

# Troubleshooting Tips and Nozzle Information



## Application troubleshooting

Application too wet	Application too dry	Nozzle sputtering	Excessive detergent	No detergent	Nozzle fan pattern not full	Water not present at all nozzles
Increase air	Decrease air	Decrease air	Decrease injector size	Verify injector vacuum	Decrease nozzle size	Verify check valves
Decrease injector size	Increase injector size	Decrease nozzle size	Decrease metering tip	Check foot valve	Increase injector size	Verify nozzles not clogged
Increase metering tip	Decrease metering tip	Increase injector size		Check metering tip		Install fewer nozzles
						Decrease nozzle size
						Increase injector size

## Conversions

1 gallon = 3,785.41 mL  
 5 gallons = 18,927.1 mL  
 30 gallons = 113,562 mL

**113,562 ÷ mL/car = car count/30 gallon drum**

5 mL/car = 22,712 cars/30 gallon drum  
 10 mL/car = 11,356 cars/30 gallon drum

**Injector G.P.M. cannot exceed total nozzle G.P.M.**

## Nozzles

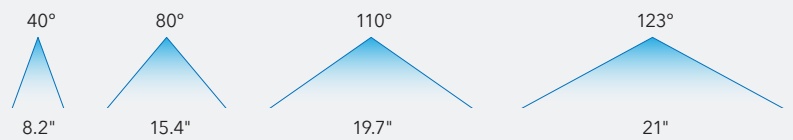
03E80 (P-WAT-2135)	0.3 gallons/min, 80° spray
05E80 (P-WAT-2133)	0.5 gallons/min, 80° spray
10E40 (P-CHE-2107)	1 gallon/min, 40° spray
10E80 (P-CHE-2108)	1 gallon/min, 80° spray
4010-SS (P-WAT-2192)	1 gallon/min, 40° spray
K Nozzle-SS (P-CHE-2049)	3 gallons/min, 123° spray
11002-SS (P-WAT-2243)	0.2 gallons/min, 110° spray

**Injector G.P.M. cannot exceed total nozzle G.P.M.**

## Conveyor speed chart

60 inches (5') = 60 cars per hour  
 90 inches (7.5') = 90 cars per hour  
 120 inches (10') = 120 cars per hour  
 150 inches (12.5') = 150 cars per hour  
 180 inches (15') = 180 cars per hour

