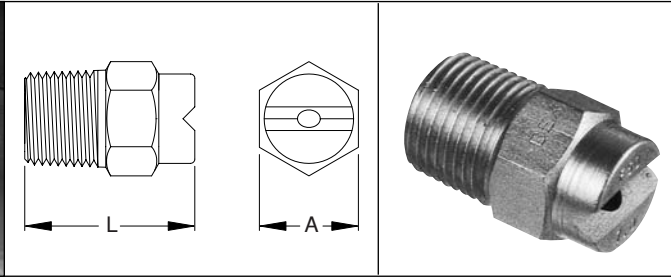
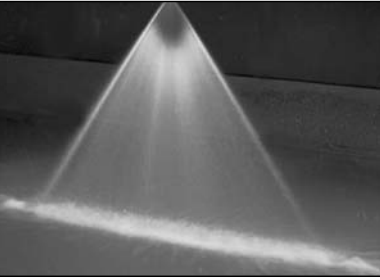


F SERIES

Flat "V" spray nozzles



FLAT SPRAY

SPRAY CHARACTERISTICS:

F-Series spray nozzles produce a flat, fan-shaped spray pattern, with spray angles available from 5° to 110° measured at 40 psi. Spray angles generally increase with pressure, as shown in the capacity table.

Spray density tapers off toward the outside of these sprays, to permit overlapping of spray patterns while maintaining uniform spray density.

See page 13 for 0° solid stream spray nozzles.

CONSTRUCTION:

The models listed are machined from bar stock and are one piece construction. Standard materials are brass, mild steel, 303 stainless steel and 316 stainless steel. Some models are also stocked in Carpenter 20®, PVC, CPVC and polypropylene. All models are available in either BSPT or BSPT threads.

For molded plastic models, please see page 20.

TYPICAL APPLICATIONS:

Suitable for a variety of washing and spraying applications.

- Parts Cleaning
- Metal Washing
- Foam Control
- Asphalt Spraying
- Gravel Washing
- Vehicle Washing
- Fertilizer Spraying
- Dishwashers

DIMENSIONS

NOZZLE BSPT PIPE SIZE	Length L (mm)	Dim. A (mm)
1/8F	20.6	11 HEX
1/4F	23.8	14 HEX
3/8F	30.2	17 HEX
1/2F	33.3	22 HEX
3/4F	42.8	27 HEX
1F	63.5	35 HEX
1 1/4F	92	44.5 HEX
1 1/2F	114.3	50.8 Dia.
2F	127	60.3 Dia.

ACCESSORIES:



Many F-Series flat "V" spray nozzles are also offered in the FT-Series 3-piece setup.

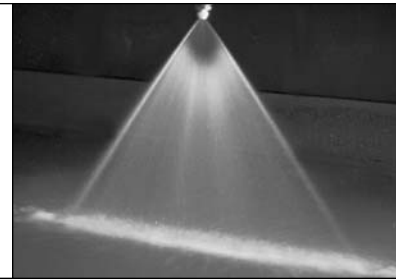
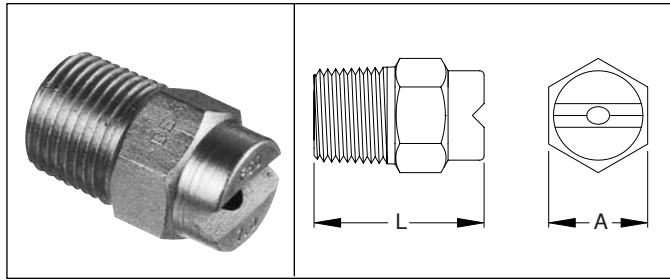
SPRAY ANGLE @ 3 bar	MODEL NUMBER	PIPE SIZE BSPT	EQUIV. ORIFICE DIAMETER (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)												SPRAY ANGLE @			
				0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	7 bar	10 bar	20 bar	30 bar	1.5 bar	3 bar	5 bar
110°	1/8F11003	1/8	1.04	0.37	0.48	0.57	0.68	0.84	0.97	1.18	1.37	1.53	1.81	2.16	3.06	3.74	96°	110°	118°
	1/4F11003	1/4	1.04	0.37	0.48	0.57	0.68	0.84	0.97	1.18	1.37	1.53	1.81	2.16	3.06	3.74	92°	110°	118°
	1/8F11004	1/8	1.19	0.50	0.64	0.76	0.91	1.12	1.29	1.58	1.82	2.04	2.41	2.88	4.08	4.99	90°	110°	112°
	1/4F11004	1/4	1.19	0.50	0.64	0.76	0.91	1.12	1.29	1.58	1.82	2.04	2.41	2.88	4.08	4.99	90°	110°	112°
	1/8F11005	1/8	1.35	0.62	0.81	0.95	1.14	1.40	1.61	1.97	2.28	2.55	3.01	3.60	5.10	6.24	96°	110°	114°
	1/4F11005	1/4	1.35	0.62	0.81	0.95	1.14	1.40	1.61	1.97	2.28	2.55	3.01	3.60	5.10	6.24	96°	110°	114°
	1/8F11006	1/8	1.47	0.75	0.97	1.14	1.37	1.67	1.93	2.37	2.73	3.06	3.62	4.32	6.11	7.5	97°	110°	115°
	1/4F11006	1/4	1.47	0.75	0.97	1.14	1.37	1.67	1.93	2.37	2.73	3.06	3.62	4.32	6.11	7.5	97°	110°	115°
	1/8F11008	1/8	0.091	1.70	1.00	1.29	1.53	1.82	2.23	2.58	3.16	3.65	4.08	4.82	5.8	8.2	100°	110°	115°
	1/4F11008	1/4	0.091	1.70	1.00	1.29	1.53	1.82	2.23	2.58	3.16	3.56	4.08	4.82	5.8	8.2	100°	110°	115°
	1/8F11010	1/8	1.91	1.25	1.61	1.91	2.28	2.79	3.22	3.95	4.56	5.10	6.0	7.2	10.2	12.5	102°	110°	115°
	1/4F11010	1/4	1.91	1.25	1.61	1.91	2.28	2.79	3.22	3.95	4.56	5.10	6.0	7.2	10.2	12.5	102°	110°	115°
	1/8F11015	1/8	2.31	1.87	2.42	2.86	3.42	4.19	4.83	5.92	6.8	7.6	9.0	10.8	15.3	18.7	102°	110°	115°
	1/4F11015	1/4	2.31	1.87	2.42	2.86	3.42	4.19	4.83	5.92	6.8	7.6	9.0	10.8	15.3	18.7	102°	110°	115°
	1/8F11020	1/8	2.67	2.50	3.22	3.81	4.56	5.58	6.4	7.9	9.1	10.2	12.1	14.4	20.4	25.0	103°	110°	112°
	1/4F11020	1/4	2.67	2.50	3.22	3.81	4.56	5.58	6.4	7.9	9.1	10.2	12.1	14.4	20.4	25.0	103°	110°	112°
	1/4F11030	1/4	3.28	3.74	4.83	5.72	6.8	8.4	9.7	11.8	13.7	15.3	18.1	21.6	30.6	37.4	103°	110°	112°
	1/4F11040	1/4	3.78	4.99	6.45	7.6	9.1	11.2	12.9	15.8	18.2	20.4	24.1	28.8	40.8	49.9	103°	110°	112°
	1/4F11050	1/4	4.24	6.24	8.1	9.5	11.4	14.0	16.1	19.7	22.8	25.5	30.1	36.0	51.0	62.4	107°	110°	116°

