

CHAPTER 2

◆◆ Hollow Cone Nozzles



◆ ABOUT US

We Are Here to Help

• Welcome to SPADFLOW

facing the **Challenges** of new industries and emerging markets.

• Spray Technologies

with over **Thousands of Spray Nozzle Types** SPADFLOW has become Iran's leading producer.

• From Design to Installation

with **Skilled** engineers and project managers, SPADFLOW is providing consultancy and support services.

• Knowledge and Experience

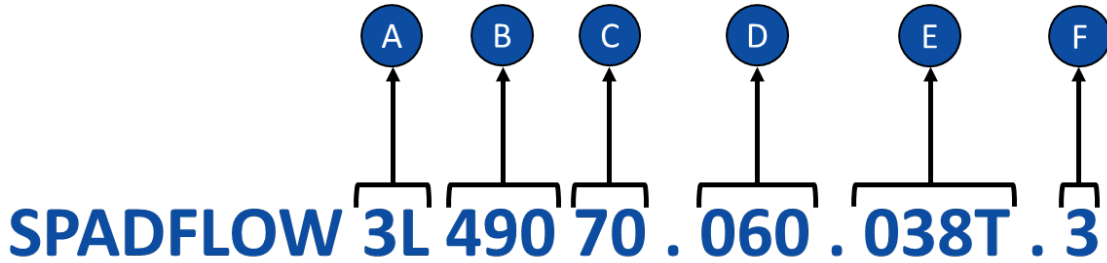
as an **Expert** on spray technology, SPADFLOW is at the forefront of production and innovation.





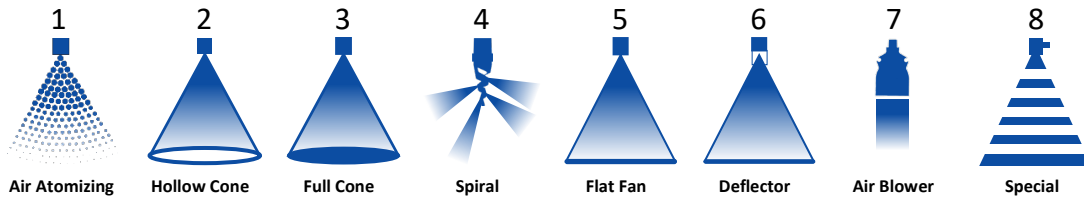
PRODUCT NUMBERS

Everything You Need to Know



A

Nozzle Type (Spray Pattern)



B

Nozzle Series

C

Flow Rate Rank

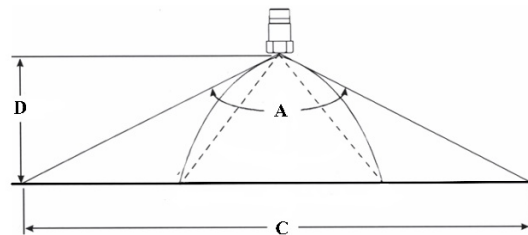
The flow rate rank is relative and depends on the respective nozzle type. The exact value is mentioned in tables on the product pages.

D

Spray Angle

Theoretical spray angle is mentioned in tables on the product pages. Actual spray angle depends on installation and alignment.

- A = Theoretical Spray Angle
- D = Spray Distance
- C = theoretical Spray Coverage



PRODUCT NUMBERS

Everything You Need to Know

E

Connection

1/8" to 4" connections. The exact specification is mentioned in tables on the product pages.

T = BSBT Thread Type Connection

P = BSPP Thread Type Connection

N = NPT Thread Type Connection

R = Retaining Nut

F

Material

Material	Code	Material	Code
Brass	1	Polyvinylchloride	PVC
AISI 304/304L Stainless Steel	2	Polypropylene	PP
AISI 316/316L Stainless Steel	3	Polyamide	PA
AISI 310 Stainless Steel	4	Polyvinylidene fluoride	PVDF
AISI 321 Stainless Steel	5	Polytetrafluorethylene	PTFE
AISI 420 Stainless Steel	6	Polyoxymethylene	POM
Tungsten Carbide	TN	Nitrile Butadiene Rubber	NBR
Phosphor Bronze	CuSn	Polylactic Acid	PLA
Copper	Cu	Acrylonitrile Butadiene Styrene	ABS
Titanium	TI	Nylon Polyamide	PA6
Aluminum	AL	Polycarbonate	PC

Ø B (Equivalent Bore Diameter)

Applies to elliptical discharge holes of flat fan nozzles. A cylindrical hole with a diameter A has the same surface area as the ellipse.

Ø E (Narrowest Free Cross Section)

Important Characteristics for determining the pre-filtration of a nozzle. Can be less than a due to several swirl ducts.

Conversion Formula: $K \text{ factor} \times \sqrt{P(\text{bar})} = Q (\text{l/min})$

All flow rate data in this catalogue is based on measurements with water,

Spray angle (α)	Code	Connection Size [inch]	Ø B [mm]	Ø E [mm]	Flow rate (Q) [l/min]						
					Pressure (P) [bar]						
					0.5	1.0	2.0	3.0	5.0	7.0	10.0
45°	3L 490 40 . 045	1/8"	1.25	1.25	0.57	0.76	1.00	1.18	1.44	1.65	1.90
	3L 490 60 . 045	1/4"	2.00	2.00	1.81	2.39	3.15	3.70	4.54	5.20	6.00
	3L 490 70 . 045	3/8"	2.65	2.65	3.22	4.24	5.60	6.59	8.08	9.24	10.66
	3L 490 78 . 045	1/2"	3.45	3.45	5.17	6.82	9.00	10.58	12.98	14.85	17.12
60°	3L 490 40 . 060	1/8"	1.15	1.15	0.57	0.76	1.00	1.18	1.44	1.65	1.90
	3L 490 80 . 060	3/8"	3.70	3.70	5.74	7.58	10.00	11.76	14.43	16.51	19.04
	3L 490 88 . 060	1/2"	4.65	4.65	9.19	12.13	16.00	18.82	23.08	26.41	30.46
	3L 490 96 . 060	3/4"	5.80	5.80	14.36	18.95	25.00	29.40	36.07	41.26	47.59
	3L 491 08 . 060	1"	8.15	8.15	28.72	37.89	50.00	58.80	72.14	82.53	95.18

