

# SUPERIOR EJECTOR NOZZLE REQUIREMENTS

NOTE: ALL VALUES ARE THOSE NECESSARY TO ACHIEVE SONIC REGULATED CONTROL (NOT BREAKPOINT)

BACK-PRESSURE AT EJECTOR OUTLET		<b>4 PPD ( 75 GR/HR )</b>									
		REQUIRED WATER SUPPLY PRESSURE AND WATER FLOW RATE THROUGH NOZZLE									
		NOZZLE NO. 5		NOZZLE NO. 4		NOZZLE NO. 3		NOZZLE NO. 2			
PSIG	kg/cm <sup>2</sup>	PSIG @ GPM	kg/cm <sup>2</sup> @ L/SEC	PSIG @ GPM	kg/cm <sup>2</sup> @ L/SEC	PSIG @ GPM	kg/cm <sup>2</sup> @ L/SEC	PSIG @ GPM	kg/cm <sup>2</sup> @ L/SEC		
0	0.00	6 @ 3.5	0.42 @ 0.22	6 @ 2.6	0.42 @ 0.16	7 @ 2.0	0.49 @ 0.13	18 @ 1.0	1.27 @ 0.06		
10	0.70	20 @ 4.4	1.41 @ 0.28	20 @ 3.3	1.41 @ 0.21	21 @ 2.6	1.48 @ 0.16	19 @ 1.1	1.34 @ 0.07		
20	1.41	40 @ 5.5	2.81 @ 0.35	39 @ 4.2	2.74 @ 0.26	36 @ 3.3	2.53 @ 0.21	36 @ 1.5	2.53 @ 0.09		
30	2.11	57 @ 6.4	4.01 @ 0.40	55 @ 5.0	3.87 @ 0.32	55 @ 3.6	3.87 @ 0.23	53 @ 1.8	3.73 @ 0.11		
40	2.81	75 @ 6.8	5.27 @ 0.43	72 @ 5.4	5.06 @ 0.34	72 @ 4.2	5.06 @ 0.26	68 @ 1.9	4.78 @ 0.12		
50	3.52	94 @ 7.7	6.61 @ 0.49	89 @ 6.1	6.26 @ 0.38	88 @ 4.4	6.19 @ 0.28	85 @ 2.0	5.98 @ 0.13		
60	4.22	111 @ 8.7	7.80 @ 0.55	108 @ 6.5	7.59 @ 0.41	105 @ 4.6	7.38 @ 0.29	107 @ 2.2	7.52 @ 0.14		
70	4.92	129 @ 9.4	9.07 @ 0.59	123 @ 7.0	8.65 @ 0.44	121 @ 5.0	8.51 @ 0.32	115 @ 2.5	8.08 @ 0.16		
80	5.62	146 @ 9.9	10.26 @ 0.62	141 @ 7.6	9.91 @ 0.48	138 @ 5.2	9.70 @ 0.33	128 @ 2.7	9.00 @ 0.17		
90	6.33	163 @ 10.7	11.46 @ 0.67	156 @ 8.2	10.97 @ 0.52	153 @ 5.4	10.76 @ 0.34	144 @ 2.8	10.12 @ 0.18		
100	7.03	181 @ 11.3	12.72 @ 0.71	174 @ 8.7	12.23 @ 0.55	169 @ 5.6	11.88 @ 0.35	160 @ 2.9	11.25 @ 0.18		
110	7.73	199 @ 12.0	13.99 @ 0.76	190 @ 9.1	13.36 @ 0.57	183 @ 5.8	12.86 @ 0.37	177 @ 3.0	12.44 @ 0.19		
120	8.44	216 @ 12.6	15.18 @ 0.79	209 @ 9.8	14.69 @ 0.62	199 @ 5.9	13.99 @ 0.37	192 @ 3.1	13.50 @ 0.20		
130	9.14	233 @ 13.2	16.38 @ 0.83	226 @ 10.3	15.89 @ 0.65	213 @ 6.0	14.97 @ 0.38	211 @ 3.2	14.83 @ 0.20		
140	9.84	251 @ 13.8	17.65 @ 0.87	240 @ 10.9	16.87 @ 0.69	229 @ 6.1	16.10 @ 0.38	224 @ 3.3	15.75 @ 0.21		