SPRAY ANGLE @ 3 bar	MODEL NUMBER	PIPE SIZE BSPT	EQUIV. ORIFICE DIAMETER (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)														SPRAY ANGLE @		
				0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	7 bar	10 bar	20 bar	30 bar	1.5 bar	3 bar	5 bar	
95°	1/8F9505	1/8	1.35	0.62	0.81	0.95	1.14	1.40	1.61	1.97	2.28	2.55	3.0	3.6	5.1	6.2	86°	95°	101°	
	1/4F9505	1/4	1.35	0.62	0.81	0.95	1.14	1.40	1.61	1.97	2.28	2.55	3.0	3.6	5.1	6.2	87°	95°	101°	
	1/8F9506	1/8	1.47	0.75	0.97	1.14	1.37	1.67	1.93	2.37	2.73	3.06	3.6	4.3	6.1	7.5	86°	95°	101°	
	1/4F9506	1/4	1.47	0.75	0.97	1.14	1.37	1.67	1.93	2.37	2.73	3.06	3.6	4.3	6.1	7.5	86°	95°	101°	
	1/8F9508	1/8	1.70	1.00	1.29	1.53	1.82	2.23	2.58	3.2	3.6	4.1	4.8	5.8	8.2	10.0	86°	95°	100°	
	1/4F9508	1/4	1.70	1.00	1.29	1.53	1.82	2.23	2.58	3.2	3.6	4.1	4.8	5.8	8.2	10.0	85°	95°	100°	
	1/8F9510	1/8	1.91	1.25	1.61	1.91	2.28	2.79	3.2	3.9	4.6	5.1	6.0	7.2	10.2	12.5	88°	95°	99°	
	1/4F9510	1/4	1.91	1.25	1.61	1.91	2.28	2.79	3.2	3.9	4.6	5.1	6.0	7.2	10.2	12.5	88°	95°	99°	
	1/8F9515	1/8	2.31	1.87	2.42	2.86	3.4	4.2	4.8	5.9	6.8	7.6	9.0	10.8	15.3	18.7	90°	95°	100°	
	1/4F9515	1/4	2.31	1.87	2.42	2.86	3.4	4.2	4.8	5.9	6.8	7.6	9.0	10.8	15.3	18.7	90°	95°	100°	
	1/8F9520	1/8	2.67	2.50	3.2	3.8	4.6	5.6	6.4	7.9	9.1	10.2	12.1	14.4	20.4	25.0	89°	95°	99°	
	1/4F9520	1/4	2.67	2.50	3.2	3.8	4.6	5.6	6.4	7.9	9.1	10.2	12.1	14.4	20.4	25.0	89°	95°	99°	
	1/8F9530	1/8	3.28	3.7	4.8	5.7	6.8	8.4	9.7	11.8	13.7	15.3	18.1	21.6	30.6	37	90°	95°	101°	
	1/4F9530	1/4	3.28	3.7	4.8	5.7	6.8	8.4	9.7	11.8	13.7	15.3	18.1	21.6	30.6	37	90°	95°	101°	
	3/8F9530	3/8	3.28	3.7	4.8	5.7	6.8	8.4	9.7	11.8	13.7	15.3	18.1	21.6	30.6	37	90°	95°	101°	
	1/4F9540	1/4	3.78	5.0	6.4	7.6	9.1	11.2	12.9	15.8	18.2	20.4	24.1	28.8	41	50	90°	95°	100°	
	3/8F9540	3/8	3.78	5.0	6.4	7.6	9.1	11.2	12.9	15.8	18.2	20.4	24.1	28.8	41	50	90°	95°	100°	
	1/4F9550	1/4	4.24	6.2	8.1	9.5	11.4	14.0	16.1	19.7	22.8	25.5	30.1	36	51	62	91°	95°	101°	
	3/8F9550	3/8	4.24	6.2	8.1	9.5	11.4	14.0	16.1	19.7	22.8	25.5	30.1	36	51	62	91°	95°	101°	
	1/4F9560	1/4	4.62	7.5	9.7	11.4	13.7	16.7	19.3	23.7	27.3	30.6	36	43	61	75	92°	95°	102°	
	3/8F9560	3/8	4.62	7.5	9.7	11.4	13.7	16.7	19.3	23.7	27.3	30.6	36	43	61	75	92°	95°	102°	
	1/2F9560	1/2	4.62	7.5	9.7	11.4	13.7	16.7	19.3	23.7	27.3	30.6	36	43	61	75	91°	95°	102°	
	1/4F9570	1/4	5.00	8.7	11.3	13.3	16.0	19.5	22.6	27.6	32	36	42	50	71	87	92°	95°	103°	
	3/8F9570	3/8	5.00	8.7	11.3	13.3	16.0	19.5	22.6	27.6	32	36	42	50	71	87	90°	95°	101°	
	1/2F9570	1/2	5.00	8.7	11.3	13.3	16.0	19.5	22.6	27.6	32	36	42	50	71	87	90°	95°	101°	
	1/2F95100	1/2	5.99	12.5	16.1	19.1	22.8	27.9	32	39	46	51	60	72	102	125	92°	95°	103°	
	1/2F95150	1/2	7.34	18.7	24	29	34	42	48	59	68	76	90	108	153	187	92°	95°	102°	
	80°	1/8F8005	1/8	1.35	0.62	0.81	0.95	1.14	1.40	1.61	1.97	2.28	2.55	3.01	3.6	5.1	6.2	74°	80°	83°
