SPAD FLOW
گروه صنعتی اسپاد فلو
SPRAYING SYSTEMS AND NOZZLES

CHAPTER 3
Full Cone Nozzles

ENG-036-R03-03.08.20

ABOUT US

We Are Here to Help

Welcome to SPADFLOW

facing the Challenges of new industries and emerging markets.

Spray Technologies

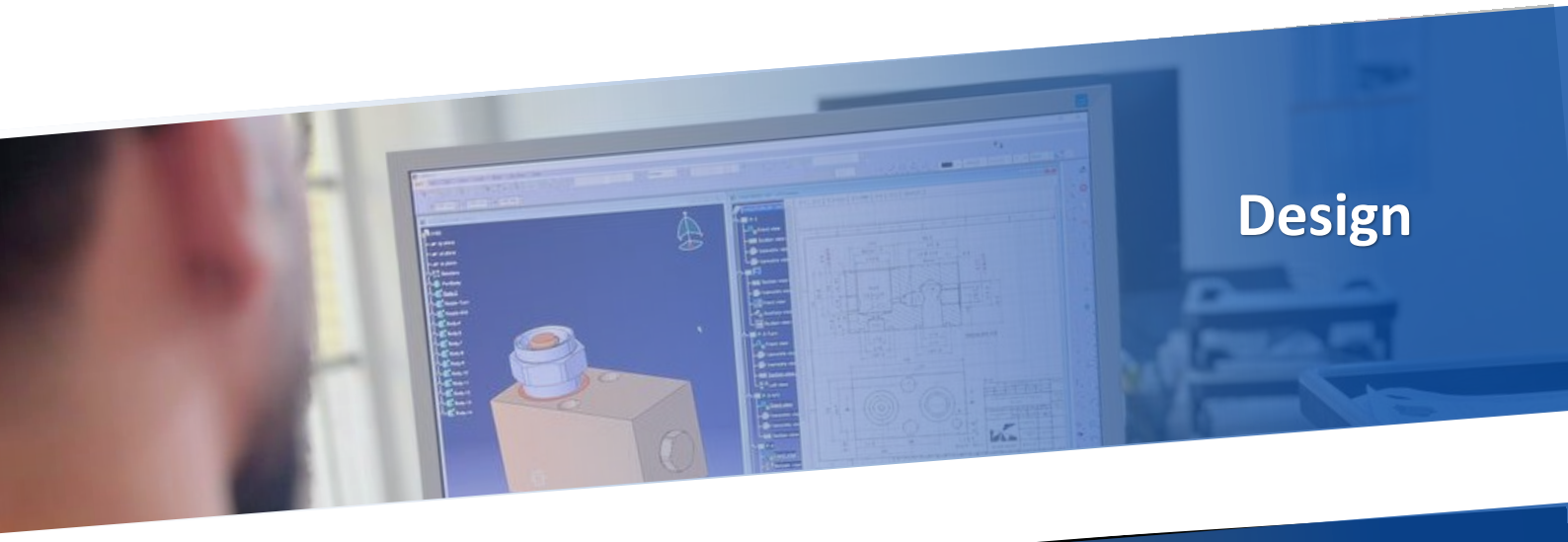
with over Thousands of Spray Nozzle Types SPADFLOW has become Iran's leading producer.

From Design to Installation

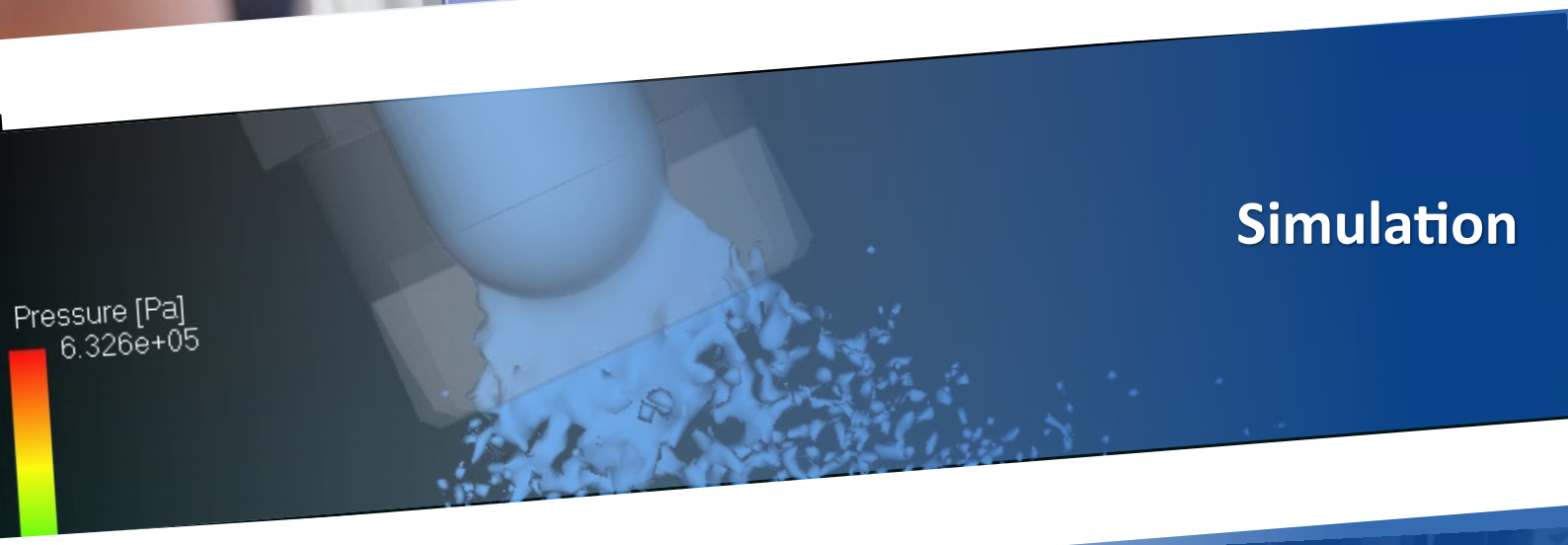
with Skilled engineers and project managers, SPADFLOW is providing consultancy and support services.

Knowledge and Experience

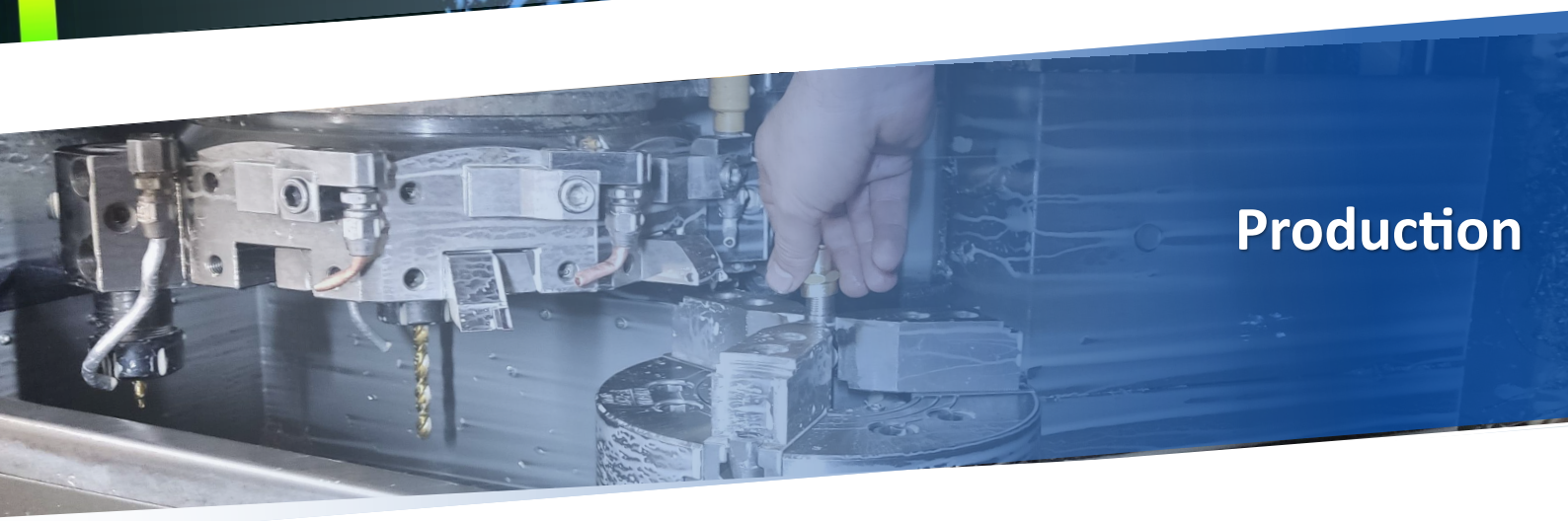
as an Expert on spray technology, SPADFLOW is at the forefront of production and innovation.



