

Tower Workstations Compared

	HP Z2 Tower G9 workstation (one 3.6 GHz Intel Core i7-12700K 12-core CPU, NVIDIA RTX A4000, 64 GB RAM, 1TB SSD)	Velocity Micro ProMagix HD60 workstation (one 3.2 GHz Intel Core i9-12900K 16-core CPU, NVIDIA RTX A4000, 32 GB RAM, 2TB SSD)	HP Z2 Tower G8 workstation (one 3.5 GHz Intel Core i9-11900K 8-core CPU, NVIDIA RTX A4000, 32 GB RAM, 1TB SSD)	Lenovo ThinkStation P620 workstation (one 2.7GHz AMD Ryzen Threadripper Pro 3995WX 64-core CPU, NVIDIA Quadro RTX6000, 32GB RAM, 512GB SSD)	Velocity Micro ProMagix HD60 ATX AMD workstation (one 3.5 GHz AMD Ryzen 9 3950X 16-core CPU, NVIDIA Quadro RTX 4000, 32 GB RAM, 1TB SSD, 2TB SAT)	Velocity Micro ProMagix HD60 (one 3.6GHz Intel Core i9-9900K 8-core CPU over-clocked to 5.1 GHz, NVIDIA Quadro RTX6000, 32GB RAM, 512GB SSD, 2TB SATA HD)
Price as tested	\$2,457.00	\$5,428.00	\$2,875.00	\$12,878	\$4,733.00	\$6,328
Date tested	10/17/22	6/21/2022	9/24/21	12/18/20	12/11/19	4/21/19
Operating System	Windows 11	Windows 11 Home	Windows 10 Pro	Windows 10 Pro	Windows 10 Pro	Windows 10 Pro
SPECviewperf 13 (higher is better)						
3dsmax-05	147.12	279.58	233.93	277.80	189.84	290.23
catia-04	116.69	417.71	374.74	375.67	264.39	394.33
creo-01	177.96	368.67	343.23	385.90	246.92	388.38
energy-01	68.43	68.55	66.20	78.48	37.38	76.95
maya-04	459.82	420.88	392.19	387.76	264.91	440.31
medical-01	68.55	147.97	140.78	160.60	81.12	123.16
showcase-01	476.83	155.28	141.19	190.35	114.26	192.20
snx-03	271.81	488.40	454.01	985.51	316.07	497.17
sw-04	235.42	241.56	232.46	195.02	154.34	220.40
SPECapc SOLIDWORKS 2015 (higher is better)						
Graphics Composite	n/a	n/a	n/a	4.63	4.82	6.26
Shaded Graphics Sub-Composite	n/a	n/a	n/a	2.83	2.95	4.09
Shaded w/Edges Graphics Sub-Composite	n/a	n/a	n/a	3.47	3.66	5.03
Shaded w/ RealView Graphics Sub-Composite	n/a	n/a	n/a	3.34	3.48	4.64
Shaded w/Edges using RealView Sub-Composite	n/a	n/a	n/a	4.03	4.23	5.24
Shaded using RealView and Shadows Sub-Composite	n/a	n/a	n/a	3.84	4.01	5.33
Shaded with Edges using RealView and Shadows Graphics Sub-Composite	n/a	n/a	n/a	4.27	4.48	5.56
Shaded using RealView and Shadows and Ambient Occlusion Graphics Sub-Composite	n/a	n/a	n/a	12.86	12.82	17.29
Shaded with Edges using RealView and Shadows and Ambient Occlusion Graphics Sub-Composite	n/a	n/a	n/a	12.60	12.80	15.95
Wireframe Graphics Sub-Composite	n/a	n/a	n/a	3.60	3.85	4.61
CPU Composite	n/a	n/a	n/a	5.46	4.05	4.44
SPECwpc v3.0 (higher is better)						
Media and Entertainment	n/a	4.78	3.18	5.92	3.89	3.55
Product Development	n/a	5.10	3.24	4.78	3.50	3.24
Life Sciences	n/a	5.20	3.05	4.21	3.70	2.92
Financial Services	n/a	4.83	2.59	9.43	5.84	3.12
Energy	n/a	3.29	1.85	5.15	2.72	1.96
General Operations	n/a	3.44	2.31	2.14	2.45	2.51
Time						
Autodesk Render Test (in seconds, lower is better)	15.9	19.4	18.9	25.00	23.9	24.10

Numbers in blue indicate best recorded results. Numbers in red indicate worst recorded results.