

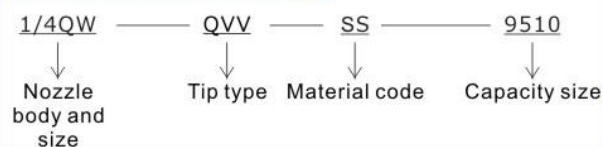
## Q series quick release flat fan nozzles

### DESIGN FEATURES

Flat fan spray pattern with uniform distribution.  
 Small-to medium-sizes drops.  
 Spray angles 65° to 110° at 2.8 bar.  
 Fast and easy installation of spray tips without tools.  
 Lower cost-nozzle body can be reused-only spray tips are replaced.  
 Miniature versions are ideal when smaller physical size and lower weight are important.  
 It has an easy-grip spray tips with a seal that remains attached to the tip to prevent accidental misplacement.



### ORDERING INFORMATION



Note: Inlet conn. size : 1/8, 1/4, 3/8, 1/2

### PERFORMANCE DATA

Spray angle at 3 bar	Capacity Size	Tip type			Equivalent orifice Diam.(mm)	Capacity (liters per minute)														Spray angle			
		QSV	QVV	QEV		0.3 bar	1 bar	2 bar	3 bar	4 bar	5 bar	6 bar	7 bar	10 bar	20 bar	35 bar	1.5 bar	3 bar	6 bar	14 bar			
110°	11001		●		0.66	0.12	0.23	0.32	0.39	0.46	0.51	0.56	0.6	0.72	1.0	1.3	94°	110°	121°	124°			
	110015		●		0.79	0.19	0.34	0.48	0.59	0.68	0.76	0.84	0.9	1.1	1.5	2	97°	110°	121°	124°			
	11002		●		0.91	0.25	0.46	0.64	0.79	0.91	1.1	1.1	1.2	1.4	2.0	2.7	98°	110°	120°	123°			
	11003	●	●		1.1	0.37	0.68	0.97	1.2	1.4	1.5	1.7	1.8	2.2	3.1	4.0	99°	110°	120°	123°			
	11004		●		1.3	0.5	0.91	1.3	1.6	1.8	2	2.2	2.4	2.9	4.1	5.4	100°	110°	119°	122°			
	11005		●		1.4	0.62	1.1	1.6	2.0	2.3	2.5	2.8	3.0	3.6	5.1	6.7	100°	110°	118°	122°			
	11006		●		1.6	0.75	1.4	1.9	2.4	2.7	3.1	3.3	3.6	4.3	6.1	8.1	101°	110°	117°	122°			
	11008		●		1.8	1.0	1.8	2.6	3.2	3.6	4.1	4.5	4.8	5.8	8.2	10.8	102°	110°	117°	121°			
	11010		●		2.0	1.2	2.3	3.2	3.9	4.6	5.1	5.6	6.0	7.2	10.2	13.5	103°	110°	117°	119°			
	11015		●		2.4	1.9	3.4	4.8	5.9	6.8	7.6	8.4	9.0	10.8	15.3	20	104°	110°	117°	118°			
	11020		●		2.8	2.5	4.6	6.5	7.9	9.1	10.2	11.2	12.1	14.4	20	27	105°	110°	117°	118°			
95°	9501		●		0.66	0.12	0.23	0.32	0.39	0.46	0.51	0.56	0.6	0.72	1.0	1.3	81°	95°	105°	113°			
	95015		●		0.79	0.19	0.34	0.48	0.59	0.68	0.76	0.84	0.9	1.1	1.5	2.0	82°	95°	105°	113°			
	9502		●		0.91	0.25	0.46	0.64	0.79	0.91	1.1	1.1	1.2	1.4	2.0	2.7	82°	95°	105°	113°			
	9503		●		1.1	0.37	0.68	0.97	1.2	1.4	1.5	1.7	1.8	2.2	3.1	4.0	83°	95°	104°	111°			
	9504		●		1.3	0.5	0.91	1.3	1.6	1.8	2.0	2.2	2.4	2.9	4.1	5.4	84°	95°	103°	108°			