Design



Simulation



Production

Installation

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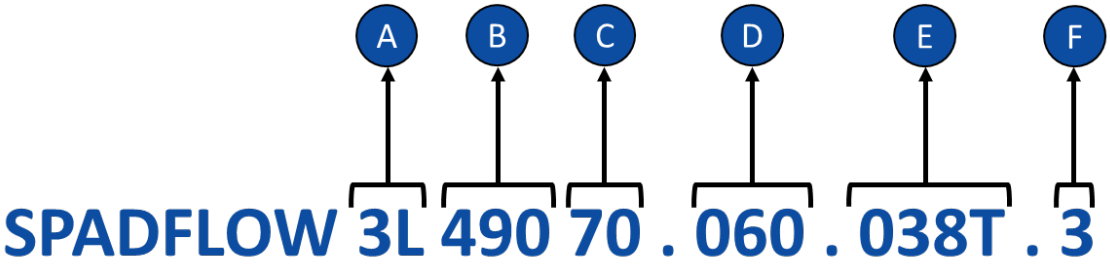
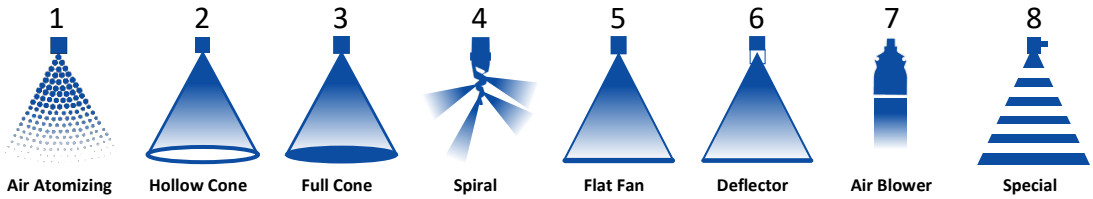
SPRAYING SYSTEMS AND NOZZLES

PRODUCT NUMBERS
Everything You Need to Know



A Nozzle Type (Spray Pattern)



B Nozzle Series

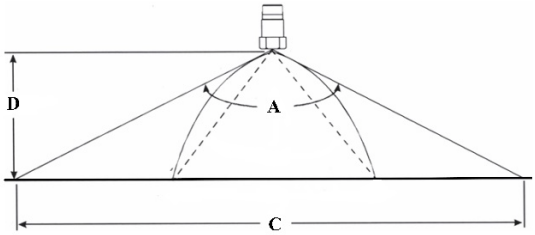
C Flow Rate Rank

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



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SPRAYING SYSTEMS AND NOZZLES

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	Polyvinylidenefluoride	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 factor $\times\sqrt{P(bar)}$ = Q (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 K factor	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.

Full Cone Nozzles
Selection Guide

Nozzle Series	Flow Capacity	Operating Pressures	Spray Angle	Application	Page
 **3L 490**	**Standard Flow** Up to 50 liters per Minute	**Standard Pressure** Up to 10 bar	**Wide Spray Angle** 45° - 60° - 90°- 120°	Cleaning & Washing Surface Spraying Container Cleaning Foam Precipitation Degassing of Liquids	32 – 33
 **3L 491**	**Standard Flow** Up to 150 liters per Minute	**Standard Pressure** Up to 10 bar	**Wide Spray Angle** 45° - 60° - 90°- 120°	Cleaning & Washing Surface Spraying Container Cleaning Foam Precipitation Degassing of Liquids	32 – 33
 **3L 460**	**Standard Flow** Up to 50 liters per Minute	**Standard Pressure** Up to 10 bar	**Wide Spray Angle** 45° - 60° - 90°- 120°	Cleaning & Washing Surface Spraying Container Cleaning Foam Precipitation Degassing of Liquids	34 – 35
 **3L 461**	**Standard Flow** Up to 150 liters per Minute	**Standard Pressure** Up to 10 bar	**Wide Spray Angle** 45° - 60° - 90°- 120°	Cleaning & Washing Surface Spraying Container Cleaning Foam Precipitation Degassing of Liquids	34 – 35
 **3L 405**	**High Flow** Up to 500 liters per Minute	**Standard Pressure** Up to 10 bar	**Wide Spray Angle** 60° - 90°- 120°	Cleaning & Washing Surface Spraying Spraying over Packing Chemical Process Cooling Gaseous Fluids and Solids Water Treatments	36
 **403**	**High Flow** Up to 2000 liters per Minute	**Standard Pressure** Up to 10 bar	**Standard Spray Angle** 90° - 120°	Surface Spraying Spraying over Packing Chemical Process Cooling Gaseous Fluids and Solids Cleaning & Washing Process	37

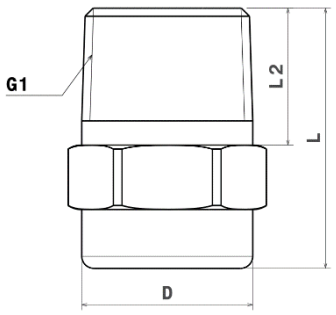
Full Cone Nozzles
Selection Guide

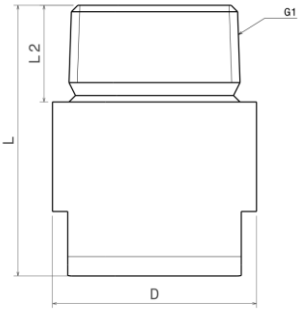
Nozzle Series	Flow Capacity	Operating Pressures	Spray Angle	Application	Page
 **3B MW**	**Low Flow** Up to 2 liters per Minute	**High Pressure** Up to 200 bar	**Standard Spray Angle** 20° - 70° (depends on Pressure)	Air Conditioning Concrete Curing Cooling Dust Control Humidification Misting Odor Control Coating Chemical Process	38
 **3SF 05**	**Standard Flow** Up to 30 liters per Minute	**Standard Pressure** Up to 10 bar	**Standard Spray Angle** 45° – 50° - 55° - 60° - 65° -70° - 80° - 90°	Continuous Casting Machin Product Cooling Tank Cooling Steel Cleaning Pre-treatment in Coating Process Dust removal Spray of Chemical Leak Test	39 - 41
 **3S R**	**High Flow** Up to 15000 liters per Minute	**Low Pressure** Up to 4 bar	**Standard Spray Angle** 50° - 65° - 80° - 95°	Cooling for Plants Fire Protection Quenching Scrubbing	42 - 43
 **3B MP**	**High Flow** Up to 4000 liters per Minute	**Low Pressure** Up to 5 bar	**Wide Spray Angle** 120°	Washing Cooling Evaporating or Volatile Waste Fire Protection Quenching Scrubbing Distribute Slurry in Open Towers	44
 **3S QC**	**Low Flow** Up to 4 liters per Minute	**Standard Pressure** Up to 10 bar	**Standard Spray Angle** 60°	Degreasing Phosphating in Surface Treatment Industrial Cleaning Container Washers	45

SPADFLOW 3L 490/491

Clog-Resistance Full-Cone Nozzle

Webpage + STP





3L 490 Series

3L 491 Series

G1	Thread Type			Dimensions [mm]				Weight
	BSPT	BSPP	NPT	L	L_2	D	Hex/Flats	
1/8"	018T	018P	018N	18.0	6.5	10.0	11	13 gr
1/4"	014T	014P	014N	22.0	10.0	13.0	14	16 gr
3/8"	038T	038P	038N	24.5	10.0	16.0	17	30 gr
3/8"	038T	038P	038N	30.0	10.0	16.0	17	50 gr
1/2"	012T	012P	012N	32.5	13.0	21.0	22	60 gr
1/2"	012T	012P	012N	43.5	13.0	21.0	22	85 gr
3/4"	034T	034P	034N	42.0	15.0	32.0	27	190 gr
1"	100T	100P	100N	56.0	17.0	40.0	36	350 gr

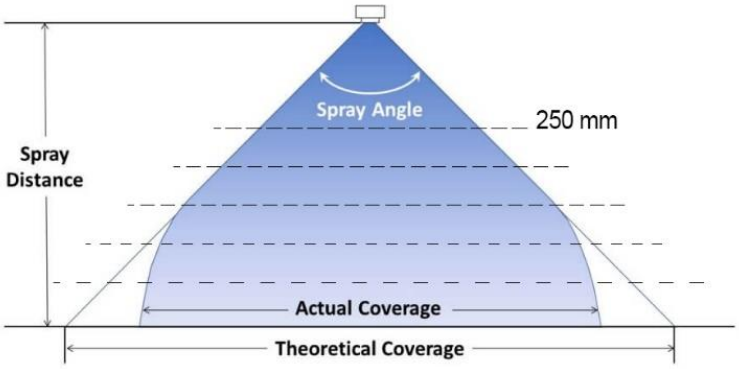
Properties:

Two-Piece Construction
S-Type Whirl Vanes
Non-Clogging Spray Nozzle
Large Free Cross Section
Stable Spray Angle

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

* Different materials are available upon request

α	Spray coverage @ 250 mm
45°	200 mm
60°	280 mm
90°	500 mm
120°	850 mm



Spray angle (α)	Code	Connection [inch]	B Ø [mm]	E Ø [mm]	Flow rate [l/min] P [bar] 0.5	1.0 K factor	2.0	3.0	5.0	7.0	10.0
45°	3L 490 40 . 045	1/8"-1/4"	1.25	1.25	0.57	**0.76**	1.00	1.18	1.44	1.65	1.90
	3L 490 52 . 045	1/8"-1/4"	1.70	1.70	1.15	**1.52**	2.00	2.35	2.89	3.30	3.81
	3L 490 60 . 045	1/4"-3/8"	2.00	2.00	1.81	**2.39**	3.15	3.70	4.54	5.20	6.00
	3L 490 64 . 045	1/4"-3/8"	2.45	2.45	2.30	**3.03**	4.00	4.70	5.77	6.60	7.61
	3L 490 68 . 045	3/8"	2.55	2.55	2.87	**3.79**	5.00	5.88	7.21	8.25	9.52
	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 72 . 045	3/8"	2.85	2.85	3.62	**4.77**	6.30	7.41	9.09	10.40	11.99
	3L 490 78 . 045	1/2"	3.45	3.45	5.17	**6.82**	9.00	10.58	12.98	14.85	17.12
	3L 490 84 . 045	1/2"	3.80	3.80	7.18	**9.47**	12.50	14.70	18.03	20.63	23.80
60°	3L 490 40 . 060	1/8"-1/4"	1.15	1.15	0.57	**0.76**	1.00	1.18	1.44	1.65	1.90
	3L 490 44 . 060	1/8"-1/4"	1.25	1.25	0.72	**0.95**	1.25	1.47	1.80	2.06	2.38
	3L 490 48 . 060	1/8"-1/4"	1.45	1.45	0.92	**1.21**	1.60	1.88	2.31	2.64	3.05
	3L 490 52 . 060	1/8"-1/4"	1.60	1.60	1.15	**1.52**	2.00	2.35	2.89	3.30	3.81
	3L 490 56 . 060	1/8"-1/4"	1.80	1.80	1.44	**1.89**	2.50	2.94	3.61	4.13	4.76
	3L 490 60 . 060	1/8"-1/4"-3/8"	2.05	2.05	1.81	**2.39**	3.15	3.70	4.54	5.20	6.00

