

CHAPTER 3

◆◆ Full 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

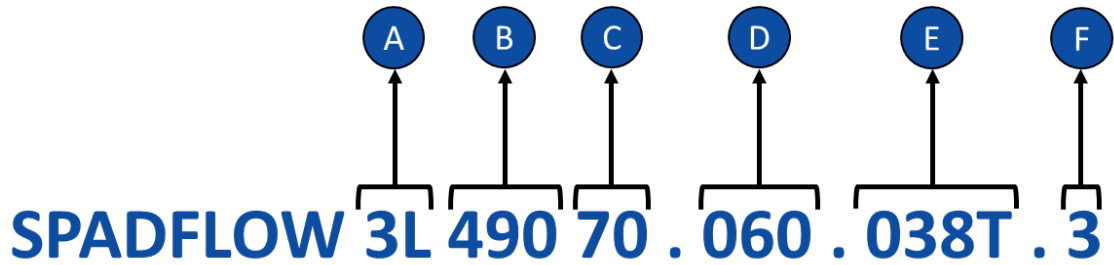
as an **Expert** on spray technology, SPADFLOW is at the forefront of production and innovation.





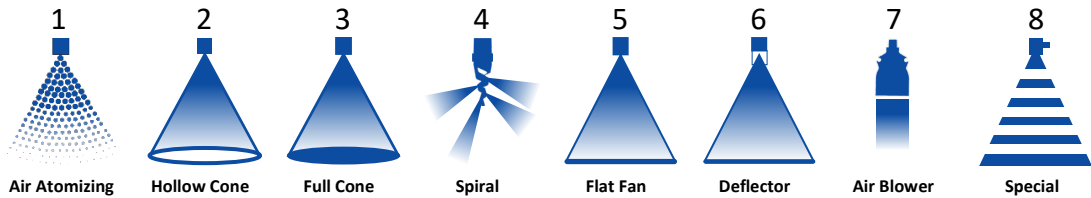
PRODUCT NUMBERS

Everything You Need to Know



A

Nozzle Type (Spray Pattern)



B

Nozzle Series

C

Flow Rate Rank

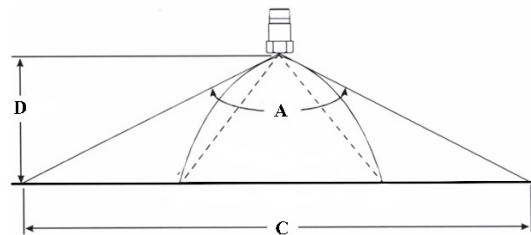
The flow rate rank is relative and depends on the respective nozzle type. The exact value is mentioned in tables on the product pages.

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	Poly lactic 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

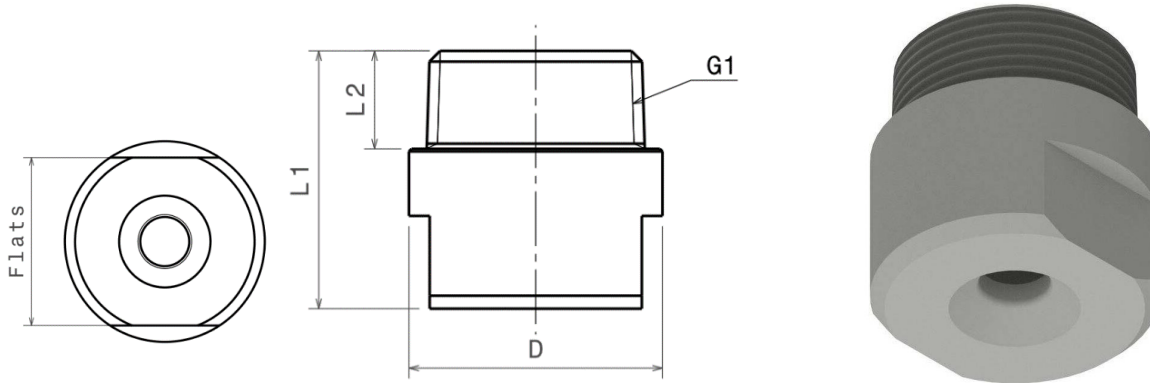
SPADFLOW spray nozzles are manufactured with the highest precision and undergo permanent quality checks. However, production-related tolerances can affect the spray angle, flow rate, droplet size and droplet distribution.



SPADFLOW 3L 405

Axial Full-Cone Nozzle

Webpage
+ STP



G1	Thread Type			Dimensions [mm]				Weight
	BSPT	BSPP	NPT	L1	L1	D	Flats	
1 1/4"	114T	114P	114N	50.0	19.0	49.0	41	500 gr
1 1/2"	112T	112P	112N	60.0	19.0	59.0	50	900 gr
2"	200T	200P	200N	78.0	24.0	68.0	60	1600 gr

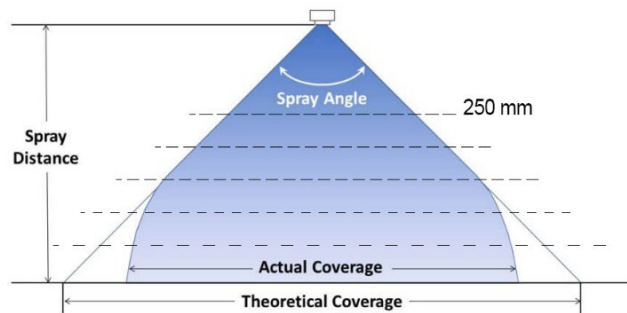
Material*	Code
Brass	1
S.S.304	2
S.S.316	3

* Different materials are available upon request

α	Spray coverage @ 250 mm
60°	280 mm
90°	500 mm
120°	850 mm

Properties:

- Two-Piece Construction
- Internal Vane
- Uniform Spray Pattern
- High Flow



Spray angle (α)	Code	Connection [inch]	B \emptyset [mm]	E \emptyset [mm]	Flow rate [l/min]					
					P [bar]					
					0.3	0.5	1.0 <i>K factor</i>	2.0	3.0	5.0
60°	3L 405 20 . 060	1 1/4"	11.20	5.80	47	57	76	100	118	144
	3L 405 28 . 060	1 1/2"	14.30	7.00	75	92	121	160	188	231
	3L 405 32 . 060	2"	16.40	7.50	94	115	152	200	235	289
	3L 405 36 . 060	2"	18.40	8.50	117	144	189	250	294	361
	3L 405 40 . 060	2"	20.00	7.00	147	181	239	315	370	454
90°	3L 405 20 . 090	1 1/4"	12.00	5.00	47	57	76	100	118	144
	3L 405 28 . 090	1 1/2"	15.20	6.20	75	92	121	160	188	231
	3L 405 32 . 090	2"	17.20	7.70	94	115	152	200	235	289
	3L 405 36 . 090	2"	19.50	8.70	117	144	189	250	294	361
	3L 405 40 . 090	2"	22.00	9.50	147	181	239	315	370	454
120°	3L 405 20 . 120	1 1/4"	12.70	5.00	47	57	76	100	118	144
	3L 405 28 . 120	1 1/2"	16.00	6.60	75	92	121	160	188	231
	3L 405 32 . 120	2"	17.80	7.90	94	115	152	200	235	289
	3L 405 36 . 120	2"	20.10	8.80	117	144	189	250	294	361
	3L 405 40 . 120	2"	22.40	9.10	147	181	239	315	370	454