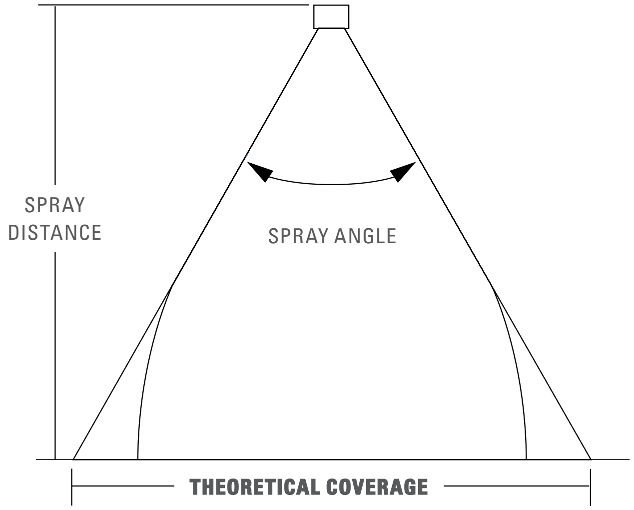
SPRAY ANGLE AND COVERAGE

Tabulated spray angles indicate approximate spray coverage based on spray or distribution of water. In actual spraying, the effective spray angle varies with spray distance. Liquids more viscous than water form relatively smaller spray angles (or even a solid stream), depending upon viscosity, nozzle capacity and spraying pressure. Liquids with surface tensions lower than water will produce relatively wider spray angles than those listed for water. This table lists the theoretical coverage of spray patterns as calculated from the included spray angle of the spray and the distance from the nozzle orifice. Values are based on the assumption that the spray angle remains the same throughout the entire spray distance. In actual practice, the tabulated spray angle does not hold for long spray distances. If the spray coverage requirement is critical, request data sheets for specific spray coverage data.



Example: A spray nozzle with an angle of 65° spraying 15" (39 cm) from the target provides 19.2" (48.8 cm) of coverage