SPADFLOW گروه صنعتی اسپاد فلو SPRAYING SYSTEMS AND NOZZLES

SPADFLOW 3L 490/491

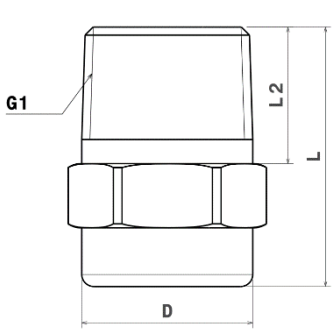
Clog-Resistance Full-Cone Nozzle

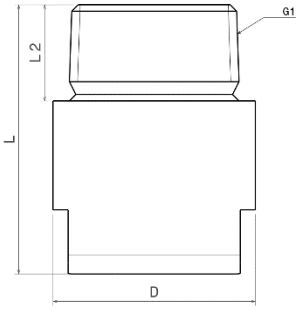
Spray Angle (α)	Code	Connection** [inch]	B Ø [mm]	E Ø [mm]	Flow rate [l/min]						
					P [bar]						
					0.5	1.0 K factor	2.0	3.0	5.0	7.0	10.0
60°	3L 490 64 . 060	1/4"-3/8"	2.30	2.30	2.30	**3.03**	4.00	4.70	5.77	6.60	7.61
	3L 490 68 . 060	1/4"-3/8"	2.60	2.60	2.87	**3.79**	5.00	5.88	7.21	8.25	9.52
	3L 490 72 . 060	1/4"-3/8"	2.95	2.80	3.62	**4.77**	6.30	7.41	9.09	10.40	11.99
	3L 490 76 . 060	3/8"	3.25	3.25	4.59	**6.06**	8.00	9.41	11.54	13.20	15.22
	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 84 . 060	1/2"	4.05	4.05	7.18	**9.47**	12.50	14.70	18.03	20.63	23.80
	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 92 . 060	3/4"	5.20	5.20	11.49	**15.16**	20.00	23.52	28.85	33.01	38.07
	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 04 . 060	1"	7.25	7.25	22.97	**30.31**	40.00	47.04	57.71	66.02	76.15
	3L 491 08 . 060	1"	8.15	8.15	28.72	**37.89**	50.00	58.80	72.14	82.53	95.18
90°	3L 490 40 . 090	1/8"-1/4"	1.20	1.20	0.57	**0.76**	1.00	1.18	1.44	1.65	1.90
	3L 490 44 . 090	1/8"-1/4"	1.30	1.30	0.72	**0.95**	1.25	1.47	1.80	2.06	2.38
	3L 490 48 . 090	1/8"-1/4"	1.45	1.45	0.92	**1.21**	1.60	1.88	2.31	2.64	3.05
	3L 490 52 . 090	1/8"-1/4"	1.70	1.55	1.15	**1.52**	2.00	2.35	2.89	3.30	3.81
	3L 490 56 . 090	1/8"-1/4"	1.90	1.90	1.44	**1.89**	2.50	2.94	3.61	4.13	4.76
	3L 490 60 . 090	1/8"-3/8"	2.10	2.05	1.81	**2.39**	3.15	3.70	4.54	5.20	6.00
	3L 490 64 . 090	1/4"-3/8"	2.40	2.40	2.30	**3.03**	4.00	4.70	5.77	6.60	7.61
	3L 490 68 . 090	1/4"-3/8"	2.70	2.70	2.87	**3.79**	5.00	5.88	7.21	8.25	9.52
	3L 490 72 . 090	1/4"-3/8"	3.20	2.80	3.62	**4.77**	6.30	7.41	9.09	10.40	11.99
	3L 490 74 . 090	3/8"	3.15	3.15	4.08	**5.38**	7.10	8.35	10.24	11.72	13.52
	3L 490 76 . 090	3/8"	3.40	3.40	4.59	**6.06**	8.00	9.41	11.54	13.20	15.22
	3L 490 80 . 090	3/8"	3.90	3.90	5.74	**7.58**	10.00	11.76	14.43	16.51	19.04
	3L 490 84 . 090	3/8"	4.65	4.00	7.18	**9.47**	12.50	14.70	18.03	20.63	23.80
	3L 490 88 . 090	1/2"	5.45	4.50	9.19	**12.13**	16.00	18.82	23.08	26.41	30.46
	3L 490 92 . 090	1/2"	5.90	4.50	11.49	**15.16**	20.00	23.52	28.85	33.01	38.07
	3L 490 96 . 090	*1/2"*-3/4"	6.55	4.85	14.36	**18.95**	25.00	29.40	36.07	41.26	47.59
	3L 491 00 . 090	3/4"	7.55	5.50	18.09	**23.87**	31.50	37.05	45.45	51.99	59.97
	3L 491 04 . 090	3/4"	8.60	6.60	22.97	**30.31**	40.00	47.04	57.71	66.02	76.15
	3L 491 08 . 090	1"	9.45	7.25	28.72	**37.89**	50.00	58.80	72.14	82.53	95.18
	3L 491 12 . 090	1"	10.40	8.00	36.18	**47.75**	63.00	74.09	90.89	103.98	119.93
	3L 491 14 . 090	1"	11.00	7.50	40.78	**53.81**	71.00	83.50	102.43	117.19	135.16
120°	3L 490 36 . 120	1/8"-1/4"	0.85	0.65	0.36	**0.48**	0.63	0.74	0.91	1.04	1.20
	3L 490 40 . 120	1/8"-1/4"	1.20	1.20	0.57	**0.76**	1.00	1.18	1.44	1.65	1.90
	3L 490 44 . 120	1/8"-1/4"	1.30	1.30	0.72	**0.95**	1.25	1.47	1.80	2.06	2.38
	3L 490 48 . 120	1/8"-1/4"	1.45	1.45	0.92	**1.21**	1.60	1.88	2.31	2.64	3.05
	3L 490 52 . 120	1/8"-1/4"	1.70	1.70	1.15	**1.52**	2.00	2.35	2.89	3.30	3.81
	3L 490 56 . 120	1/8"-1/4"	1.90	1.90	1.44	**1.89**	2.50	2.94	3.61	4.13	4.76
	3L 490 60 . 120	1/8"-1/4"	2.10	2.05	1.81	**2.39**	3.15	3.70	4.54	5.20	6.00
	3L 490 64 . 120	1/4"-3/8"	2.40	2.40	2.30	**3.03**	4.00	4.70	5.77	6.60	7.61
	3L 490 68 . 120	1/4"-3/8"	2.75	2.75	2.87	**3.79**	5.00	5.88	7.21	8.25	9.52
	3L 490 72 . 120	1/4"-3/8"	3.20	2.80	3.62	**4.77**	6.30	7.41	9.09	10.40	11.99
	3L 490 74 . 120	3/8"	3.20	3.20	4.08	**5.38**	7.10	8.35	10.24	11.72	13.52
	3L 490 76 . 120	3/8"	3.45	3.45	4.59	**6.44**	8.00	9.41	11.54	13.20	15.22
	3L 490 80 . 120	3/8"	3.90	3.90	5.74	**7.58**	10.00	11.76	14.43	16.51	19.04
	3L 490 84 . 120	*3/8"*	4.70	4.00	7.18	**9.47**	12.50	14.70	18.03	20.63	23.80
	3L 490 88 . 120	1/2"	5.10	4.50	9.19	**12.13**	16.00	18.82	23.08	26.41	30.46
	3L 490 92 . 120	1/2"	5.80	4.75	11.49	**15.16**	20.00	23.52	28.85	33.01	38.07
	3L 490 96 . 120	*1/2"*-3/4"	6.65	4.85	14.36	**18.95**	25.00	29.40	36.07	41.26	47.59
	3L 491 04 . 120	3/4"	9.20	5.85	22.97	**30.31**	40.00	47.04	57.71	66.02	76.15
	3L 491 12 . 120	1"	10.80	7.75	36.18	**47.75**	63.00	74.09	90.89	103.98	119.93
	3L 491 14 . 120	1"	11.40	7.65	40.78	**53.81**	71.00	83.50	102.43	117.19	135.16

SPADFLOW 3L 460/461

Axial Full-Cone Nozzle

Webpage + STP





3L 460 Series

3L 461 Series

G1	Thread Type			Dimensions [mm]				Weight
	BSPT	BSPP	NPT	L	L_2	D	Hex/Flats	
1/8"	018T	018P	018N	18.0	6.5	10.0	11	13 gr
1/4"	014T	014P	014N	22.0	10.0	13.0	14	16 gr
3/8"	038T	038P	038N	24.5	10.0	16.0	17	30 gr
3/8"	038T	038P	038N	30.0	10.0	16.0	17	50 gr
1/2"	012T	012P	012N	32.5	13.0	21.0	22	60 gr
1/2"	012T	012P	012N	43.5	13.0	21.0	22	85 gr
3/4"	034T	034P	034N	42.0	15.0	32.0	27	190 gr
1"	100T	100P	100N	56.0	17.0	40.0	36	350 gr

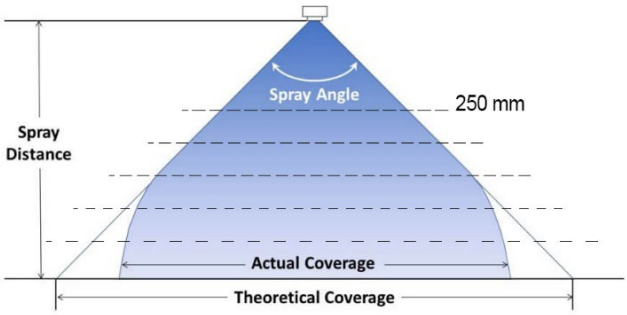
Properties:

