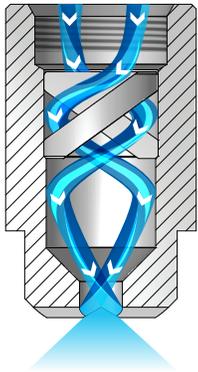


OVERVIEW: FULLJET SQUARE AND OVAL SPRAY PATTERNS AND VANELESS DESIGN

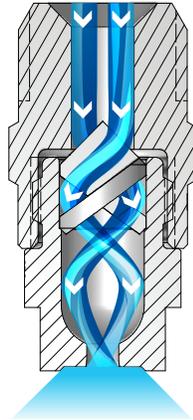
FullJet G and H Square Spray Nozzles



Square spray

As the liquid enters the nozzle, it flows over and through the vane. This creates the initial swirling of the liquid. The design of the nozzle ensures the liquid continues to swirl after passing through the vane. As the liquid exits the orifice, it interacts with cross cuts located on the face of the nozzle and forms a square spray pattern.

FullJet G-VL and GG-VL Nozzles



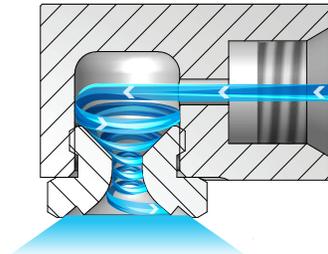
Oval spray

As the liquid enters the nozzle, it flows over and through the vane. This creates the initial swirling of the liquid. The design of the nozzle ensures the liquid continues to swirl after passing through the vane. The exit orifice of the nozzle has an oval shape. The liquid follows the oval shape as it exits the nozzle.

FullJet GANV and GGANV Nozzles

Vaneless spray

The liquid begins to swirl as it enters the swirlchamber. The swirling continues as it passes through the orifice. The breakup of the liquid occurs as it exits the nozzle orifice in a well-defined cone pattern.



FULLJET SQUARE SPRAY PATTERN

- Cone-shaped spray pattern with square-like impact area for coverage of rectangular areas or spray zones
- Unique vane design and large flow passages provide superior spray pattern control
- Uniform spray distribution from .26 to 1977 gpm (1.1 to 7371 lpm)
- Operating pressures up to 150 psi (10 bar)
- Spray angles: Standard – 43° to 94°, Wide – 112° to 120°



G-SQ
1/8" to 1/2" female conn.
Removable cap and vane



H-SQ
1" female conn.
One-piece body

FULLJET SQUARE SPRAY OPTIONS



GG-SQ – 1/8" to 1/2" male conn.
Removable cap and vane



H-SQ – 1-1/4" to 6" female conn.
Removable vane/cast body



HH-SQ – 1/8" to 1" male conn.
One-piece body



H-WSQ – 3/4" to 1" female conn.
One-piece body



H-WSQ – 1-1/4" to 3" female conn.
Removable vane/cast body



HH-WSQ – 1/4" to 1" male conn.
One-piece body



FULLJET OVAL SPRAY PATTERN

- Solid cone-shaped spray pattern with oval impact area; the width of the spray is approximately half its length
- Unique vane design provides superior spray pattern control
- Uniform spray distribution from .59 to 3.2 gpm (2.2 to 11.9 lpm)
- Operating pressures up to 150 psi (10 bar)
- Spray angles: Standard – 43° to 94°



G-VL – 3/8" female conn.
Removable cap and vane



GG-VL – 3/8" female conn.
Removable cap and vane

FULLJET VANELESS DESIGN

- Solid cone-shaped spray pattern with round impact area
- Uniform spray distribution from .35 to 23 gpm (1.4 to 87 lpm)
- Operating pressures up to 100 psi (7 bar)
- No vane for unrestricted flow – coarse spray is projected at 90° from axis at the inlet
- Spray angles: Standard – 43° to 94°



GANV – 1/4" to 1/2" female conn.
Vaneless design
Removable cap



GGANV – 1/4" to 1/2" male conn.
Vaneless design
Removable cap

ORDERING INFORMATION

FULLJET SQUARE SPRAY PATTERN

Inlet Conn.	Nozzle Type	–	Material Code	Capacity Size	Example
					1/4 G – SS 12SQ

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

FULLJET OVAL SPRAY PATTERN

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

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

FULLJET VANELESS DESIGN

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

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

RELATIVE DROP SIZE IN MICRONS



Drop size will vary based on flow rate and pressure.

