Brass	3/8"	1 3/32"	1 7/32"	11/16"	1/2"	1	
Spraying Systems	BD 10	Brass	3/8"	1 3/32"	1 1/4"	11/16"	1/2"	1	

	Nozzle Type	BODY/TIP ORIFICE		RATED CAPACITY (gallons/minute)				SPRAY ANGLE	
		Decimal	Fraction	10 PSI	20 PSI	40 PSI	100 PSI	20 PSI	80 PSI
STEINEN/HAHN	SH 10	.156/.172	5/32 - 11/64	1.0	1.4	2.0	3.2	65°	72°
Spraying Systems	BD 10	.156/.172	5/32 - 11/64	1.0	1.4	2.0	3.2	65°	72°

Order Steinen part # SH 10. Previously known as Hahn 10-10 or as part #281-10910, #281-10810 or #281-10010. Nozzles stamped 10-10 have older markings, but are otherwise the same as SH 10 nozzles.

CALCULATED FLOW RATES (gallons/minute)

45 PSI	50 PSI	55 PSI	60 PSI	65 PSI	70 PSI	75 PSI	80 PSI
2.12	2.24	2.35	2.45	2.55	2.65	2.75	2.80
85 PSI	90 PSI	95 PSI	100 PSI	105 PSI	110 PSI	115 PSI	120 PSI
2.90	3.00	3.10	3.20	3.24	3.32	3.40	3.46

Calculated flow rates accurate to within ±5%

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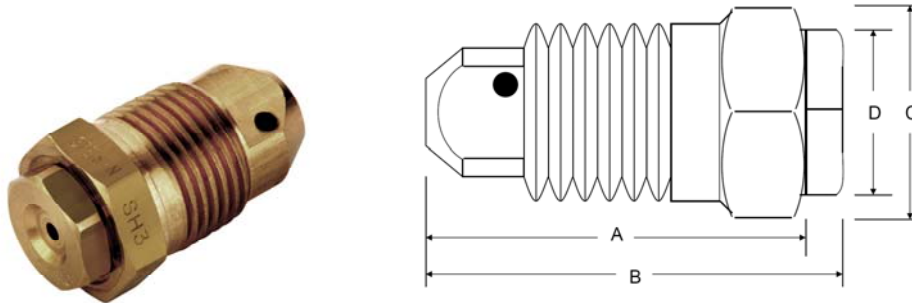
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SPRAYLET™ *HOLLOW CONE* NOZZLES

TYPE SH (Steinen/Hahn)

SH type Spraylet nozzles produce a uniform hollow cone spray and are generally used in mining and other applications for dust suppression.

The SH 20-1 Spraylet nozzle is manufactured by HAHN Industries, a Division of Steinen.



DIMENSIONS & WEIGHTS

Nozzle Type	Material	Inlet		A (in.)	B (in.)	C (in.)	D (in.)	Weight Approx.(oz.)
		Conn. (in.)						
STEINEN/HAHN	SH 20-1	Brass	3/8"	1 3/32"	1 7/32"	11/16"	1/2"	1

Nozzle Type	BODY/TIP ORIFICE		RATED CAPACITY (gallons/minute)				SPRAY ANGLE		
	Decimal	Fraction	10 PSI	20 PSI	40 PSI	100 PSI	20 PSI	80 PSI	
STEINEN/HAHN	SH 20-1	.156/.063	5/32 - 1/16	0.24	0.33	0.47	0.74	15°	25°

Order Steinen part # SH 20-1. Previously known as Hahn 20-1 or as part #281-20901, #281-20801 or #281-20001. Nozzles stamped 20-1 have older markings, but are otherwise the same as SH 20-1 nozzles.

CALCULATED FLOW RATES (gallons/minute)

45 PSI	50 PSI	55 PSI	60 PSI	65 PSI	70 PSI	75 PSI	80 PSI
0.50	0.53	0.55	0.58	0.60	0.62	0.64	0.66

85 PSI	90 PSI	95 PSI	100 PSI	105 PSI	110 PSI	115 PSI	120 PSI
0.68	0.70	0.72	0.74	0.76	0.78	0.80	0.82

Calculated flow rates accurate to within ±5%

HAHN

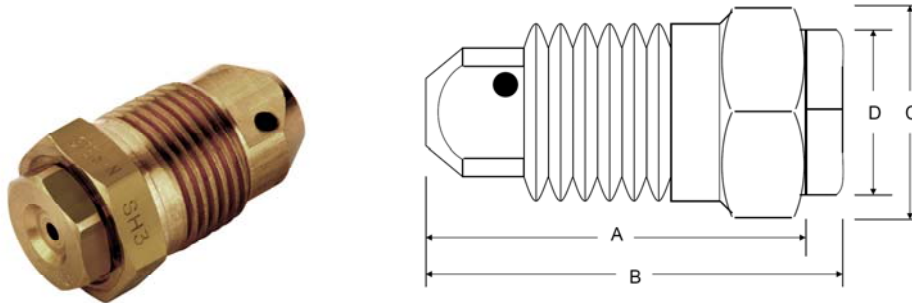


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SPRAYLET™ *HOLLOW CONE* NOZZLES TYPE SH (Steinen/Hahn)

SH type Spraylet nozzles produce a uniform hollow cone spray and are generally used in mining and other applications for dust suppression.

The SH 20-2 Spraylet nozzle is manufactured by HAHN Industries, a Division of Steinen.



DIMENSIONS & WEIGHTS								
Nozzle Type	Material	Inlet		A (in.)	B (in.)	C (in.)	D (in.)	Weight Approx.(oz.)
		Conn. (in.)						
STEINEN/HAHN	SH 20-2	Brass	3/8"	1 3/32"	1 7/32"	11/16"	1/2"	1

Nozzle Type	BODY/TIP ORIFICE	RATED CAPACITY (gallons/minute)					SPRAY ANGLE		
		Decimal	Fraction	10 PSI	20 PSI	40 PSI	100 PSI	20 PSI	80 PSI
STEINEN/HAHN	SH 20-2	.156/.078	5/32 - 5/64	0.38	0.54	0.75	1.20	25°	45°

Order Steinen part # SH 20-2. Previously known as Hahn 20-2 or as part #281-20902, #281-20802 or #281-20002. Nozzles stamped 20-2 have older markings, but are otherwise the same as SH 20-2 nozzles.

CALCULATED FLOW RATES (gallons/minute)

45 PSI	50 PSI	55 PSI	60 PSI	65 PSI	70 PSI	75 PSI	80 PSI
0.81	0.85	0.89	0.93	0.97	1.00	1.04	1.07
85 PSI	90 PSI	95 PSI	100 PSI	105 PSI	110 PSI	115 PSI	120 PSI
1.11	1.14	1.17	1.20	1.23	1.26	1.29	1.32

Calculated flow rates accurate to within ±5%

HAHN



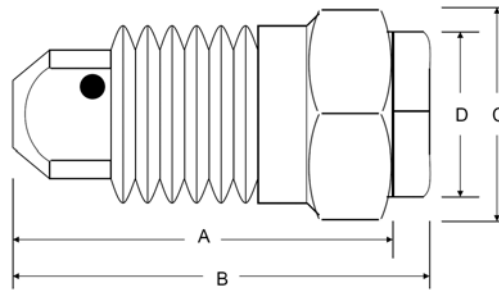
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SPRAYLET™ *HOLLOW CONE* NOZZLES

TYPE SH (Steinen/Hahn)

SH type Spraylet nozzles produce a uniform hollow cone spray and are generally used in mining and other applications for dust suppression.