Two-Piece Construction
X-Type Whirl Vanes
Large Orifice Section
Uniform Spray Pattern

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

* Different materials are available upon request

α	Spray coverage @ 250 mm
45°	200
60°	280
90°	500
120°	850



Spray angle (α)	Code	Connection [inch]	B Ø [mm]	E Ø [mm]	Flow rate [l/min] P [bar] 0.5	1.0 K factor	2.0	3.0	5.0	7.0	10.0
45°	3L 460 40 . 045	1/8"-1/4"	1.25	1.25	0.57	0.76	**1.00**	1.18	1.44	1.65	1.90
	3L 460 52 . 045	1/8"-1/4"	1.70	1.70	1.15	1.52	**2.00**	2.35	2.89	3.30	3.81
	3L 460 60 . 045	1/4"-3/8"	2.00	2.00	1.81	2.39	**3.15**	3.70	4.54	5.20	6.00
	3L 460 64 . 045	1/4"-3/8"	2.45	2.45	2.30	3.03	**4.00**	4.70	5.77	6.60	7.61
	3L 460 68 . 045	3/8"	2.55	2.55	2.87	3.79	**5.00**	5.88	7.21	8.25	9.52
	3L 460 70 . 045	3/8"	2.65	2.65	3.22	4.24	**5.60**	6.59	8.08	9.24	10.66
	3L 460 72 . 045	3/8"	2.85	2.85	3.62	4.77	**6.30**	7.41	9.09	10.40	11.99
	3L 460 78 . 045	1/2"	3.45	3.45	5.17	6.82	**9.00**	10.58	12.98	14.85	17.12
	3L 460 84 . 045	1/2"	3.80	3.80	7.18	9.47	**12.50**	14.70	18.03	20.63	23.80
60°	3L 460 40 . 060	1/8"-1/4"	1.15	1.15	0.57	0.76	**1.00**	1.18	1.44	1.65	1.90
	3L 460 44 . 060	1/8"-1/4"	1.25	1.25	0.72	0.95	**1.25**	1.47	1.80	2.06	2.38
	3L 460 48 . 060	1/8"-1/4"	1.45	1.45	0.92	1.21	**1.60**	1.88	2.31	2.64	3.05
	3L 460 52 . 060	1/8"-1/4"	1.60	1.60	1.15	1.52	**2.00**	2.35	2.89	3.30	3.81
	3L 460 56 . 060	1/8"-1/4"	1.80	1.80	1.44	1.89	**2.50**	2.94	3.61	4.13	4.76
	3L 460 60 . 060	1/8"-1/4"-3/8"	2.05	2.05	1.81	2.39	**3.15**	3.70	4.54	5.20	6.00

SPADFLOW گروه صنعتی اسپاد فلو
SPRAYING SYSTEMS AND NOZZLES

SPADFLOW 3L 460/461

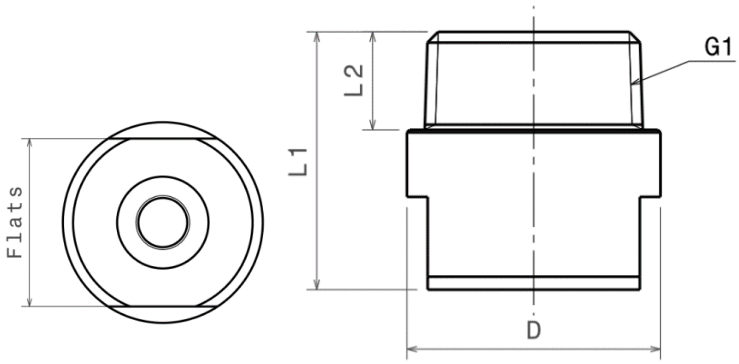
Axial Full-Cone Nozzle

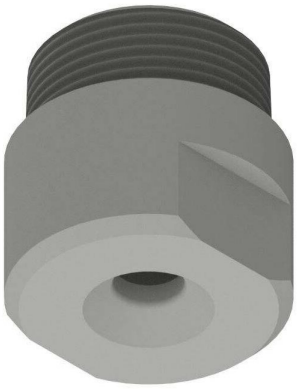
Spray Angle (α)	Code	Connection** [inch]	B Ø [mm]	E Ø [mm]	Flow rate [l/min]						
					P [bar]						
					0.5	1.0 K factor	2.0	3.0	5.0	7.0	10.0
60°	3L 460 64 . 060	1/4"-3/8"	2.30	2.30	2.30	3.03	**4.00**	4.70	5.77	6.60	7.61
	3L 460 68 . 060	1/4"-3/8"	2.60	2.60	2.87	3.79	**5.00**	5.88	7.21	8.25	9.52
	3L 460 72 . 060	1/4"-3/8"	2.95	2.80	3.62	4.77	**6.30**	7.41	9.09	10.40	11.99
	3L 460 76 . 060	3/8"	3.25	3.25	4.59	6.06	**8.00**	9.41	11.54	13.20	15.22
	3L 460 80 . 060	3/8"	3.70	3.70	5.74	7.58	**10.00**	11.76	14.43	16.51	19.04
	3L 460 84 . 060	1/2"	4.05	4.05	7.18	9.47	**12.50**	14.70	18.03	20.63	23.80
	3L 460 88 . 060	1/2"	4.65	4.65	9.19	12.13	**16.00**	18.82	23.08	26.41	30.46
	3L 460 92 . 060	3/4"	5.20	5.20	11.49	15.16	**20.00**	23.52	28.85	33.01	38.07
	3L 460 96 . 060	3/4"	5.80	5.80	14.36	18.95	**25.00**	29.40	36.07	41.26	47.59
	3L 461 04 . 060	1"	7.25	7.25	22.97	30.31	**40.00**	47.04	57.71	66.02	76.15
	3L 461 08 . 060	1"	8.15	8.15	28.72	37.89	**50.00**	58.80	72.14	82.53	95.18
90°	3L 460 40 . 090	1/8"-1/4"	1.20	1.20	0.57	0.76	**1.00**	1.18	1.44	1.65	1.90
	3L 460 44 . 090	1/8"-1/4"	1.30	1.30	0.72	0.95	**1.25**	1.47	1.80	2.06	2.38
	3L 460 48 . 090	1/8"-1/4"	1.45	1.45	0.92	1.21	**1.60**	1.88	2.31	2.64	3.05
	3L 460 52 . 090	1/8"-1/4"	1.70	1.55	1.15	1.52	**2.00**	2.35	2.89	3.30	3.81
	3L 460 56 . 090	1/8"-1/4"	1.90	1.90	1.44	1.89	**2.50**	2.94	3.61	4.13	4.76
	3L 460 60 . 090	1/8"-3/8"	2.10	2.05	1.81	2.39	**3.15**	3.70	4.54	5.20	6.00
	3L 460 64 . 090	1/4"-3/8"	2.40	2.40	2.30	3.03	**4.00**	4.70	5.77	6.60	7.61
	3L 460 68 . 090	1/4"-3/8"	2.70	2.70	2.87	3.79	**5.00**	5.88	7.21	8.25	9.52
	3L 460 72 . 090	1/4"-3/8"	3.20	2.80	3.62	4.77	**6.30**	7.41	9.09	10.40	11.99
	3L 460 74 . 090	3/8"	3.15	3.15	4.08	5.38	**7.10**	8.35	10.24	11.72	13.52
	3L 460 76 . 090	3/8"	3.40	3.40	4.59	6.06	**8.00**	9.41	11.54	13.20	15.22
	3L 460 80 . 090	3/8"	3.90	3.90	5.74	7.58	**10.00**	11.76	14.43	16.51	19.04
	3L 460 84 . 090	3/8"	4.65	4.00	7.18	9.47	**12.50**	14.70	18.03	20.63	23.80
	3L 460 88 . 090	1/2"	5.45	4.50	9.19	12.13	**16.00**	18.82	23.08	26.41	30.46
	3L 460 92 . 090	1/2"	5.90	4.50	11.49	15.16	**20.00**	23.52	28.85	33.01	38.07
	3L 460 96 . 090	1/2"-3/4"	6.55	4.85	14.36	18.95	**25.00**	29.40	36.07	41.26	47.59
	3L 461 00 . 090	3/4"	7.55	5.50	18.09	23.87	**31.50**	37.05	45.45	51.99	59.97
	3L 461 04 . 090	3/4"	8.60	6.60	22.97	30.31	**40.00**	47.04	57.71	66.02	76.15
	3L 461 08 . 090	1"	9.45	7.25	28.72	37.89	**50.00**	58.80	72.14	82.53	95.18
	3L 461 12 . 090	1"	10.40	8.00	36.18	47.75	**63.00**	74.09	90.89	103.98	119.93
	3L 461 14 . 090	1"	11.00	7.50	40.78	53.81	**71.00**	83.50	102.43	117.19	135.16
120°	3L 460 36 . 120	1/8"-1/4"	0.85	0.65	0.36	0.48	**0.63**	0.74	0.91	1.04	1.20
	3L 460 40 . 120	1/8"-1/4"	1.20	1.20	0.57	0.76	**1.00**	1.18	1.44	1.65	1.90
	3L 460 44 . 120	1/8"-1/4"	1.30	1.30	0.72	0.95	**1.25**	1.47	1.80	2.06	2.38
	3L 460 48 . 120	1/8"-1/4"	1.45	1.45	0.92	1.21	**1.60**	1.88	2.31	2.64	3.05
	3L 460 52 . 120	1/8"-1/4"	1.70	1.70	1.15	1.52	**2.00**	2.35	2.89	3.30	3.81
	3L 460 56 . 120	1/8"-1/4"	1.90	1.90	1.44	1.89	**2.50**	2.94	3.61	4.13	4.76
	3L 460 60 . 120	1/8"-1/4"	2.10	2.05	1.81	2.39	**3.15**	3.70	4.54	5.20	6.00
	3L 460 64 . 120	1/4"-3/8"	2.40	2.40	2.30	3.03	**4.00**	4.70	5.77	6.60	7.61
	3L 460 68 . 120	1/4"-3/8"	2.75	2.75	2.87	3.79	**5.00**	5.88	7.21	8.25	9.52
	3L 460 72 . 120	1/4"-3/8"	3.20	2.80	3.62	4.77	**6.30**	7.41	9.09	10.40	11.99
	3L 460 74 . 120	3/8"	3.20	3.20	4.08	5.38	**7.10**	8.35	10.24	11.72	13.52
	3L 460 76 . 120	3/8"	3.45	3.45	4.59	6.44	**8.00**	9.41	11.54	13.20	15.22
	3L 460 80 . 120	3/8"	3.90	3.90	5.74	7.58	**10.00**	11.76	14.43	16.51	19.04
	3L 460 84 . 120	3/8"	4.70	4.00	7.18	9.47	**12.50**	14.70	18.03	20.63	23.80
	3L 460 88 . 120	1/2"	5.10	4.50	9.19	12.13	**16.00**	18.82	23.08	26.41	30.46
	3L 460 92 . 120	1/2"	5.80	4.75	11.49	15.16	**20.00**	23.52	28.85	33.01	38.07
	3L 460 96 . 120	1/2"-3/4"	6.65	4.85	14.36	18.95	**25.00**	29.40	36.07	41.26	47.59
	3L 461 04 . 120	3/4"	9.20	5.85	22.97	30.31	**40.00**	47.04	57.71	66.02	76.15
	3L 461 12 . 120	1"	10.80	7.75	36.18	47.75	**63.00**	74.09	90.89	103.98	119.93
	3L 461 14 . 120	1"	11.40	7.65	40.78	53.81	**71.00**	83.50	102.43	117.19	135.16