		1/4F8005	1/4	1.35	0.62	0.81	0.95	1.14	1.40	1.61	1.97	2.28	2.55	3.01	3.6	5.1	6.2	74°	80°	83°
		1/8F8006	1/8	1.47	0.75	0.97	1.14	1.37	1.67	1.93	2.37	2.73	3.06	3.6	4.3	6.1	7.5	74°	80°	83°
		1/4F8006	1/4	1.47	0.75	0.97	1.14	1.37	1.67	1.93	2.37	2.73	3.06	3.6	4.3	6.1	7.5	74°	80°	83°
		1/8F8008	1/8	1.70	1.00	1.29	1.53	1.82	2.23	2.58	3.2	3.6	4.1	4.8	5.8	8.2	10.0	75°	80°	83°
		1/4F8008	1/4	1.70	1.00	1.29	1.53	1.82	2.23	2.58	3.2	3.6	4.1	4.8	5.8	8.2	10.0	75°	80°	83°
		1/8F8010	1/8	1.91	1.25	1.61	1.91	2.28	2.79	3.2	3.9	4.6	5.1	6.0	7.2	10.2	12.5	75°	80°	83°
		1/4F8010	1/4	1.91	1.25	1.61	1.91	2.28	2.79	3.2	3.9	4.6	5.1	6.0	7.2	10.2	12.5	75°	80°	83°
		3/8F8010	3/8	1.91	1.25	1.61	1.91	2.28	2.79	3.2	3.9	4.6	5.1	6.0	7.2	10.2	12.5	75°	80°	83°
1/8F8015		1/8	2.31	1.87	2.42	2.86	3.4	4.2	4.8	5.9	6.8	7.6	9.0	10.8	15.3	18.7	74°	80°	86°	
1/4F8015		1/4	2.31	1.87	2.42	2.86	3.4	4.2	4.8	5.9	6.8	7.6	9.0	10.8	15.3	18.7	74°	80°	86°	
3/8F8015		3/8	2.31	1.87	2.42	2.86	3.4	4.2	4.8	5.9	6.8	7.6	9.0	10.8	15.3	18.7	75°	80°	86°	
1/8F8020		1/8	2.67	2.50	3.2	3.8	4.6	5.6	6.4	7.9	9.1	10.2	12.1	14.4	20.4	25.0	74°	80°	85°	
1/4F8020		1/4	2.67	2.50	3.2	3.8	4.6	5.6	6.4	7.9	9.1	10.2	12.1	14.4	20.4	25.0	74°	80°	85°	
3/8F8020		3/8	2.67	2.50	3.2	3.8	4.6	5.6	6.4	7.9	9.1	10.2	12.1	14.4	20.4	25.0	74°	80°	85°	
1/8F8030		1/8	3.28	3.7	4.8	5.7	6.8	8.4	9.7	11.8	13.7	15.3	18.1	21.6	30.6	37	75°	80°	86°	
1/4F8030		1/4	3.28	3.7	4.8	5.7	6.8	8.4	9.7	11.8	13.7	15.3	18.1	21.6	30.6	37	75°	80°	86°	
3/8F8030		3/8	3.28	3.7	4.8	5.7	6.8	8.4	9.7	11.8	13.7	15.3	18.1	21.6	30.6	37	75°	80°	86°	
1/8F8040		1/8	3.78	5.0	6.4	7.6	9.1	11.2	12.9	15.8	18.2	20.4	24.1	28.8	41	50	76°	80°	85°	
1/4F8040		1/4	3.78	5.0	6.4	7.6	9.1	11.2	12.9	15.8	18.2	20.4	24.1	28.8	41	50	76°	80°	85°	
3/8F8040		3/8	3.78	5.0	6.4	7.6	9.1	11.2	12.9	15.8	18.2	20.4	24.1	28.8	41	50	76°	80°	85°	
1/4F8050		1/4	4.24	6.2	8.1	9.5	11.4	14.0	16.1	19.7	22.8	25.5	30.1	36	51	62	77°	80°	84°	
3/8F8050		3/8	4.24	6.2	8.1	9.5	11.4	14.0	16.1	19.7	22.8	25.5	30.1	36	51	62	77°	80°	84°	
1/4F8060		1/4	4.62	7.5	9.7	11.4	13.7	16.7	19.3	23.7	27.3	30.6	36	43	61	75	77°	80°	84°	
3/8F8060		3/8	4.62	7.5	9.7	11.4	13.7	16.7	19.3	23.7	27.3	30.6	36	43	61	75	77°	80°	84°	
1/2F8060		1/2	4.62	7.5	9.7	11.4	13.7	16.7	19.3	23.7	27.3	30.6	36	43	61	75	78°	80°	84°	
1/4F8070		1/4	5.00	8.7	11.3	13.3	16.0	19.5	22.6	27.6	32	36	42	50	71	87	78°	80°	87°	
3/8F8070		3/8	5.00	8.7	11.3	13.3	16.0	19.5	22.6	27.6	32	36	42	50	71	87	78°	80°	87°	
1/2F8070		1/2	5.00	8.7	11.3	13.3	16.0	19.5	22.6	27.6	32	36	42	50	71	87	78°	80°	87°	
1/4F8080		1/4	5.36	10.0	12.9	15.3	18.2	22.3	25.8	32	36	41	48	58	82	100	78°	80°	88°	
3/8F8080		3/8	5.36	10.0	12.9	15.3	18.2	22.3	25.8	32	36	41	48	58	82	100	78°	80°	88°	
1/2F8080		1/2	5.36	10.0	12.9	15.3	18.2	22.3	25.8	32	36	41	48	58	82	100	78°	80°	88°	

