

# S, GS, HGS full cone spray nozzles

Pattern - Full Conical

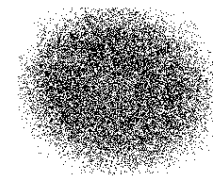
**SPRAY CHARACTERISTICS:** Full cone spray pattern, with uniform distribution throughout the cone.

**CONSTRUCTION:** This nozzle contains a patented insert with larger flow passages than older styles, and is less susceptible to clogging. Standard materials are brass, 303 stainless steel and 316 stainless steel. Some models are also stocked in PVC, CPVC and polypropylene.

**TYPICAL APPLICATIONS:**

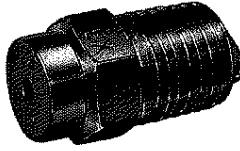
- Chemical Processing
- Cooling Sprays
- Foam Breaking
- Continuous casting

U.S. Patent No. 4,142,682  
Canadian Patent No. 1,050,589



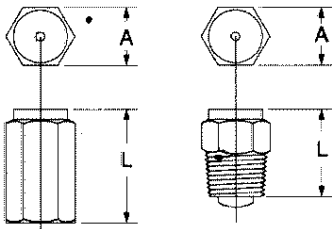
## S series

full cone: One piece body + removable insert



DIMENSIONS (inches)		
NOZZLE SIZE	Dim. A	Dim. L
1/8S	7/16 HEX	13/16
1/4S	9/16 HEX	15/16
3/8S	11/16 HEX	1 1/16
1/2S	7/8 HEX	1 9/32
3/4S	1 1/16 HEX	1 9/16
3/4FS	1 3/8 HEX	2 1/16
1S	1 1/4 HEX	2 3/16
1FS	1 5/8 Diam.	2 5/8

FS: Female Connection S: Male Connection



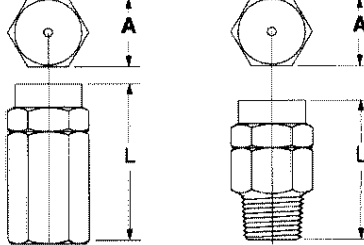
## GS series

full cone: Two piece body + removable insert



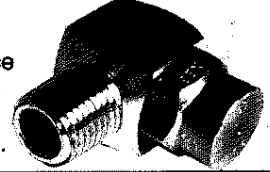
DIMENSIONS (inches)		
NOZZLE SIZE	Dim. A	Dim. L
1/8GS	5/8 HEX	1 5/16
1/4GS	11/16 HEX	1 9/16
3/8GS	13/16 HEX	1 11/16
1/2GS	1 HEX	2
1/8FGS	5/8 HEX	1 9/32
1/4FGS	11/16 HEX	1 21/32
3/8FGS	13/16 HEX	1 15/16
1/2FGS	1 HEX	2 3/32

FGS: Female Connection GS: Male Connection



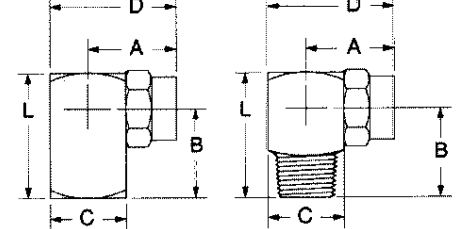
## HGS series

full cone: Two piece body + removable insert. Sprays at right angle to pipe.



DIMENSIONS (inches)					
NOZZLE SIZE	Dim. A	Dim. B	Dim. C	Dim. D	Dim. L
1/8HGS	23/32	11/16	5/8 SQ	1 1/32	1
1/4HGS	29/32	1	3/4 SQ	1 9/32	1 3/8
3/8HGS	1 1/32	7/16	7/8 SQ	1 15/32	1 17/32
1/2HGS	1 3/16	1 3/8	1 SQ	1 11/16	1 7/8
1/8FHGS	21/32	11/16	1/2 SQ	29/32	31/32
1/4FHGS	29/32	1	3/4 SQ	1 9/32	1 3/8
3/8FHGS	1 1/32	1 3/32	7/8 SQ	1 15/32	1 17/32
1/2FHGS	1 3/16	1 3/8	1 SQ	1 11/16	1 7/8

FHGS: Female Conn. HGS: Male Conn.