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

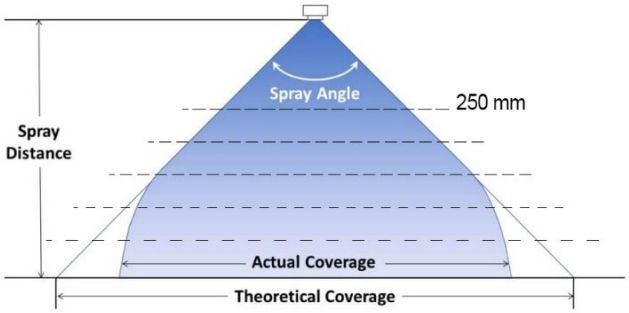
Material*	Code
Brass	1
S.S.304	2
S.S.316	3

* Different materials are available upon request

Properties:

Two-Piece Construction
Internal Vane
Uniform Spray Pattern
High Flow

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



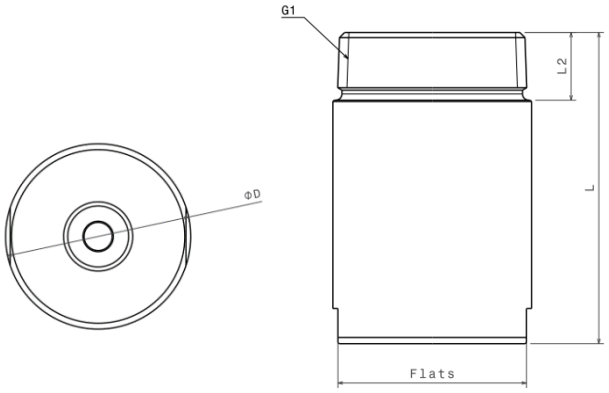
Spray angle (α)	Code	Connection [inch]	B Ø [mm]	E Ø [mm]	Flow rate [l/min] P [bar] 0.3	0.5	1.0 K factor	2.0	3.0	5.0
60°	3L 405 20 . 060	1 1/4"	11.20	5.80	47	57	**76**	100	118	144
	3L 405 28 . 060	1 1/2"	14.30	7.00	75	92	**121**	160	188	231
	3L 405 32 . 060	2"	16.40	7.50	94	115	**152**	200	235	289
	3L 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

SPADFLOW گروه صنعتی اسپاد فلو SPRAYING SYSTEMS AND NOZZLES

SPADFLOW 3L 403

Axial Full-Cone Nozzle

Webpage + STP



90° Version 120° Version

Version	G1	Thread Type			Dimensions [mm]				Weight
		BSPT	BSPP	NPT	L_1	L_2	D	Flats	
90°	2 1/2"	212T	212P	212N	52	27	83	75	1,300 gr
	3"	300T	300P	300N	60	30	98	85	2,000 gr
	3 1/2"	312T	312P	312N	70	32	118	105	3,600 gr

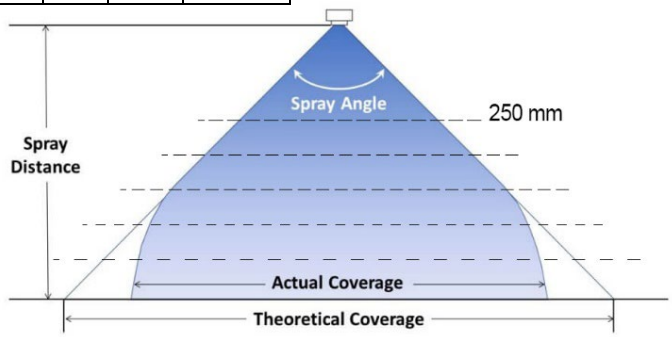
Version	G1	Thread Type			Dimensions [mm]				Weight
		BSPT	BSPP	NPT	L_1	L_2	D	Flats	
120°	2 1/2"	212T	212P	212N	124	27	83	75	3,200 gr
	3"	300T	300P	300N	153	30	98	85	5,400 gr
	3 1/2"	312T	312P	312N	156	32	118	105	8,300 gr
	4"	400T	400P	400N	165	36	128	110	9,600 gr

Properties:

Two-Piece Construction
Internal Vane
Uniform Spray Pattern
High Flow

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

* Different materials are available upon request



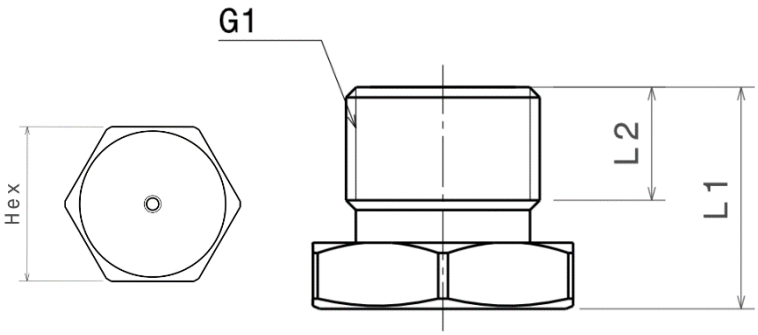
α	Spray coverage @ 250 mm
90°	500 mm
120°	850 mm

Spray angle (α)	Code	Connection [inch]	B Ø [mm]	E Ø [mm]	Flow rate [l/min] P [bar] 0.3	0.5	1.0 K factor	2.0	3.0	5.0	7.0
90°	3L 403 44 . 090	2 1/2"	25.00	12.00	187	230	**303**	400	470	577	660
	3L 403 48 . 090	2 1/2"	29.50	12.00	234	287	**379**	500	588	721	825
	3L 403 52 . 090	3"	32.00	13.80	295	362	**477**	630	741	909	1,040
	3L 403 60 . 090	3 1/2"	40.00	15.00	468	574	**758**	1,000	1,176	1,443	1,651
120°	3L 403 44 . 120	2 1/2"	25.50	10.00	187	230	**303**	400	470	577	660
	3L 403 48 . 120	2 1/2"	29.50	11.00	234	287	**379**	500	588	721	825
	3L 403 52 . 120	3"	32.00	15.00	295	362	**477**	630	741	909	1,040
	3L 403 60 . 120	3 1/2"	42.00	12.00	469	574	**758**	1,000	1,176	1,443	1,651
	3L 403 62 . 120	4"	45.00	15.00	585	718	**947**	1,250	1,470	1,903	2,063

SPADFLOW گروه صنعتی اسپاد فلو SPRAYING SYSTEMS AND NOZZLES

SPADFLOW 3B MW

Mist Full-Cone Nozzle



G1	Thread Type			Dimensions [mm]				Weight
	BSPT	BSPP	NPT	L_1	L_2	D	Hex	
1/8”	018T	018P	018N	12.3	6.5	11.1	13	7.1 gr
1/4”	014T	018P	014N	17.5	9.7	14.3	17	7.1 gr

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

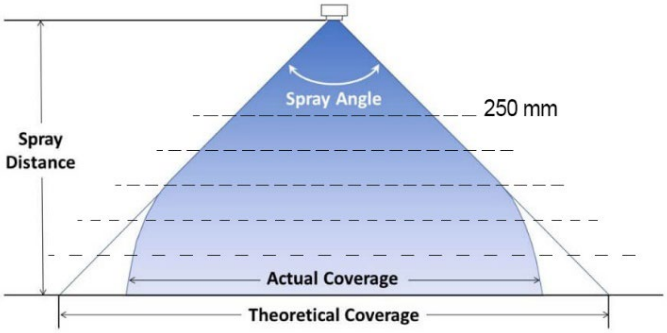
* Different materials are available upon request

Properties:

Three - Piece Construction
Internal Vane
Drip-Free Performance
Mist at Low Pressure; Fog at High Pressure
Outstanding Atomization

α*	Spray coverage @ 250 mm
20°	80
70°	350

* Atomization and nominal angle (pattern) change with increasing operation pressure.