CONTINUED on next page...

DIMENSIONS

NOZZLE BSPT PIPE SIZE	Length L (mm)	Dim. A (mm)
1/8F	20.6	11 HEX
1/4F	23.8	14 HEX
3/8F	30.2	17 HEX
1/2F	33.3	22 HEX
3/4F	42.8	27 HEX
1F	63.5	35 HEX
1 1/4F	92	44.5 HEX
1 1/2F	114.3	50.8 Dia.
2F	127	60.3 Dia.



ACCESSORIES:

Check Valves:

For use when a complete shut-off is required. See page 71 for details.



FLAT SPRAY

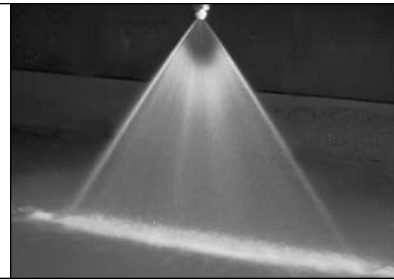
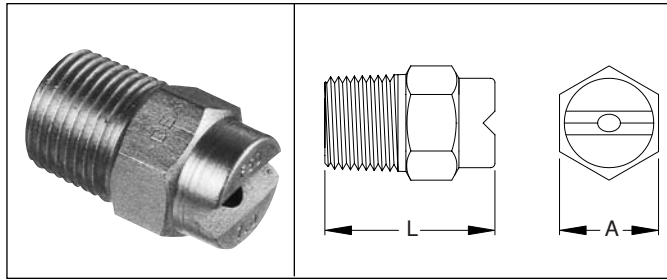
SPRAY ANGLE @ 3 bar	MODEL NUMBER	PIPE SIZE BSPT	EQUIV. ORIFICE DIAMETER (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)													SPRAY ANGLE @		
				0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	7 bar	10 bar	20 bar	30 bar	1.5 bar	3 bar	5 bar
50°	1/2F5020	1/2	2.67	2.50	3.2	3.8	4.6	5.6	6.4	7.9	9.1	10.2	12.1	14.4	20.4	25.0	43°	50°	55°
	1/4F5020	1/4	2.67	2.50	3.2	3.8	4.6	5.6	6.4	7.9	9.1	10.2	12.1	14.4	20.4	25.0	43°	50°	55°
	3/8F5020	3/8	2.67	2.50	3.2	3.8	4.6	5.6	6.4	7.9	9.1	10.2	12.1	14.4	20.4	25.0	43°	50°	55°
	1/8F5030	1/8	3.28	3.7	4.8	5.7	6.8	8.4	9.7	11.8	13.7	15.3	18.1	21.6	30.6	37.4	43°	50°	54°
	1/4F5030	1/4	3.28	3.7	4.8	5.7	6.8	8.4	9.7	11.8	13.7	15.3	18.1	21.6	30.6	37.4	43°	50°	55°
	3/8F5030	3/8	3.28	3.7	4.8	5.7	6.8	8.4	9.7	11.8	13.7	15.3	18.1	21.6	30.6	37.4	43°	50°	54°
	1/8F5040	1/8	3.78	5.0	6.4	7.6	9.1	11.2	12.9	15.8	18.2	20.4	24.1	28.8	41	50	43°	50°	54°
	1/4F5040	1/4	3.78	5.0	6.4	7.6	9.1	11.2	12.9	15.8	18.2	20.4	24.1	28.8	41	50	43°	50°	54°
	3/8F5040	3/8	3.78	5.0	6.4	7.6	9.1	11.2	12.9	15.8	18.2	20.4	24.1	28.8	41	50	43°	50°	54°
	1/4F5050	1/4	4.24	6.2	8.1	9.5	11.4	14.0	16.1	19.7	22.8	25.5	30.1	36	51	62	43°	50°	53°
	3/8F5050	3/8	4.24	6.2	8.1	9.5	11.4	14.0	16.1	19.7	22.8	25.5	30.1	36	51	62	43°	50°	53°
	1/4F5060	1/4	4.62	7.5	9.7	11.4	13.7	16.7	19.3	23.7	27.3	30.6	36	43	61	75	43°	50°	53°
	3/8F5060	3/8	4.62	7.5	9.7	11.4	13.7	16.7	19.3	23.7	27.3	30.6	36	43	61	75	43°	50°	53°
	1/2F5060	1/2	4.62	7.5	9.7	11.4	13.7	16.7	19.3	23.7	27.3	30.6	36	43	61	75	43°	50°	53°
	1/4F5070	1/4	5.00	8.7	11.3	13.3	16.0	19.5	22.6	27.6	32	36	42	50	71	87	44°	50°	53°
	3/8F5070	3/8	5.00	8.7	11.3	13.3	16.0	19.5	22.6	27.6	32	36	42	50	71	87	44°	50°	53°
	1/2F5070	1/2	5.00	8.7	11.3	13.3	16.0	19.5	22.6	27.6	32	36	42	50	71	87	44°	50°	53°
	3/8F50100	3/8	5.99	12.5	16.1	19.1	22.8	27.9	32	39	46	51	60	72	102	125	44°	50°	52°
	1/2F50100	1/2	5.99	12.5	16.1	19.1	22.8	27.9	32	39	46	51	60	72	102	125	44°	50°	52°
	3/8F50120	3/8	6.55	15.0	19.3	22.9	27.3	33	39	47	55	61	72	86	122	150	44°	50°	53°
	1/2F50120	1/2	6.55	15.0	19.3	22.9	27.3	33	39	47	55	61	72	86	122	150	44°	50°	53°
	3/8F50150	3/8	7.34	18.7	24.2	28.6	34	42	48	59	68	76	90	108	153	187	45°	50°	52°
	1/2F50150	1/2	7.34	18.7	24.2	28.6	34	42	48	59	68	76	90	108	153	187	45°	50°	52°
	1/2F50200	1/2	8.46	25.0	32	38	46	56	64	79	91	102	121	144	204	250	46°	50°	52°
3/4F50200	3/4	8.46	25.0	32	38	46	56	64	79	91	102	121	144	204	250	46°	50°	52°	
3/4F50400	3/4	11.96	50	64	76	91	112	129	158	182	204	241	288	408	499	47°	50°	54°	
1F50500	1	13.39	62	81	95	114	140	161	197	228	255	301	360	510	624	46°	50°	55°	
1 1/4F50500	1 1/4	13.39	62	81	95	114	140	161	197	228	255	301	360	510	624	46°	50°	55°	
1 1/4F50750	1 1/4	16.38	94	121	143	171	209	242	296	342	382	452	540	764	936	46°	50°	54°	
1 1/4F501000	1 1/4	18.92	125	161	191	228	279	322	395	456	510	603	721	1019	1248	46°	50°	55°	

CONTINUED on next page...

