

## Nozzle with inserted slotted swirler and variable spray angle

### Characteristics

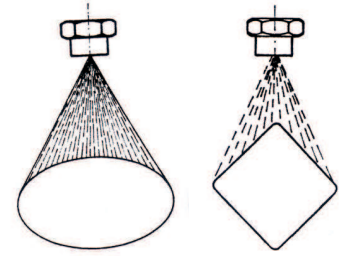
Full cone spray pattern with complete wetting of circular area with high force of impact due to special slotted swirler, Very variable spray angle.

### Application

Cleaning  
Washing  
Process engineering

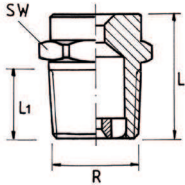
### Material

Brass  
Steel  
Stainless steel  
Plastic  
Other materials on request



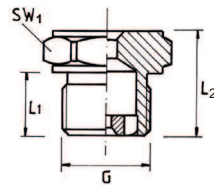
Circular and square full cones

Illu. 1



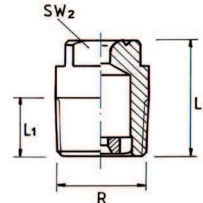
Type V

Illu. 2



Type VG

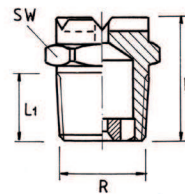
Illu. 3



Type VN

For all materials not available as hexagon

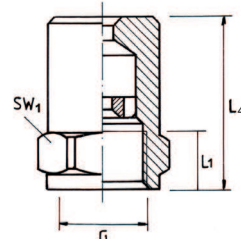
Illu. 4



Type VQ

Square full cone

Illu. 5



Type VGI

With female thread

Thread R + G	Dimensions in mm					SW	SW <sub>1</sub>	SW <sub>2</sub>
	L	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>			
1/8"	17.5	7	12	17,5	22	10	13	9
1/4"	18	10	15	22	28	14	17	12
3/8"	20	10	20	25	34	17	22	16
1/2"	23	13	26	30	42	22	25	19
3/4"		15	28	38	46	30	32	24
1"		17	30	50	50	36	36	28

Thread R = DIN 2999

\* is thread G ISO 228

Plastic nozzles can feature different SWs.

**Order example: (thread - type - spray angle - material) 3/8" - V 10 - 60° - V2A**

B = outlet bore, E = smallest section, bores vary for different spray angles

Spray angles available: 5°-15°-30°-45°-60°-90°-120°, other spray angles on request

Male thread R DIN 2999 and G ISO 228						Size type	B Ø (mm)	E Ø (mm)	Flow rate $\dot{V}$ (l/min.) at pressure p (bar)													
1/8"	1/4"	3/8"	1/2"	3/4"	1"				bar 0.3	bar 0.5	bar 1	bar 1.5	bar 2	bar 3	bar 4	bar 5	bar 6	bar 7	bar 10			
*	*					V 1	0.6	0.5				0.45	0.53	0.59	0.73	0.82	0.91	0.98	1.00	1.20		
*	*					V 2	0.8	0.5				0.65	0.79	0.90	0.99	1.10	1.20	1.30	1.40	1.70		
*	*					V 3	1.3	0.8				0.63	0.87	0.99	1.10	1.40	1.60	1.80	1.90	2.10	2.50	
*	*					V 4	1.8	1.0				0.95	1.10	1.40	1.60	2.00	2.30	2.60	2.80	3.10	3.70	
*	*					V 5	2.1	1.0				1.20	1.70	2.00	2.20	2.70	3.10	3.40	3.70	3.90	4.60	
	*	*				V 6	2.3	1.0				1.40	1.90	2.30	2.60	3.00	3.50	3.80	4.30	4.50	5.00	
	*	*				V 7	2.5	1.0				1.30	1.50	2.10	2.60	3.00	3.60	4.10	4.50	5.00	5.40	6.30
	*	*				V 8	2.8	1.2				1.60	2.00	2.60	3.10	3.50	4.10	4.60	5.00	5.50	5.90	6.80
	*	*				V 9	3.0	1.2				1.80	2.20	2.90	3.50	4.00	4.70	5.40	6.00	6.50	7.00	8.30
	*	*				V 10	3.2	1.2				2.40	2.90	3.60	4.50	5.00	5.80	6.50	7.00	7.50	8.00	9.50
	*	*				V 11	3.4	1.5				2.70	3.10	4.50	5.30	6.00	7.20	8.30	9.10	10.0	10.8	12.5
	*	*	*			V 12	3.5	1.5				3.70	4.20	5.10	6.10	7.00	8.20	9.40	10.0	10.9	11.6	13.4
		*	*			V 13	3.6	1.5				4.40	5.60	6.90	7.80	8.50	9.80	10.8	11.7	12.6	13.3	15.2
		*	*			V 14	4.0	2.0				5.30	6.40	7.50	8.40	9.50	11.4	13.1	14.3	15.5	16.7	19.5
		*	*			V 15	4.5	2.0				5.80	6.80	9.50	11.5	12.5	15.5	18.0	20.0	22.0	24.0	28.0
		*	*			V 16	4.6	2.5				7.00	8.20	11.4	13.5	15.5	18.5	21.3	23.5	25.0	27.0	32.0
			*	*		V 17	5.3	2.5				8.50	10.0	13.8	16.8	19.0	23.5	26.0	29.0	32.0	34.0	40.0
			*	*		V 18	6.5	3.0				10.0	12.5	17.5	20.0	23.0	28.0	33.0	37.0	40.0	43.0	50.0
			*	*		V 19	6.7	3.0				11.0	13.5	19.0	22.5	26.0	31.0	36.0	40.0	43.0	46.0	54.0
				*	*	V 20	7.5	3.5				12.0	15.0	21.0	25.0	29.0	35.0	40.0	44.0	48.0	51.0	60.0
				*	*	V 21	8.5	4.0				14.0	18.0	23.0	30.0	36.0	46.0	57.0	65.0	73.0	80.0	95.0
				*	*	V 22	8.9	4.0				17.0	22.0	29.0	36.0	42.0	51.0	60.0	65.0	71.0	86.0	103
					*	V 23	9.5	4.0				20.0	25.0	35.0	43.0	49.0	58.0	68.0	75.0	82.0	90.0	105
					*	V 24	10.5	6.0				25.0	32.0	43.0	54.0	63.0	72.0	83.0	92.0	102	111	132
					*	V 25	11.3	6.0				31.0	37.0	51.0	62.0	71.0	86.0	98.0	109	118	128	150
					*	V 26	11.8	6.0				39.0	46.0	64.0	77.0	87.0	104	119	133	143	155	181