THEORETICAL SPRAY COVERAGE AT VARIOUS DISTANCES IN INCHES (CM) FROM NOZZLE ORIFICE

Spray Angle	2 in.	5 cm	4 in.	10 cm	6 in.	15 cm	8 in.	20 cm	10 in.	25 cm	12 in.	30 cm	15 in.	40 cm	18 in.	50 cm	24 in.	60 cm	30 in.	70 cm	36 in.	80 cm	48 in.	100 cm
5°	.2	.4	.4	.9	.5	1.3	.7	1.8	.9	2.2	1.1	2.6	1.3	3.5	1.6	4.4	2.1	5.2	2.6	6.1	3.1	7.0	4.2	8.7
10°	.4	.9	.7	1.8	1.1	2.6	1.4	3.5	1.8	4.4	2.1	5.3	2.6	7.0	3.1	8.8	4.2	10.5	5.2	12.3	6.3	14.0	8.4	17.5
15°	.5	1.3	1.1	2.6	1.6	4.0	2.1	5.3	2.6	6.6	3.2	7.9	3.9	10.5	4.7	13.2	6.3	15.8	7.9	18.4	9.5	21.1	12.6	26.3
20°	.7	1.8	1.4	3.5	2.1	5.3	2.8	7.1	3.5	8.8	4.2	10.6	5.3	14.1	6.4	17.6	8.5	21.2	10.6	24.7	12.7	28.2	16.9	35.3
25°	.9	2.2	1.8	4.4	2.7	6.7	3.5	8.9	4.4	11.1	5.3	13.3	6.6	17.7	8.0	22.2	10.6	26.6	13.3	31.0	15.9	35.5	21.2	44.3
30°	1.1	2.7	2.1	5.4	3.2	8.0	4.3	10.7	5.4	13.4	6.4	16.1	8.1	21.4	9.7	26.8	12.8	32.2	16.1	37.5	19.3	42.9	25.7	53.6
35°	1.3	3.2	2.5	6.3	3.8	9.5	5.0	12.6	6.3	15.8	7.6	18.9	9.5	25.2	11.3	31.5	15.5	37.8	18.9	44.1	22.7	50.5	30.3	63.1
40°	1.5	3.6	2.9	7.3	4.4	10.9	5.8	14.6	7.3	18.2	8.7	21.8	10.9	29.1	13.1	36.4	17.5	43.7	21.8	51.0	26.2	58.2	34.9	72.8
45°	1.7	4.1	3.3	8.3	5.0	12.4	6.6	16.6	8.3	20.7	9.9	24.9	12.4	33.1	14.9	41.4	19.9	49.7	24.8	58.0	29.8	66.3	39.7	82.8
50°	1.9	4.7	3.7	9.3	5.6	14.0	7.5	18.7	9.3	23.3	11.2	28.0	14.0	37.3	16.8	46.6	22.4	56.0	28.0	65.3	33.6	74.6	44.8	93.3
55°	2.1	5.2	4.2	10.4	6.3	15.6	8.3	20.8	10.3	26.0	12.5	31.2	15.6	41.7	18.7	52.1	25.0	62.5	31.2	72.9	37.5	83.3	50.0	104
60°	2.3	5.8	4.6	11.6	6.9	17.3	9.2	23.1	11.5	28.9	13.8	34.6	17.3	46.2	20.6	57.7	27.7	69.3	34.6	80.8	41.6	92.4	55.4	115
65°	2.5	6.4	5.1	12.7	7.6	19.1	10.2	25.5	12.7	31.9	15.3	38.2	19.2	51.0	22.9	63.7	30.5	76.5	38.2	89.2	45.8	102	61.2	127
70°	2.8	7.0	5.6	14.0	8.4	21.0	11.2	28.0	14.0	35.0	16.8	42.0	21.0	56.0	25.2	70.0	33.6	84.0	42.0	98.0	50.4	112	67.2	140
75°	3.1	7.7	6.1	15.4	9.2	23.0	12.3	30.7	15.3	38.4	18.4	46.0	23.0	61.4	27.6	76.7	36.8	92.1	46.0	107	55.2	123	73.6	153
80°	3.4	8.4	6.7	16.8	10.1	25.2	13.4	33.6	16.8	42.0	20.2	50.4	25.2	67.1	30.3	83.9	40.3	101	50.4	118	60.4	134	80.6	168
85°	3.7	9.2	7.3	18.3	11.0	27.5	14.7	36.7	18.3	45.8	22.0	55.0	27.5	73.3	33.0	91.6	44.0	110	55.0	128	66.0	147	88.0	183
90°	4.0	10.0	8.0	20.0	12.0	30.0	16.0	40.0	20.0	50.0	24.0	60.0	30.0	80.0	36.0	100	48.0	120	60.0	140	72.0	160	96.0	200
95°	4.4	10.9	8.7	21.8	13.1	32.7	17.5	43.7	21.8	54.6	26.2	65.5	32.8	87.3	39.3	109	52.4	131	65.5	153	78.6	175	105	218
100°	4.8	11.9	9.5	23.8	14.3	35.8	19.1	47.7	23.8	59.6	28.6	71.5	35.8	95.3	43.0	119	57.2	143	71.6	167	85.9	191	114	238
110°	5.7	14.3	11.4	28.6	17.1	42.9	22.8	57.1	28.5	71.4	34.3	85.7	42.8	114	51.4	143	68.5	171	85.6	200	103	229	–	286
120°	6.9	17.3	13.9	34.6	20.8	52.0	27.7	69.3	34.6	86.6	41.6	104	52.0	139	62.4	173	83.2	208	104	243	–	–	–	–
130°	8.6	21.5	17.2	42.9	25.7	64.3	34.3	85.8	42.9	107	51.5	129	64.4	172	77.3	215	103	257	–	–	–	–	–	–
140°	10.9	27.5	21.9	55.0	32.9	82.4	43.8	110	54.8	137	65.7	165	82.2	220	98.6	275	–	–	–	–	–	–	–	–
150°	14.9	37.3	29.8	74.6	44.7	112	59.6	149	74.5	187	89.5	224	112	299	–	–	–	–	–	–	–	–	–	–
160°	22.7	56.7	45.4	113	68.0	170	90.6	227	113	284	–	–	–	–	–	–	–	–	–	–	–	–	–	–
170°	45.8	114	91.6	229	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Visit spray.com/sprayware for online flow rate and spray coverage calculators.

QUICK REFERENCE GUIDE

Model	Connection	Connection Size (in.)	Materials	Page Number	
				Performance Data	Dimensions and Weights
K nozzle	M	1/8 to 1	Brass, 303 stainless steel (SS), 316 stainless steel (316SS), Polyvinyl chloride (PVC)	C43–C44	C46
TEK nozzle	M	1/8 to 1/4	Brass, 303 stainless steel (SS)	C44	
QJA body	F	1/8 to 1/2		–	
QJJA body	M	1/8 to 1/2		–	
QTKA spray tip	NA	NA		C45	
QJJS body	M	1/8 or 1/4		–	
QSTK spray tip	NA	NA		C45	
T body	F	1/8 to 1/2		–	
TT body	M	1/8 to 1/2		–	
TK spray tip	NA	NA		C45–C46	

F = female thread; M = male thread; NA = not applicable. There is no material code for brass. Leave material code blank when ordering. Other materials available upon request.
For more dimensions and sizes, contact your sales engineer.