	9505		●		1.4	0.62	1.1	1.6	2.0	2.3	2.5	2.8	3.0	3.6	5.1	6.7	84°	95°	102°	107°			
	9506		●		1.6	0.75	1.4	1.9	2.4	2.7	3.1	3.3	3.6	4.3	6.1	8.1	86°	95°	101°	106°			
	9508		●		1.8	1.0	1.8	2.6	3.2	3.6	4.1	4.5	4.8	5.8	8.2	10.8	87°	95°	100°	105°			
	9510			●	2.0	1.2	2.3	3.2	3.9	4.6	5.1	5.6	6.0	7.2	10.2	13.5	89°	95°	100°	105°			
	9515		●		2.4	1.9	3.4	4.8	5.9	6.8	7.6	8.4	9.0	10.8	15.3	20	90°	95°	100°	105°			
	9520	●		●	2.8	2.5	4.6	6.5	7.9	9.1	10.2	11.2	12.1	14.4	20	27	90°	95°	100°	105°			
	9530		●		3.6	3.7	6.8	9.7	11.8	13.7	15.3	16.7	18.1	22	31	40	91°	95°	101°	105°			
	9540		●		4.0	5.0	9.1	12.9	15.8	18.2	20	22	24	29	41	54	92°	95°	100°	105°			
	9550		●		4.4	6.2	11.4	16.1	19.7	23	25	28	30	36	51	68	93°	95°	99°	103°			
	9560		●		4.8	7.5	13.7	19.3	24	27	31	33	36	43	61	81	93°	95°	99°	103°			
	9570		●		5.2	8.7	16	23	28	32	36	39	42	50	71	94	93°	95°	99°	103°			
	95100		●		6.4	12.5	23	32	39	46	51	56	60	72	102	135	93°	95°	99°	102°			
95150		●		7.5	18.7	34	48	59	68	76	84	90	108	153	205	93°	95°	99°	102°				

Spray angle at 3 bar	Capacity Size	Tip type			Equivalent orifice Diam.(mm)	Capacity (liters per minute)															Spray angle			
		QSV	QVV	QEV		0.3 bar	1 bar	2 bar	3 bar	4 bar	5 bar	6 bar	7 bar	10 bar	20 bar	35 bar	1.5 bar	3 bar	6 bar	14 bar				
80°	850050	●	●	●	0.46		0.11	0.16	0.2	0.23	0.25	0.28	0.3	0.36	0.51	0.67	61°	80°	95°	101°				
	80067	●	●	●	0.53		0.15	0.22	0.26	0.31	0.34	0.37	0.4	0.48	0.68	0.9	67°	80°	94°	99°				
	8001	●	●	●	0.66		0.23	0.32	0.39	0.46	0.51	0.56	0.6	0.72	1.0	1.3	68°	80°	89°	92°				
	80015	●	●	●	0.79		0.34	0.48	0.59	0.68	0.76	0.84	0.9	1.1	1.5	2.0	68°	80°	89°	92°				
	8002	●	●	●	0.91	0.25	0.46	0.64	0.79	0.91	1.1	1.1	1.2	1.4	2.0	2.7	69°	80°	88°	91°				
	8003	●	●	●	1.1	0.37	0.68	0.97	1.2	1.4	1.5	1.7	1.8	2.2	3.1	4.0	70°	80°	87°	90°				
	8004	●	●	●	1.3	0.5	0.91	1.3	1.6	1.8	2.0	2.2	2.4	2.9	4.1	5.4	71°	80°	86°	89°				
	8005	●	●	●	1.4	0.62	1.1	1.6	2.0	2.3	2.5	2.8	3	3.6	5.1	6.7	71°	80°	86°	89°				
	8006	●	●	●	1.6	0.75	1.4	1.9	2.4	2.7	3.1	3.3	3.6	4.3	6.1	8.1	72°	80°	85°	88°				
	8008	●	●	●	1.8	1.0	1.8	2.6	3.2	3.6	4.1	4.5	4.8	5.8	8.2	10.8	72°	80°	84°	87°				
	8010	●	●	●	2	1.2	2.3	3.2	3.9	4.6	5.1	5.6	6	7.2	10.2	13.5	73°	80°	84°	87°				
