

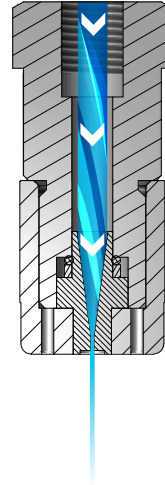
**FLAT
SPRAY**

ULTRA-HIGH PRESSURE NOZZLES

S STANDARD ANGLE SPRAY

OVERVIEW: ULTRA-HIGH PRESSURE FS AND VS

- Ultra-high pressure, high impact flat spray or solid stream
- Operating pressures are up to 10 times higher than other high pressure nozzles – up to 60,000 psi (4000 bar)
- Traditional and quick-connect options;
 - Save on nozzle replacement costs – nozzle bodies can be reused – only spray tips are replaced
- Long wear life – nozzles are hardened stainless steel. Spray tips are available with extra hard sapphire inserts for maximum wear resistance
- Spray angles from 0° to 45°
- Uniform spray distribution from 0.03 to 78 gpm (0.11 to 295 lpm)
- Nozzle bodies include O-ring, gasket (58833 only) and tip retainer



Ultra-High Pressure Nozzles

As liquid passes through the engineered orifice, a very high impact spray pattern is produced in either zero degree (solid stream) or flat spray pattern.

FS AND VS OPTIONS

VS010 Spray Tip + 58834 Body
Operating pressure up to 20,000 psi (1400 bar)

VS625
1/4" male conn.
Operating pressure up to 17,500 psi (1200 bar)

<p>S</p> <p>VS940 1/16" male conn. Operating pressure up to 15,000 psi (1000 bar)</p>	<p>58833 Body 3/8" to 1/2" male or female conn.</p>
<p>S</p> <p>VS020 Spray Tip Use with 58834 nozzle body Operating pressure up to 30,000 psi (2000 bar)</p>	<p>S</p> <p>VS051 Spray Tip No threads* Operating pressure up to 60,000 psi (4000 bar)</p>
*Customer supplies holder	
<p>S</p> <p>FS013 Spray Tip Use with 58834 nozzle body Operating pressure up to 30,000 psi (2000 bar)</p>	<p>S</p> <p>FS020 Spray Tip Use with 58833 nozzle body Operating pressure up to 30,000 psi (2000 bar)</p>

RELATIVE DROP SIZE IN MICRONS

10 to 100	100 to 500	500 to 1000	1000 to 5000
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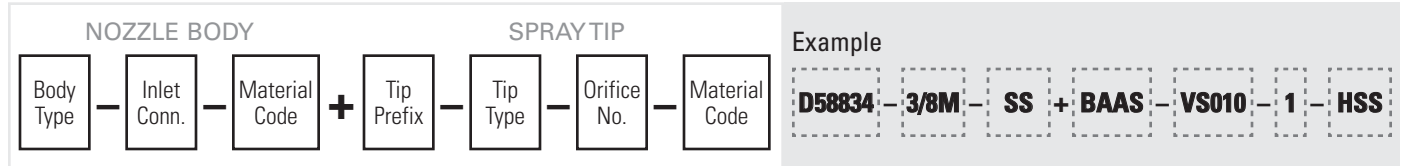
Drop size will vary based on flow rate and pressure.