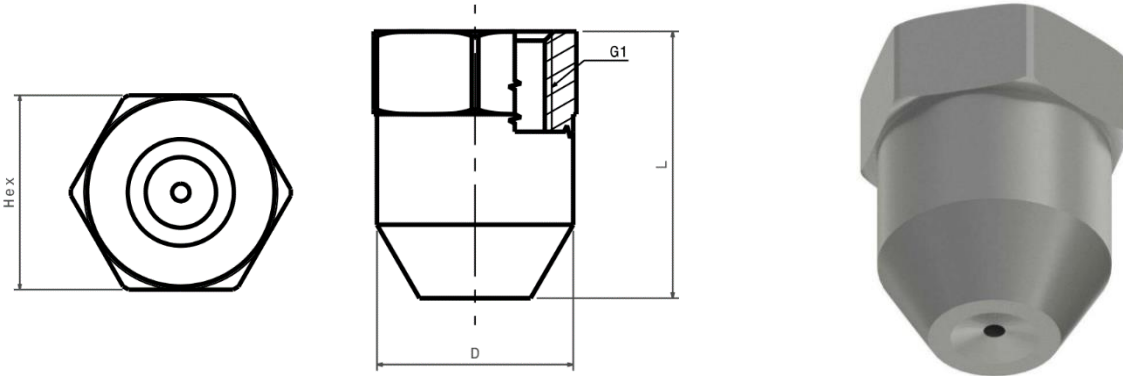
SPADFLOW spray nozzles are manufactured with the highest precision and undergo permanent quality checks. However, production-related tolerances can affect the spray angle, flow rate, droplet size and droplet distribution.



SPADFLOW 2L 214/216

Axial Hollow-Cone Nozzle

Webpage
+ STP



G1	Thread Type			Dimensions [mm]			Weight
	BSPT	BSPP	NPT	L	D	Hex	
1/8"	018T	018P	018N	18.0	16.0	17	27 gr
3/8"	038T	038P	038N	29.0	21.3	22	60 gr

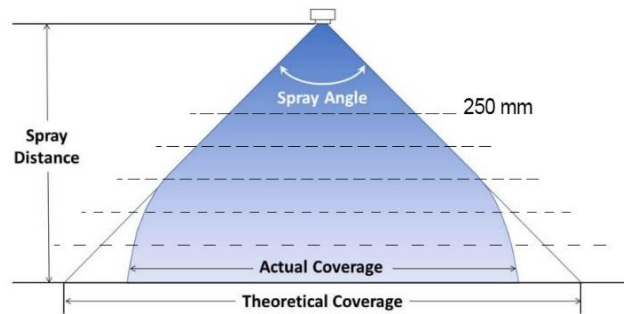
Properties:

- Two-Piece Construction
- Internal Vane
- Uniform Spray
- Extremely Fine Atomization

Material*	Code
Brass	1
S.S.304	2
S.S.316	3

* Different materials are available upon request

α	Spray coverage
	@ 250 mm
60°	200 mm
80°	450 mm
90°	500 mm



Spray angle α	Code	Connection [inch]	\varnothing B [mm]	\varnothing E [mm]	Flow rate [l/min]						
					P [bar]						
					0.5	1.0 K factor	2.0	3.0	5.0	10.0	20.0
60°	2L 214 18 . 060	1/8"	0.50	0.50	-	-	0.08	0.10	0.13	0.18	0.25
	2L 216 32 . 060	3/8"	1.00	1.00	-	0.28	0.40	0.49	0.63	0.89	1.26
	2L 216 36 . 060	3/8"	1.40	1.40	-	0.45	0.63	0.77	1.00	1.41	1.99
	2L 216 40 . 060	3/8"	2.00	2.00	-	0.71	1.00	1.22	1.58	2.24	3.16
80°	2L 214 24 . 080	1/8"	1.00	0.50	-	-	0.16	0.20	0.25	0.36	0.51
	2L 214 30 . 080	1/8"	1.80	0.50	-	0.23	0.32	0.39	0.51	0.72	1.01
90°	2L 216 49 . 090	3/8"	6.00	2.00	-	1.20	1.70	2.08	2.69	3.80	5.38
	2L 216 56 . 090	3/8"	4.00	2.00	-	1.77	2.50	3.06	3.95	5.59	7.91
	2L 216 64 . 090	3/8"	3.50	2.00	2.00	2.83	4.00	4.90	6.32	8.94	12.65
	2L 216 68 . 090	3/8"	4.00	2.00	2.50	3.54	5.00	6.12	7.91	11.18	15.81
	2L 216 72 . 090	3/8"	5.00	2.00	3.15	4.45	6.30	7.72	9.96	14.09	19.92
	2L 216 77 . 090	3/8"	6.00	2.00	4.30	6.00	8.50	10.40	13.40	19.00	26.90