QUICK REFERENCE GUIDE

Model	Connection/ Type	Connection Size (in.)	Materials	Page Number	
				Performance Data	Dimensions and Weights
G-SQ	F	1/8 to 1/2	Brass, Mild steel (I), 303 stainless steel (SS), 316 stainless steel (316SS)	B32	B35
GG-SQ	M				
H-SQ	F	1	Brass, Mild steel (I), 303 stainless steel (SS)	B32	
H-SQ	F, Cast	1-1/4 to 6	Brass, 316 stainless steel (SS)	B33	
HH-SQ	M	1/8 to 1	Brass, Mild steel (I), 303 stainless steel (SS), 316 stainless steel (316SS), Polyvinyl chloride (PVC)	B32	
H-WSQ	F	3/4 to 1	Brass, Mild steel (I), 303 stainless steel (SS), 316 stainless steel (316SS)	B33	
H-WSQ	F, Cast	1-1/4 to 3	Brass, 316 stainless steel (SS)		
HH-WSQ	M	1/4 to 1	Brass, Mild steel (I), 303 stainless steel (SS), 316 stainless steel (316SS), Polyvinyl chloride (PVC)		
G-VL	F	3/8	Brass, 303 stainless steel (SS)	B34	
GG-VL	M				
GANV	F	1/4 to 1/2	Brass, 303 stainless steel (SS)		
GGANV	M				

F = female thread; M = male thread. There is no material code for brass. Leave material code blank when ordering. Other materials available upon request.
For more dimensions and sizes, contact your sales engineer.

S PERFORMANCE DATA:
STANDARD ANGLE SPRAY



Inlet Conn. (in.)	Nozzle Type				Capacity Size	Orifice Dia. Nom. (mm)	Max. Free Passage Dia. (mm)	Flow Rate Capacity (liters per minute)								Spray Angle (°)		
	G-SQ	GG-SQ	HH-SQ	H-SQ				0.4 bar	0.5 bar	0.7 bar	1.5 bar	3 bar	6 bar	7 bar	10 bar	0.5 bar	1.5 bar	6 bar
1/8	●	●	●		3.6SQ	1.6	1.3	1.1	1.2	1.4	1.9	2.7	3.7	4.0	4.7	40	52	47
	●	●	●		4.8SQ	1.9	1.3	1.4	1.6	1.8	2.6	3.6	4.9	5.3	6.2	48	63	57
	●	●	●		6SQ	2.4	1.3	1.8	2.0	2.3	3.2	4.5	6.1	6.6	7.8	60	66	60
1/4	●	●	●		10SQ	2.8	1.6	2.9	3.3	3.8	5.4	7.4	10.2	11.0	13.0	62	67	61
	●	●	●		12SQ	3.2	1.6	3.5	3.9	4.6	6.5	8.9	12.3	13.2	15.5	70	75	68
			●		14.5SQ	3.9	1.6	4.3	4.7	5.5	7.8	10.8	14.8	15.9	18.8	78	82	75
3/8	●	●	●		18SQ	4.0	2.4	5.3	5.9	6.9	9.7	13.4	18.4	19.8	23	71	75	68
1/2	●	●	●		29SQ	5.6	3.2	8.5	9.5	11.1	15.7	22	30	32	38	71	75	68
			●		36SQ	6.4	3.2	10.6	11.8	13.7	19.5	27	37	40	47	78	82	75
3/4			●		50SQ	6.7	4.4	14.7	16.3	19.1	27	37	51	55	65	71	75	68
1			●	●	106SQ	9.9	5.6	31	35	40	57	79	109	117	137	78	80	73

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

Highlighted column shows the rated pressure.