	8015	●	●	●	2.4	1.9	3.4	4.8	5.9	6.8	7.6	8.4	9	10.8	15.3	20	74°	80°	83°	86°				
	8020	●	●	●	2.8	2.5	4.6	6.5	7.9	9.1	10.2	11.2	12.1	14.4	20	27	74°	80°	83°	86°				
	8030	●	●	●	3.6	3.7	6.8	9.7	11.8	13.7	15.3	16.7	18.1	22	31	40	74°	80°	83°	86°				
	8040	●	●	●	4	5.0	9.1	12.9	15.8	18.2	20	22	24	29	41	54	74°	80°	83°	86°				
	8050	●	●	●	4.4	6.2	11.4	16.1	19.7	23	25	28	30	36	51	68	74°	80°	83°	86°				
	8060	●	●	●	4.8	7.5	13.7	19.3	24	27	31	33	36	43	61	81	75°	80°	83°	85°				
	8070	●	●	●	5.2	8.7	16	23	28	32	36	39	42	50	71	94	75°	80°	83°	86°				
	80100	●	●	●	6.4	12.5	23	32	39	46	51	56	60	72	102	135	75°	80°	83°	86°				
	80150	●	●	●	7.5	18.7	34	48	59	68	76	84	90	108	153	205	73°	80°	84°	86°				
80200	●	●	●	8.7	25	46	64	79	91	102	112	121	144	205	270	74°	80°	82°	85°					
73°	730023	●	●	●	0.3		0.05	0.07	0.09	0.1	0.11	0.12	0.14	0.17	0.23	0.31	50°	73°	89°	97°				
	730039	●	●	●	0.41		0.09	0.13	0.15	0.18	0.20	0.22	0.24	0.28	0.40	0.53	53°	73°	87°	93°				
	730077	●	●	●	0.56		0.18	0.25	0.3	0.35	0.39	0.43	0.46	0.55	0.78	1.0	53°	73°	86°	92°				
	730116	●	●	●	0.71	0.14	0.26	0.37	0.46	0.53	0.59	0.65	0.70	0.84	1.2	1.6	54°	73°	85°	90°				
	730154	●	●	●	0.81	0.19	0.35	0.5	0.61	0.7	0.78	0.86	0.93	1.1	1.6	2.1	55°	73°	84°	88°				
	730231	●	●	●	1.0	0.29	0.53	0.74	0.91	1.1	1.2	1.3	1.4	1.7	2.4	3.1	56°	73°	83°	87°				
	730308	●	●	●	1.1	0.38	0.7	0.99	1.2	1.4	1.6	1.7	1.9	2.2	3.1	4.2	58°	73°	82°	86°				
	730462	●	●	●	1.4	0.58	1.1	1.5	1.8	2.1	2.4	2.6	2.8	3.3	4.7	6.2	60°	73°	80°	84°				
	730770	●	●	●	1.8	0.96	1.8	2.5	3.0	3.5	3.9	4.3	4.6	5.5	7.8	10.4	64°	73°	77°	82°				
	730924	●	●	●	2.0	1.2	2.1	3.0	3.6	4.2	4.7	5.2	5.6	6.7	9.4	12.5	65°	73°	77°	80°				
	650017	●	●	●	0.28		0.05	0.06	0.07	0.08	0.09	0.1	0.12	0.17	0.23	0.34	44°	65°	77°	86°				
	650025	●	●	●	0.33		0.08	0.10	0.11	0.13	0.14	0.15	0.18	0.25	0.34	0.45	45°	65°	77°	84°				
650033	●	●	●	0.38		0.11	0.13	0.15	0.17	0.18	0.2	0.24	0.34	0.44	0.53	47°	65°	76°	83°					
650067	●	●	●	0.53	0.15	0.22	0.26	0.31	0.34	0.37	0.4	0.48	0.68	0.9	1.3	50°	65°	75°	81°					
6501	●	●	●	0.66		0.23	0.32	0.39	0.46	0.51	0.56	0.6	0.72	1.0	1.3	51°	65°	74°	80°					
65015	●	●	●	0.79		0.34	0.48	0.59	0.68	0.76	0.84	0.9	1.1	1.5	2.0	51°	65°	74°	80°					
6502	●	●	●	0.91	0.25	0.46	0.64	0.79	0.91	1.0	1.1	1.2	1.4	2.0	2.7	52°	65°	73°	79°					
