

Selecting an Orifice Size

The flow specifications provided are for one orifice. When a multiple-orifice setup is used, the water flow must be multiplied by the number of orifices. For example, a manifold using four 0.009 orifices at 25 psi requires a flow of four times 0.267, or 1.068 U.S. gallons per minute. The following tables list the flow rate (US gpm and L/min) through an orifice at a given pressure.

Orifice Diameter Flow Rates (GPM)

Orifice Diameter (inches)	Pressure (psi) x 1000											
	20	25	30	35	40	45	50	55	60	65	70	75
0.003	0.027	0.030	0.033	0.035	0.038	0.040	0.042	0.044	0.046	0.048	0.050	0.051
0.004	0.047	0.053	0.058	0.062	0.067	0.071	0.075	0.078	0.082	0.085	0.088	0.091
0.005	0.074	0.082	0.090	0.098	0.104	0.111	0.117	0.122	0.128	0.133	0.138	0.143
0.006	0.106	0.119	0.130	0.141	0.150	0.159	0.168	0.176	0.184	0.192	0.199	0.206
0.007	0.145	0.162	0.177	0.191	0.205	0.217	0.229	0.240	0.250	0.261	0.271	0.280
0.008	0.189	0.211	0.231	0.250	0.267	0.283	0.299	0.313	0.327	0.341	0.353	0.366
0.009	0.239	0.267	0.293	0.316	0.338	0.359	0.378	0.396	0.414	0.431	0.447	0.463
0.01	0.295	0.330	0.361	0.390	0.417	0.443	0.467	0.489	0.511	0.532	0.552	0.572
0.011	0.357	0.399	0.437	0.472	0.505	0.536	0.565	0.592	0.619	0.644	0.668	0.692
0.012	0.425	0.475	0.521	0.562	0.601	0.638	0.672	0.705	0.736	0.766	0.795	0.823
0.013	0.499	0.558	0.611	0.660	0.705	0.748	0.789	0.827	0.864	0.899	0.933	0.966
0.014	0.578	0.647	0.708	0.765	0.818	0.868	0.915	0.959	1.002	1.043	1.082	1.120
0.015	0.664	0.742	0.813	0.878	0.939	0.996	1.050	1.101	1.150	1.197	1.242	1.286
0.016	0.756	0.845	0.925	1.000	1.069	1.133	1.195	1.253	1.309	1.362	1.414	1.463
0.017	0.853	0.954	1.045	1.128	1.206	1.279	1.349	1.414	1.477	1.538	1.596	1.652
0.018	0.956	1.069	1.171	1.265	1.352	1.434	1.512	1.586	1.656	1.724	1.789	1.852
0.019	1.065	1.191	1.305	1.409	1.507	1.598	1.685	1.767	1.845	1.921	1.993	2.063
0.02	1.181	1.320	1.446	1.562	1.670	1.771	1.867	1.958	2.045	2.128	2.209	2.286
0.021	1.302	1.455	1.594	1.722	1.841	1.952	2.058	2.158	2.254	2.346	2.435	2.521
0.022	1.429	1.597	1.750	1.890	2.020	2.143	2.259	2.369	2.474	2.575	2.672	2.766
0.023	1.561	1.746	1.912	2.065	2.208	2.342	2.469	2.589	2.704	2.815	2.921	3.023
0.024	1.700	1.901	2.082	2.249	2.404	2.550	2.688	2.819	2.945	3.065	3.180	3.292
0.025	1.845	2.062	2.259	2.440	2.609	2.767	2.917	3.059	3.195	3.326	3.451	3.572
0.026	1.995	2.231	2.444	2.639	2.822	2.993	3.155	3.309	3.456	3.597	3.733	3.864

Orifice Diameter Flow Rates (GPM)