ORDERING INFORMATION

ULTRA-HIGH PRESSURE VS625 AND VS940

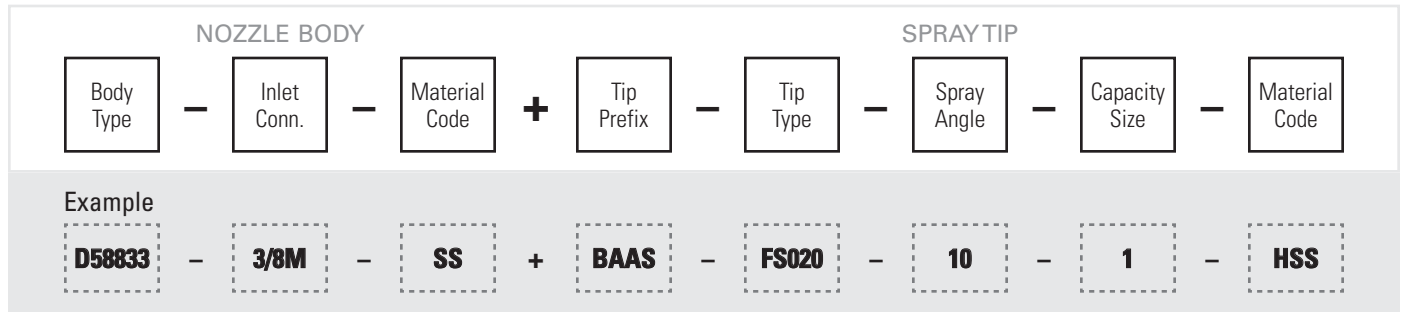


ULTRA-HIGH PRESSURE D58834 BODY WITH FS013, VS010 OR VS020 SPRAY TIP*



*Note: VS051 is available as a spray tip only.

ULTRA-HIGH PRESSURE D58833 BODY WITH FS020 SPRAY TIP



QUICK REFERENCE GUIDE

Model	Connection	Connection Size (in.)	Materials	Page Number	
				Performance Data	Dimensions and Weights
VS625 nozzle	M	1/4	Stainless steel with sapphire insert (SSAP)	C52	C54
VS940 nozzle	M	1/16		C52	
VS010 spray tip	NA	NA	Hardened stainless steel (HSS)	C52	
VS020 spray tip	NA	NA	Stainless steel with sapphire insert (SSAP)	C53	
VS051 spray tip	NA	NA		C53	
FS013 spray tip	NA	NA	Hardened stainless steel (HSS)	C53	
FS020 spray tip	NA	NA		C53	
58833 body	M, F	3/8 to 1/2	Stainless steel (SS)	-	
58834 body	M, F	3/8 to 1/2		-	

F = female thread; M = male thread; NA = not applicable.
For more dimensions and sizes, contact your sales engineer.

**S PERFORMANCE DATA:
STANDARD ANGLE SPRAY**

Nozzle Type	Inlet Conn. (in.)	Spray Angle	Orifice No.	Equiv. Orifice Dia. (mm)	Flow Rate Capacity (liters per minute)			
					100 bar	500 bar	750 bar	1200 bar
VS625	1/4	0°	0.25	0.25	0.34	0.75	0.92	1.2
			0.5	0.5	1.3	3.0	3.7	4.6
			0.75	0.75	3.0	6.7	8.2	10.4
			1	1	5.3	12.0	14.6	18.5
			1.5	1.5	12.0	27	33	42
			2	2	21	48	59	74
			2.5	2.5	33	74	91	116

**S PERFORMANCE DATA:
STANDARD ANGLE SPRAY**

Nozzle Type	Inlet Conn. (in.)	Spray Angle	Orifice No.	Equiv. Orifice Dia. (mm)	Flow Rate Capacity (liters per minute)		
					500 bar	750 bar	1000 bar
VS940	1/16	0°	0.5	0.5	3.0	3.7	4.2
			0.75	0.75	6.7	8.3	9.5
			1	1	12.0	14.7	16.9
			1.5	1.5	27	33	38
			2	2	48	59	68
			2.5	2.5	75	92	105

**S PERFORMANCE DATA:
STANDARD ANGLE SPRAY**

Tip Type	Spray Angle	Orifice No.	Equiv. Orifice Dia. (mm)	Flow Rate Capacity (liters per minute)						
				100 bar	250 bar	500 bar	750 bar	1000 bar	1200 bar	1400 bar
VS010	0°	1	1	6.4	10.0	14.2	17.4	20	22	24
		1.5	1.5	14.6	23	33	40	46	51	55
		2	2	25	40	56	69	79	88	94
		2.5	2.5	40	64	90	111	128	140	151
		3	3	61	97	137	167	193	211	228
		3.5	3.5	80	126	178	200	252	276	298



 PERFORMANCE DATA:
STANDARD ANGLE SPRAY

Tip Type	Spray Angle	Orifice No.	Equiv. Orifice Dia. (mm)	Flow Rate Capacity (liters per minute)				
				500 bar	750 bar	1000 bar	1500 bar	2000 bar
VS020	0°	0.5	0.5	3.0	3.7	4.2	5.2	6.0
•		0.75	0.75	6.7	8.3	9.5	11.7	13.4
•		1	1	12.0	14.7	16.9	21	24
•		1.5	1.5	27	33	38	47	54
•		2	2	48	59	68	83	96
•		2.5	2.5	75	92	105	129	149