S PERFORMANCE DATA:
STANDARD ANGLE SPRAY

Inlet Conn. (in.)	Nozzle Type				Capacity Size	Orifice Dia. Nom. (mm)	Max. Free Passage Dia. (mm)	Flow Rate Capacity (liters per minute)										Spray Angle (°)		
	G-SQ	GG-SQ	HH-SQ	H-SQ				0.4 bar	0.5 bar	0.7 bar	1.5 bar	3 bar	6 bar	7 bar	10 bar	0.5 bar	1.5 bar	6 bar		
1-1/4				●	177SQ	12.7	6.4	52	58	67	96	132	181	195	229	78	80	73		
1-1/2				●	230SQ	14.3	8.7	68	75	88	124	171	236	253	298	73	77	70		
2				●	290SQ	15.5	11.1	85	95	111	157	216	297	319	376	66	70	64		
				●	360SQ	17.4	11.1	106	118	137	195	268	369	396	466	70	74	67		
2-1/2				●	480SQ	21	11.1	141	157	183	260	357	492	528	622	79	82	74		
				●	490SQ	19.8	14.3	144	160	187	265	365	502	539	635	62	67	61		
				●	590SQ	22.2	14.3	174	193	225	319	439	604	649	764	75	78	71		
5				●	950SQ	28.6	17.5	280	310	362	514	707	973	1044	1231	81	84	76		
				●	2980SQ	47.6	28.6	878	973	1136	1613	2219	3052	3276	3860	89	91	83		
6				●	5690SQ	81.8	44.5	1677	1858	2169	3080	4236	5827	6255	7371	102	105	95		

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

Highlighted column shows the rated pressure.

W PERFORMANCE DATA:
WIDE ANGLE SPRAY



Inlet Conn. (in.)	Nozzle Type		Capacity Size	Orifice Dia. Nom. (mm)	Max. Free Passage Dia. (mm)	Flow Rate Capacity (liters per minute)							Spray Angle (°)		
	H-WSQ	HH-WSQ				0.4 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	3 bar	6 bar	0.4 bar	0.7 bar	6 bar
1/4		●	14WSQ	3.6	1.6	4.2	4.6	5.3	6.2	7.5	10.1	13.7	99	101	93
3/8		●	17WSQ	4.0	1.6	5.1	5.6	6.5	7.6	9.1	12.3	16.7	99	101	93
		●	20WSQ	4.4	2.4	6.0	6.6	7.6	8.9	10.7	14.5	19.6	104	110	94
		●	24WSQ	4.8	2.4	7.1	7.9	9.1	10.7	12.8	17.4	24	104	110	94
1/2		●	27WSQ	5.2	2.8	8.0	8.9	10.3	12.0	14.4	19.5	26	104	110	98
		●	30WSQ	5.6	2.8	8.9	9.9	11.4	13.4	16.0	22	29	104	110	102
		●	35WSQ	6.0	3.2	10.4	11.5	13.3	15.6	18.7	25	34	104	110	102
		●	40WSQ	6.4	3.2	11.9	13.1	15.2	17.8	21	29	39	104	110	102
3/4		●	45WSQ	6.4	3.6	13.4	14.8	17.1	20	24	33	44	104	110	102
		●	50WSQ	6.7	4.0	14.9	16.4	19.1	22	27	36	49	104	110	102
		●	71WSQ	9.9	4.4	21	23	27	32	38	51	70	105	110	102
1	●	●	130WSQ	13.1	5.6	39	43	50	58	69	94	127	107	110	107
1-1/4	●		190WSQ	15.5	6.4	57	62	72	85	101	137	186	108	111	109
1-1/2	●		290WSQ	18.3	10.3	86	95	111	129	155	210	284	109	114	109
2	●		560WSQ	25	11.1	167	184	213	250	298	405	549	110	114	109
2-1/2	●		830WSQ	31.8	14.3	247	273	316	370	442	600	814	110	115	109
3	●		1070WSQ	34.8	17.5	319	352	408	477	570	774	1049	110	115	109

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

Highlighted column shows the rated pressure.

