

Evaluation Report

Nidec Vento Pro 120 PWM



FAN TESTING MACHINE TECHNICAL SPECIFICATIONS

Manufacturer	Long Win Science & Technology Corporation
Model Number	LW-9266
Air Flow Rate	2.4 - 250 CFM
Accuracy of Air Flow Range	< 3.5% INFS
Repeatability error	< 2%
Static pressure	0-20mmAq (100mmAq with the high static pressure throttle device)
Overall Dimensionsr	0.7 (W) x 2.2 (L) x 1.6 (H) m
Power Source	220VAC, 5A, Single Phase, 50/60Hz
Based on Standards	ISO 5801-2007, AMCA 210-0, ASHRAE 51-2007, IEC 61591-2005, GB/T 1236-200

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TEST EQUIPMENT

Test Environment	Hemi-Anechoic Chamber with 6 dB(A) noise floor
Conditions	25(±2) degrees Celsius, 40-50% humidity
Sound Analyzer	Bruel & Kjaer 2270-S G4 & 2250-L G4
Microphone	Bruel & Kjaer Type 4955-A
Mic Calibrator	Bruel & Kjaer Type 4231
Data Logger	Picoscope TC-08

TECHNICAL SPECIFICATIONS TABLE

Brand	XPG
Model	Nidec Vento Pro 120 PWM
Max Speed (RPM)	2288
Max Airflow (CFM)	70.94
Max Static Pressure (mmAq)	2.80
Max Fan Noise Level	31.1
Fan Bearing Type	Two Ball
Fan Connector	PWM
Fan Max Current (A)	0.16
Fan Weight (gr)	207
Dimensions (W x H x D)	120 x 120 x 25 mm
Fan daisy-chain connector	✓
Cable length (mm)	620

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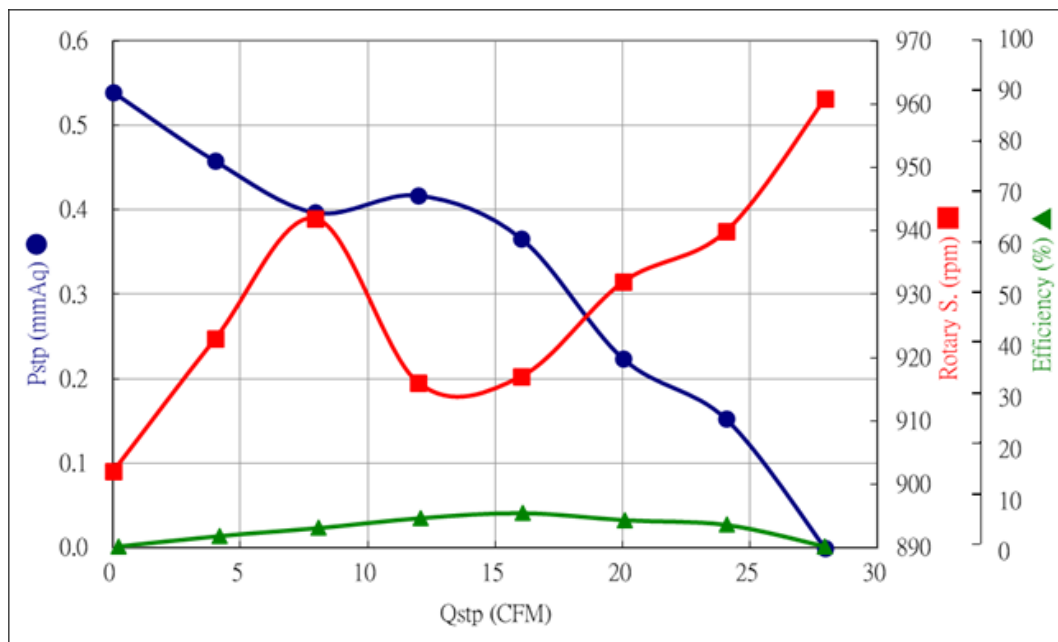
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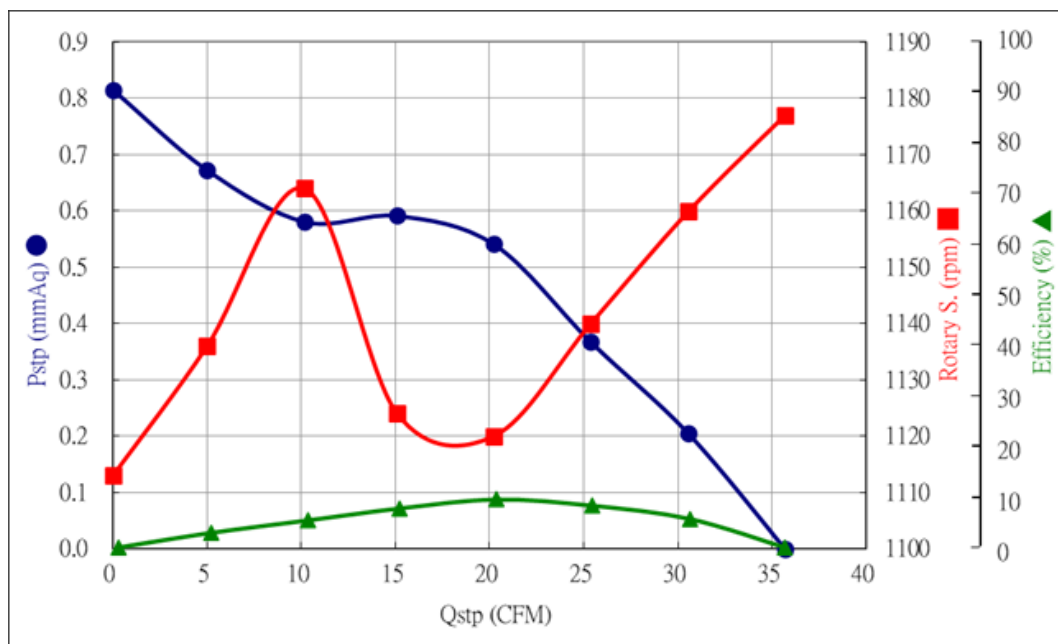
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PQ Chart 10% Speed