The SH 20-3 Spraylet nozzle is manufactured by HAHN Industries, a Division of Steinen.



DIMENSIONS & WEIGHTS

Nozzle Type	Material	Inlet Conn. (in.)				Weight		
		Conn. (in.)	A (in.)	B (in.)	C (in.)	D (in.)	Approx.(oz.)	
STEINEN/HAHN	SH 20-3	Brass	3/8"	1 3/32"	1 7/32"	11/16"	1/2"	1

Nozzle Type	BODY/TIP ORIFICE		RATED CAPACITY (gallons/minute)				SPRAY ANGLE		
	Decimal	Fraction	10 PSI	20 PSI	40 PSI	100 PSI	20 PSI	80 PSI	
STEINEN/HAHN	SH 20-3	.156/.094	5/32 - 3/32	0.62	0.88	1.24	2.00	35°	45°

Order Steinen part # SH 20-3. Previously known as Hahn 20-3 or as part #281-20903, #281-20803 or #281-20003. Nozzles stamped 20-3 have older markings, but are otherwise the same as SH 20-3 nozzles.

CALCULATED FLOW RATES (gallons/minute)

45 PSI	50 PSI	55 PSI	60 PSI	65 PSI	70 PSI	75 PSI	80 PSI
1.32	1.39	1.45	1.51	1.58	1.64	1.70	1.76

85 PSI	90 PSI	95 PSI	100 PSI	105 PSI	110 PSI	115 PSI	120 PSI
1.82	1.88	1.94	2.00	2.06	2.11	2.15	2.20

Calculated flow rates accurate to within ±5%

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FANJET® *FLAT SPRAY* MINING NOZZLES TYPE SN-579 – 3/8" NPT

Type SN579 3/8" FanJet flat spray nozzles produce a uniform flat spray and are generally used in mining and other applications for dust suppression.

FanJet SN-579 nozzles are manufactured by HAHN Industries, a Division of Steinen. These nozzles are replacements for equivalent Spraying Systems Type H-U and H-VV VeeJet® nozzles.

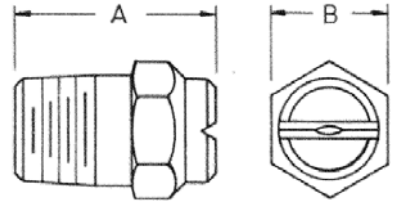
Type SN579 3/8" FanJet flat spray nozzles are available in two body styles. These nozzles are available in Brass or 303 Stainless Steel.



SN579-1



SN579-2



DIMENSIONS				
	Inlet Conn. (in.)	A (in.)	B (in.)	Wrench Flats
Type SN579-1	3/8"	1-3/16"	3/4"	n/a
Type SN579-2	3/8"	15/16"	11/16"	5/16"

Popular Sizes	RATED CAPACITY (gallons/minute)				SPRAY ANGLE	
	40 PSI	60 PSI	80 PSI	100 PSI	40 PSI	80 PSI
Type SN579-1 or 2						
1505	0.50	0.61	0.71	0.79	15°	18°
2505	0.50	0.61	0.71	0.79	25°	30°
4005	0.50	0.61	0.71	0.79	40°	45°
5005	0.50	0.61	0.71	0.79	50°	55°
6505	0.50	0.61	0.71	0.79	65°	72°
8005	0.50	0.61	0.71	0.79	80°	85°
9005	0.50	0.61	0.71	0.79	90°	95°

Above are popular sizes, but Steinen has many more available.

CALCULATED FLOW RATES (gallons/minute)

Type SN579-	45 PSI	50 PSI	55 PSI	60 PSI	65 PSI	70 PSI	75 PSI	80 PSI
ALL Nozzles Ending in 05	0.53	0.56	0.59	0.61	0.64	0.66	0.68	0.71
Type SN579-	85 PSI	90 PSI	95 PSI	100 PSI	105 PSI	110 PSI	115 PSI	120 PSI
ALL Nozzles Ending in 05	0.73	0.75	0.77	0.79	0.81	0.83	0.85	0.87

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FANJET® *FLAT SPRAY* MINING NOZZLES TYPE SN-579 – 3/8" NPT

Type SN579 3/8" FanJet flat spray nozzles produce a uniform flat spray and are generally used in mining and other applications for dust suppression.

FanJet SN-579 nozzles are manufactured by HAHN Industries, a Division of Steinen. These nozzles are replacements for equivalent Spraying Systems Type H-U and H-VV VeeJet® nozzles.

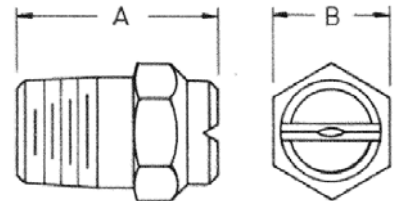
Type SN579 3/8" FanJet flat spray nozzles are available in two body styles. These nozzles are available in Brass or 303 Stainless Steel.



SN579-1



SN579-2



DIMENSIONS				
	Inlet Conn. (in.)	A (in.)	B (in.)	Wrench Flats
Type SN579-1	3/8"	1-3/16"	3/4"	n/a
Type SN579-2	3/8"	15/16"	11/16"	5/16"

Popular Sizes	RATED CAPACITY (gallons/minute)				SPRAY ANGLE	
	40 PSI	60 PSI	80 PSI	100 PSI	40 PSI	80 PSI
Type SN579-1 or 2						
1506	0.60	0.73	0.85	0.95	15°	18°
2506	0.60	0.73	0.85	0.95	25°	30°
4006	0.60	0.73	0.85	0.95	40°	45°
5006	0.60	0.73	0.85	0.95	50°	55°
6506	0.60	0.73	0.85	0.95	65°	72°
8006	0.60	0.73	0.85	0.95	80°	85°
9006	0.60	0.73	0.85	0.95	90°	95°

Above are popular sizes, but Steinen has many more available.

CALCULATED FLOW RATES (gallons/minute)

Type SN579- ALL Nozzles Ending in 06	45 PSI	50 PSI	55 PSI	60 PSI	65 PSI	70 PSI	75 PSI	80 PSI
	0.64	0.67	0.70	0.73	0.76	0.79	0.82	0.85
Type SN579- ALL Nozzles Ending in 06	85 PSI	90 PSI	95 PSI	100 PSI	105 PSI	110 PSI	115 PSI	120 PSI
	0.87	0.90	0.92	0.95	0.97	0.99	1.02	1.04

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FANJET® *FLAT SPRAY* MINING NOZZLES TYPE SN-579 – 3/8" NPT

Type SN579 3/8" FanJet flat spray nozzles produce a uniform flat spray and are generally used in mining and other applications for dust suppression.

