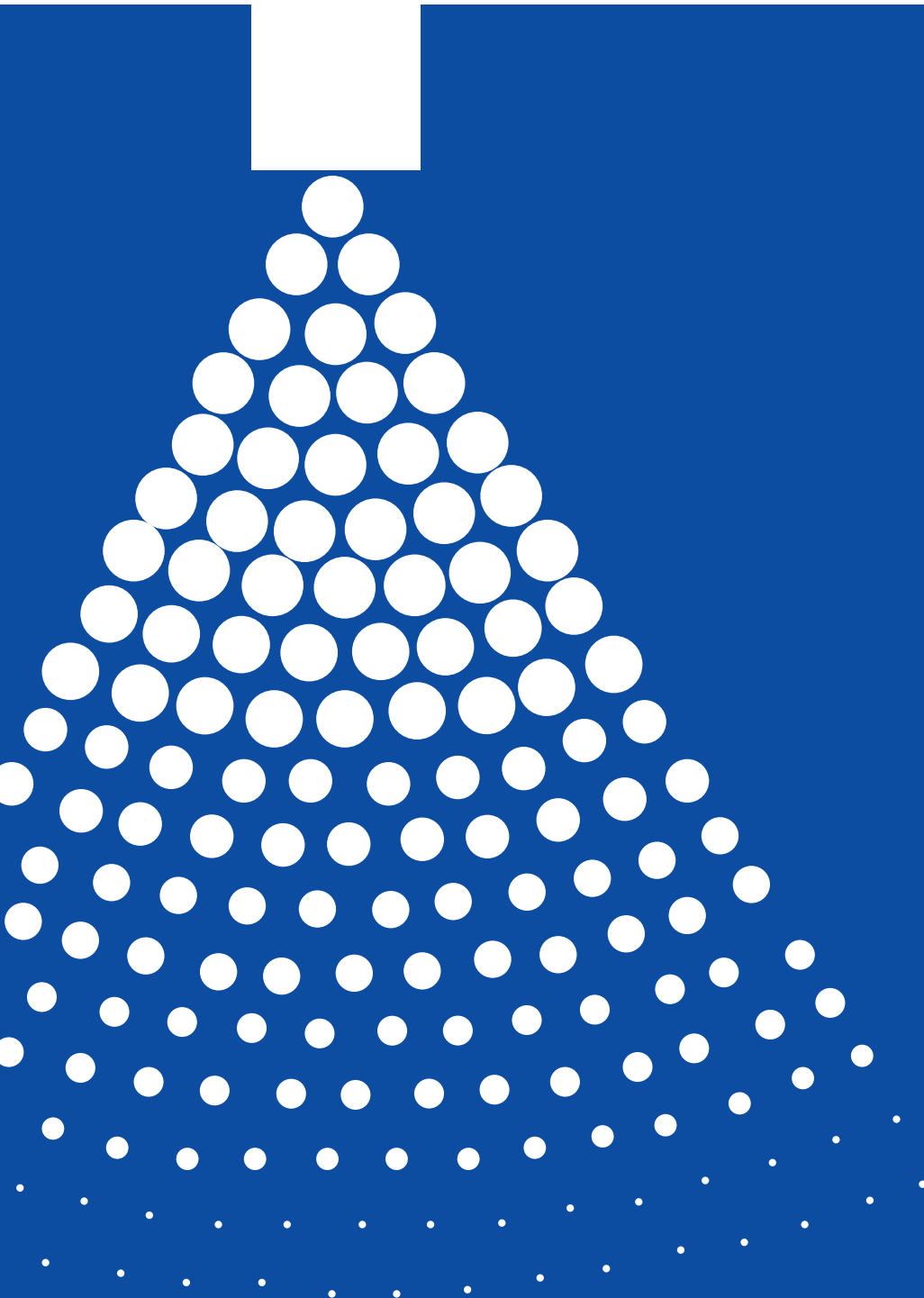


# CHAPTER 1

## ◆◆ Air-Assisted Nozzles



# ABOUT US

## We Are Here to Help

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### • 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