PQ Chart 20% Speed



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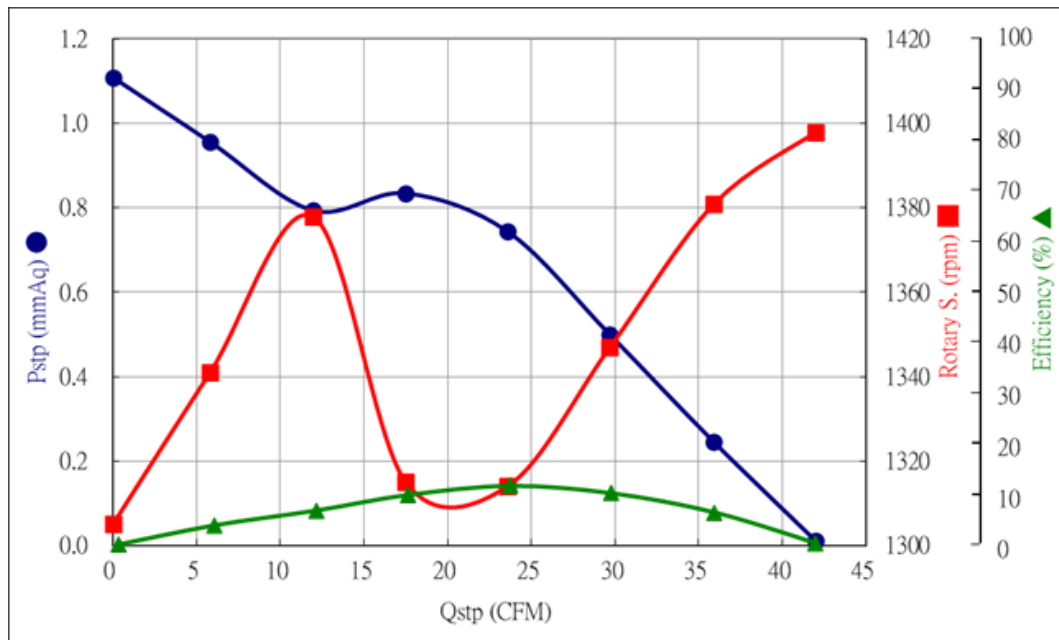
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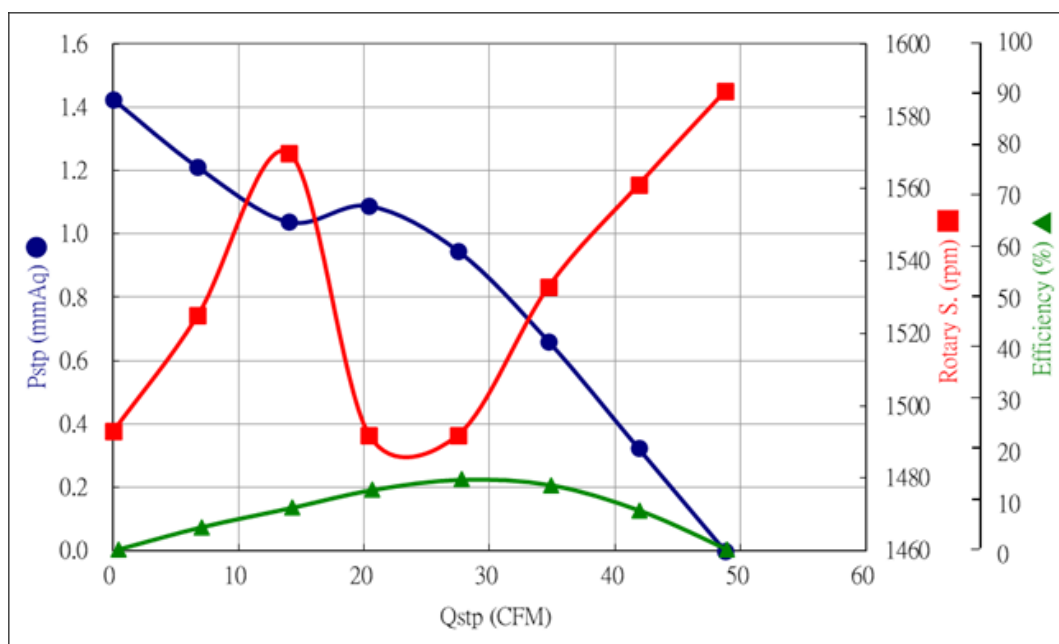
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PQ Chart 30% Speed