150	10.55	268 @ 14.3	18.84 @ 0.90	258 @ 11.4	18.14 @ 0.72	245 @ 6.3	17.22 @ 0.40	238 @ 3.4	16.73 @ 0.21		

BACK-PRESSURE AT EJECTOR OUTLET		<b>10 PPD ( 200 GR/HR )</b>									
		REQUIRED WATER SUPPLY PRESSURE AND WATER FLOW RATE THROUGH NOZZLE									
		NOZZLE NO. 5		NOZZLE NO. 4		NOZZLE NO. 3		NOZZLE NO. 2			
PSIG	kg/cm <sup>2</sup>	PSIG @ GPM	kg/cm <sup>2</sup> @ L/SEC	PSIG @ GPM	kg/cm <sup>2</sup> @ L/SEC	PSIG @ GPM	kg/cm <sup>2</sup> @ L/SEC	PSIG @ GPM	kg/cm <sup>2</sup> @ L/SEC		
0	0.00	6 @ 3.5	0.42 @ 0.22	6 @ 3.1	0.42 @ 0.20	8 @ 2.0	0.56 @ 0.13	20 @ 1.0	1.41 @ 0.06		
10	0.70	21 @ 4.4	1.48 @ 0.28	21 @ 4.0	1.48 @ 0.25	25 @ 2.4	1.76 @ 0.15	23 @ 1.4	1.62 @ 0.09		
20	1.41	42 @ 5.5	2.95 @ 0.35	39 @ 4.7	2.74 @ 0.30	40 @ 3.1	2.81 @ 0.20	37 @ 1.7	2.60 @ 0.11		
30	2.11	57 @ 6.4	4.01 @ 0.40	56 @ 5.5	3.94 @ 0.35	55 @ 3.5	3.87 @ 0.22	55 @ 2.0	3.87 @ 0.12		
40	2.81	77 @ 7.2	5.41 @ 0.45	75 @ 6.1	5.27 @ 0.38	73 @ 4.0	5.13 @ 0.25	71 @ 2.2	4.99 @ 0.14		
50	3.52	95 @ 7.9	6.68 @ 0.50	91 @ 6.6	6.40 @ 0.42	89 @ 4.2	6.26 @ 0.26	84 @ 2.4	5.91 @ 0.15		
60	4.22	111 @ 8.8	7.80 @ 0.56	109 @ 7.1	7.66 @ 0.45	108 @ 4.4	7.59 @ 0.28	102 @ 2.6	7.17 @ 0.16		
70	4.92	130 @ 9.5	9.14 @ 0.60	123 @ 7.6	8.65 @ 0.48	123 @ 4.7	8.65 @ 0.30	118 @ 2.7	8.30 @ 0.17		
80	5.62	149 @ 9.9	10.47 @ 0.62	141 @ 8.1	9.91 @ 0.51	139 @ 5.0	9.77 @ 0.32	131 @ 2.8	9.21 @ 0.18		
90	6.33	165 @ 10.5	11.60 @ 0.66	158 @ 8.5	11.11 @ 0.54	154 @ 5.2	10.83 @ 0.33	147 @ 2.9	10.33 @ 0.18		
100	7.03	181 @ 11.1	12.72 @ 0.70	173 @ 9.1	12.16 @ 0.57	171 @ 5.5	12.02 @ 0.35	163 @ 3.0	11.46 @ 0.19		
110	7.73	198 @ 11.8	13.92 @ 0.74	190 @ 9.6	13.36 @ 0.61	188 @ 5.8	13.22 @ 0.37	179 @ 3.1	12.58 @ 0.20		
120	8.44	215 @ 12.5	15.11 @ 0.79	209 @ 10.1	14.69 @ 0.64	205 @ 6.1	14.41 @ 0.38	194 @ 3.2	13.64 @ 0.20		
130	9.14	232 @ 13.0	16.31 @ 0.82	225 @ 10.5	15.82 @ 0.66	220 @ 6.3	15.47 @ 0.40	210 @ 3.3	14.76 @ 0.21		
140	9.84	249 @ 13.8	17.50 @ 0.87	241 @ 11.0	16.94 @ 0.69	237 @ 6.6	16.66 @ 0.42	225 @ 3.3	15.82 @ 0.21		