## Nozzle spray 12" from source



## Versadial dilution chart

Flow Rate (GPM) at 200 PSI →	0.25	0.50	0.75	1.00	1.50	2.00	2.25	3.00	3.25	3.75	4.50	5.50
Injector Color →	White	Yellow	Tan	Red	Orange	Gray	Blue	Light Blue	Light Green	Pink	Purple	Dark Green
Dial Setting: 1	1:223	1:445	1:668	1:891	1:1336	1:1781	1:2004	1:2672	1:2895	1:3340	1:4008	1:4899
Dial Setting: 2	1:185	1:369	1:554	1:738	1:1107	1:1476	1:1661	1:2215	1:2399	1:2768	1:3322	1:4060
Dial Setting: 3	1:162	1:325	1:487	1:650	1:974	1:1299	1:1461	1:1949	1:2111	1:2436	1:2923	1:3573
Dial Setting: 4	1:141	1:282	1:423	1:565	1:847	1:1129	1:1270	1:1694	1:1835	1:2117	1:2540	1:3105
Dial Setting: 5	1:121	1:242	1:363	1:484	1:726	1:968	1:1089	1:1452	1:1573	1:1815	1:2178	1:2663
Dial Setting: 6	1:102	1:204	1:306	1:408	1:612	1:816	1:917	1:1223	1:1325	1:1529	1:1835	1:2243
Dial Setting: 7	1:85	1:169	1:254	1:339	1:508	1:678	1:762	1:1016	1:1101	1:1271	1:1525	1:1864
Dial Setting: 8	1:70	1:140	1:210	1:281	1:421	1:561	1:631	1:842	1:912	1:1052	1:1263	1:1543
Dial Setting: 9	1:58	1:115	1:173	1:231	1:346	1:461	1:519	1:692	1:750	1:865	1:1038	1:1268
Dial Setting: 10	1:50	1:100	1:151	1:201	1:301	1:402	1:452	1:603	1:653	1:753	1:904	1:1105
Dial Setting: 11	1:44	1:88	1:132	1:175	1:263	1:351	1:395	1:526	1:570	1:658	1:790	1:965
Dial Setting: 12	1:38	1:77	1:115	1:154	1:231	1:308	1:346	1:461	1:500	1:577	1:692	1:846
Dial Setting: 13	1:34	1:68	1:102	1:136	1:204	1:273	1:307	1:409	1:443	1:511	1:613	1:750
Dial Setting: 14	1:30	1:61	1:91	1:122	1:182	1:243	1:274	1:365	1:395	1:456	1:547	1:669
Copper	1:29	1:57	1:86	1:114	1:172	1:229	1:258	1:343	1:372	1:429	1:515	1:630
Pumpkin	1:28	1:57	1:85	1:113	1:170	1:227	1:255	1:340	1:369	1:425	1:510	1:624
Dial Setting: 15	1:27	1:55	1:82	1:110	1:165	1:220	1:247	1:330	1:357	1:412	1:495	1:605
Burgundy	1:25	1:51	1:76	1:101	1:152	1:202	1:228	1:304	1:329	1:379	1:455	1:556
Dial Setting: 16	1:25	1:50	1:75	1:100	1:149	1:199	1:224	1:299	1:324	1:374	1:448	1:548
Dial Setting: 17	1:22	1:44	1:67	1:89	1:133	1:178	1:200	1:267	1:289	1:334	1:400	1:489
Dial Setting: 18	1:20	1:41	1:61	1:82	1:123	1:163	1:184	1:245	1:266	1:306	1:368	1:449
Lime	1:20	1:41	1:61	1:81	1:122	1:162	1:182	1:243	1:263	1:304	1:365	1:446
Tan	1:20	1:39	1:59	1:78	1:117	1:157	1:176	1:235	1:254	1:294	1:352	1:431
Dial Setting: 19	1:19	1:39	1:58	1:77	1:116	1:154	1:173	1:231	1:251	1:289	1:347	1:424
Dial Setting: 20	1:18	1:36	1:54	1:72	1:109	1:145	1:163	1:217	1:236	1:272	1:326	1:399
Orange	1:17	1:34	1:51	1:69	1:103	1:137	1:154	1:206	1:223	1:257	1:308	1:377
Dial Setting: 21	1:17	1:34	1:51	1:68	1:102	1:136	1:153	1:204	1:221	1:255	1:306	1:374
Turquoise	1:16	1:32	1:48	1:64	1:96	1:128	1:144	1:192	1:208	1:240	1:289	1:353
Dial Setting: 22	1:16	1:32	1:47	1:63	1:95	1:127	1:142	1:190	1:206	1:237	1:285	1:348
Dial Setting: 23	1:15	1:29	1:44	1:59	1:88	1:117	1:132	1:176	1:190	1:220	1:264	1:322
Dial Setting: 24	1:13	1:27	1:40	1:54	1:81	1:107	1:121	1:161	1:175	1:201	1:242	1:295
Dial Setting: 25	1:12	1:24	1:37	1:49	1:73	1:98	1:110	1:147	1:159	1:183	1:220	1:269
Dial Setting: 26	1:11	1:23	1:34	1:45	1:68	1:90	1:101	1:135	1:146	1:169	1:203	1:248
Pink	1:10	1:20	1:31	1:41	1:61	1:82	1:92	1:123	1:133	1:154	1:184	1:225
Dial Setting: 27	1:10	1:20	1:31	1:41	1:61	1:82	1:92	1:123	1:133	1:154	1:184	1:225
Dial Setting: 28	1:9.1	1:18	1:27	1:36	1:55	1:73	1:82	1:109	1:118	1:137	1:164	1:200
Light Blue	1:8.9	1:18	1:27	1:36	1:53	1:71	1:80	1:107	1:115	1:133	1:160	1:195
Dial Setting: 29	1:7.9	1:16	1:24	1:32	1:48	1:64	1:71	1:95	1:103	1:119	1:143	1:175
Brown	1:7.7	1:15	1:23	1:31	1:46	1:62	1:70	1:93	1:101	1:116	1:139	1:170
Dial Setting: 30		1:13	1:20	1:27	1:40	1:53	1:60	1:80	1:86	1:99	1:119	1:146
Red		1:12	1:18	1:24	1:35	1:47	1:53	1:71	1:77	1:88	1:106	1:130
White		1:11	1:16	1:21	1:32	1:43	1:48	1:64	1:70	1:80	1:96	1:118
Dial Setting: 31		1:9.9	1:15	1:20	1:30	1:40	1:45	1:60	1:65	1:75	1:89	1:109
Green		1:9.9	1:15	1:20	1:30	1:39	1:44	1:59	1:64	1:74	1:89	1:109
Blue		1:7.8	1:12	1:16	1:23	1:31	1:35	1:47	1:51	1:59	1:70	1:86
Dial Setting: 32			1:9.1	1:12	1:18	1:24	1:27	1:36	1:39	1:45	1:54	1:66
Yellow			1:7.5	1:10	1:15	1:20	1:22	1:30	1:32	1:37	1:45	1:55
Black				1:7.9	1:12	1:16	1:18	1:24	1:26	1:29	1:35	1:43
Purple				1:3.9	1:5.9	1:7.9	1:8.8	1:12	1:13	1:15	1:18	1:22
Gray				1:3	1:4.5	1:6.1	1:6.8	1:9.1	1:9.8	1:11	1:14	1:17