PQ Chart 40% Speed



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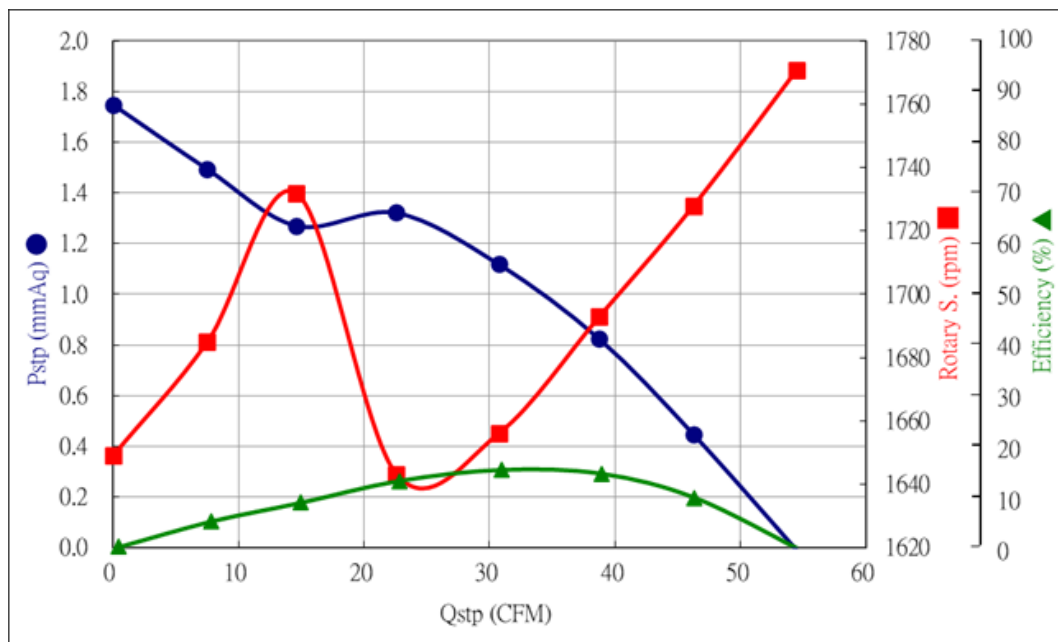
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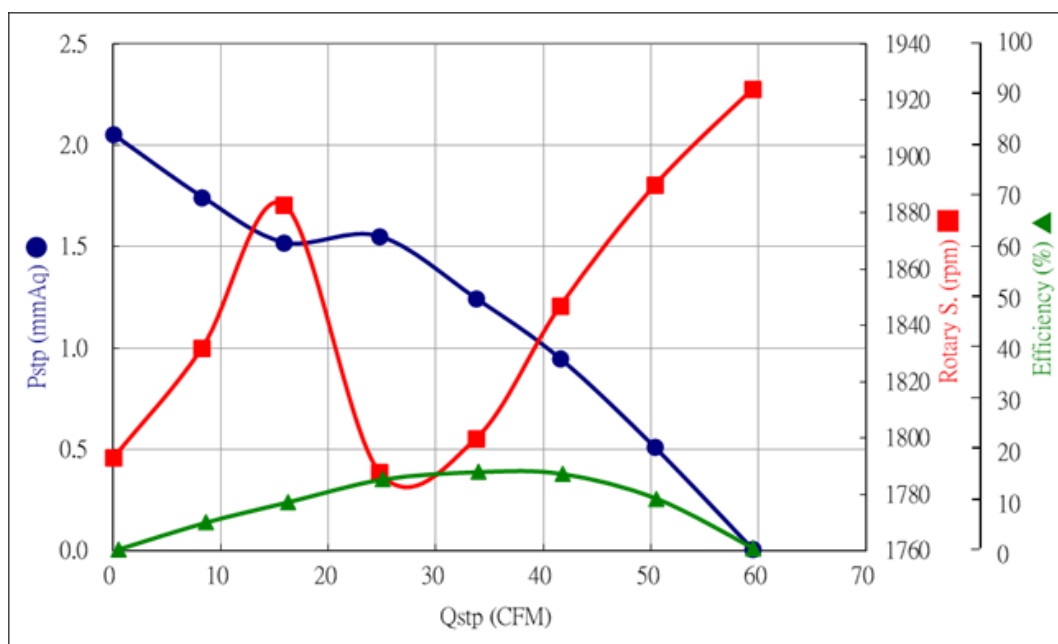
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PQ Chart 50% Speed



PQ Chart 60% Speed



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Figure 10 is a line graph with three data series plotted against Q_{stp} (CFM) on the x-axis, ranging from 0 to 70. The left y-axis represents P_{stp} (mmAq) from 0.0 to 2.5. The right y-axis has two scales: Rotary S. (rpm) from 1880 to 2080 (red) and Efficiency (%) from 0 to 100 (green). The blue line with circles (P_{stp}) starts at approximately 2.4 mmAq at $Q_{stp}=0$ and decreases to 0.0 mmAq at $Q_{stp}=65$. The red line with squares (Rotary S. (rpm)) starts at approximately 1915 rpm at $Q_{stp}=0$ and increases to approximately 2065 rpm at $Q_{stp}=65$. The green line with triangles (Efficiency (%)) starts at 0% at $Q_{stp}=0$, peaks at approximately 18% at $Q_{stp}=45$, and then decreases to 0% at $Q_{stp}=65$.