150	10.55	267 @ 14.5	18.77 @ 0.91	258 @ 11.5	18.14 @ 0.73	252 @ 7.0	17.72 @ 0.44	240 @ 3.4	16.87 @ 0.21		

BACK-PRESSURE AT EJECTOR OUTLET		<b>25 PPD ( 500 GR/HR )</b>									
		REQUIRED WATER SUPPLY PRESSURE AND WATER FLOW RATE THROUGH NOZZLE									
		NOZZLE NO. 7		NOZZLE NO. 5		NOZZLE NO. 4		NOZZLE NO. 3			
PSIG	kg/cm <sup>2</sup>	PSIG @ GPM	kg/cm <sup>2</sup> @ L/SEC	PSIG @ GPM	kg/cm <sup>2</sup> @ L/SEC	PSIG @ GPM	kg/cm <sup>2</sup> @ L/SEC	PSIG @ GPM	kg/cm <sup>2</sup> @ L/SEC		
0	0.00	11 @ 6.0	0.77 @ 0.38	10 @ 3.1	0.70 @ 0.20	13 @ 2.5	0.91 @ 0.16	15 @ 2.2	1.05 @ 0.14		
10	0.70	22 @ 7.7	1.55 @ 0.49	24 @ 4.2	1.69 @ 0.26	30 @ 3.4	2.11 @ 0.21	32 @ 3.1	2.25 @ 0.20		
20	1.41	42 @ 9.7	2.95 @ 0.61	44 @ 5.4	3.09 @ 0.34	44 @ 4.2	3.09 @ 0.26	52 @ 3.4	3.66 @ 0.21		
30	2.11	61 @ 11.9	4.29 @ 0.75	58 @ 6.4	4.08 @ 0.40	57 @ 5.0	4.01 @ 0.32	64 @ 3.7	4.50 @ 0.23		
40	2.81	78 @ 13.8	5.48 @ 0.87	76 @ 7.2	5.34 @ 0.45	76 @ 5.5	5.34 @ 0.35	77 @ 4.2	5.41 @ 0.26		
50	3.52	97 @ 15.4	6.82 @ 0.97	95 @ 7.8	6.68 @ 0.49	94 @ 6.1	6.61 @ 0.38	89 @ 4.4	6.26 @ 0.28		
60	4.22	116 @ 17.3	8.15 @ 1.09	112 @ 8.7	7.87 @ 0.55	110 @ 6.6	7.73 @ 0.42	106 @ 4.8	7.45 @ 0.30		
70	4.92	131 @ 18.6	9.21 @ 1.17	131 @ 9.4	9.21 @ 0.59	127 @ 7.6	8.93 @ 0.48	122 @ 5.3	8.58 @ 0.33		
80	5.62	150 @ 20.3	10.55 @ 1.28	150 @ 9.9	10.55 @ 0.62	143 @ 7.7	10.05 @ 0.49	137 @ 5.6	9.63 @ 0.35		
90	6.33	166 @ 21.9	11.67 @ 1.38	166 @ 10.6	11.67 @ 0.67	158 @ 8.3	11.11 @ 0.52	151 @ 6.1	10.62 @ 0.38		
100	7.03	183 @ 23.5	12.86 @ 1.48	183 @ 11.3	12.86 @ 0.71	172 @ 8.7	12.09 @ 0.55	163 @ 6.6	11.46 @ 0.42		
110	7.73	200 @ 25.0	14.06 @ 1.58	200 @ 12.1	14.06 @ 0.76	190 @ 9.2	13.36 @ 0.58	180 @ 6.9	12.65 @ 0.44		
120	8.44	217 @ 26.6	15.26 @ 1.68	217 @ 12.8	15.26 @ 0.81	206 @ 9.8	14.48 @ 0.62	192 @ 7.2	13.50 @ 0.45		
130	9.14	233 @ 28.3	16.38 @ 1.79	233 @ 13.4	16.38 @ 0.85	222 @ 10.3	15.61 @ 0.65	208 @ 7.7	14.62 @ 0.49		