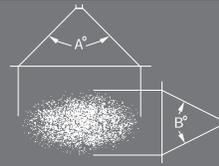


PAWIN Engineering Co., Ltd.
168 อาคาร Axiom 1 น. 7 ถ. ซังแก้ว ต. บางพลีใหญ่
อ. บางพลี จ. สมุทรปราการ 10540



Spraying Systems Co.®

S PERFORMANCE DATA:
STANDARD ANGLE SPRAY



Inlet Conn. (in.)	Nozzle Type		Capacity Size	Max. Free Passage Dia. (mm)	Flow Rate Capacity (liters per minute)							Spray Angle (°)							
	G-VL	GG-VL			1 bar	2 bar	3 bar	4 bar	6 bar	7 bar	10 bar	1 bar		3 bar		7 bar		10 bar	
												A°	B°	A°	B°	A°	B°	A°	B°
3/8	●	●	4.9VL	1.0	2.2	3.0	3.6	4.2	5.0	5.4	6.3	104	66	90	60	86	52	83	47
	●	●	6.5VL	1.3	2.9	4.0	4.8	5.5	6.7	7.1	8.4	106	64	95	60	85	50	81	45
	●	●	8.1VL	1.3	3.6	5.0	6.0	6.9	8.3	8.9	10.5	102	64	100	65	84	50	80	45
	●	●	9.2VL	1.3	4.1	5.7	6.8	7.8	9.4	10.1	11.9	103	65	100	65	86	51	81	46

Maximum Free Passage Diameter is the maximum diameter as listed of foreign matter that can pass through the nozzle without clogging.
Calibration pressure = 10 psi (0.7 bar).

S PERFORMANCE DATA:
STANDARD ANGLE SPRAY



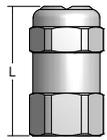
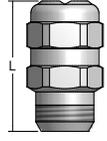
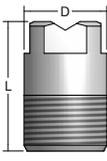
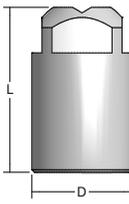
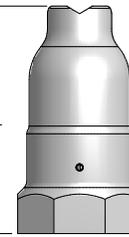
Inlet Conn. (in.)	Nozzle Type		Capacity Size	Orifice Dia. Nom. (mm)	Max. Free Passage Dia. (mm)	Flow Rate Capacity (liters per minute)								Spray Angle (°)		
	GANV	GGANV				0.4 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	3 bar	6 bar	7 bar	0.5 bar	1.5 bar	6 bar
1/4	●	●	5	2.8	2.0	1.4	1.6	1.9	2.3	2.8	3.9	5.6	6.0	68	75	82
	●	●	7	3.2	2.4	2.0	2.3	2.7	3.2	3.9	5.5	7.8	8.4	68	75	82
	●	●	8	4.0	2.8	2.3	2.6	3.1	3.6	4.5	6.3	8.9	9.6	75	80	85
	●	●	10	4.0	3.2	2.9	3.2	3.8	4.6	5.6	7.9	11.2	12.1	75	80	85
	●	●	11	4.0	3.6	3.2	3.5	4.2	5.0	6.1	8.7	12.3	13.3	75	80	85
3/8	●	●	11	4.4	3.2	3.2	3.5	4.2	5.0	6.1	8.7	12.3	13.3	75	85	83
	●	●	13	4.4	3.6	3.7	4.2	5.0	5.9	7.3	10.3	14.5	15.7	75	85	83
	●	●	16	4.4	4.0	4.6	5.2	6.1	7.3	8.9	12.6	17.9	19.3	75	85	83
	●	●	20	5.6	4.4	5.8	6.4	7.6	9.1	11.2	15.8	22	24	75	85	83
	●	●	23	5.6	4.8	6.6	7.4	8.8	10.5	12.8	18.2	26	28	75	85	83
	●	●	26	6.0	5.2	7.5	8.4	9.9	11.9	14.5	21	29	31	75	85	83
	●	●	29	6.0	5.6	8.4	9.3	11.1	13.2	16.2	23	32	35	75	85	83
	●	●	33	7.5	6.0	9.5	10.6	12.6	15.0	18.4	26	37	40	75	85	83
1/2	●	●	32	7.9	5.2	9.2	10.3	12.2	14.6	17.9	25	36	39	85	90	95
	●	●	40	7.9	6.0	11.5	12.9	15.3	18.2	22	32	45	48	85	90	95
	●	●	48	7.9	7.1	13.8	15.5	18.3	22	27	38	54	58	85	90	95
	●	●	56	9.9	7.5	16.1	18.1	21	26	31	44	63	68	85	90	95
	●	●	64	9.9	8.3	18.5	21	24	29	36	51	71	77	85	90	95
	●	●	72	9.9	9.1	21	23	27	33	40	57	80	87	85	90	95