'S' one piece body		'GS' two piece body		'HGS' two piece body, right angle		PIPE SIZE N.P.T.	MAXIMUM FREE PASSAGE (inches)	CAPACITY (G.P.M.)* AT VARIOUS PRESSURES (p.s.i.)																SPRAY ANGLE @		
FEMALE	MALE	FEMALE	MALE	FEMALE	MALE			3 p.s.i.	5 p.s.i.	7 p.s.i.	10 p.s.i.	15 p.s.i.	20 p.s.i.	30 p.s.i.	40 p.s.i.	60 p.s.i.	80 p.s.i.	100 p.s.i.	150 p.s.i.	7 p.s.i.	20 p.s.i.	80 p.s.i.				
1/8S1	1/8S1.5	1/8FGS1	1/8GS1	1/8FHGS1	1/8HGS1	1/8	.033	--	--	--	.12	.14	.17	.20	.24	.28	.32	.39	--	55°	52°					
1/8S2	1/8S3	1/8FGS2	1/8GS2	1/8FHGS2	1/8HGS2		.051	--	--	.17	.20	.24	.28	.35	.40	.49	.57	.63	.77	54°	59°	60°				
1/8S3.5	1/8S5	1/8FGS3.5	1/8GS3.5	1/8FHGS3.5	1/8HGS3.5		.051	.19	.25	.29	.35	.43	.49	.61	.70	.86	.99	1.11	1.36	48°	58°	61°				
1/8S6	1/8S5	1/8FGS5	1/8GS5	1/8FHGS5	1/8HGS5		.064	.27	.35	.42	.50	.61	.71	.87	1.00	1.22	1.41	1.58	1.94	60°	75°	70°				
1/4S5	1/4S6.5	1/4FGS6.5	1/4GS6.5	1/4FHGS6.5	1/4HGS6.5	1/4	.081	.27	.35	.42	.50	.61	.71	.87	1.00	1.22	1.41	1.58	1.94	58°	68°	62°				
1/4S7.5	1/4S7.5	1/4FGS7.5	1/4GS7.5	1/4FHGS7.5	1/4HGS7.5		.091	.36	.46	.54	.65	.80	.92	1.13	1.30	1.59	1.84	2.1	2.5	48°	56°	50°				
1/4S8.5	1/4S10	1/4FGS10	1/4GS10	1/4FHGS10	1/4HGS10		.091	.47	.60	.71	.85	1.04	1.20	1.47	1.70	2.1	2.4	2.7	3.3	58°	65°	63°				
1/4S14	1/4S10	1/4FGS10	1/4GS10	1/4FHGS10	1/4HGS10		.091	.55	.71	.84	1.00	1.22	1.41	1.73	2.0	2.4	2.8	3.2	3.9	60°	65°	62°				
3/8S9.5	3/8S10	3/8FGS9.5	3/8GS9.5	3/8FHGS9.5	3/8HGS9.5	3/8	.102	.52	.67	.79	.95	1.16	1.34	1.65	1.90	2.3	2.7	3.0	3.7	58°	68°	62°				
3/8S15	3/8S10	3/8FGS10	3/8GS10	3/8FHGS10	3/8HGS10		.102	.55	.71	.84	1.00	1.22	1.41	1.73	2.0	2.4	2.8	3.2	3.9	55°	65°	50°				
3/8S18	3/8S20	3/8FGS20	3/8GS20	3/8FHGS20	3/8HGS20		.102	.82	1.06	1.25	1.50	1.84	2.1	2.6	3.0	3.7	4.2	4.7	5.8	63°	65°	60°				
3/8S22	3/8S20	3/8FGS20	3/8GS20	3/8FHGS20	3/8HGS20		.102	.99	1.27	1.51	1.80	2.2	2.5	3.1	3.6	4.4	5.1	5.7	7.0	85°	88°	76°				
1/2S16	1/2S25	1/2FGS25	1/2GS25	1/2FHGS25	1/2HGS25	1/2	.144	.88	1.13	1.34	1.6	2.0	2.3	2.8	3.2	3.9	4.5	5.1	6.2	55°	60°	55°				
1/2S32	1/2S32	1/2FGS32	1/2GS32	1/2FHGS32	1/2HGS32		.144	1.37	1.77	2.1	2.5	3.1	3.5	4.3	5.0	6.1	7.1	7.9	9.7	68°	73°	65°				
1/2S40	1/2S40	1/2FGS40	1/2GS40	1/2FHGS40	1/2HGS40		.144	1.75	2.3	2.7	3.2	3.9	4.5	5.5	6.4	7.8	9.1	10.1	12.4	80°	90°	75°				
3/4S30	3/4S30	3/4FGS30	3/4GS30	3/4FHGS30	3/4HGS30	3/4	.162	2.2	2.8	3.3	4.0	4.9	5.7	6.9	8.0	9.8	11.3	12.6	15.5	86°	90°	81°				
3/4FS50	3/4FS50	3/4FGS50	3/4GS50	3/4FHGS50	3/4HGS50		.162	1.6	2.1	2.5	3.0	3.7	4.2	5.2	6.0	7.3	8.5	9.5	11.6	50°	52°	49°				
3/4FS83	3/4FS83	3/4FGS83	3/4GS83	3/4FHGS83	3/4HGS83		.195	2.7	3.5	4.2	5.0	6.1	7.1	8.7	10.0	12.2	14.1	15.8	19.4	65°	70°	65°				
1FS83	1FS83	1FGS83	1GS83	1FHGS83	1HGS83	1	.195	4.5	5.9	6.9	8.3	10.2	11.7	14.4	16.6	20	23	26	32	93°	97°	86°				
1FS106	1FS106	1FGS106	1GS106	1FHGS106	1HGS106		.219	4.5	5.9	6.9	8.3	10.2	11.7	14.4	16.6	20	23	26	32	71°	78°	75°				
1FS120	1FS120	1FGS120	1GS120	1FHGS120	1HGS120		.219	5.8	7.5	8.9	10.6	13.0	15.0	18.4	21	26	30	34	41	86°	89°	80°				
1FS142	1FS142	1FGS142	1GS142	1FHGS142	1HGS142		.219	6.6	8.5	10.0	12.0	14.7	17.0	21	24	29	34	38	46	80°	94°	85°				
							.219	7.8	10.0	11.9	14.2	17.4	20	25	28	35	40	45	55	88°	92°	83°				

\*All References to G.P.M. mean U.S. G.P.M.