140	9.84	250 @ 29.8	17.58 @ 1.88	250 @ 14.2	17.58 @ 0.90	237 @ 11.0	16.66 @ 0.69	222 @ 8.1	15.61 @ 0.51		
150	10.55	267 @ 31.2	18.77 @ 1.97	267 @ 14.9	18.77 @ 0.94	253 @ 11.7	17.79 @ 0.74	237 @ 8.5	16.66 @ 0.54		

BACK-PRESSURE AT EJECTOR OUTLET		<b>50 PPD ( 1000 GR/HR )</b>							
		REQUIRED WATER SUPPLY PRESSURE AND WATER FLOW RATE THROUGH NOZZLE							
		NOZZLE NO. 7		NOZZLE NO. 5		NOZZLE NO. 4		NOZZLE NO. 3	
PSIG	kg/cm <sup>2</sup>	PSIG @ GPM	kg/cm <sup>2</sup> @ L/SEC	PSIG @ GPM	kg/cm <sup>2</sup> @ L/SEC	PSIG @ GPM	kg/cm <sup>2</sup> @ L/SEC	PSIG @ GPM	kg/cm <sup>2</sup> @ L/SEC
0	0.00	12 @ 5.5	0.84 @ 0.35	21 @ 3.9	1.48 @ 0.25	24 @ 3.2	1.69 @ 0.20	30 @ 2.6	2.11 @ 0.16
10	0.70	26 @ 7.6	1.83 @ 0.48	36 @ 5.0	2.53 @ 0.32	44 @ 4.2	3.09 @ 0.26	55 @ 3.4	3.87 @ 0.21
20	1.41	42 @ 9.4	2.95 @ 0.59	54 @ 5.9	3.80 @ 0.37	63 @ 5.0	4.43 @ 0.32	76 @ 4.0	5.34 @ 0.25
30	2.11	61 @ 11.6	4.29 @ 0.73	67 @ 6.6	4.71 @ 0.42	79 @ 5.5	5.55 @ 0.35	92 @ 4.3	6.47 @ 0.27
40	2.81	78 @ 14.0	5.48 @ 0.88	81 @ 7.2	5.69 @ 0.45	96 @ 5.9	6.75 @ 0.37	107 @ 4.5	7.52 @ 0.28
50	3.52	99 @ 16.0	6.96 @ 1.01	99 @ 7.8	6.96 @ 0.49	108 @ 6.4	7.59 @ 0.40	121 @ 4.9	8.51 @ 0.31
60	4.22	117 @ 17.5	8.23 @ 1.10	114 @ 8.6	8.01 @ 0.54	122 @ 7.2	8.58 @ 0.45	133 @ 5.4	9.35 @ 0.34
70	4.92	132 @ 19.0	9.28 @ 1.20	132 @ 9.4	9.28 @ 0.59	132 @ 7.7	9.28 @ 0.49	146 @ 5.9	10.26 @ 0.37
80	5.62	150 @ 20.8	10.55 @ 1.31	151 @ 9.8	10.62 @ 0.62	144 @ 8.3	10.12 @ 0.52	158 @ 6.2	11.11 @ 0.39
90	6.33	167 @ 22.2	11.74 @ 1.40	167 @ 10.5	11.74 @ 0.66	159 @ 8.8	11.18 @ 0.56	172 @ 6.7	12.09 @ 0.42
100	7.03	184 @ 23.9	12.94 @ 1.51	184 @ 11.2	12.94 @ 0.71	173 @ 9.2	12.16 @ 0.58	187 @ 7.2	13.15 @ 0.45
110	7.73	200 @ 25.4	14.06 @ 1.60	200 @ 12.0	14.06 @ 0.76	188 @ 9.9	13.22 @ 0.62	200 @ 7.7	14.06 @ 0.49
120	8.44	217 @ 27.0	15.26 @ 1.70	217 @ 12.8	15.26 @ 0.81	202 @ 10.5	14.20 @ 0.66	212 @ 8.1	14.90 @ 0.51
130	9.14	232 @ 28.7	16.31 @ 1.81	231 @ 13.4	16.24 @ 0.85	217 @ 11.0	15.26 @ 0.69	227 @ 8.5	15.96 @ 0.54