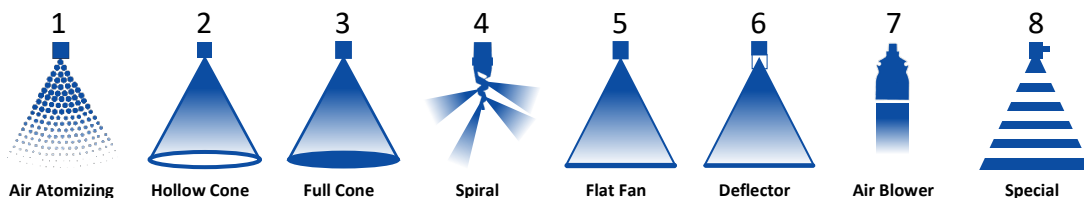
Everything You Need to Know

SPADFLOW 3L 490 70 . 060 . 038T . 3

A B C D E F

A

## Nozzle Type (Spray Pattern)



B

## Nozzle Series

C

## Flow Rate Rank

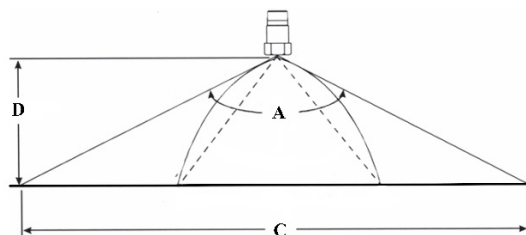
The flow rate rank is relative and depends on the respective nozzle type. The exact value is mentioned in tables on the product pages.

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 <i>K factor</i>	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 1PM 148

Billetcooler Flat-Fan Spray Nozzle



## Properties:

Atomization at Low Liquid Pressures

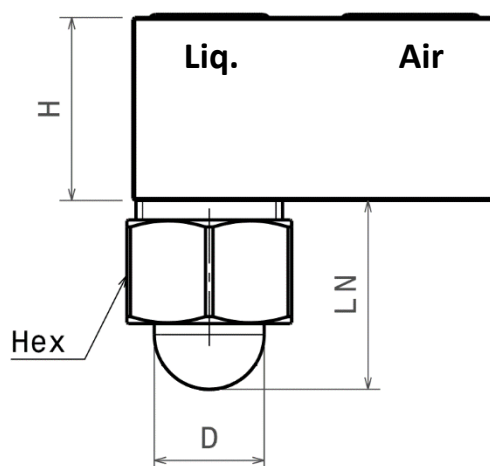
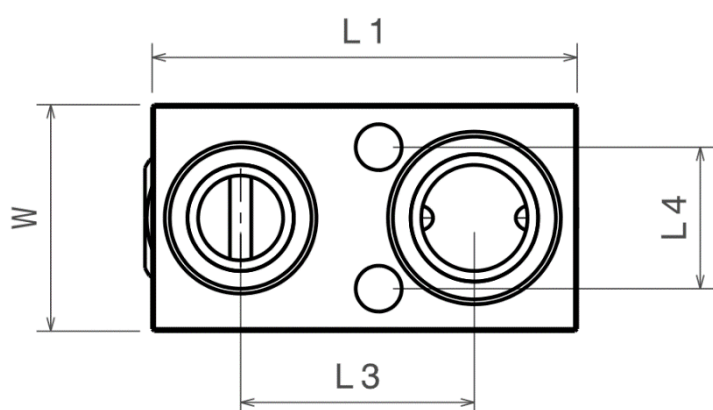
Internal Mixing

Multiple Parts

Reduced Air Consumption

High Heat Transfer Coefficient (HTC)

Reduced Maintenance Cost



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

\* Different Materials are Available Upon Request.

G1	Dimensions [mm]							
	H	W	L	L3	L4	Hex	NL	D
Pneumatic Air Fitting	30	32	60	33	20	27	31	18

Nozzle Code	Operating Liquid Pressure	Operating Air Pressure	Flow rate	Spray Angle*
			Air = 2 bar Liq. = 2 bar	
1PM . 148 . 528 . 30 .44	0.5 -7.0 bar	1.0 – 4.0 bar	2 l/min	140°

\* Spray Angle May Vary Depending on Air and Liquid Pressures.