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

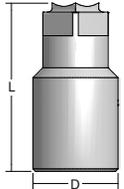
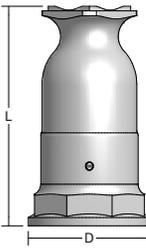
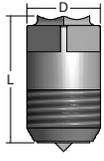
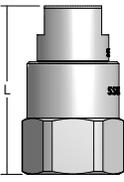
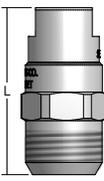
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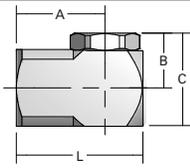
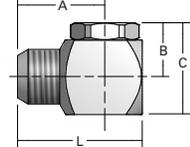
DIMENSIONS AND WEIGHTS

Nozzle	Nozzle Type	Inlet Conn. (in.)	L (mm)	Hex. (in.)	D (Dia.) (mm)	Net Weight (kg)
	G-SQ (F)	1/8	28.5	9/16	–	0.03
		1/4	34.1	11/16	–	0.04
	GG-SQ (M)	1/8	30.1	9/16	–	0.01
		1/4	36.5	11/16	–	0.01
	HH-SQ (M)	1/8	22.2	–	12.7	0.01
		1/4	22.2	–	13.5	0.02
		3/8	23.8	–	16.7	0.05
		1/2	28.7	–	20.6	0.10
		3/4	38.9	–	27.0	0.04
		1	51.6	–	33.3	0.37
	H-SQ (F)	1	68.3	–	38.1	0.37
	H-SQ (F) Cast	1-1/4	68.3	1-7/8 oct.	–	0.48
		1-1/2	101.6	2-1/8 oct.	–	0.72
		2	127.0	2-5/8 oct.	–	1.17
		2-1/2	156.4	3-1/8 oct.	–	2.28
		5	311.2	6-3/4 oct.	–	1.08
		6	365.1	8 oct.	–	1.50

Based on the largest/heaviest version of each type.

Nozzle	Nozzle Type	Inlet Conn. (in.)	L (mm)	Hex. (in.)	D (Dia.) (mm)	Net Weight (kg)
	H-WSQ (F)	3/4	40.5	–	31.7	0.10
		1	52.8	–	38.0	0.18
	H-WSQ (F) Cast	1-1/4	85.7	–	52.4	0.40
		1-1/2	101.6	–	58.7	0.70
		2	127.0	–	76.2	1.28
		2-1/2	156.4	–	87.3	2.06
		3	186.5	–	103.2	3.02
	HH-WSQ (M)	1/4	23.0	–	13.5	0.01
		3/8	30.2	–	16.7	0.03
		1/2	34.9	–	20.6	0.05
		3/4	40.5	–	27.0	0.10
		1	52.8	–	33.3	0.20
	G-VL (F)	3/8	38.1	13/16	57.1	0.06
	GG-VL (M)	3/8	38.1	13/16	57.1	0.05

Based on the largest/heaviest version of each type.

Nozzle	Nozzle Type	Inlet Conn. (in.)	L (mm)	A (mm)	B (mm)	C (mm)	Net Weight (kg)
	GANV (F)	1/4	29.4	19.8	22.2	31.0	0.06
		3/8	32.5	22.2	25.4	36.5	0.09
		1/2	39.7	27.0	38.9	51.6	0.18
	GGANV (M)	1/4	29.4	20.6	22.2	31.8	0.06
		3/8	33.3	23.0	25.4	36.5	0.09
		1/2	41.3	28.6	38.9	51.6	0.18

Based on the largest/heaviest version of each type.