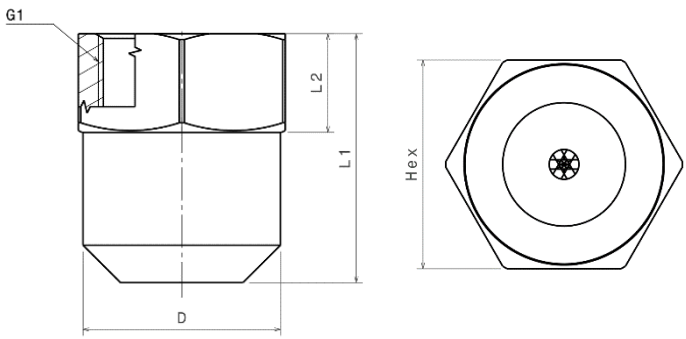


Spray angle	Code	Flow rate [l/min] P [bar]						
		7.0	20.0	40	70	100	170	200
70°	3B MW 085 . 70	0.032	0.055	0.077	0.102	0.122	0.160	0.173
	3B MW 105 . 70	0.040	0.068	0.096	0.127	0.151	0.197	0.214
	3B MW 125 . 70	0.048	0.081	0.114	0.151	0.18	0.235	0.255
	3B MW 145 . 70	0.055	0.093	0.132	0.175	0.209	0.272	0.296
	3B MW 195 . 70	0.074	0.126	0.178	0.235	0.281	0.366	0.397
	3B MW 275 . 70	0.105	0.177	0.251	0.332	0.396	0.517	0.560
	3B MW 695 . 70	0.264	0.447	0.632	0.836	0.999	1.302	1.413

SPADFLOW 3SF 05

Most Diverse Series of Full-Cone Nozzle

Webpage + STP



G1	Thread Type			Dimensions [mm]				Weight
	BSPT	BSPP	NPT	L_1	L_2	D	Hex/Flats	
3/8"	038T	038P	038N	26.5	10	21.5	22	55 g

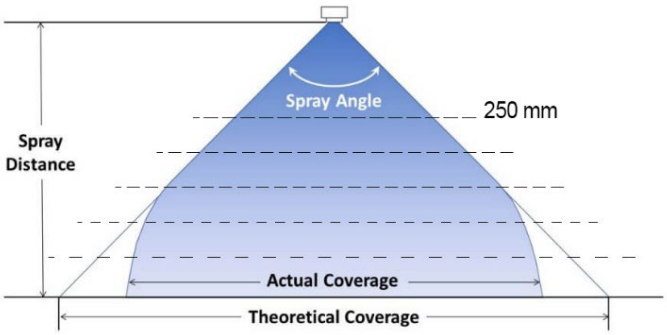
Properties:

Two-Piece Construction
Internal Vane
Good Resistance to Clogging
Uniform Spray

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

* Different materials are available upon request

α	Spray coverage @ 250 mm
45°	200
50°	230
55°	260
60°	280
65°	320
70°	350
80°	420
90°	500



Spray angle	Code	General Code	Flow rate [l/min] P [bar]						
			1.0 *K factor*	2.0	2.8	3.0	5.0	7.0	10
45°	3SF 05 020 . 45	2045	1.20	1.70	**2.00**	2.08	2.68	3.17	3.79
	3SF 05 025 . 45	2545	1.49	2.11	**2.50**	2.58	3.33	3.94	4.71
	3SF 05 030 . 45	3045	1.80	2.55	**3.00**	3.12	4.02	4.76	5.69
	3SF 05 035 . 45	3545	2.10	2.97	**3.50**	3.64	4.70	5.56	6.64
	3SF 05 040 . 45	4045	2.40	3.39	**4.00**	4.16	5.37	6.35	7.59
	3SF 05 047 . 45	4745	2.80	3.96	**4.70**	4.85	6.26	7.41	8.85
	3SF 05 050 . 45	5045	3.00	4.24	**5.00**	5.20	6.71	7.94	9.49
	3SF 05 055 . 45	5545	3.29	4.65	**5.50**	5.69	7.35	8.70	10.39
	3SF 05 060 . 45	6045	3.60	5.09	**6.00**	6.24	8.05	9.52	11.38
	3SF 05 070 . 45	7045	4.18	5.91	**7.00**	7.24	9.35	11.06	13.22
	3SF 05 080 . 45	8045	4.80	6.79	**8.00**	8.31	10.73	12.70	15.18
	3SF 05 100 . 45	10045	5.98	8.45	**10.00**	10.35	13.36	15.81	18.90
	3SF 05 120 . 45	12045	7.17	10.14	**12.00**	12.42	16.04	18.97	22.68

SPADFLOW گروه صنعتی اسپاد فلو SPRAYING SYSTEMS AND NOZZLES

SPADFLOW 3SF 05

Most Diverse Series of Full-Cone Nozzle

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Spray angle	Code	General Code	Flow rate [l/min]						
			P [bar]						
			1.0 *K factor*	2.0	2.8	3.0	5.0	7.0	10
50°	3SF 05 060 . 50	6050	3.59	5.07	**6.00**	6.21	8.02	9.49	11.34
55°	3SF 05 060 . 55	6055	3.59	5.07	**6.00**	6.21	8.02	9.49	11.34
60°	3SF 05 014 . 60	1460	0.86	1.22	**1.44**	1.49	1.92	2.28	2.72
	3SF 05 022 . 60	2260	1.29	1.82	**2.16**	2.23	2.88	3.41	4.08
	3SF 05 025 . 60	2560	1.49	2.11	**2.50**	2.59	3.34	3.95	4.72
	3SF 05 027 . 60	2760	1.61	2.28	**2.70**	2.79	3.61	4.27	5.10
	3SF 05 030 . 60	3060	1.79	2.54	**3.00**	3.11	4.01	4.74	5.67
	3SF 05 035 . 60	3560	2.09	2.96	**3.50**	3.62	4.68	5.53	6.61
	3SF 05 036 . 60	3660	2.15	3.04	**3.60**	3.72	4.81	5.69	6.80
	3SF 05 049 . 60	4960	2.93	4.14	**4.90**	5.07	6.55	7.75	9.27
	3SF 05 060 . 60	6060	3.61	5.11	**6.04**	6.25	8.07	9.55	11.42
	3SF 05 072 . 60	7260	4.29	6.07	**7.18**	7.43	9.59	11.35	13.57
	3SF 05 165 . 60	16560	9.86	13.95	**16.50**	17.08	22.05	26.09	31.18
65°	3SF 05 010 . 65	1065	0.60	0.85	**1.00**	1.04	1.34	1.58	1.89
	3SF 05 015 . 65	1565	0.90	1.27	**1.50**	1.55	2.00	2.37	2.83
	3SF 05 016 . 65	1665	0.96	1.35	**1.60**	1.66	2.14	2.53	3.02
	3SF 05 020 . 65	2065	1.20	1.69	**2.00**	2.07	2.67	3.16	3.78
	3SF 05 024 . 65	2465	1.40	1.98	**2.40**	2.42	3.13	3.70	4.43
	3SF 05 025 . 65	2565	1.49	2.11	**2.50**	2.59	3.34	3.95	4.72
	3SF 05 030 . 65	3065	1.79	2.54	**3.00**	3.11	4.01	4.74	5.67
	3SF 05 033 . 65	3365	1.96	2.77	**3.28**	3.39	4.38	5.19	6.20
	3SF 05 035 . 65	3565	2.09	2.96	**3.50**	3.62	4.68	5.53	6.61
	3SF 05 038 . 65	3865	2.27	3.21	**3.80**	3.93	5.08	6.01	7.18
	3SF 05 040 . 65	4065	2.39	3.38	**4.00**	4.14	5.35	6.32	7.56
	3SF 05 042 . 65	4265	2.51	3.55	**4.20**	4.35	5.61	6.64	7.94
	3SF 05 045 . 65	4565	2.69	3.80	**4.50**	4.66	6.01	7.12	8.50
	3SF 05 047 . 65	4765	2.81	3.97	**4.70**	4.86	6.28	7.43	8.88
	3SF 05 050 . 65	5065	3.00	4.24	**5.00**	5.20	6.71	7.94	9.49
	3SF 05 055 . 65	5565	3.28	4.64	**5.50**	5.68	7.33	8.68	10.37
	3SF 05 059 . 65	5965	3.50	4.95	**5.90**	6.06	7.83	9.26	11.07
	3SF 05 060 . 65	6065	3.59	5.07	**6.00**	6.21	8.02	9.49	11.34
	3SF 05 065 . 65	6565	3.88	5.49	**6.50**	6.73	8.69	10.28	12.28
	3SF 05 066 . 65	6665	3.94	5.58	**6.60**	6.83	8.82	10.44	12.47
	3SF 05 070 . 65	7065	4.18	5.92	**7.00**	7.25	9.35	11.07	13.23
	3SF 05 072 . 65	7265	4.30	6.09	**7.20**	7.45	9.62	11.38	13.61
	3SF 05 073 . 65	7365	4.36	6.17	**7.30**	7.56	9.76	11.54	13.80
	3SF 05 075 . 65	7565	4.48	6.34	**7.50**	7.76	10.02	11.86	14.17
	3SF 05 080 . 65	8065	4.78	6.76	**8.00**	8.28	10.69	12.65	15.12
	3SF 05 085 . 65	8565	5.08	7.18	**8.50**	8.80	11.36	13.44	16.06
	3SF 05 090 . 65	9065	5.40	7.64	**9.00**	9.35	12.07	14.29	17.08
	3SF 05 095 . 65	9565	5.68	8.03	**9.50**	9.83	12.69	15.02	17.95
	3SF 05 100 . 65	10065	5.98	8.45	**10.00**	10.35	13.36	15.81	18.90
	3SF 05 120 . 65	12065	7.17	10.14	**12.00**	12.42	16.04	18.97	22.68
	3SF 05 130 . 65	13065	7.77	10.99	**13.00**	13.46	17.37	20.56	24.57
	3SF 05 146 . 65	14665	8.73	12.34	**14.60**	15.11	19.51	23.08	27.59
	3SF 05 150 . 65	15065	8.96	12.67	**15.00**	15.52	20.04	23.71	28.33
	3SF 05 160 . 65	16065	9.55	13.51	**16.00**	16.54	21.35	25.27	30.20
	3SF 05 165 . 65	16565	9.86	13.95	**16.50**	17.08	22.05	26.09	31.18
	3SF 05 170 . 65	17065	10.16	14.37	**17.00**	17.60	22.72	26.88	32.13
70°	3SF 05 026 . 70	2670	1.55	2.20	**2.60**	2.69	3.47	4.11	4.91
	3SF 05 052 . 70	5270	3.11	4.39	**5.20**	5.38	6.95	8.22	9.83
	3SF 05 062 . 70	6270	3.71	5.24	**6.20**	6.42	8.29	9.80	11.72
80°	3SF 05 015 . 80	1580	0.90	1.27	**1.50**	1.56	2.01	2.38	2.85
	3SF 05 020 . 80	2080	1.20	1.69	**2.00**	2.07	2.67	3.16	3.78
	3SF 05 025 . 80	2580	1.49	2.11	**2.49**	2.58	3.33	3.94	4.71
	3SF 05 030 . 80	3080	1.79	2.54	**3.00**	3.11	4.01	4.74	5.67
	3SF 05 033 . 80	3380	1.96	2.77	**3.28**	3.39	4.38	5.19	6.20
	3SF 05 035 . 80	3580	2.09	2.96	**3.50**	3.62	4.68	5.53	6.61
	3SF 05 040 . 80	4080	2.39	3.38	**4.00**	4.14	5.35	6.32	7.56
	3SF 05 045 . 80	4580	2.69	3.80	**4.50**	4.66	6.01	7.12	8.50
	3SF 05 050 . 80	5080	2.99	4.23	**5.00**	5.18	6.68	7.91	9.45