FanJet SN-579 nozzles are manufactured by HAHN Industries, a Division of Steinen. These nozzles are replacements for equivalent Spraying Systems Type H-U and H-VV VeeJet® nozzles.

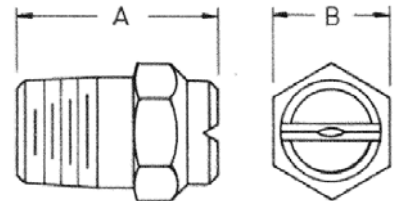
Type SN579 3/8" FanJet flat spray nozzles are available in two body styles. These nozzles are available in Brass or 303 Stainless Steel.



SN579-1



SN579-2



DIMENSIONS				
	Inlet Conn. (in.)	A (in.)	B (in.)	Wrench Flats
Type SN579-1	3/8"	1-3/16"	3/4"	n/a
Type SN579-2	3/8"	15/16"	11/16"	5/16"

Popular Sizes	RATED CAPACITY (gallons/minute)				SPRAY ANGLE	
	40 PSI	60 PSI	80 PSI	100 PSI	40 PSI	80 PSI
Type SN579-1 or 2						
1508	0.80	0.98	1.13	1.26	15°	18°
2508	0.80	0.98	1.13	1.26	25°	30°
4008	0.80	0.98	1.13	1.26	40°	45°
5008	0.80	0.98	1.13	1.26	50°	55°
6508	0.80	0.98	1.13	1.26	65°	72°
8008	0.80	0.98	1.13	1.26	80°	85°
9008	0.80	0.98	1.13	1.26	90°	95°

Above are popular sizes, but Steinen has many more available.

CALCULATED FLOW RATES (gallons/minute)

Type SN579-	45 PSI	50 PSI	55 PSI	60 PSI	65 PSI	70 PSI	75 PSI	80 PSI
ALL Nozzles Ending in 08	0.85	0.90	0.95	0.98	1.03	1.06	1.10	1.13

Type SN579-	85 PSI	90 PSI	95 PSI	100 PSI	105 PSI	110 PSI	115 PSI	120 PSI
ALL Nozzles Ending in 08	1.17	1.20	1.23	1.26	1.30	1.33	1.36	1.40

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FANJET® *FLAT SPRAY* MINING NOZZLES TYPE SN-579 – 3/8" NPT

Type SN579 3/8" FanJet flat spray nozzles produce a uniform flat spray and are generally used in mining and other applications for dust suppression.

FanJet SN-579 nozzles are manufactured by HAHN Industries, a Division of Steinen. These nozzles are replacements for equivalent Spraying Systems Type H-U and H-VV VeeJet® nozzles.

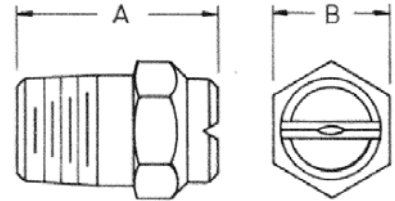
Type SN579 3/8" FanJet flat spray nozzles are available in two body styles. These nozzles are available in Brass or 303 Stainless Steel.



SN579-1



SN579-2



DIMENSIONS				
	Inlet Conn. (in.)	A (in.)	B (in.)	Wrench Flats
Type SN579-1	3/8"	1-3/16"	3/4"	n/a
Type SN579-2	3/8"	15/16"	11/16"	5/16"

Popular Sizes	RATED CAPACITY (gallons/minute)				SPRAY ANGLE	
	40 PSI	60 PSI	80 PSI	100 PSI	40 PSI	80 PSI
Type SN579-1 or 2						
1510	1.00	1.22	1.41	1.58	15°	18°
2510	1.00	1.22	1.41	1.58	25°	30°
4010	1.00	1.22	1.41	1.58	40°	45°
5010	1.00	1.22	1.41	1.58	50°	55°
6510	1.00	1.22	1.41	1.58	65°	72°
8010	1.00	1.22	1.41	1.58	80°	85°
9010	1.00	1.22	1.41	1.58	90°	95°

Above are popular sizes, but Steinen has many more available.

CALCULATED FLOW RATES (gallons/minute)

Type SN579-	45 PSI	50 PSI	55 PSI	60 PSI	65 PSI	70 PSI	75 PSI	80 PSI
ALL Nozzles Ending in 10	1.06	1.12	1.17	1.22	1.27	1.32	1.37	1.41

Type SN579-	85 PSI	90 PSI	95 PSI	100 PSI	105 PSI	110 PSI	115 PSI	120 PSI
ALL Nozzles Ending in 10	1.46	1.50	1.54	1.58	1.62	1.66	1.70	1.73

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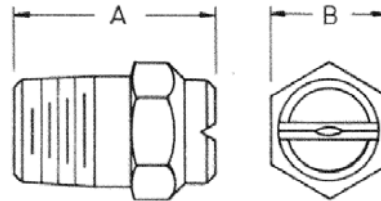
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FANJET® *FLAT SPRAY* MINING NOZZLES

100 Series – 1/4" NPT

100 Series 1/4" FanJet flat spray nozzles produce a uniform flat spray and are generally used in mining and other applications for dust suppression.

100 Series 1/4" FanJet flat spray nozzles are available in **Brass, Nickel Plated Brass and 303 Stainless Steel**. Nozzles can also be supplied with **Mesh filters** if desired.



DIMENSIONS			
	Inlet Conn. (in.)	A (in.)	B (in.)
Series 100	1/4"	15/16"	9/16"

		SPRAY ANGLE								PART NUMBERS
		15°	25°	40°	50°	65°	80°	90°	110°	
FLOW RATE	0.3 GPM	1503	2503	4003	5003	6503	8003	9003	11003	
	0.4 GPM	1504	2504	4004	5004	6504	8004	9004	11004	
	0.5 GPM	1505	2505	4005	5005	6505	8005	9005	11005	
	0.6 GPM	1506	2506	4006	5006	6506	8006	9006	11006	
	0.8 GPM	1508	2508	4008	5008	6508	8008	9008	11008	
	1.0 GPM	1510	2510	4010	5010	6510	8010	9010	11010	
	1.5 GPM	1515	2515	4015	5015	6515	8015	9015	11015	
	2.0 GPM	1520	2520	4020	5020	6520	8020	9020	11020	
	3.0 GPM	1530	2530	4030	5030	6530	8030	9030	11030	
	4.0 GPM	1540	2540	4040	5040	6540	8040	9040	11040	
5.0 GPM	1550	2550	4050	5050	6550	8050	9050	11050		
6.0 GPM	1560	2560	4060	5060	6560	8060	9060	11060		
7.0 GPM	1570	2570	4070	5070	6570	8070	9070	11070		
8.0 GPM	1580	2580	4080	5080	6580	8080	9080	11080		

The above flows are rated at 40 PSI. For flow ratings of these nozzles at different pressures, see the look-up table on the following page.