Q_{stp} (CFM)	P_{stp} (mmAq)	Rotary S. (rpm)	Efficiency (%)
0	2.4	1915	0
10	2.0	1960	10
18	1.75	2010	15
27	1.75	1900	18
37	1.4	1940	18
46	1.1	1970	18
55	0.55	2020	12
65	0.0	2065	0

Figure 10 is a line graph with three y-axes and one x-axis. The x-axis represents Q_{stp} (CFM) and ranges from 0 to 80. The left y-axis represents P_{stp} (mmAq) and ranges from 0.0 to 3.0. The right y-axis has two scales: Rotary S. (rpm) ranging from 2000 to 2220, and Efficiency (%) ranging from 0 to 100. Three data series are plotted: P_{stp} (blue line with circles), Rotary S. (red line with squares), and Efficiency (%) (green line with triangles). P_{stp} starts at approximately 2.6 mmAq at $Q_{stp} = 0$ and decreases to 0.0 at $Q_{stp} = 70$. Rotary S. starts at approximately 2020 rpm at $Q_{stp} = 0$, peaks at approximately 2140 rpm at $Q_{stp} = 18$, and then increases to approximately 2200 rpm at $Q_{stp} = 70$. Efficiency (%) starts at 0% at $Q_{stp} = 0$, peaks at approximately 18% at $Q_{stp} = 40$, and then decreases to 0% at $Q_{stp} = 70$.