140	9.84	250 @ 30.1	17.58 @ 1.90	248 @ 14.0	17.43 @ 0.88	230 @ 11.5	16.17 @ 0.73	239 @ 9.0	16.80 @ 0.57
150	10.55	266 @ 32.2	18.70 @ 2.03	264 @ 14.8	18.56 @ 0.93	245 @ 12.1	17.22 @ 0.76	252 @ 9.4	17.72 @ 0.59

BACK-PRESSURE AT EJECTOR OUTLET		<b>100 PPD ( 2000 GR/HR )</b>							
		REQUIRED WATER SUPPLY PRESSURE AND WATER FLOW RATE THROUGH NOZZLE							
		NOZZLE NO. 7		NOZZLE NO. 5		NOZZLE NO. 4		NOZZLE NO. 3	
PSIG	kg/cm <sup>2</sup>	PSIG @ GPM	kg/cm <sup>2</sup> @ L/SEC	PSIG @ GPM	kg/cm <sup>2</sup> @ L/SEC	PSIG @ GPM	kg/cm <sup>2</sup> @ L/SEC	PSIG @ GPM	kg/cm <sup>2</sup> @ L/SEC
0	0.00	25 @ 7.7	1.76 @ 0.49	41 @ 5.3	2.88 @ 0.33	52 @ 4.4	3.66 @ 0.28	64 @ 3.6	4.50 @ 0.23
10	0.70	42 @ 9.4	2.95 @ 0.59	61 @ 6.1	4.29 @ 0.38	74 @ 5.4	5.20 @ 0.34	99 @ 4.4	6.96 @ 0.28
20	1.41	59 @ 11.0	4.15 @ 0.69	79 @ 6.9	5.55 @ 0.44	97 @ 6.1	6.82 @ 0.38	127 @ 4.6	8.93 @ 0.29
30	2.11	74 @ 12.7	5.20 @ 0.80	99 @ 7.8	6.96 @ 0.49	117 @ 6.6	8.23 @ 0.42	155 @ 5.3	10.90 @ 0.33
40	2.81	88 @ 13.8	6.19 @ 0.87	114 @ 8.8	8.01 @ 0.56	134 @ 6.8	9.42 @ 0.43	182 @ 5.5	12.79 @ 0.35
50	3.52	105 @ 16.0	7.38 @ 1.01	130 @ 9.6	9.14 @ 0.61	153 @ 7.7	10.76 @ 0.49	213 @ 6.0	14.97 @ 0.38
60	4.22	121 @ 17.4	8.51 @ 1.10	143 @ 10.3	10.05 @ 0.65	170 @ 8.2	11.95 @ 0.52	245 @ 6.4	17.22 @ 0.40
70	4.92	135 @ 19.2	9.49 @ 1.21	158 @ 11.4	11.11 @ 0.72	190 @ 8.9	13.36 @ 0.56	270 @ 7.0	18.98 @ 0.44
80	5.62	151 @ 20.9	10.62 @ 1.32	174 @ 12.3	12.23 @ 0.78	209 @ 9.4	14.69 @ 0.59	304 @ 7.4	21.37 @ 0.47
90	6.33	167 @ 22.5	11.74 @ 1.42	192 @ 13.2	13.50 @ 0.83	230 @ 10.0	16.17 @ 0.63	@	0.00 @ 0.00
100	7.03	183 @ 24.0	12.86 @ 1.51	209 @ 14.1	14.69 @ 0.89	250 @ 10.8	17.58 @ 0.68	@	0.00 @ 0.00
110	7.73	200 @ 25.6	14.06 @ 1.61	225 @ 15.0	15.82 @ 0.95	268 @ 11.3	18.84 @ 0.71	@	0.00 @ 0.00
120	8.44	215 @ 27.2	15.11 @ 1.72	241 @ 16.0	16.94 @ 1.01	288 @ 12.0	20.25 @ 0.76	@	0.00 @ 0.00
130	9.14	231 @ 29.0	16.24 @ 1.83	258 @ 16.9	18.14 @ 1.07	@	0.00 @ 0.00	@	0.00 @ 0.00
140	9.84	248 @ 30.3	17.43 @ 1.91	274 @ 17.6	19.26 @ 1.11	@	0.00 @ 0.00	@	0.00 @ 0.00