PART PREFIX (add in front of the above part numbers)

101- (Brass nozzle; 1.0 GPM and larger; no filter)	104- (303 Stainless Steel nozzle; 1.0 GPM and larger; no filter)
107- (Brass nozzle; <1.0 GPM and smaller; no filter)	111- (303 Stainless Steel nozzle; <1.0 GPM and smaller; no filter)
108- (Brass nozzle; all sizes; with a mesh filter)	112- (303 Stainless Steel nozzle; all sizes; with a mesh filter)
109- (Nickel Plated Brass nozzle; all sizes; no filter)	
110- (Nickel Plated Brass nozzle; all sizes; with a mesh filter)	

HAHN



VeeJet® is a registered trademark of the Spraying Systems Co.

Steinen 29 East Halsey Road Parsippany, NJ 07054

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Since 1907

HAHN FLAT SPRAY NOZZLES DATA SHEET



1/8" - 1/4"



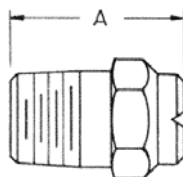
3/8" - 1"

FAN-JET *FLAT SPRAY* NOZZLES

Capacities: .20 to 50 G.P.M.
Spray Angles: 0°, 15°, 25°, 40°, 50°, 65°,
80° and 90°

Capacity G.P.M. @ 40 P.S.I.	Pipe Size	Catalog No. V	Approx. Orifice Diameter	CAPACITY IN GALLONS PER MINUTE (At Various Pressures in Pounds Per Square Inch)										
				5	10	15	20	30	40	60	80	100	120	150
.20	1/8, 1/4	V .2	.036	.07	.10	.12	.14	.17	.20	.25	.28	.32	.35	.39
.25	1/8, 1/4	V .25	.039	.09	.13	.16	.18	.21	.25	.31	.35	.39	.43	.48
.30	1/8, 1/4	V .3	.043	.11	.15	.18	.21	.26	.30	.37	.42	.47	.51	.58
.35	1/8, 1/4	V .35	.047	.13	.18	.22	.25	.31	.35	.43	.49	.55	.61	.68
.40	1/8, 1/4	V .4	.052	.14	.20	.25	.28	.35	.40	.49	.57	.63	.69	.78
.45	1/8, 1/4	V .45	.055	.16	.22	.28	.32	.39	.45	.55	.63	.71	.77	.88
.50	1/8, 1/4	V .5	.058	.17	.25	.31	.35	.43	.50	.61	.71	.79	.87	.97
.55	1/8, 1/4	V .55	.060	.20	.28	.34	.39	.48	.55	.67	.77	.87	.96	1.07
.60	1/8, 1/4	V .6	.062	.21	.30	.37	.42	.52	.60	.73	.85	.95	1.04	1.16
.65	1/8, 1/4	V .65	.064	.23	.32	.40	.46	.56	.65	.80	.93	1.03	1.14	1.26
.70	1/8, 1/4	V .7	.067	.25	.35	.43	.50	.60	.70	.86	.99	1.11	1.19	1.36
.80	1/8, 1/4	V .8	.072	.28	.40	.49	.56	.69	.80	.98	1.12	1.26	1.36	1.55
.90	1/8, 1/4	V .9	.076	.32	.46	.56	.64	.78	.90	1.10	1.28	1.42	1.56	1.74
1.0	1/8, 1/4, 3/8	V 1.0	.078	.35	.50	.61	.70	.86	1.0	1.2	1.4	1.6	1.7	1.9
1.5	1/8, 1/4, 3/8	V 1.5	.093	.53	.75	.92	1.1	1.3	1.5	1.8	2.1	2.4	2.5	2.9
2.0	1/8, 1/4, 3/8	V 2.0	.109	.71	1.0	1.2	1.4	1.7	2.0	2.5	2.8	3.2	3.5	3.9
3.0	1/8, 1/4, 3/8	V 3.0	.125	1.1	1.5	1.8	2.1	2.6	3.0	3.7	4.2	4.7	5.0	5.8
4.0	1/8, 1/4, 3/8	V 4.0	.156	1.4	2.0	2.5	2.8	3.5	4.0	4.9	5.7	6.3	6.8	7.7
5.0	1/4, 3/8, 1/2	V 5.0	.171	1.8	2.4	3.1	3.5	4.3	5.0	6.1	7.1	7.9	8.7	9.7
6.0	1/4, 3/8, 1/2	V 6.0	.187	2.1	3.0	3.7	4.2	5.2	6.0	7.3	8.5	9.5	10.0	11.6
7.0	1/4, 3/8, 1/2	V 7.0	.203	2.5	3.5	4.3	4.9	6.1	7.0	8.6	9.9	11.1	11.9	13.5
8.0	1/4, 3/8, 1/2	V 8.0	.218	2.8	4.0	4.9	5.7	6.9	8.0	9.8	11.3	12.6	13.6	15.4
9.0	1/4, 3/8, 1/2	V 9.0	.234	3.2	4.5	5.6	6.3	7.8	9.0	11.0	12.6	14.1	15.6	17.4
10.0	3/8, 1/2	V 10.0	.250	3.5	4.9	6.1	7.1	8.6	10.0	12.2	14.1	15.8	17.3	19.4
11.0	3/8, 1/2	V 11.0	.265	3.8	5.5	6.8	8.0	9.6	11.0	13.4	15.4	17.3	18.9	21.1
12.0	3/8, 1/2	V 12.0	.265	4.2	6.0	7.3	8.5	10.4	12.0	14.7	17.0	19.0	20.0	23.2
13.0	3/8, 1/2	V 13.0	.281	4.6	6.5	7.8	9.1	11.1	13.0	13.2	18.4	20.6	21.9	25.3
14.0	3/8, 1/2	V 14.0	.281	5.0	7.0	8.5	9.9	12.1	14.0	17.1	19.8	22.1	24.0	27.0
15.0	3/8, 1/2	V 15.0	.296	5.3	7.4	9.2	10.6	13.0	15.0	18.4	21.2	23.7	26.0	29.0
20.0	1/2, 3/4	V 20.0	.344	7.1	13.0	12.2	14.1	17.3	20.0	24.5	28.3	31.6	34.4	38.7
25.0	1/2, 3/4	V 25.0	.375	9.0	12.5	15.5	17.5	21.5	25.0	30.5	35.5	39.5	43.5	48.5
30.0	3/4	V 30.0	.421	10.6	15.0	18.4	21.2	25.0	30.0	36.8	42.4	47.4	52.0	58.0
35.0	3/4	V 35.0	.453	12.6	17.5	21.7	24.5	30.3	35.0	42.7	49.7	55.3	60.9	67.9
40.0	3/4	V 40.0	.500	14.1	20.0	24.4	28.3	34.6	40.0	49.0	56.5	63.2	68.8	77.4
50.0	1	V 50.0	.515	17.7	25.0	30.6	35.4	43.3	50.0	61.2	70.7	79.1	86.6	96.8

Pipe Size	Net Weight	A	B
1/8"	1/4 OZ.	3/4"	7/16"
1/4"	3/4 OZ.	15/16"	9/16"



Pipe Size	Net Weight	A	B
3/8"	1 1/4 OZ.	1 3/16"	3/4"
1/2"	2 OZ.	1 1/4"	7/8"
3/4"	2 3/4 OZ.	1 1/2"	1 1/16"
1"	7 OZ.	2"	1 3/8"

Steinen 29 East Halsey Road Parsippany, NJ 07054



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TYPE "PB" *FULL CONE WIDE ANGLE* NOZZLE

TYPE "PB" (Steinen/Hahn)

Type "PB" full cone nozzles spray 2.7 gallons per minute in a uniform wide angle (120°) cone spray and are generally used in mining and other applications for dust suppression.