Orifice Diaeter (inches)	Pressure (psi) x 1000											
	20	25	30	35	40	45	50	55	60	65	70	75
0.027	2.152	2.406	2.635	2.846	3.043	3.227	3.402	3.568	3.727	3.879	4.025	4.167
0.028	2.314	2.587	2.834	3.061	3.272	3.471	3.659	3.837	4.008	4.172	4.329	4.481
0.029	2.482	2.775	3.040	3.284	3.510	3.723	3.925	4.116	4.299	4.475	4.644	4.807
0.03	2.656	2.970	3.253	3.514	3.757	3.984	4.200	4.405	4.601	4.789	4.970	5.144
0.031	2.836	3.171	3.474	3.752	4.011	4.255	4.485	4.704	4.913	5.113	5.306	5.493
0.032	3.022	3.379	3.702	3.998	4.274	4.533	4.779	5.012	5.235	5.449	5.654	5.853
0.034	3.412	3.815	4.179	4.514	4.825	5.118	5.395	5.658	5.910	6.151	6.383	6.607
0.035	3.616	4.042	4.428	4.783	5.113	5.423	5.717	5.996	6.262	6.518	6.764	7.001
0.036	3.825	4.277	4.685	5.060	5.410	5.738	6.048	6.343	6.625	6.896	7.156	7.407
0.037	4.041	4.517	4.949	5.345	5.714	6.061	6.389	6.701	6.998	7.284	7.559	7.824
0.038	4.262	4.765	5.220	5.638	6.027	6.393	6.739	7.068	7.382	7.683	7.973	8.253
0.039	4.489	5.019	5.498	5.939	6.349	6.734	7.098	7.444	7.775	8.093	8.398	8.693
0.04	4.722	5.280	5.784	6.247	6.678	7.084	7.467	7.831	8.179	8.513	8.835	9.145
0.041	4.961	5.547	6.076	6.563	7.016	7.442	7.845	8.228	8.593	8.944	9.282	9.608
0.042	5.206	5.821	6.376	6.887	7.363	7.810	8.232	8.634	9.018	9.386	9.740	10.082
0.043	5.457	6.101	6.684	7.219	7.718	8.186	8.629	9.050	9.452	9.838	10.210	10.568
0.044	5.714	6.388	6.998	7.559	8.081	8.571	9.035	9.476	9.897	10.301	10.690	11.065
0.045	5.977	6.682	7.320	7.906	8.452	8.965	9.450	9.911	10.352	10.775	11.181	11.574

Orifice Diameter Flow Rates (L/min)

Orifice Diameter (inches)	Pressure (bar)									
	1400	1800	2200	2600	3000	3400	3800	4200	4600	5000
0.003	0.101	0.115	0.127	0.138	0.148	0.158	0.167	0.175	0.184	0.191
0.004	0.180	0.204	0.226	0.245	0.264	0.281	0.297	0.312	0.326	0.340
0.005	0.281	0.319	0.353	0.383	0.412	0.438	0.464	0.487	0.510	0.532
0.006	0.405	0.459	0.508	0.552	0.593	0.631	0.668	0.702	0.734	0.766
0.007	0.551	0.625	0.691	0.752	0.807	0.859	0.909	0.955	1.000	1.042
0.008	0.720	0.817	0.903	0.982	1.054	1.123	1.187	1.248	1.306	1.361
0.009	0.912	1.034	1.143	1.242	1.334	1.421	1.502	1.579	1.652	1.723
0.010	1.125	1.276	1.411	1.534	1.648	1.754	1.854	1.949	2.040	2.127
0.011	1.362	1.544	1.707	1.856	1.994	2.122	2.244	2.359	2.469	2.574
0.012	1.621	1.838	2.032	2.209	2.372	2.526	2.670	2.807	2.938	3.063
0.013	1.902	2.157	2.384	2.592	2.784	2.964	3.134	3.294	3.448	3.595
0.014	2.206	2.501	2.765	3.006	3.229	3.438	3.634	3.821	3.999	4.169
0.015	2.532	2.871	3.174	3.451	3.707	3.946	4.172	4.386	4.590	4.786
0.016	2.881	3.267	3.612	3.926	4.218	4.490	4.747	4.990	5.223	5.445
0.017	3.253	3.688	4.077	4.433	4.761	5.069	5.359	5.634	5.896	6.147
0.018	3.647	4.135	4.571	4.969	5.338	5.683	6.008	6.316	6.610	6.891
0.019	4.063	4.607	5.093	5.537	5.948	6.332	6.694	7.037	7.365	7.678
0.020	4.502	5.105	5.643	6.135	6.590	7.016	7.417	7.797	8.160	8.508
0.021	4.963	5.628	6.222	6.764	7.266	7.735	8.177	8.597	8.997	9.380
0.022	5.447	6.177	6.829	7.423	7.974	8.489	8.974	9.435	9.874	10.294
0.023	5.954	6.751	7.463	8.114	8.715	9.278	9.809	10.312	10.792	11.252
0.024	6.483	7.351	8.127	8.834	9.490	10.103	10.680	11.228	11.751	12.251
0.025	7.034	7.976	8.818	9.586	10.297	10.962	11.589	12.184	12.751	13.293
0.026	7.608	8.627	9.537	10.368	11.137	11.857	12.535	13.178	13.791	14.378
0.027	8.205	9.303	10.285	11.181	12.010	12.786	13.517	14.211	14.872	15.505
0.028	8.824	10.005	11.061	12.025	12.917	13.751	14.537	15.283	15.994	16.675
0.029	9.465	10.733	11.865	12.899	13.856	14.750	15.594	16.394	17.157	17.888
0.030	10.129	11.485	12.698	13.804	14.828	15.785	16.688	17.544	18.361	19.142
0.031	10.816	12.264	13.558	14.739	15.833	16.855	17.819	18.733	19.605	20.440
0.032	11.525	13.068	14.447	15.706	16.871	17.960	18.987	19.962	20.891	21.780