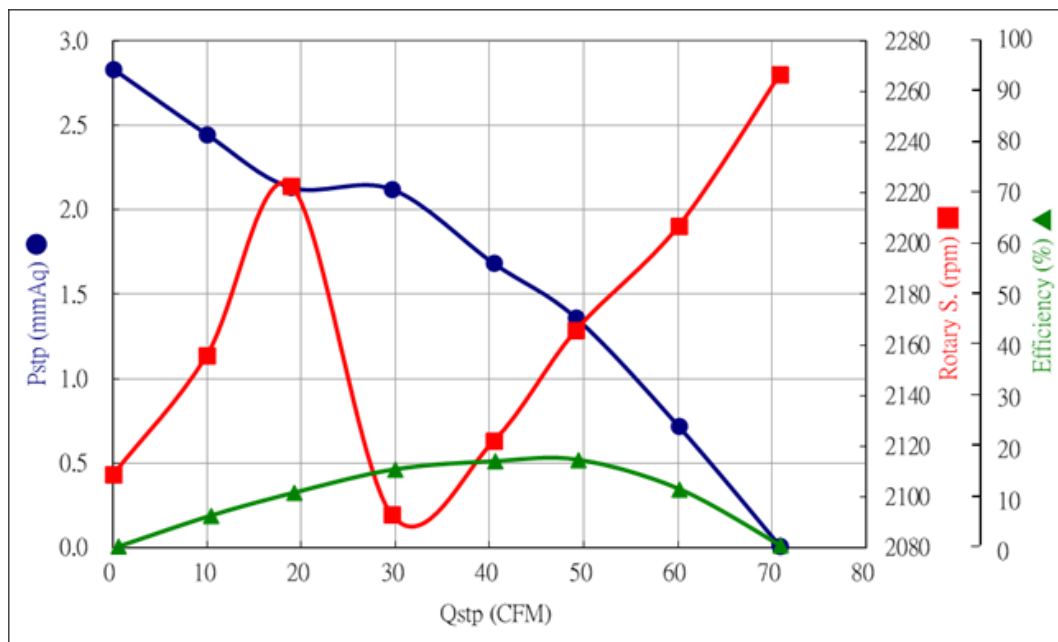
Q_{stp} (CFM)	P_{stp} (mmAq)	Rotary S. (rpm)	Efficiency (%)
0	2.6	2020	0
10	2.2	2080	5
18	1.9	2140	12
28	1.9	2020	18
38	1.6	2060	18
48	1.2	2100	15
58	0.7	2120	10
68	0.0	2200	0

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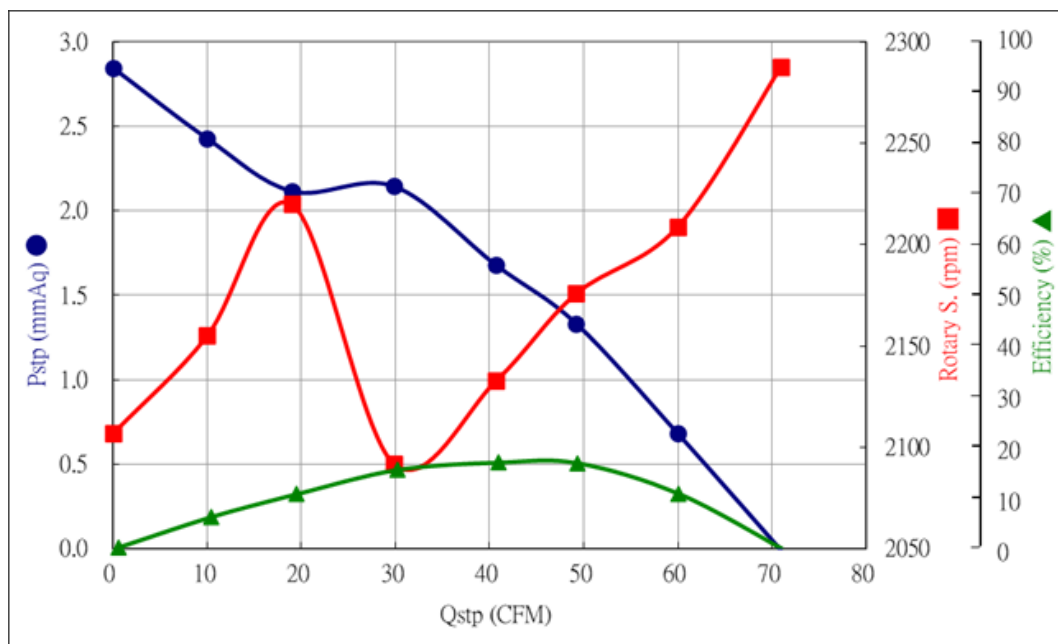
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PQ Chart 90% Speed