The Type "PB" nozzle is manufactured by HAHN Industries, a Division of Steinen.

- The Type "PB" nozzle is Steinen Part # 143-14132.
- Steinen sells a similar nozzle with a hex head as Part # SSMW250000201.

WIDE FULL CONE
PATTERN

Type "PB" nozzle
Part # 143-14132

Alternative:

Solid-Jet® nozzle
Part # SSMW270000201

WIDE FULL CONE
PATTERN



Steinen Part #	DIMENSIONS			
	Material	Inlet Conn. (in.)	Length	Wrench Flats/ or Hex
143-14132	Brass	1/4"	57/64"	13/32" Flats (four sided)
SSMW270000201	Brass	1/4"	15/16"	5/8" (Hex)



Nozzle Type	Steinen Part #	RATED CAPACITY (gallons/minute)					Spray Angle (approx.)
		20 PSI	40 PSI	60 PSI	80 PSI	100 PSI	
Type PB™	143-14132	1.91	2.70	3.31	3.82	4.27	120°
Solid-Jet®	SSMW270000201	1.91	2.70	3.31	3.82	4.27	120°

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HAHN TYPE "S" FULL CONE WIDE ANGLE NOZZLE DATA SHEET

TYPE "S" *FULL CONE WIDE ANGLE* NOZZLE

TYPE "S" (Steinen/Hahn)

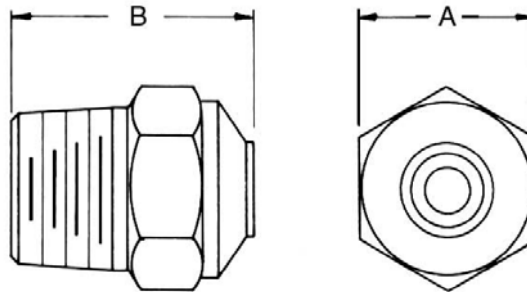
Type "S" full cone nozzles produce a uniform wide angle (120°) cone spray and are generally used in mining and other applications for dust suppression.

The Type "S" nozzle is manufactured by HAHN Industries, a Division of Steinen.

- The Type "S" nozzle is Steinen Part # 147-00043.
- Steinen has also sold this nozzle under Part # SN180-00-000-01.
- This nozzle is also manufactured for Joy Mining (Joy Part # 01566237-0000).
- *All of the above part numbers are the same nozzle.*



Type "S" nozzle
Part # 147-00043



DIMENSIONS & WEIGHTS					
		Inlet			Weight
Material	Conn. (in.)	A (in.)	B (in.)	B (in.)	Approx.(oz.)
147-00043	Brass	1/4"	5/8"	15/16"	3/4

Nozzle Type	Steinen Part #	RATED CAPACITY (gallons/minute)					Spray Angle (approx.)
		20 PSI	40 PSI	60 PSI	80 PSI	100 PSI	
"S"	147-00043	1.10	1.5	1.80	2.10	2.4	120°

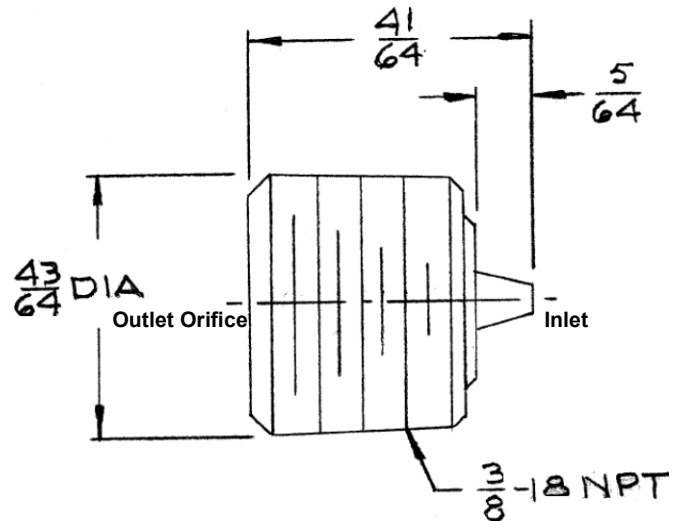
JETSPRAY™ *FULL CONE* NOZZLE

TYPE "X" (Steinen/Hahn)

Type "X" TRIM-JET™ full cone nozzles produce a precision uniform cone spray are generally used in Highwall and Longwall mining applications.

The Type "X" TRIM-JET™ nozzle is manufactured by HAHN Industries, a Division of Steinen.

- The Type X TRIM-JET™ is available in Brass in 3/8" NPT male thread.



Nozzle Type	Steinen Part #	INLET		OUTLET ORIFICE		RATED CAPACITY (gallons/minute)					SPRAY
		Decimal	Fraction	Decimal	Fraction	20 PSI	40 PSI	60 PSI	80 PSI	100 PSI	ANGLE (approx.)
3/8" Type X TRIM JET™	270-20050	.063"	1/16"	.078"	5/64"	0.64	0.90	1.10	1.27	1.42	40°

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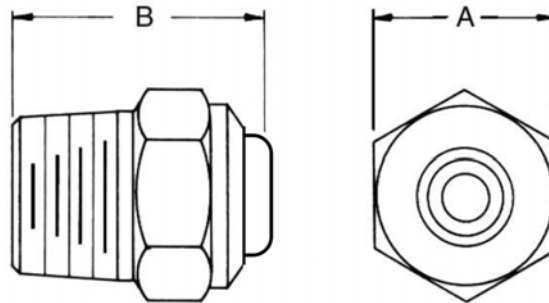
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TYPE "L" *FULL CONE* NOZZLE

TYPE "L" (Steinen/Hahn)

Type "L" full cone nozzles produce a uniform cone spray and are generally used in mining and other applications for dust suppression. Type L full cone nozzles are very similar to Steinen's full line of Solid-Jet® nozzles, except Type L nozzles have unique flow rates and spray angles as specified by some mining equipment manufacturers.

Type L nozzles are brass and available in 1/4" NPT (141-xxxxx) or 3/8" NPT (241-xxxxx).