65025	●	●	●	1.0	0.31	0.57	0.81	0.99	1.1	1.3	1.4	1.5	1.8	2.5	3.4	52°	65°	73°	79°					
6503	●	●	●	1.1	0.37	0.68	0.97	1.2	1.4	1.5	1.7	1.8	2.2	3.1	4.0	53°	65°	72°	78°					
6504	●	●	●	1.3	0.5	0.91	1.3	1.6	1.8	2.0	2.2	2.4	2.9	4.1	5.4	53°	65°	72°	76°					
6505	●	●	●	1.4	0.62	1.1	1.6	2.0	2.3	2.5	2.8	3	3.6	5.1	6.7	53°	65°	72°	76°					
6506	●	●	●	1.6	0.75	1.4	1.9	2.4	2.7	3.1	3.3	3.6	4.3	6.1	8.1	54°	65°	72°	75°					
6508	●	●	●	1.8	1.0	1.8	2.6	3.2	3.6	4.1	4.5	4.8	5.8	8.2	10.8	55°	65°	71°	74°					
6510	●	●	●	2.0	1.2	2.3	3.2	3.9	4.6	5.1	5.6	6	7.2	10.2	13.5	56°	65°	71°	74°					
6515	●	●	●	2.4	1.9	3.4	4.8	5.9	6.8	7.6	8.4	9	10.8	15.3	20	56°	65°	70°	73°					
6520	●	●	●	2.8	2.5	4.6	6.5	7.9	9.1	10.2	11.2	12.1	14.4	20	27	57°	65°	70°	73°					
6530	●	●	●	3.6	3.7	6.8	9.7	11.8	13.7	15.3	16.7	18.1	22	31	40	58°	65°	69°	72°					
6540	●	●	●	4.0	5.0	9.1	12.9	15.8	18.2	20	22	24	29	41	54	59°	65°	68°	72°					
6550	●	●	●	4.4	6.2	11.4	16.1	19.7	23	25	28	30	36	51	68	60°	65°	68°	71°					
6560	●	●	●	4.8	7.5	13.7	19.3	24	27	31	33	36	43	61	81	60°	65°	68°	71°					
6570	●	●	●	5.2	8.7	16	23	28	32	36	39	42	50	71	94	60°	65°	68°	71°					
65100	●	●	●	6.4	12.5	23	32	39	46	51	56	60	72	102	135	58°	65°	69°	70°					
65150	●	●	●	7.5	18.7	34	48	59	68	76	84	90	108	153	205	59°	65°	68°	70°					
65200	●	●	●	8.7	25	46	64	79	91	102	112	121	144	205	270	60°	65°	67°	69°					

Spray angle (3 bar)	Capacity size	Tip type		Equivalent spray orifice (mm)	Capacity (liters per minute)														
		QVV	QEV		0.3 bar	1 bar	2 bar	3 bar	4 bar	5 bar	6 bar	7 bar	10 bar	20 bar	35 bar				
0°	000009	●	●	0.2	0.01	0.02	0.03	0.04	0.04	0.045	0.05	0.06	0.07	0.09	0.12				
	000012	●	●	0.25	0.02	0.03	0.04	0.05	0.06	0.06	0.07	0.08	0.09	0.12	0.16				
	000019	●	●	0.3	0.02	0.04	0.06	0.08	0.09	0.1	0.11	0.12	0.14	0.19	0.26				
	000021	●	●	0.34	0.03	0.05	0.07	0.08	0.1	0.11	0.12	0.13	0.15	0.21	0.28				
	000050	●	●	0.51	0.06	0.11	0.16	0.2	0.23	0.25	0.28	0.3	0.36	0.51	0.67				
	000067	●	●	0.58	0.08	0.15	0.22	0.26	0.31	0.34	0.37	0.4	0.48	0.68	0.9				
	0001	●	●	0.71	0.12	0.23	0.32	0.39	0.46	0.51	0.56	0.6	0.72	1.0	1.3				
	00015	●	●	0.84	0.19	0.34	0.48	0.59	0.68	0.76	0.84	0.9	1.1	1.5	2.0				
	0002	●	●	0.99	0.25	0.46	0.64	0.79	0.91	1.0	1.1	1.2	1.4	2.0	2.7				
	0003	●	●	1.2	0.37	0.68	0.97	1.2	1.4	1.5	1.7	1.8	2.2	3.1	4.0				