PQ Chart 100% Speed



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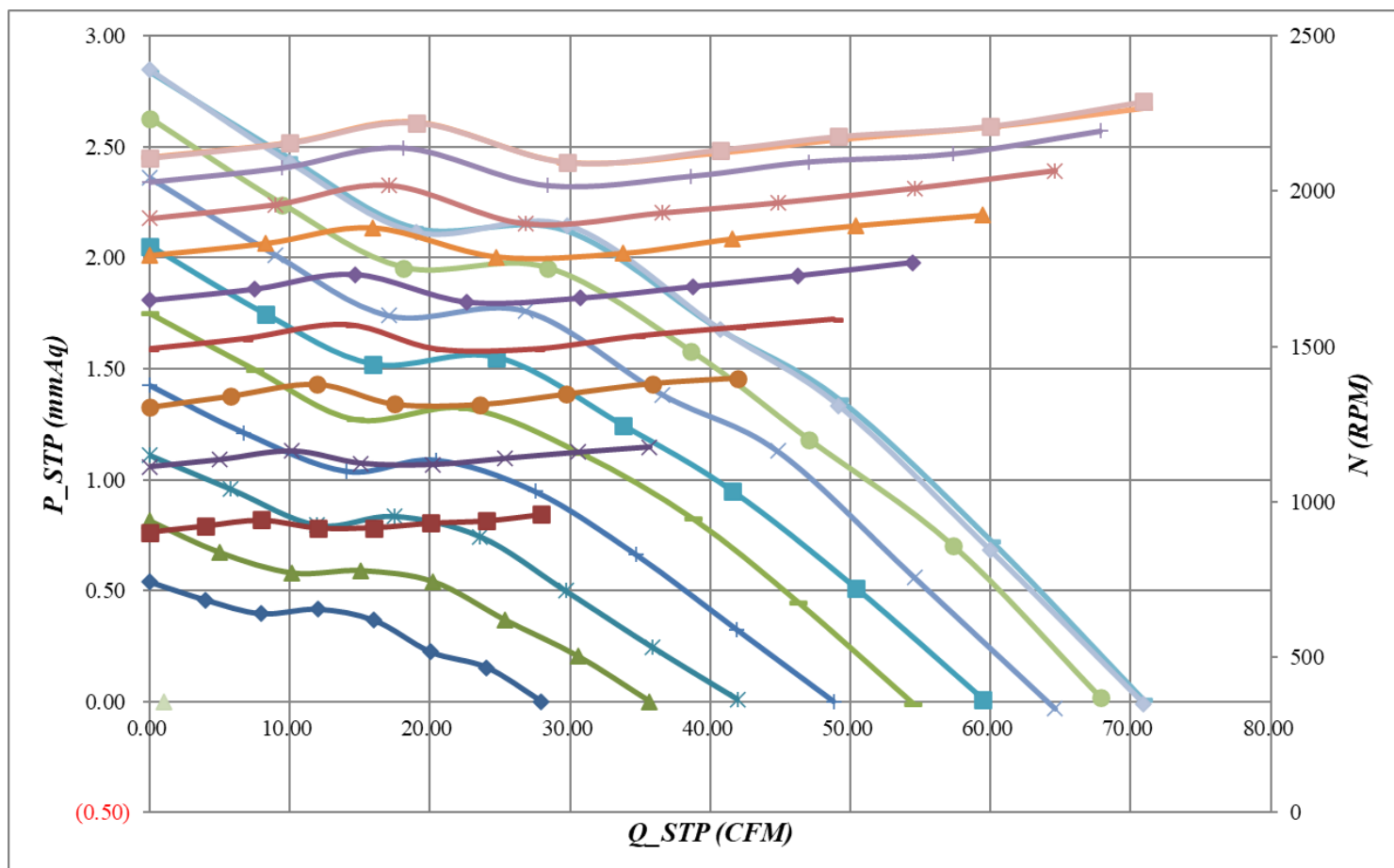
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PQ Chart All Speed