DIMENSIONS & WEIGHTS

	Material	Inlet Conn. (in.)	A (in.)	B (in.)	Weight Approx.(oz.)
Type L (141-xxxxx)	Brass	1/4"	5/8"	15/16"	3/4
Type L (241-xxxxx)	Brass	3/8"	3/4"	31/32"	1 1/2

RATED CAPACITY (gallons/minute)

Type (Part Number):	40 PSI	60 PSI	80 PSI	100 PSI	Spray Angle (approx.)
Type L #1 (141-03152)	0.20	0.24	0.28	0.32	40°
Type L #6.5 (141-09452)	1.30	1.60	1.84	2.06	65°
Type L #10 (141-10952)	1.90	2.33	2.69	3.00	75°
New! Type L #7 (241-13550)	1.35	1.65	1.91	2.13	50°
Type L #9.5 (241-10944)	1.80	2.20	2.55	2.85	60°

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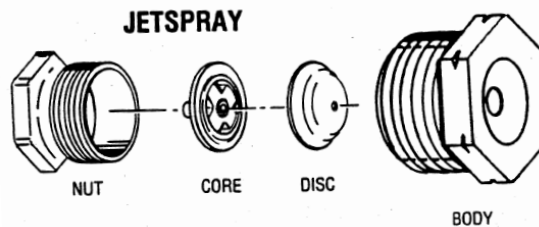
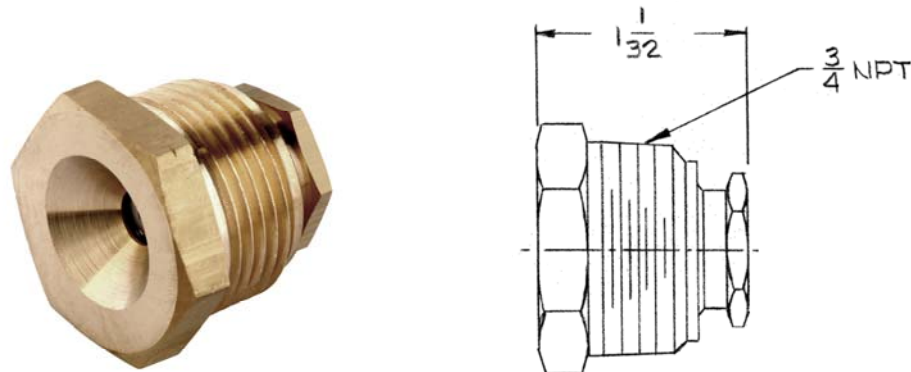
JETSPRAY™ *FULL CONE NOZZLE*

TYPE 331 (Steinen/Hahn)

Type 331 JETSPRAY™ full cone nozzles produce a precision uniform cone spray, have removable discs and cores for easy cleaning, and are generally used in mining and other applications.

The Type 331 JETSPRAY™ nozzle is manufactured by HAHN Industries, a Division of Steinen.

- The Type 331 JETSPRAY™ is available in three different flow rates.
- Each nozzle has a removable disc and core for easy cleaning.
- Nozzles are constructed from Brass and have a 3/4" male NPT pipe thread.



Nozzle Type	Steinen Part #	RATED CAPACITY (gallons/minute)					Spray Angle (approx.)
		20 PSI	40 PSI	60 PSI	80 PSI	100 PSI	
JETSPRAY #3 Disc	331-00321	0.21	0.30	0.37	0.42	0.47	30°
JETSPRAY #5 Disc	331-00521	0.57	0.80	0.98	1.13	1.26	40°
JETSPRAY #6 Disc	331-00621	0.71	1.00	1.23	1.41	1.58	50°

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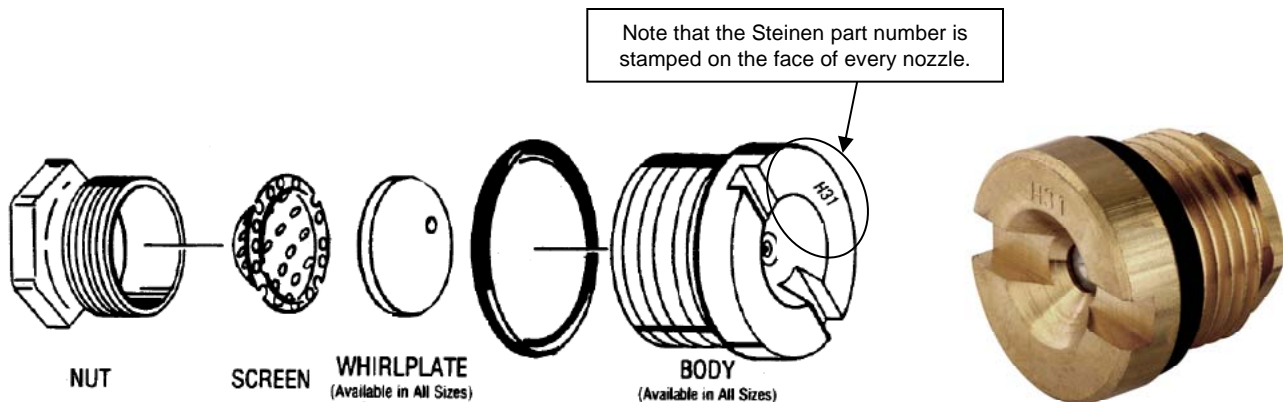
WHIRLPLATE NOZLET™ *SOLID CONE* NOZZLES

TYPE H (Steinen/Hahn)

Type H Whirlplate Nozlet nozzles produce a uniform cone spray and are generally used in mining and other applications for dust suppression.

The **Type H Whirlplate Nozlet** nozzle is manufactured by HAHN Industries, a Division of Steinen.

Nozzle Description: **Whirlplate Nozlet** is a precision spray nozzle with a removable whirlplate and screen for easy cleaning and replacement utilizing a 1 1/16" - 11½TPI outside thread.



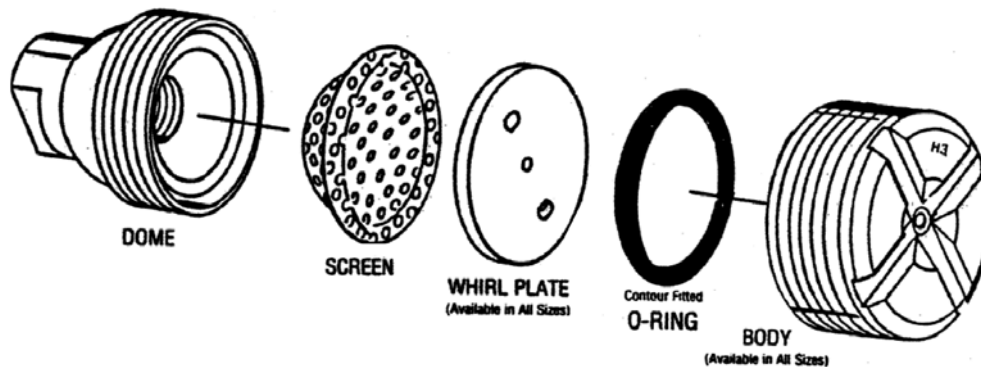
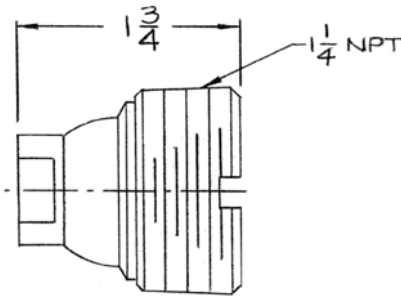
Nozzle Type	Steinen Part #	RATED CAPACITY (gallons/minute)					Spray Angle (approx.)
		20 PSI	40 PSI	60 PSI	80 PSI	100 PSI	
H-31	333-05311	0.29	0.38	0.44	0.49	0.53	30°
H-51	333-05511	0.54	0.74	0.88	1.02	1.13	40°
H-53	333-05513	0.57	0.78	0.94	1.08	1.20	45°