	0004	●	●	1.4	0.5	0.91	1.3	1.6	1.8	2.0	2.2	2.4	2.9	4.1	5.4				
	0005	●	●	1.5	0.62	1.1	1.6	2.0	2.3	2.5	2.8	3.0	3.6	5.1	6.7				
	0006	●	●	1.7	0.75	1.4	1.9	2.4	2.7	3.1	3.3	3.6	4.3	6.1	8.1				
	0008	●	●	2.0	1.0	1.8	2.6	3.2	3.6	4.1	4.5	4.8	5.8	8.2	10.8				
	0010	●	●	2.2	1.2	2.3	3.2	3.9	4.6	5.1	5.6	6.0	7.2	10.2	13.5				
	0015	●	●	2.7	1.9	3.4	4.8	5.9	6.8	7.6	8.4	9.0	10.8	15.3	20				
	0020	●	●	3.2	2.5	4.6	6.5	7.9	9.1	10.2	11.2	12.1	14.4	20	27				
	0030	●	●	3.6	3.7	6.8	9.7	11.8	13.7	15.3	16.7	18.1	22	31	40				
	0040	●	●	4.0	5.0	9.1	12.9	15.8	18.2	20	22	24	29	41	54				
	0050	●	●	4.4	6.2	11.4	16.1	19.7	23	25	28	30	36	51	68				
	0060	●	●	4.8	7.5	13.7	19.3	24	27	31	33	36	43	61	81				
	0070	●	●	5.2	8.7	16	23	28	32	36	39								

Spray angle (3 bar)	Capacity size	Tip type		Equivalent spray orifice (mm)	Capacity (liters per minute)											Spray angle			
		QVV	QEV		0.3 bar	1 bar	2 bar	3 bar	4 bar	5 bar	6 bar	7 bar	10 bar	20 bar	35 bar	1.5 bar	3 bar	6 bar	14 bar
50°	500017	●		0.28			0.05	0.06	0.07	0.08	0.09	0.1	0.12	0.17	0.23	27°	50°	65°	74°
	500025	●		0.33			0.08	0.1	0.11	0.13	0.14	0.15	0.18	0.25	0.34	29°	50°	64°	71°
	500033	●		0.38			0.11	0.13	0.15	0.17	0.18	0.2	0.24	0.34	0.44	30°	50°	62°	68°
	500050	●		0.46			0.16	0.2	0.23	0.25	0.28	0.3	0.36	0.51	0.67	32°	50°	60°	66°
	500067	●		0.53			0.22	0.26	0.31	0.34	0.37	0.4	0.48	0.68	0.9	35°	50°	60°	66°
	5001	●		0.66		0.23	0.32	0.39	0.46	0.51	0.56	0.6	0.72	1.0	1.3	37°	50°	59°	65°
	50015	●		0.79		0.34	0.48	0.59	0.68	0.76	0.84	0.9	1.1	1.5	2.0	38°	50°	58°	64°
	5002	●		0.91		0.46	0.64	0.79	0.91	1.0	1.1	1.2	1.4	2.0	2.7	39°	50°	57°	63°
	5003	●		1.1	0.37	0.68	0.97	1.2	1.4	1.5	1.7	1.8	2.2	3.1	4.0	40°	50°	56°	62°
	5004	●		1.3	0.5	0.91	1.3	1.6	1.8	2	2.2	2.4	2.9	4.1	5.4	40°	50°	56°	61°
	5005	●		1.4	0.62	1.1	1.6	2.0	2.3	2.5	2.8	3.0	3.6	5.1	6.7	42°	50°	56°	61°
	5006	●		1.6	0.75	1.4	1.9	2.4	2.7	3.1	3.3	3.6	4.3	6.1	8.1	44°	50°	56°	60°
	5008	●		1.8	1.0	1.8	2.6	3.2	3.6	4.1	4.5	4.8	5.8	8.2	10.8	45°	50°	55°	60°
	5010	●	●	2.0	1.2	2.3	3.2	3.9	4.6	5.1	5.6	6.0	7.2	10.2	13.5	45°	50°	55°	59°
	5015	●	●	2.4	1.9	3.4	4.8	5.9	6.8	7.6	8.4	9.0	10.8	15.3	20	45°	50°	55°	59°
	5020	●	●	2.8	2.5	4.6	6.5	7.9	9.1	10.2	11.2	12.1	14.4	20	27	45°	50°	55°	59°
	5030	●	●	3.6	3.7	6.8	9.7	11.8	13.7	15.3	16.7	18.1	22	31	40	45°	50°	55°	59°