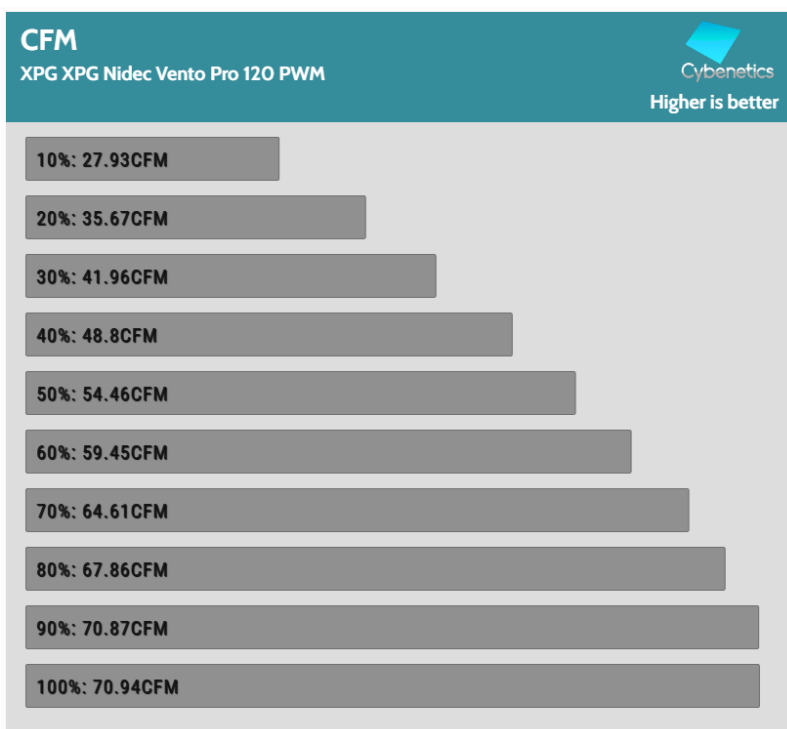
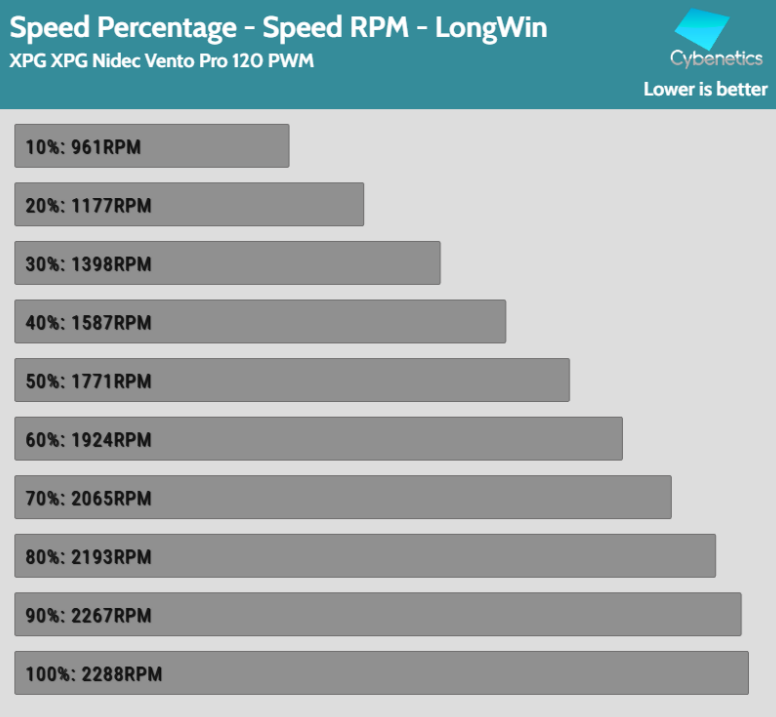
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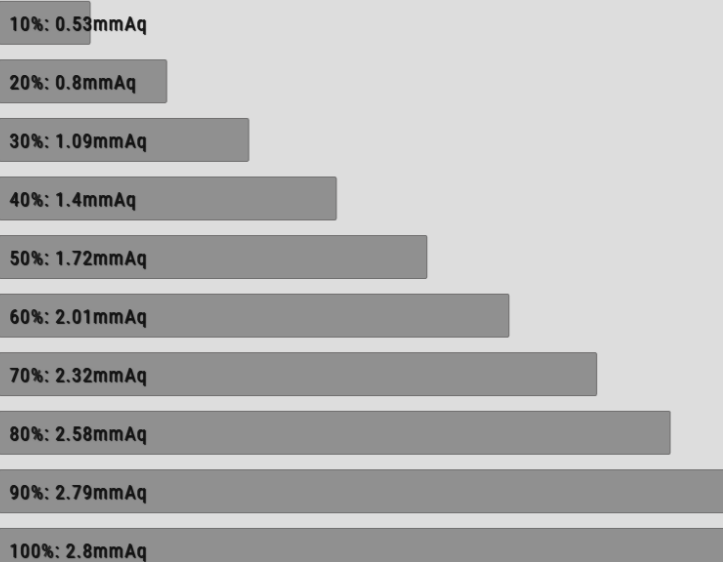
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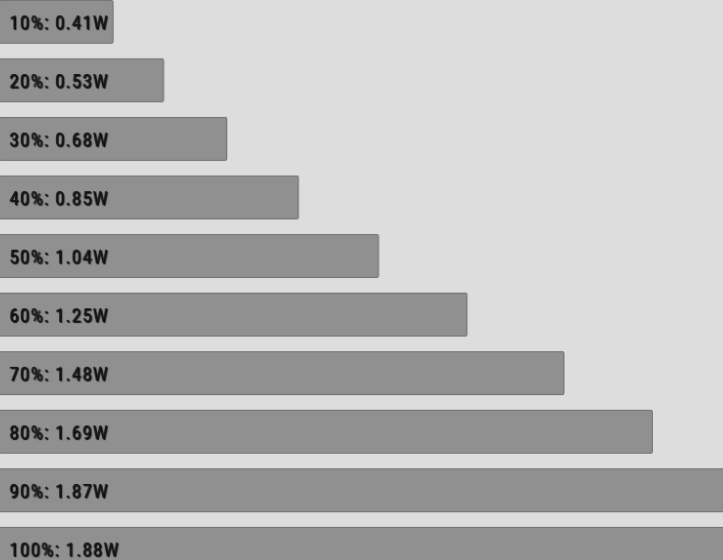
Static Pressure