SPRAY ANGLE @ 3 bar	MODEL NUMBER	PIPE SIZE BSPT	EQUIV. ORIFICE DIAMETER (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)													SPRAY ANGLE @			
				0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	7 bar	10 bar	20 bar	30 bar	1.5 bar	3 bar	5 bar	
40°	1/8F4005	1/8	1.35	0.62	0.81	0.95	1.14	1.40	1.61	1.97	2.28	2.55	3.01	3.6	5.1	6.2	26°	40°	46°	
	1/4F4005	1/4	1.35	0.62	0.81	0.95	1.14	1.40	1.61	1.97	2.28	2.55	3.01	3.6	5.1	6.2	26°	40°	46°	
	1/8F4006	1/8	1.47	0.75	0.97	1.14	1.37	1.67	1.93	2.37	2.73	3.06	3.6	4.3	6.1	7.5	37°	40°	44°	
	1/4F4006	1/4	1.47	0.75	0.97	1.14	1.37	1.67	1.93	2.37	2.73	3.06	3.6	4.3	6.1	7.5	37°	40°	44°	
	1/8F4008	1/8	1.70	1.00	1.29	1.53	1.82	2.23	2.58	3.2	3.6	4.1	4.8	5.8	8.2	10.0	35°	40°	43°	
	1/4F4008	1/4	1.70	1.00	1.29	1.53	1.82	2.23	2.58	3.2	3.6	4.1	4.8	5.8	8.2	10.0	35°	40°	43°	
	1/8F4010	1/8	1.91	1.25	1.61	1.91	2.28	2.79	3.2	3.9	4.6	5.1	6.0	7.2	10.2	12	30°	40°	43°	
	1/4F4010	1/4	1.91	1.25	1.61	1.91	2.28	2.79	3.2	3.9	4.6	5.1	6.0	7.2	10.2	12	30°	40°	43°	
	1/8F4015	1/8	2.31	1.87	2.42	2.86	3.4	4.2	4.8	5.9	6.8	7.6	9.0	10.8	15.3	18.7	35°	40°	41°	
	1/4F4015	1/4	2.31	1.87	2.42	2.86	3.4	4.2	4.8	5.9	6.8	7.6	9.0	10.8	15.3	18.7	35°	40°	41°	
	1/8F4020	1/8	2.67	2.5	3.2	3.8	4.6	5.6	6.4	7.9	9.1	10.2	12.1	14.4	20.4	25.0	33°	40°	43°	
	1/4F4020	1/4	2.67	2.5	3.2	3.8	4.6	5.6	6.4	7.9	9.1	10.2	12.1	14.4	20.4	25.0	33°	40°	43°	
	3/8F4020	3/8	2.67	2.5	3.2	3.8	4.6	5.6	6.4	7.9	9.1	10.2	12.1	14.4	20.4	25.0	33°	40°	43°	
	1/8F4030	1/8	3.28	3.7	4.8	5.7	6.8	8.4	9.7	11.8	13.7	15.3	18.1	21.6	30.6	37	34°	40°	45°	
	1/4F4030	1/4	3.28	3.7	4.8	5.7	6.8	8.4	9.7	11.8	13.7	15.3	18.1	21.6	30.6	37	34°	40°	45°	
	3/8F4030	3/8	3.28	3.7	4.8	5.7	6.8	8.4	9.7	11.8	13.7	15.3	18.1	21.6	30.6	37	34°	40°	45°	
	1/8F4040	1/8	3.78	5.0	6.4	7.6	9.1	11.2	12.9	15.8	18.2	20.4	24.1	28.8	41	50	33°	40°	43°	
	1/4F4040	1/4	3.78	5.0	6.4	7.6	9.1	11.2	12.9	15.8	18.2	20.4	24.1	28.8	41	50	33°	40°	43°	
	3/8F4040	3/8	3.78	5.0	6.4	7.6	9.1	11.2	12.9	15.8	18.2	20.4	24.1	28.8	41	50	33°	40°	43°	
	1/4F4050	1/4	4.24	6.2	8.1	9.5	11.4	14.0	16.1	19.7	22.8	25.5	30.1	36	51	62	35°	40°	46°	
	3/8F4050	3/8	4.24	6.2	8.1	9.5	11.4	14.0	16.1	19.7	22.8	25.5	30.1	36	51	62	35°	40°	46°	
	1/4F4060	1/4	4.62	7.5	9.7	11.4	13.7	16.7	19.3	23.7	27.3	30.6	36	43	61	75	37°	40°	48°	
	3/8F4060	3/8	4.62	7.5	9.7	11.4	13.7	16.7	19.3	23.7	27.3	30.6	36	43	61	75	37°	40°	48°	
	1/2F4060	1/2	4.62	7.5	9.7	11.4	13.7	16.7	19.3	23.7	27.3	30.6	36	43	61	75	37°	40°	48°	
	1/4F4070	1/4	5.00	8.7	11.3	13.3	16.0	19.5	22.6	27.6	32	36	42	50	71	87	35°	40°	46°	
	3/8F4070	3/8	5.00	8.7	11.3	13.3	16.0	19.5	22.6	27.6	32	36	42	50	71	87	35°	40°	46°	
	1/2F4070	1/2	5.00	8.7	11.3	13.3	16.0	19.5	22.6	27.6	32	36	42	50	71	87	35°	40°	44°	
	3/8F40100	3/8	5.99	12.5	16.1	19.1	22.8	27.9	32	39	46	51	60	72	102	125	33°	40°	44°	
	1/2F40100	1/2	5.99	12.5	16.1	19.1	22.8	27.9	32	39	46	51	60	72	102	125	33°	40°	44°	
	3/4F40100	3/4	5.99	12.5	16.1	19.1	22.8	27.9	32	39	46	51	60	72	102	125	36°	40°	44°	
	1/2F40120	1/2	6.55	15.0	19.3	22.9	27.3	33	39	47	55	61	72	86	122	150	36°	40°	43°	
	1/2F40150	1/2	7.34	18.7	24.2	28.6	34	42	48	59	68	76	90	108	153	187	37°	40°	44°	
	3/4F40150	3/4	7.34	18.7	24.2	28.6	34	42	48	59	68	76	90	108	153	187	37°	40°	44°	
	1/2F40200	1/2	8.46	25.0	32	38	46	56	64	79	91	102	121	144	204	250	38°	40°	43°	
	3/4F40200	3/4	8.46	25.0	32	38	46	56	64	79	91	102	121	144	204	250	38°	40°	43°	
	3/4F40300	3/4	10.36	37	48	57	68	84	97	118	137	153	181	216	306	374	38°	40°	44°	
	3/4F40350	3/4	11.20	44	56	67	80	98	113	138	160	178	211	252	357	437	37°	40°	44°	
	3/4F40400	3/4	11.96	50	64	76	91	112	129	158	182	204	241	288	408	499	38°	40°	44°	
	25°	1/8F2505	1/8	1.35	0.62	0.81	0.95	1.14	1.40	1.61	1.97	2.28	2.55	3.01	3.6	5.1	6.2	20°	25°	31°
		1/4F2505	1/4	1.35	0.62	0.81	0.95	1.14	1.40	1.61	1.97	2.28	2.55	3.01	3.6	5.1	6.2	20°	25°	31°
1/8F2506		1/8	1.47	0.75	0.97	1.14	1.37	1.67	1.93	2.37	2.73	3.06	3.6	4.3	6.1	7.5	17°	25°	31°	
1/4F2506		1/4	1.47	0.75	0.97	1.14	1.37	1.67	1.93	2.37	2.73	3.06	3.6	4.3	6.1	7.5	17°	25°	31°	
1/8F2508		1/8	1.70	1.00	1.29	1.53	1.82	2.23	2.58	3.2	3.6	4.1	4.8	5.8	8.2	10.0	16°	25°	32°	
1/4F2508		1/4	1.70	1.00	1.29	1.53	1.82	2.23	2.58	3.2	3.6	4.1	4.8	5.8	8.2	10.0	16°	25°	32°	
1/8F2510		1/8	1.91	1.25	1.61	1.91	2.28	2.79	3.2	3.9	4.6	5.1	6.0	7.2	10.2	12	17°	25°	31°	
1/4F2510		1/4	1.91	1.25	1.61	1.91	2.28	2.79	3.2	3.9	4.6	5.1	6.0	7.2	10.2	12	17°	25°	31°	
1/8F2515		1/8	2.31	1.87	2.42	2.86	3.4	4.2	4.8	5.9	6.8	7.6	9.0	11	15	19	18°	25°	30°	
1/4F2515		1/4	2.31	1.87	2.42	2.86	3.4	4.2	4.8	5.9	6.8	7.6	9.0	11	15	19	18°	25°	30°	
1/8F2520		1/8	2.67	2.50	3.22	3.8	4.6	5.6	6.4	7.9	9.1	10	12	14	20	25	18°	25°	28°	
1/4F2520		1/4	2.67	2.50	3.22	3.8	4.6	5.6	6.4	7.9	9.1	10	12	14	20	25	18°	25°	28°	
1/8F2530		1/8	3.28	3.7	4.8	5.7	6.8	8.4	9.7	11.8	13.7	15.3	18.1	21.6	30.6	37	19°	25°	29°	
1/4F2530		1/4	3.28	3.7	4.8	5.7	6.8	8.4	9.7	11.8	13.7	15.3	18.1	21.6	30.6	37	19°	25°	29°	
3/8F2530		3/8	3.28	3.7	4.8	5.7	6.8	8.4	9.7	11.8	13.7	15.3	18.1	21.6	30.6	37	19°	25°	29°	
1/8F2540		1/8	3.78	5.0	6.4	7.6	9.1	11.2	12.9	15.8	18.2	20.4	24.1	28.8	41	50	22°	25°	32°	
1/4F2540		1/4	3.78	5.0	6.4	7.6	9.1	11.2	12.9	15.8	18.2	20.4	24.1	28.8	41	50	22°	25°	32°	
3/8F2540		3/8	3.78	5.0	6.4	7.6	9.1	11.2	12.9	15.8	18.2	20.4	24.1	28.8	41	50	22°	25°	32°	