	5040	●	●	4.0	5.0	9.1	12.9	15.8	18.2	20	22	24	29	41	54	45°	50°	54°	59°
	5050	●	●	4.4	6.2	11.4	16.1	19.7	23	25	28	30	36	51	68	46°	50°	54°	59°
	5060	●	●	4.8	7.5	13.7	19.3	24	27	31	33	36	43	61	81	46°	50°	54°	59°
	5070	●	●	5.2	8.7	16	23	28	32	36	39	42	50	71	94	46°	50°	54°	59°
	50100	●	●	6.4	12.5	23	32	39	46	51	56	60	72	102	135	44°	50°	52°	54°
50120	●	●	6.7	15	27	39	47	55	61	67	72	86	122	162	44°	50°	53°	55°	
50150	●	●	7.5	18.7	34	48	59	68	76	84	90	108	153	205	45°	50°	52°	55°	
50200	●	●	8.7	25	46	64	79	91	102	112	121	144	205	270	46°	50°	52°	55°	
40°	400017	●		0.28			0.05	0.06	0.07	0.08	0.09	0.1	0.12	0.17	0.23	21°	40°	54°	61°
	400025	●		0.33			0.08	0.1	0.11	0.13	0.14	0.15	0.18	0.25	0.34	22°	40°	53°	60°
	400033	●		0.38			0.11	0.13	0.15	0.17	0.18	0.2	0.24	0.34	0.44	22°	40°	53°	60°
	400050	●		0.46			0.16	0.2	0.23	0.25	0.28	0.3	0.36	0.51	0.67	22°	40°	53°	60°
	400067	●		0.53			0.22	0.26	0.31	0.34	0.37	0.4	0.48	0.68	0.9	24°	40°	53°	60°
	4001	●		0.66			0.32	0.39	0.46	0.51	0.56	0.6	0.72	1.0	1.3	26°	40°	52°	59°
	40015	●		0.79			0.48	0.59	0.68	0.76	0.84	0.9	1.1	1.5	2.0	27°	40°	52°	59°
	4002	●		0.91		0.46	0.64	0.79	0.91	1.0	1.1	1.2	1.4	2.0	2.7	29°	40°	51°	58°
	4003	●		1.1		0.68	0.97	1.2	1.4	1.5	1.7	1.8	2.2	3.1	4.0	30°	40°	50°	57°
	4004	●		1.3		0.91	1.3	1.6	1.8	2.0	2.2	2.4	2.9	4.1	5.4	30°	40°	50°	56°
	4005	●		1.4		1.1	1.6	2.0	2.3	2.5	2.8	3.0	3.6	5.1	6.7	31°	40°	49°	55°
	4006	●		1.6		1.4	1.9	2.4	2.7	3.1	3.3	3.6	4.3	6.1	8.1	31°	40°	49°	55°
	4008	●		1.8	1.0	1.8	2.6	3.2	3.6	4.1	4.5	4.8	5.8	8.2	10.8	31°	40°	47°	53°
	4010	●	●	2.0	1.2	2.3	3.2	3.9	4.6	5.1	5.6	6.0	7.2	10.2	13.5	32°	40°	45°	48°
	4015	●	●	2.4	1.9	3.4	4.8	5.9	6.8	7.6	8.4	9.0	10.8	15.3	20	32°	40°	45°	48°
	4020	●	●	2.8	2.5	4.6	6.5	7.9	9.1	10.2	11.2	12.1	14.4	20	27	32°	40°	45°	48°
	4030	●	●	3.6	3.7	6.8	9.7	11.8	13.7	15.3	16.7	18.1	22	31	40	33°	40°	45°	48°
	4040	●	●	4.0	5.0	9.1	12.9	15.8	18.2	20	22	24	29	41	54	34°	40°	45°	48°
	4050	●	●	4.4	6.2	11.4	16.1	19.7	23	25	28	30	36	51	68	35°	40°	45°	48°
	4060	●	●	4.8	7.5	13.7	19.3	24	27	31	33	36	43	61	81	35°	40°	45°	48°
	4070	●	●	5.2	8.7	16	23	28	32	36	39	42	50	71	94	35°	40°	45°	48°
	40100	●	●	6.4	12.5	23	32	39	46	51	56	60	72	102	135	34°	40°	43°	46°
40150	●	●	7.5	18.7	34	48	59	68	76	84	90	108	153	205	40°	43°	44°		