SPADFLOW 3SF 05

Most Diverse Series of Full-Cone Nozzle

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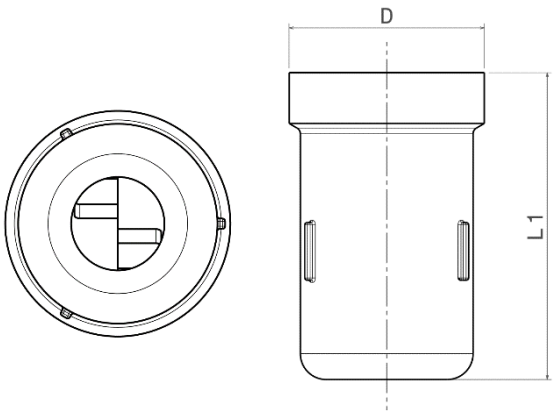
Spray angle	Code	General Code	Flow rate [l/min]						
			P [bar]						
			1.0 *K factor*	2.0	2.8	3.0	5.0	7.0	10
80°	3SF 05 060 . 80	6080	3.59	5.07	**6.00**	6.21	8.02	9.49	11.34
	3SF 05 075 . 80	7580	4.50	6.36	**7.53**	7.79	10.06	11.91	14.23
	3SF 05 080 . 80	8080	4.78	6.76	**8.00**	8.28	10.69	12.65	15.12
	3SF 05 085 . 80	8580	5.08	7.18	**8.50**	8.80	11.36	13.44	16.06
	3SF 05 098 . 80	9880	5.86	8.28	**9.80**	10.14	13.10	15.50	18.52
	3SF 05 102 . 80	10280	6.10	8.62	**10.20**	10.56	13.63	16.13	19.28
	3SF 05 106 . 80	10680	6.33	8.96	**10.60**	10.97	14.16	16.76	20.03
	3SF 05 110 . 80	11080	6.57	9.30	**11.00**	11.39	14.70	17.39	20.79
	3SF 05 118 . 80	11880	7.05	9.97	**11.80**	12.21	15.77	18.66	22.30
	3SF 05 129 . 80	12980	7.71	10.90	**12.90**	13.35	17.24	20.40	24.38
	3SF 05 150 . 80	15080	8.96	12.68	**15.00**	15.53	20.04	23.72	28.35
	3SF 05 160 . 80	16080	9.56	13.52	**16.00**	16.56	21.38	25.30	30.24
90°	3SF 05 015 . 90	1590	0.90	1.27	**1.50**	1.56	2.01	2.38	2.85
	3SF 05 020 . 90	2090	1.20	1.70	**2.00**	2.08	2.68	3.17	3.79
	3SF 05 025 . 90	2590	1.49	2.11	**2.50**	2.59	3.34	3.95	4.72
	3SF 05 030 . 90	3090	1.79	2.54	**3.00**	3.11	4.01	4.74	5.67
	3SF 05 035 . 90	3590	2.09	2.96	**3.50**	3.62	4.67	5.53	6.61
	3SF 05 038 . 90	3890	2.27	3.21	**3.80**	3.93	5.08	6.01	7.18
	3SF 05 040 . 90	4090	2.39	3.38	**4.00**	4.14	5.35	6.32	7.56
	3SF 05 045 . 90	4590	2.69	3.80	**4.50**	4.66	6.01	7.12	8.50
	3SF 05 046 . 90	4690	2.75	3.89	**4.60**	4.76	6.15	7.27	8.69
	3SF 05 050 . 90	5090	2.99	4.23	**5.00**	5.18	6.68	7.91	9.45
	3SF 05 055 . 90	5590	3.29	4.65	**5.50**	5.69	7.35	8.70	10.39
	3SF 05 060 . 90	6090	3.59	5.07	**6.00**	6.21	8.02	9.49	11.34
	3SF 05 065 . 90	6590	3.88	5.49	**6.50**	6.73	8.69	10.28	12.28
	3SF 05 074 . 90	7490	4.42	6.25	**7.40**	7.66	9.89	11.70	13.98
	3SF 05 080 . 90	8090	4.78	6.76	**8.00**	8.28	10.69	12.65	15.12
	3SF 05 090 . 90	9090	5.38	7.61	**9.00**	9.32	12.03	14.23	17.01
	3SF 05 095 . 90	9590	5.68	8.03	**9.50**	9.83	12.69	15.02	17.95
	3SF 05 100 . 90	10090	5.98	8.45	**10.00**	10.35	13.36	15.81	18.90
	3SF 05 110 . 90	11090	6.57	9.30	**11.00**	11.39	14.70	17.39	20.79
	3SF 05 120 . 90	12090	7.17	10.14	**12.00**	12.42	16.04	18.97	22.68
	3SF 05 146 . 90	14690	8.73	12.34	**14.60**	15.11	19.51	23.08	27.59

SPADFLOW 3S R

High Flow Full-Cone Nozzle

Webpage + STP



G1	Thread Type			Dimensions [mm]		Weight
	BSPT	BSPP	NPT	L_1	D	
2"	200T	200P	200N	112.7	74.6	1.36 Kg
2 1/2"	212T	212P	212N	138.9	88.1	2.49 Kg
3"	300T	300P	300N	165.1	104.8	3.40 Kg
4"	400T	400P	400N	206.4	127.0	6.12 Kg
5"	500T	500P	500N	254.8	161.9	14.97 Kg
6"	600T	600P	600N	300.0	193.7	17.46 Kg
8"	800T	800P	800N	388.9	241.3	34.02 Kg

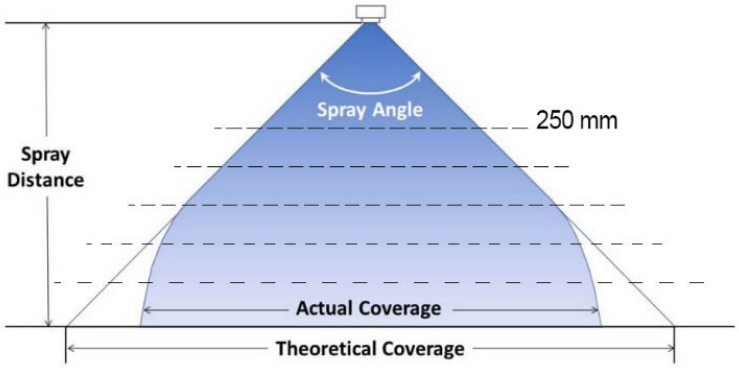
Properties:

One-Piece Construction
Internal Vane
Large Open Orifice

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

* Different materials are available upon request

α	Spray coverage @ 250 mm
50°	220
65°	300
80°	420
95°	550



Spray angle (α)	Code	Connection [inch]	Flow rate [l/min] P [bar] 0.1	0.2	0.4	0.5	0.7	1.5	3	4
50°	3S R 45 . 050	2"	122	168	231	256	298	424	583	665
	3S R 70 . 050	2 1/2"	190	261	359	398	464	659	907	1035
	3S R 110 . 050	3"	298	410	564	625	730	1036	1425	1627
	3S R 160 . 050	4"	434	596	820	909	1061	1507	2073	2366
	3S R 190 . 050	4"	515	708	974	1079	1260	1789	2461	2809
	3S R 250 . 050	5"	677	932	1282	1420	1658	2354	3238	3697
	3S R 280 . 050	5"	759	1044	1436	1591	1857	2637	3627	4140
	3S R 360 . 050	6"	975	1342	1846	2045	2388	3390	4663	5323
	3S R 400 . 050	6"	1084	1491	2051	2273	2653	3767	5181	5915
	3S R 650 . 050	8"	1761	2423	3333	3693	4311	6121	8420	9611
	3S R 750 . 050	8"	2032	2795	3845	4261	4974	7063	9715	11090
65°	3S R 45 . 065	2"	122	168	231	256	298	424	583	665
	3S R 60 . 065	2"	163	224	308	341	398	565	777	887
	3S R 70 . 065	2 1/2"	190	261	359	398	464	659	907	1035
	3S R 90 . 065	2 1/2"	244	335	461	511	597	848	1166	1331