DIMENSIONS

NOZZLE BSPT PIPE SIZE	Length L (mm)	Dim. A (mm)
1/8F	20.6	11 HEX
1/4F	23.8	14 HEX
3/8F	30.2	17 HEX
1/2F	33.3	22 HEX
3/4F	42.8	27 HEX
1F	63.5	35 HEX
1 1/4F	92	44.5 HEX
1 1/2F	114.3	50.8 Dia.
2F	127	60.3 Dia.



ACCESSORIES:

A Flow Stabilizer may be required where nozzles are installed close to elbows or tees. See page 70 for this and other accessories.



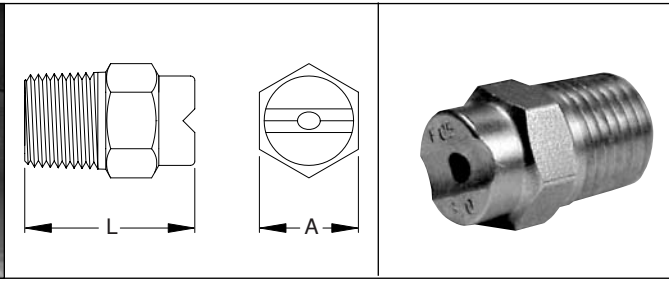
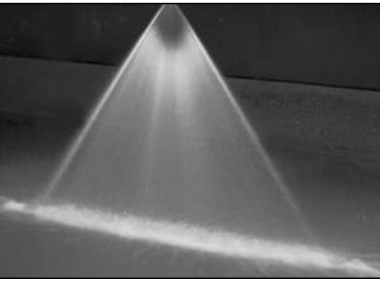
FLAT SPRAY