40200	●	●	8.7	25	46	64	79	91	102	112	121	144	205	270	36°	40°	42°	44°	
25°	250017	●		0.28			0.05	0.06	0.07	0.08	0.09	0.1	0.12	0.17	0.23	25°	35°	47°	
	250025	●		0.33			0.08	0.1	0.11	0.13	0.14	0.15	0.18	0.25	0.34	25°	35°	45°	
	250033	●		0.38			0.11	0.13	0.15	0.17	0.18	0.2	0.24	0.34	0.44	25°	34°	44°	
	250050	●		0.46			0.16	0.2	0.23	0.25	0.28	0.3	0.36	0.51	0.67	25°	34°	43°	
	250067	●		0.53			0.22	0.26	0.31	0.34	0.37	0.4	0.48	0.68	0.9	25°	34°	42°	
	2501	●		0.66			0.32	0.39	0.46	0.51	0.56	0.6	0.72	1.0	1.3	14°	25°	34°	42°
	25015	●		0.79		0.34	0.48	0.59	0.68	0.76	0.84	0.9	1.1	1.5	2.0	15°	25°	34°	41°
	2502	●		0.91		0.46	0.64	0.79	0.91	1.0	1.1	1.2	1.4	2.0	2.7	15°	25°	33°	40°
	2503	●		1.1		0.68	0.97	1.2	1.4	1.5	1.7	1.8	2.2	3.1	4.0	15°	25°	33°	40°
	2504	●		1.3		0.91	1.3	1.6	1.8	2	2.2	2.4	2.9	4.1	5.4	16°	25°	32°	39°
	2505	●		1.4		1.1	1.6	2.0	2.3	2.5	2.8	3.0	3.6	5.1	6.7	16°	25°	32°	39°
	2506	●		1.6		1.4	1.9	2.4	2.7	3.1	3.3	3.6	4.3	6.1	8.1	17°	25°	31°	38°
	2508	●		1.8		1.8	2.6	3.2	3.6	4.1	4.5	4.8	5.8	8.2	10.8	17°	25°	31°	38°
	2510	●	●	2.0		2.3	3.2	3.9	4.6	5.1	5.6	6.0	7.2	10.2	13.5	18°	25°	31°	37°
	2515	●	●	2.4		3.4	4.8	5.9	6.8	7.6	8.4	9.0	10.8	15.3	20	18°	25°	31°	37°
	2520	●	●	2.8	2.5	4.6	6.5	7.9	9.1	10.2	11.2	12.1	14.4	20	27	19°	25°	31°	37°
	2530	●	●	3.6	3.7	6.8	9.7	11.8	13.7	15.3	16.7	18.1	22	31	40	20°	25°	30°	36°
	2540	●	●	4.0	5.0	9.1	12.9	15.8	18.2	20	22	24	29	41	54	21°	25°	29°	35°
	2550	●	●	4.4	6.2	11.4	16.1	19.7	23	25	28	30	36	51	67	21°	25°	29°	35°
	2560	●	●	4.8	7.5	13.7	19.3	24	27	31	33	36	43	61	81	22°	25°	29°	35°
	2570	●	●	5.2	8.7	16	23	28	32	36	39	42	50	71	94	22°	25°	29°	35°
	25100	●	●	6.4	12.5	23	32	39	46	51	56	60	72	102	135	23°	25°	28°	32°
25150	●	●	7.5	18.7	34	48	59	68	76	84	90	108	153	205	24°	25°	28°	30°	
25200	●	●	8.7	25	46	64	79	91	102	112	121	144	205	270	24°	25°	26°	29°	
15°	150017	●		0.28			0.05	0.06	0.07	0.08	0.09	0.1	0.12	0.17	0.23	15°	30°	37°	
	150025	●		0.33			0.08	0.1	0.11	0.13	0.14	0.15	0.18	0.25	0.34	15°	28°	34°	
	150033	●		0.38			0.11	0.13	0.15	0.17	0.18	0.2	0.24	0.34	0.44	15°	27°	32°	
	150050	●		0.46			0.16	0.2	0.23	0.25	0.28	0.3	0.36	0.51	0.67	15°	26°	30°	
	150067	●		0.53			0.22	0.26	0.31	0.34	0.37	0.4	0.48	0.68	0.9	15°	25°	29°	
	1501	●		0.66			0.32												