For an H-31 solid cone, order Steinen Part # 333-005311. For an H-51 solid cone, order Steinen Part # 333-005511. For an H-53 solid cone, order Steinen Part # 333-005513.

TYPE 334 "Dome Shaped" *FULL CONE* NOZZLE TYPE "334" (Steinen/Hahn)

Type 334 full cone nozzles produce a uniform cone spray and are generally used in mining and other applications for dust suppression.

Nozzle Description: **Dome Shaped Type 334** nozzles are precision spray nozzles with removable whirlplates and screens for easy cleaning and replacement utilizing a 1 1/4" outside thread.



Type (Part Number):	RATED CAPACITY (gallons/minute)				SPRAY ANGLE	
	40 PSI	60 PSI	80 PSI	100 PSI	40 PSI	80 PSI
Type #3-1 (334-05301)	0.20	0.25	0.29	0.32	40°	50°
Type #3-3 (334-05303)	0.32	0.40	0.45	0.51	20°	25°
Type #4-1 (334-05401)	0.32	0.40	0.45	0.51	60°	60°
Type #5-1 (334-05501)	0.42	0.52	0.60	0.66	65°	70°
Type #5-7 (334-05507)	0.85	1.02	1.17	1.30	35°	40°

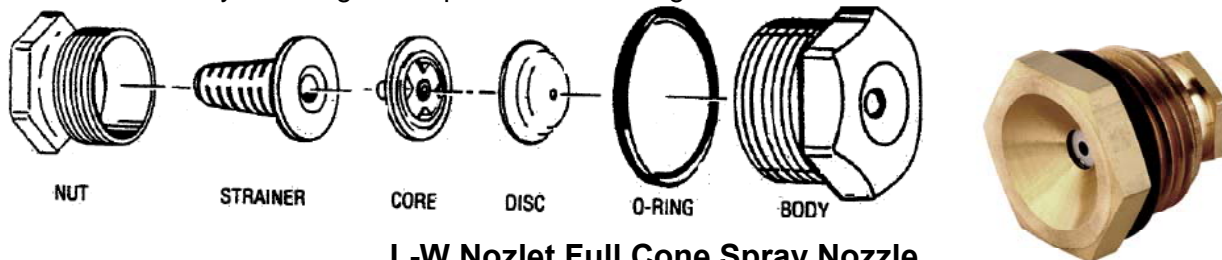
Many other sizes of the Dome Shaped Type 334 nozzle are available upon request.

TYPE "L-W" *FULL CONE* NOZZLE

TYPE "L-W" (Steinen/Hahn)

Type "L-W" full cone nozzles produce a uniform cone spray and are generally used in mining and other applications for dust suppression.

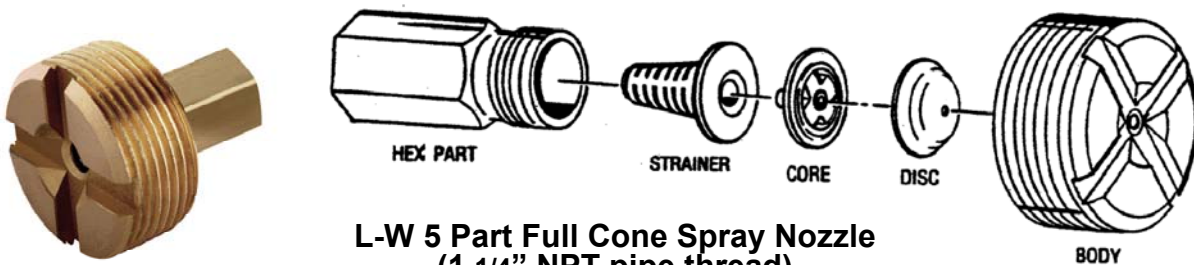
Nozzle Description: L-W Nozlet is a precision spray nozzle with a removable disc, core and strainer for easy cleaning and replacement utilizing a 1 1/16" outside thread.



**L-W Nozlet Full Cone Spray Nozzle
(1 1/16" NPT pipe thread)**

Type (Part Number):	RATED CAPACITY (gallons/minute)				SPRAY ANGLE	
	40 PSI	60 PSI	80 PSI	100 PSI	40 PSI	80 PSI
Type LW #3 (332-00321)	0.30	0.37	0.42	0.47	15°	25°
Type LW #5 (332-00521)	0.80	0.98	1.13	1.26	35°	40°

Nozzle Description: L-W 5 Part Nozzle is a precision spray nozzle with a removable disc, core and strainer for easy cleaning and replacement utilizing a 1 1/4" outside thread.



**L-W 5 Part Full Cone Spray Nozzle
(1 1/4" NPT pipe thread)**

Type (Part Number):	RATED CAPACITY (gallons/minute)				SPRAY ANGLE	
	40 PSI	60 PSI	80 PSI	100 PSI	40 PSI	80 PSI
Type LW #3 (335-00321)	0.30	0.37	0.42	0.47	15°	25°
Type LW #4 (335-00421)	0.55	0.67	0.78	0.87	25°	30°
Type LW #5 (335-00521)	0.80	0.98	1.13	1.26	35°	40°
Type LW #6 (335-00621)	1.05	1.29	1.48	1.66	40°	43°

HAHN *DRENCH* NOZZLE

The Hahn DRENCH nozzle sprays 10 gallons per minute in a wide angle (180°) spray and is generally used for flooding and fire suppression.