Orifice Diameter Flow Rates (L/min)

Orifice Diameter (inches)	Pressure (bar)									
	1400	1800	2200	2600	3000	3400	3800	4200	4600	5000
0.033	12.256	13.897	15.364	16.703	17.942	19.100	20.193	21.229	22.217	23.162
0.034	13.010	14.752	16.309	17.730	19.045	20.275	21.435	22.535	23.583	24.587
0.035	13.787	15.633	17.283	18.789	20.182	21.486	22.714	23.880	24.991	26.055
0.036	14.586	16.539	18.285	19.878	21.352	22.731	24.031	25.264	26.440	27.565
0.037	15.408	17.471	19.315	20.997	22.555	24.011	25.384	26.687	27.929	29.118
0.038	16.252	18.428	20.373	22.147	23.790	25.327	26.775	28.149	29.459	30.713
0.039	17.118	19.410	21.459	23.328	25.059	26.677	28.203	29.650	31.030	32.351
0.040	18.008	20.419	22.574	24.540	26.360	28.063	29.668	31.190	32.641	34.031
0.041	18.919	21.452	23.716	25.782	27.695	29.483	31.170	32.769	34.294	35.754
0.042	19.853	22.512	24.887	27.056	29.062	30.939	32.709	34.387	35.987	37.519
0.043	20.810	23.596	26.087	28.359	30.463	32.430	34.285	36.044	37.721	39.327
0.044	21.789	24.707	27.314	29.694	31.896	33.956	35.898	37.740	39.496	41.178
0.045	22.791	25.842	28.570	31.059	33.362	35.517	37.548	39.475	41.312	43.071

Orifice Color Coding

Orifice mounts are marked with color coding to help keep inventory separated. The mounts are colored in 0.010 stages. The larger sizes (0.041 to 0.045) are normally obtained by special order only and are not color-marked

Black	0.006, 0.016, 0.026, 0.036
White	0.007, 0.017, 0.027, 0.037
Blue	0.008, 0.018, 0.028, 0.038
Yellow	0.009, 0.019, 0.029, 0.039
Green	0.010, 0.020, 0.030, 0.040
Silver	0.011, 0.021, 0.031
Gold	0.012, 0.022, 0.032
Pink	0.003, 0.013, 0.023, 0.033
Orange	0.004, 0.014, 0.024, 0.034
Red	0.005, 0.015, 0.025, 0.035