W PERFORMANCE DATA:
WIDE ANGLE SPRAY

Nozzle Type	Inlet Conn. (in.)						Capacity Size	Equiv. Orifice Dia. (mm)	Flow Rate Capacity (liters per minute)							Spray Angle (°)		
K	1/8	1/4	3/8	1/2	3/4	1			0.2 bar	0.5 bar	0.7 bar	1.5 bar	2 bar	3 bar	4 bar	0.5 bar	1.5 bar	4 bar
●	●						.25	.43	–	–	–	.14	.16	.20	.23	–	83	117
●	●						.50	.58	–	–	–	.28	.32	.39	.46	–	89	122
●	●						.75	.74	–	–	.29	.42	.48	.59	.68	–	106	125
●	●						1	.84	–	–	.38	.56	.64	.79	.91	–	103	128
●	●						1.5	1.0	–	.48	.57	.84	.97	1.2	1.4	73	103	125
●	●	●					2	1.2	–	.64	.76	1.1	1.3	1.6	1.8	83	113	129
●	●	●					2.5	1.3	–	.81	.95	1.4	1.6	2.0	2.3	98	122	133
●	●	●					3	1.4	–	.97	1.1	1.7	1.9	2.4	2.7	86	112	126
●	●						4	1.7	–	1.3	1.5	2.2	2.6	3.2	3.6	97	123	132
●	●	●					5	1.9	1.0	1.6	1.9	2.8	3.2	3.9	4.6	114	128	142
●	●	●					7.5	2.3	1.5	2.4	2.9	4.2	4.8	5.9	6.8	101	119	134
●	●	●					10	2.7	2.0	3.2	3.8	5.6	6.4	7.9	9.1	115	133	145
●	●	●					12	2.9	2.4	3.9	4.6	6.7	7.7	9.5	10.9	128	139	153
●	●	●					15	3.3	3.1	4.8	5.7	8.4	9.7	11.8	13.7	98	113	123
●	●	●					18	3.6	3.7	5.8	6.9	10.1	11.6	14.2	16.4	106	120	131
●	●	●					20	3.8	4.1	6.4	7.6	11.2	12.9	15.8	18.2	110	122	133

Highlighted column shows the rated pressure.

W PERFORMANCE DATA: WIDE ANGLE SPRAY

Nozzle Type	Inlet Conn. (in.)						Capacity Size	Equiv. Orifice Dia. (mm)	Flow Rate Capacity (liters per minute)							Spray Angle (°)		
K	1/8	1/4	3/8	1/2	3/4	1			0.2 bar	0.5 bar	0.7 bar	1.5 bar	2 bar	3 bar	4 bar	0.5 bar	1.5 bar	4 bar
●		●					22	3.9	4.5	7.1	8.4	12.3	14.2	17.4	20	113	125	136
●		●					24	4.1	4.9	7.7	9.2	13.4	15.5	19.0	22	115	131	144
●		●					27	4.4	5.5	8.7	10.3	15.1	17.4	21	25	119	135	148
●			●				30	4.6	6.1	9.7	11.4	16.8	19.3	24	27	100	110	121
●			●				35	5.0	7.1	11.3	13.3	19.5	23	28	32	105	118	128
●			●	●			40	5.3	8.2	12.9	15.3	22	26	32	36	111	126	136
●			●				45	5.6	9.2	14.5	17.2	25	29	36	41	115	130	140
●				●			50	5.9	10.2	16.1	19.1	28	32	39	46	117	131	140
●				●			60	6.5	12.2	19.3	23	34	39	47	55	120	134	142
●				●			70	7.0	14.3	23	27	39	45	55	64	123	137	146
●				●			80	7.5	16.3	26	31	45	52	63	73	127	138	149
●					●		90	8.1	18.3	29	34	50	58	71	82	120	133	140
●					●		100	8.5	20	32	38	56	64	79	91	123	136	145
●					●		110	8.9	22	35	42	61	71	87	100	125	138	148
●					●		120	9.3	24	39	46	67	77	95	109	129	143	150
●					●		140	10.0	29	45	53	78	90	111	128	118	127	135
●					●		160	10.7	33	52	61	89	103	126	146	121	130	137
●					●		180	11.4	37	58	69	101	116	142	164	124	133	139
●					●		210	12.3	43	68	80	117	135	166	191	128	139	145
●						●	300	14.8	61	97	114	168	193	237	274	110	128	135
●						●	450	18.0	92	145	172	251	290	355	410	118	132	138

Highlighted column shows the rated pressure.