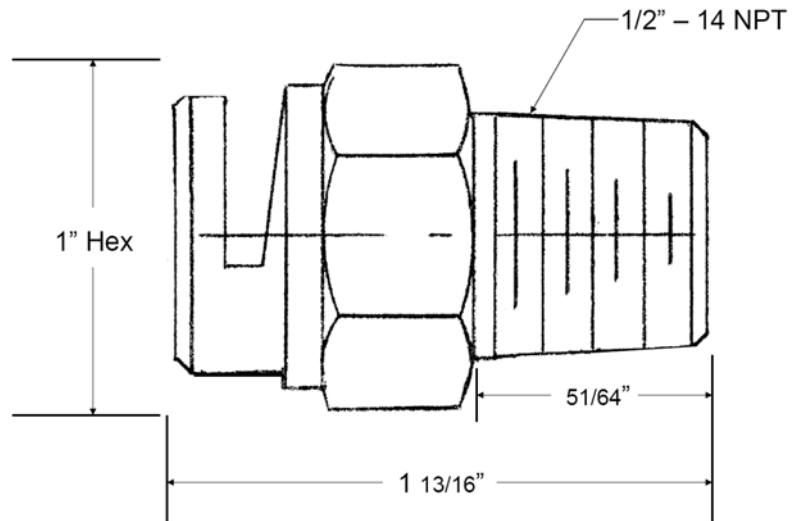
The **DRENCH** nozzle is manufactured by HAHN Industries, a Division of Steinen.

- The **DRENCH** nozzle is Steinen Part # 361-12265.
- *This is a high flow nozzle with large water droplet sizes for flooding of a wide area.*



HAHN DRENCH nozzle

Part # 361-12265



Nozzle Type	Steinen Part #	RATED CAPACITY (gallons/minute)					Spray Angle (approx.)
		20 PSI	40 PSI	60 PSI	80 PSI	100 PSI	
DRENCH	361-12265	7	10	12.3	14.1	15.8	180°

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MIST-JET HOLLOW CONE NOZZLES

TYPES A, P, F, M

Capacities: .37 to 35 G.P.H.
Spray Angles: 70°, 80°, 90°



Type P
1/4" Male

Type M
1/8", 1/4", 3/8"
Male

Type F
1/8", 1/4"
Female

Capacity G.P.H. @ 40 P.S.I.	Catalog No.	Approx. Orifice Diameter	CAPACITY IN GALLONS PER HOUR (At Various Pressures in Pounds Per Square Inch)									
			40	60	80	100	125	150	200	300	400	500
.37	A37*	.009	.37	.45	.55	.60	.70	.75	.85	1.05	1.2	1.35
.50	A50*	.010	.50	.60	.70	.80	.85	.95	1.1	1.4	1.6	1.8
.75	A75*	.012	.75	.89	1.1	1.2	1.4	1.5	1.7	2.1	2.4	2.7
1.00	A100	.014	1.0	1.2	1.4	1.6	1.7	1.9	2.2	2.7	3.1	3.5
1.50	A150	.020	1.5	1.8	2.1	2.4	2.7	2.9	3.4	4.1	4.8	5.3
2.00	A200	.024	2.0	2.5	2.8	3.2	3.5	3.9	4.5	5.5	6.4	7.1
2.50	A250	.028	2.5	3.1	3.5	3.9	4.4	4.8	5.5	6.8	7.8	8.8
3.00	A300	.028	3.0	3.7	4.2	4.7	5.2	5.8	6.7	8.2	9.5	10.6
3.50	A350	.031	3.5	4.3	4.9	5.6	6.2	6.8	7.9	9.6	11.1	12.4
4.00	A400	.036	4.0	4.9	5.6	6.3	7.2	7.8	9.0	11.0	12.7	14.2
4.50	A450	.040	4.5	5.4	6.3	7.1	7.9	8.7	10.1	12.4	14.3	16.0
5.00	A500	.040	5.0	6.1	7.1	7.9	8.8	9.7	11.2	13.7	15.8	17.7
5.50	A550	.040	5.5	6.7	7.7	8.6	9.6	10.6	12.2	14.9	17.3	19.3
6.00	A600	.043	6.0	7.3	8.5	9.4	10.5	11.6	13.4	16.3	18.9	21.1
6.50	A650	.046	6.5	8.0	9.3	10.3	11.3	12.6	14.6	17.8	20.6	23.0
7.00	A700	.046	7.0	8.6	9.9	11.1	12.4	13.6	15.7	19.2	22.2	24.8
7.50	A750	.046	7.5	9.3	10.5	11.9	13.2	14.6	16.9	20.6	23.8	26.6
8.00	A800	.052	8.0	9.8	11.3	12.6	14.2	15.5	17.9	21.9	25.3	28.3
8.50	A850	.052	8.5	10.3	12.0	13.4	15.0	16.5	19.1	23.3	26.9	30.1
9.00	A900	.052	9.0	11.0	12.6	14.1	15.8	17.4	20.3	24.8	28.6	32.0
10.0	A1000	.059	10.0	12.2	14.1	15.8	17.6	19.4	22.4	27.4	31.7	35.5
12.0	A1200	.063	12.0	14.7	17.0	19.0	21.0	23.2	26.8	32.7	37.8	42.3
13.0	A1300	.067	13.0	16.2	18.4	20.6	23.0	25.3	29.2	35.7	41.2	46.1
14.0	A1400	.067	14.0	17.1	19.8	22.2	24.8	27.2	31.4	38.3	44.3	49.6
15.0	A1500	.070	15.0	18.4	21.2	23.7	26.3	29.0	33.8	41.2	47.7	53.3
16.0	A1600	.073	16.0	19.6	22.6	25.3	28.2	31.0	35.8	43.7	50.6	56.6
18.0	A1800	.076	18.0	22.0	25.5	28.5	31.8	34.8	40.3	49.4	57.0	63.6
20.0	A2000	.076	20.0	24.5	28.2	31.6	35.2	38.8	44.8	54.7	63.3	71.0
22.0	A2200	.078	22.0	27.0	31.2	34.8	38.6	42.7	49.2	60.2	69.5	77.8
24.0	A2400	.082	24.0	29.4	34.0	38.0	42.3	46.4	53.6	65.4	75.6	84.6
26.0	A2600	.082	26.0	32.0	36.7	41.1	45.8	50.5	58.4	71.2	82.4	92.2
28.0	A2800	.086	28.0	34.2	39.6	44.4	49.4	54.4	62.8	76.6	88.6	99.2
30.0	A3000	.089	30.0	36.8	42.4	47.4	52.6	58.0	67.2	82.2	95.2	106.6
35.0	A3500	.096	35.0	42.7	49.7	55.3	61.6	67.9	78.5	95.7	110.8	124.2

THE HAHN MINING SPRAY NOZZLE DIVISION

The Wm Steinen Manufacturing Co. was founded in 1907 by William Steinen. Operations began in Newark, New Jersey as a tool and die shop. In response to customer requests, the company expanded its operations to include both screw machine and metal stamping capabilities.

In 1946 the company entered the fluid dispersal field with the introduction of the Steinen oil burner nozzle. The fluid dispersal activities have been expanded into heating, mining and industrial fields worldwide. As a result of the expanding product line and worldwide sales activities the company doubled the size of its facilities and relocated from Newark, New Jersey to Parsippany, New Jersey, in the mid-1960's where it continues to operate today.

The HAHN Mining Spray Nozzle Division was acquired 30 years ago by Steinen and offers a wide range of spray nozzles for the mining industry.



Copies of Steinen/Hahn nozzle data sheets and this catalog are available on the Internet for viewing and downloading at www.steinen.com/hahn

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