 PERFORMANCE DATA:
STANDARD ANGLE SPRAY

Tip Type	Spray Angle	Orifice No.	Equiv. Orifice Dia. (mm)	Flow Rate Capacity (liters per minute)			
				1000 bar	2000 bar	3000 bar	4000 bar
VS051	0°	0.1	0.1	0.13	0.18	0.22	0.25
•		0.25	0.25	0.78	1.1	1.4	1.6
•		0.5	0.5	3.1	4.4	5.4	6.3
•		0.75	0.75	7.1	10.0	12.2	14.1
•		1	1	12.5	17.7	22	25

 PERFORMANCE DATA:
STANDARD ANGLE SPRAY

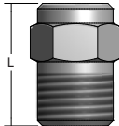

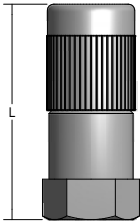
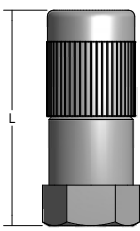
Tip Type	Spray Angle at 20 bar			Capacity Size	Equiv. Orifice Dia. (mm)	Flow Rate Capacity (liters per minute)				
	10°	20°	45°			100 bar	500 bar	750 bar	1000 bar	2000 bar
FS013	•	•	–	0.54	0.32	0.54	1.2	1.5	1.7	2.4
•	•	•	–	1	0.45	1.0	2.2	2.7	3.2	4.5
•	•	•	–	1.5	0.55	1.5	3.4	4.1	4.7	6.7
•	•	•	•	2	0.65	2.0	4.5	5.5	6.3	9.0
•	•	•	•	3	0.80	3.0	6.7	8.2	9.5	13.4

 PERFORMANCE DATA:
STANDARD ANGLE SPRAY

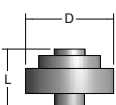
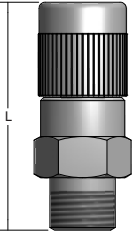
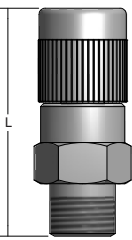
Tip Type	Spray Angle at 20 bar			Capacity Size	Equiv. Orifice Dia. (mm)	Flow Rate Capacity (liters per minute)				
	10°	20°	45°			100 bar	500 bar	750 bar	1000 bar	2000 bar
FS020	•	•	•	4.5	1.0	4.5	10.1	12.3	14.2	20
•	•	•	•	11	1.5	11.0	25	30	35	49
•	•	•	•	19	2.0	19.0	43	52	60	85
•	•	•	•	28	2.5	28	63	77	89	125
•	•	•	•	40	3.0	40	89	110	127	179



DIMENSIONS AND WEIGHTS

Nozzle	Nozzle Type	Inlet Conn. (in.)	L (mm)	Hex. (in.)	D (Dia.) (mm)	Net Weight (kg)
	VS625	1/4 (M)	22	9/16	—	0.02
	VS940	1/16 (M)	6.5	—	7.9	0.002
	58834 (M) + FS013	3/8	70	1-1/16	—	0.27
	58834 (F) + FS013	3/8	70	1-1/16	—	0.27
	58834 (M) + FS013	1/2	70	1-1/16	—	0.27
	58834 (F) + FS013	1/2	70	1-1/16	—	0.27
	58833 (M) + FS020	3/8	70	1-1/16	—	0.28
	58833 (F) + FS020	3/8	70	1-1/16	—	0.28
	58833 (M) + FS020	1/2	70	1-1/16	—	0.28
	58833 (F) + FS020	1/2	70	1-1/16	—	0.28

Based on the largest/heaviest version of each type.

Nozzle	Nozzle Type	Inlet Conn. (in.)	L (mm)	Hex. (in.)	D (Dia.) (mm)	Net Weight (kg)
	VS051 spray tip	—	5.8	—	9.5	0.002
	58834 (M) + VS010	3/8	73	1-1/16	—	0.28
	58834 (F) + VS010	3/8	73	1-1/16	—	0.28
	58834 (M) + VS010	1/2	73	1-1/16	—	0.28
	58834 (F) + VS010	1/2	73	1-1/16	—	0.28
	58834 (M) + VS020	3/8	73	1-1/16	—	0.28
	58834 (F) + VS020	3/8	73	1-1/16	—	0.28
	58834 (M) + VS020	1/2	73	1-1/16	—	0.28
	58834 (F) + VS020	1/2	73	1-1/16	—	0.28

Based on the largest/heaviest version of each type.