SPRAY ANGLE @ 3 bar	MODEL NUMBER	PIPE SIZE BSPT	EQUIV. ORIFICE DIAMETER (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)													SPRAY ANGLE @		
				0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	7 bar	10 bar	20 bar	30 bar	1.5 bar	3 bar	5 bar
25°	1/4F2550	1/4	4.24	6.2	8.1	9.5	11.4	14.0	16.1	19.7	22.8	25.5	30.1	36.0	51	62	20°	25°	32°
	3/8F2550	3/8	4.24	6.2	8.1	9.5	11.4	14.0	16.1	19.7	22.8	25.5	30.1	36.0	51	62	20°	25°	32°
	1/4F2560	1/4	4.62	7.5	9.7	11.4	13.7	16.7	19.3	23.7	27.3	30.6	36	43	61	75	18°	25°	28°
	3/8F2560	3/8	4.62	7.5	9.7	11.4	13.7	16.7	19.3	23.7	27.3	30.6	36	43	61	75	18°	25°	28°
	1/4F2570	1/4	5.00	8.7	11.3	13.3	16.0	19.5	22.6	27.6	32	36	42	50	71	87	19°	25°	27°
	3/8F2570	3/8	5.00	8.7	11.3	13.3	16.0	19.5	22.6	27.6	32	36	42	50	71	87	19°	25°	27°
	3/8F25100	3/8	5.99	12.5	16.1	19.1	22.8	27.9	32	39	46	51	60	72	102	125	21°	25°	28°
	1/2F25100	1/2	5.99	12.5	16.1	19.1	22.8	27.9	32	39	46	51	60	72	102	125	21°	25°	28°
	1/2F25150	1/2	7.34	18.7	24.2	28.6	34	42	48	59	68	76	90	108	153	187	18°	25°	28°
	1/2F25200	1/2	8.46	25.0	32	38	46	56	64	79	91	102	121	144	204	250	19°	25°	27°
15°	1/8F1505	1/8	1.35	0.62	0.81	0.95	1.14	1.40	1.61	1.97	2.28	2.55	3.01	3.6	5.1	6.2	10°	15°	20°
	1/4F1505	1/4	1.35	0.62	0.81	0.95	1.14	1.40	1.61	1.97	2.28	2.55	3.01	3.6	5.1	6.2	10°	15°	20°
	1/8F1506	1/8	1.47	0.75	0.97	1.14	1.37	1.67	1.93	2.37	2.73	3.06	3.6	4.3	6.1	7.5	11°	15°	24°
	1/4F1506	1/4	1.47	0.75	0.97	1.14	1.37	1.67	1.93	2.37	2.73	3.06	3.6	4.3	6.1	7.5	11°	15°	24°
	1/8F1508	1/8	1.70	1.00	1.29	1.53	1.82	2.23	2.58	3.2	3.6	4.1	4.8	5.8	8.2	10.0	11°	15°	21°
	1/4F1508	1/4	1.70	1.00	1.29	1.53	1.82	2.23	2.58	3.2	3.6	4.1	4.8	5.8	8.2	10.0	11°	15°	21°
	1/8F1510	1/8	1.91	1.25	1.61	1.91	2.28	2.79	3.2	3.9	4.6	5.1	6.0	7.2	10.2	12.5	13°	15°	16°
	1/4F1510	1/4	1.91	1.25	1.61	1.91	2.28	2.79	3.2	3.9	4.6	5.1	6.0	7.2	10.2	12.5	13°	15°	16°
	1/8F1515	1/8	2.31	1.87	2.42	2.86	3.4	4.2	4.8	5.9	6.8	7.6	9.0	10.8	15.3	18.7	11°	15°	20°
	1/4F1515	1/4	2.31	1.87	2.42	2.86	3.4	4.2	4.8	5.9	6.8	7.6	9.0	10.8	15.3	18.7	11°	15°	20°
	3/8F1515	3/8	2.31	1.87	2.42	2.86	3.4	4.2	4.8	5.9	6.8	7.6	9.0	10.8	15.3	18.7	11°	15°	20°
	1/8F1520	1/8	2.67	2.50	3.2	3.8	4.6	5.6	6.4	7.9	9.1	10.2	12.1	14.4	20.4	25.0	11°	15°	20°
	1/4F1520	1/4	2.67	2.50	3.2	3.8	4.6	5.6	6.4	7.9	9.1	10.2	12.1	14.4	20.4	25.0	11°	15°	20°
	3/8F1520	3/8	2.67	2.50	3.2	3.8	4.6	5.6	6.4	7.9	9.1	10.2	12.1	14.4	20.4	25.0	11°	15°	18°
	1/8F1530	1/8	3.28	3.7	4.8	5.7	6.8	8.4	9.7	11.8	13.7	15.3	18.1	21.6	30.6	37.4	11°	15°	18°
	1/4F1530	1/4	3.28	3.7	4.8	5.7	6.8	8.4	9.7	11.8	13.7	15.3	18.1	21.6	30.6	37.4	12°	15°	18°
	3/8F1530	3/8	3.28	3.7	4.8	5.7	6.8	8.4	9.7	11.8	13.7	15.3	18.1	21.6	30.6	37.4	12°	15°	18°
	1/4F1540	1/4	3.78	5.0	6.4	7.6	9.1	11.2	12.9	15.8	18.2	20.4	24.1	28.8	41	50	12°	15°	18°
	3/8F1540	3/8	3.78	5.0	6.4	7.6	9.1	11.2	12.9	15.8	18.2	20.4	24.1	28.8	41	50	12°	15°	19°
	1/4F1550	1/4	4.24	6.2	8.1	9.5	11.4	14.0	16.1	19.7	22.8	25.5	30.1	36	51	62	12°	15°	19°
	3/8F1550	3/8	4.24	6.2	8.1	9.5	11.4	14.0	16.1	19.7	22.8	25.5	30.1	36	51	62	12°	15°	19°
	1/4F1560	1/4	4.62	7.5	9.7	11.4	13.7	16.7	19.3	23.7	27.3	30.6	36	43	61	75	12°	15°	17°
	3/8F1560	3/8	4.62	7.5	9.7	11.4	13.7	16.7	19.3	23.7	27.3	30.6	36	43	61	75	12°	15°	17°
	1/4F1570	1/4	5.00	8.7	11.3	13.3	16.0	19.5	22.6	27.6	32	36	42	50	71	87	12°	15°	19°
	3/8F1570	3/8	5.00	8.7	11.3	13.3	16.0	19.5	22.6	27.6	32	36	42	50	71	87	12°	15°	19°
	3/8F15100	3/8	5.99	12.5	16.1	19.1	22.8	27.9	32	39	46	51	60	72	102	125	12°	15°	19°
	1/2F15100	1/2	5.99	12.5	16.1	19.1	22.8	27.9	32	39	46	51	60	72	102	125	12°	15°	19°
	3/8F15120	3/8	6.55	15.0	19.3	22.9	27.3	33	39	47	55	61	72	86	122	150	12°	15°	19°
	1/2F15120	1/2	6.55	15.0	19.3	22.9	27.3	33	39	47	55	61	72	86	122	150	12°	15°	18°
	3/8F15150	3/8	7.34	18.7	24.2	28.6	34	42	48	59	68	76	90	108	153	187	12°	15°	18°
	1/2F15150	1/2	7.34	18.7	24.2	28.6	34	42	48	59	68	76	90	108	153	187	12°	15°	18°
	1/2F15200	1/2	8.46	25.0	32.2	38	46	56	64	79	91	102	121	144	204	250	13°	15°	17°

CONTINUED on next page...