SPADFLOW گروه صنعتی اسپاد فلو SPRAYING SYSTEMS AND NOZZLES

SPADFLOW 3S R

High Flow Full-Cone Nozzle

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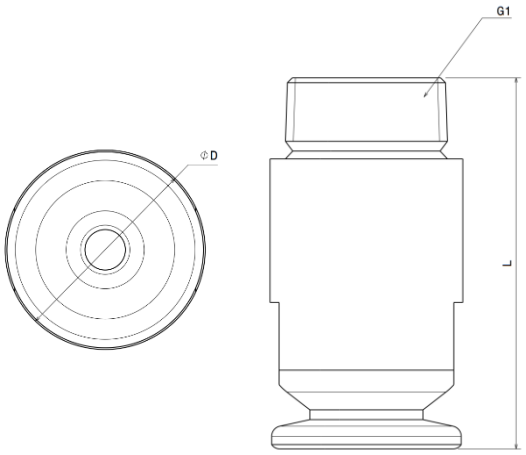
Spray angle (α)	Code	Connection [inch]	Flow rate [l/min] P [bar] 0.1	0.2	0.4	0.5	0.7	1.5	3	4
	3S R 110 . 065	3"	298	410	564	625	730	1036	1425	1627
	3S R 140 . 065	3"	379	522	718	795	929	1318	1814	2070
	3S R 160 . 065	4"	434	596	820	909	1061	1507	2073	2366
	3S R 190 . 065	4"	515	708	974	1079	1260	1789	2461	2809
	3S R 250 . 065	4" – 5"	677	932	1282	1420	1658	2354	3238	3697
	3S R 280 . 065	5"	759	1044	1436	1591	1857	2637	3627	4140
	3S R 360 . 065	6"	975	1342	1846	2045	2388	3390	4663	5323
	3S R 380 . 065	5"	1030	1416	1948	2159	2520	3579	4922	5619
	3S R 400 . 065	6"	1084	1491	2051	2273	2653	3767	5181	5915
	3S R 560 . 065	6"	1517	2087	2871	3182	3714	5274	7254	8280
	3S R 650 . 065	8"	1761	2423	3333	3693	4311	6121	8420	9611
	3S R 750 . 065	8"	2032	2795	3845	4261	4974	7063	9715	11090
	3S R 850 . 065	8"	2303	3168	4358	4829	5637	8005	11011	12569
80°	3S R 160 . 080	4"	434	596	820	909	1061	1507	2073	2366
	3S R 250 . 080	5"	677	932	1282	1420	1658	2354	3238	3697
	3S R 360 . 080	6"	975	1342	1846	2045	2388	3390	4663	5323
	3S R 650 . 080	8"	1761	2423	3333	3693	4311	6121	8420	9611
95°	3S R 45 . 095	2"	122	168	231	256	298	424	583	665
	3S R 60 . 095	2"	163	224	308	341	398	565	777	887
	3S R 70 . 095	2 1/2"	190	261	359	398	464	659	907	1035
	3S R 90 . 095	2 1/2"	244	335	461	511	597	848	1166	1331
	3S R 110 . 095	3"	298	410	564	625	730	1036	1425	1627
	3S R 140 . 095	3"	379	522	718	795	929	1318	1814	2070
	3S R 190 . 095	4"	515	708	974	1079	1260	1789	2461	2809
	3S R 250 . 095	4"	677	932	1282	1420	1658	2354	3238	3697
	3S R 280 . 095	5"	759	1044	1436	1591	1857	2637	3627	4140
	3S R 380 . 095	5"	1030	1416	1948	2159	2520	3579	4922	5619
	3S R 400 . 095	6"	1084	1491	2051	2273	2653	3767	5181	5915
	3S R 560 . 095	6"	1517	2087	2871	3182	3714	5274	7254	8280
	3S R 750 . 095	8"	2032	2795	3845	4261	4974	7063	9715	11090
	3S R 850 . 095	8"	2303	3168	4358	4829	5637	8005	11011	12569
	3S R 1000 . 095	8"	2710	3727	5127	5681	6632	9417	12954	14787

SPADFLOW 3B MP

High Flow Full-Cone Nozzle

Webpage + STP



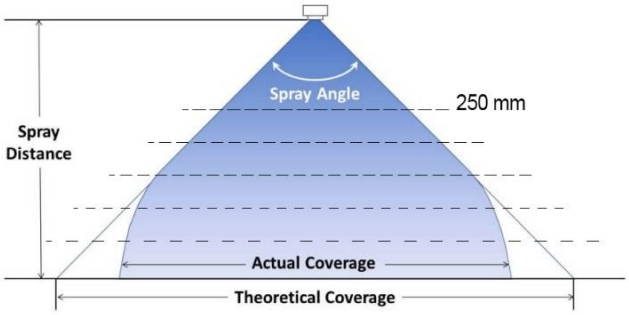
G1	Thread Type		
	BSPT	BSPP	NPT
2"	200T	200P	200N
2 1/2"	212T	212P	212N
3"	300T	300P	300N
4"	400T	400P	400N

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

* Different materials are available upon request

Properties:

One-Piece Construction
Internal Vane
Large Open Orifice



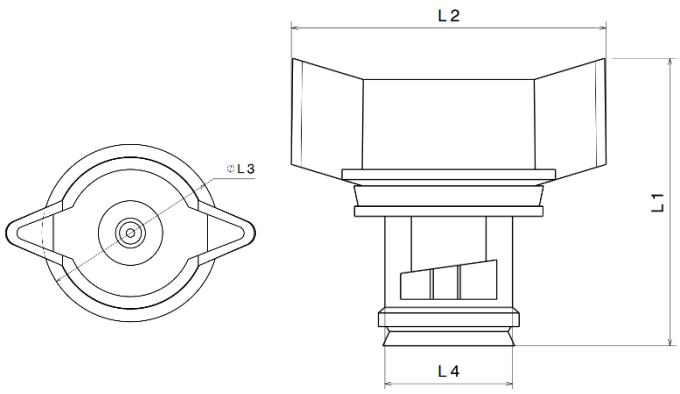
α	Spray coverage @ 250 mm
120°	850 mm

Spray angle (α)	Code	Connection** [inch]	Flow rate [l/min] P [bar]								Dimension [mm]		Weight
			0.2	0.3	0.5	0.7	1 K factor	2	3	5	L	D	
120°	3B MP 750 . 120	2"	94.8	115	146	171	**202**	280	339	430	159	66.8	1.59 Kg
	3B MP 812 . 120	2"	104	126	160	187	**221**	306	370	471	159	66.8	1.59 Kg
	3B MP 875 . 120	2"	129	155	197	231	**273**	378	458	582	159	66.8	1.59 Kg
	3B MP 937 . 120	2"	144	174	221	259	**306**	424	513	652	165	82.6	1.70 Kg
	3B MP 1000 . 120	2" – 2 1/2"	168	203	259	303	**358**	496	600	763	171	82.6	1.70 Kg
	3B MP 1125 . 120	2" – 2 1/2"	206	249	317	371	**439**	608	736	935	168	82.6	1.70 Kg
	3B MP 1250 . 120	2 1/2"	247	299	381	446	**527**	730	883	1120	171	82.6	2.04 Kg
	3B MP 1375 . 120	2 1/2"	297	359	456	535	**632**	875	1060	1350	178	82.6	2.04 Kg
	3B MP 1500 . 120	2 1/2" – 3"	363	440	559	655	**774**	1070	1230	1650	181	82.6	2.04 Kg
	3B MP 1625 . 120	3"	428	517	658	770	**911**	1260	1530	1940	229	102	2.84 Kg
	3B MP 1750 . 120	3" – 4"	488	591	751	880	**1040**	1440	1740	2220	229	102	2.84 Kg
	3B MP 1875 . 120	4"	549	664	845	989	**1,170**	1,620	1,960	2,490	248	121	3.29 Kg
	3B MP 2000 . 120	4"	643	778	989	1160	**1370**	1900	2300	2920	251	121	3.29 Kg
	3B MP 2125 . 120	4"	718	869	1100	1290	**1530**	2120	2560	3260	251	121	3.29 Kg
	3B MP 2250 . 120	4"	779	943	1200	1,400	**1,660**	2,300	2,780	3,540	248	121	3.63 Kg

SPADFLOW گروه صنعتی اسپاد فلو SPRAYING SYSTEMS AND NOZZLES

SPADFLOW 3S QPHA

Quick Connect Full-Cone Nozzle



G1	Thread Type			Dimensions [mm]				Weight
	BSPT	BSPP	NPT	L1	L2	L3	L4	
1/4"	014T	018P	014N	28.4	31.9	22	13	10 gr

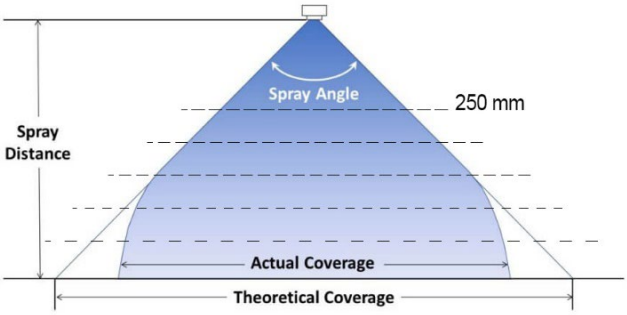
Material*	Code
Polypropylene	PP
Polyamide	PA

* Different materials are available upon request

Properties:

Two - Piece Construction
Internal Vane
Drip-Free Performance
Quick Connection

α	Spray coverage @ 250 mm
60°	280 mm



Spray angle (α)	Code	Connection [inch]	Ø B [mm]	Ø E [mm]	Flow rate [l/min] P [bar]						
					0.5	1.0 *K factor*	2.0	3.0	5.0	7.0	10.0
60°	3S QPHA 10. 060	1/4"	0.89	0.64	-	**0.54**	0.62	0.74	0.94	1.1	1.3
	3S QPHA 15. 060	1/4"	1.1	0.64	0.49	**0.81**	0.93	1.1	1.4	1.7	1.9
	3S QPHA 20. 060	1/4"	1.2	1.0	0.65	**1.1**	1.2	1.5	1.9	2.2	2.6
	3S QPHA 30. 060	1/4"	1.5	1.0	0.98	**1.6**	1.9	2.2	2.8	3.3	3.9