150	10.55	263 @ 32.3	18.49 @ 2.04	290 @ 18.6	20.39 @ 1.17	@	0.00 @ 0.00	@	0.00 @ 0.00

BACK-PRESSURE AT EJECTOR OUTLET		<b>200 PPD ( 5 KG/HR )</b>				<b>500 PPD ( 10 KG/HR )</b> (REVISED 1 JUNE, 2005)			
		NOZZLE NO. 8		NOZZLE NO. 7		NOZZLE NO. EJ-510		NOZZLE NO. EJ-515	
		PSIG	kg/cm <sup>2</sup>	PSIG @ GPM	kg/cm <sup>2</sup> @ L/SEC	PSIG @ GPM	kg/cm <sup>2</sup> @ L/SEC	PSIG @ GPM	kg/cm <sup>2</sup> @ L/SEC
0	0.00	36 @ 10.5	2.53 @ 0.66	37 @ 8.8	2.60 @ 0.56	57 @ 18.9	4.01 @ 1.19	44 @ 22.3	3.09 @ 1.41
10	0.70	55 @ 12.9	3.87 @ 0.81	68 @ 13.4	4.78 @ 0.85	72 @ 20.8	5.06 @ 1.31	56 @ 24.2	3.94 @ 1.53
20	1.41	72 @ 15.0	5.06 @ 0.95	90 @ 15.3	6.33 @ 0.97	82 @ 21.8	5.76 @ 1.38	72 @ 27.3	5.06 @ 1.72
30	2.11	87 @ 16.5	6.12 @ 1.04	106 @ 17.1	7.45 @ 1.08	88 @ 22.7	6.19 @ 1.43	87 @ 29.9	6.12 @ 1.89
40	2.81	105 @ 18.2	7.38 @ 1.15	117 @ 18.3	8.23 @ 1.15	98 @ 24.2	6.89 @ 1.53	107 @ 33.0	7.52 @ 2.08
50	3.52	119 @ 19.8	8.37 @ 1.25	133 @ 19.9	9.35 @ 1.26	116 @ 26.6	8.15 @ 1.68	123 @ 36.0	8.65 @ 2.27
60	4.22	135 @ 22.2	9.49 @ 1.40	148 @ 21.1	10.40 @ 1.33	132 @ 29.9	9.28 @ 1.89	140 @ 38.9	9.84 @ 2.45
70	4.92	150 @ 24.3	10.55 @ 1.53	157 @ 22.0	11.04 @ 1.39	149 @ 33.2	10.47 @ 2.09	156 @ 41.9	10.97 @ 2.64
80	5.62	167 @ 25.8	11.74 @ 1.63	173 @ 23.1	12.16 @ 1.46	163 @ 37.6	11.46 @ 2.37	174 @ 45.0	12.23 @ 2.84
90	6.33	182 @ 27.7	12.79 @ 1.75	186 @ 24.3	13.08 @ 1.53	179 @ 41.8	12.58 @ 2.64	188 @ 47.9	13.22 @ 3.02
100	7.03	198 @ 29.7	13.92 @ 1.87	203 @ 25.4	14.27 @ 1.60	196 @ 46.0	13.78 @ 2.90	207 @ 51.0	14.55 @ 3.22
110	7.73	214 @ 31.2	15.04 @ 1.97	219 @ 26.5	15.40 @ 1.67	212 @ 50.7	14.90 @ 3.20	@	0.00 @ 0.00
120	8.44	230 @ 33.6	16.17 @ 2.12	238 @ 27.3	16.73 @ 1.72	@	0.00 @ 0.00	@	0.00 @ 0.00
130	9.14	247 @ 35.3	17.36 @ 2.23	255 @ 28.3	17.93 @ 1.79	@	0.00 @ 0.00	@	0.00 @ 0.00
140	9.84	260 @ 37.3	18.28 @ 2.35	277 @ 29.4	19.47 @ 1.85	@	0.00 @ 0.00	@	0.00 @ 0.00
150	10.55	277 @ 39.3	19.47 @ 2.48	298 @ 30.2	20.95 @ 1.91	@	0.00 @ 0.00	@	0.00 @ 0.00