F SERIES

Flat "V" spray nozzles continued



DIMENSIONS

NOZZLE BSPT PIPE SIZE	Length L (mm)	Dim. A (mm)
1/8F	20.6	11 HEX
1/4F	23.8	14 HEX
3/8F	30.2	17 HEX
1/2F	33.3	22 HEX
3/4F	42.8	27 HEX
1F	63.5	35 HEX
1 1/4F	92	44.5 HEX
1 1/2F	114.3	50.8 Dia.
2F	127	60.3 Dia.

ACCESSORIES:

Adjustable joints may be used to accurately orient a spray pattern. See page 70 for this and other accessories.



FLAT SPRAY

SPRAY ANGLE @ 3 bar	MODEL	PIPE SIZE BSPT	EQUIV. ORIFICE DIAMETER (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)													SPRAY ANGLE @		
				0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	7 bar	10 bar	20 bar	30 bar	1.5 bar	3 bar	5 bar
5°	1/8F0505	1/8	1.35	0.62	0.81	0.95	1.14	1.40	1.61	1.97	2.28	2.55	3.01	3.60	5.10	6.24	4°	5°	9°
	1/4F0505	1/4	1.35	0.62	0.81	0.95	1.14	1.40	1.61	1.97	2.28	2.55	3.01	3.60	5.10	6.24	4°	5°	9°
	1/8F0506	1/8	1.47	0.75	0.97	1.14	1.37	1.67	1.93	2.37	2.73	3.06	3.62	4.32	6.11	7.5	5°	5°	8°
	1/4F0506	1/4	1.47	0.75	0.97	1.14	1.37	1.67	1.93	2.37	2.73	3.06	3.62	4.32	6.11	7.5	5°	5°	8°
	1/8F0508	1/8	1.70	1.00	1.29	1.53	1.82	2.23	2.58	3.16	3.65	4.08	4.82	5.8	8.2	10.0	4°	5°	7°
	1/4F0508	1/4	1.70	1.00	1.29	1.53	1.82	2.23	2.58	3.16	3.65	4.08	4.82	5.8	8.2	10.0	4°	5°	7°
	1/8F0510	1/8	1.91	1.25	1.61	1.91	2.28	2.79	3.22	3.95	4.56	5.10	6.0	7.2	10.2	12.5	5°	5°	8°
	1/4F0510	1/4	1.91	1.25	1.61	1.91	2.28	2.79	3.22	3.95	4.56	5.10	6.0	7.2	10.2	12.5	5°	5°	8°
	1/8F0515	1/8	2.31	1.87	2.42	2.86	3.42	4.19	4.83	5.92	6.8	7.6	9.0	10.8	15.3	18.7	5°	5°	9°
	1/4F0515	1/4	2.31	1.87	2.42	2.86	3.42	4.19	4.83	5.92	6.8	7.6	9.0	10.8	15.3	18.7	5°	5°	9°
	3/8F0515	3/8	2.31	1.87	2.42	2.86	3.42	4.19	4.83	5.92	6.8	7.6	9.0	10.8	15.3	18.7	5°	5°	9°
	1/8F0520	1/8	2.67	2.50	3.22	3.81	4.56	5.58	6.4	7.9	9.1	10.2	12.1	14.4	20.4	25.0	5°	5°	9°
	1/4F0520	1/4	2.67	2.50	3.22	3.81	4.56	5.58	6.4	7.9	9.1	10.2	12.1	14.4	20.4	25.0	5°	5°	9°
	3/8F0520	3/8	2.67	2.50	3.22	3.81	4.56	5.58	6.4	7.9	9.1	10.2	12.1	14.4	20.4	25.0	5°	5°	9°
	1/8F0530	1/8	3.28	3.74	4.83	5.72	6.8	8.4	9.7	11.8	13.7	15.3	18.1	21.6	30.6	37.4	5°	5°	9°
	1/4F0530	1/4	3.28	3.74	4.83	5.72	6.8	8.4	9.7	11.8	13.7	15.3	18.1	21.6	30.6	37.4	5°	5°	9°
	3/8F0530	3/8	3.28	3.74	4.83	5.72	6.8	8.4	9.7	11.8	13.7	15.3	18.1	21.6	30.6	37.4	5°	5°	9°
	1/4F0540	1/4	3.78	4.99	6.45	7.6	9.1	11.2	12.9	15.8	18.2	20.4	24.1	28.8	40.8	49.9	5°	5°	9°
	3/8F0540	3/8	3.78	4.99	6.45	7.6	9.1	11.2	12.9	15.8	18.2	20.4	24.1	28.8	40.8	49.9	5°	5°	9°
	1/4F0550	1/4	4.24	6.24	8.1	9.5	11.4	14.0	16.1	19.7	22.8	25.5	30.1	36.0	51.0	62.4	5°	5°	10°
3/8F0550	3/8	4.24	6.24	8.1	9.5	11.4	14.0	16.1	19.7	22.8	25.5	30.1	36.0	51.0	62.4	5°	5°	10°	
1/4F0560	1/4	4.62	7.5	9.7	11.4	13.7	16.7	19.3	23.7	27.3	30.6	36.2	43.2	61.1	75	5°	5°	10°	
3/8F0560	3/8	4.62	7.5	9.7	11.4	13.7	16.7	19.3	23.7	27.3	30.6	36.2	43.2	61.1	75	5°	5°	10°	
1/4F0570	1/4	5.00	8.7	11.3	13.3	16.0	19.5	22.6	27.6	31.9	35.7	42.2	50.4	71	87	5°	5°	10°	
3/8F0570	3/8	5.00	8.7	11.3	13.3	16.0	19.5	22.6	27.6	31.9	35.7	42.2	50.4	71	87	5°	5°	10°	
3/8F05100	3/8	5.99	12.5	16.1	19.1	22.8	27.9	32.2	39.5	45.6	51.0	60	72	102	125	5°	5°	19°	
3/8F05120	3/8	6.55	15.0	19.3	22.9	27.3	33.5	38.7	47.4	54.7	61.1	72	86	122	150	5°	5°	19°	
3/8F05150	3/8	7.34	18.7	24.2	28.6	34.2	41.9	48.3	59.2	68	76	90	108	153	187	5°	5°	18°	