XPG XPG Nidec Vento Pro 120 PWM



Power Consumption

XPG XPG Nidec Vento Pro 120 PWM



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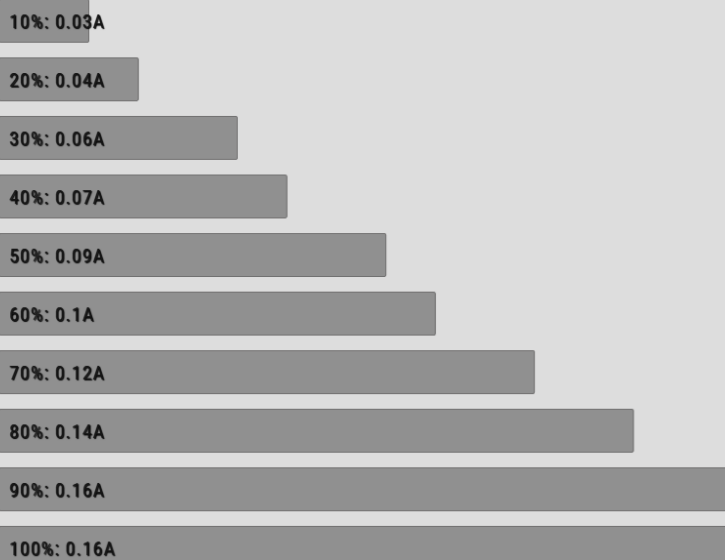
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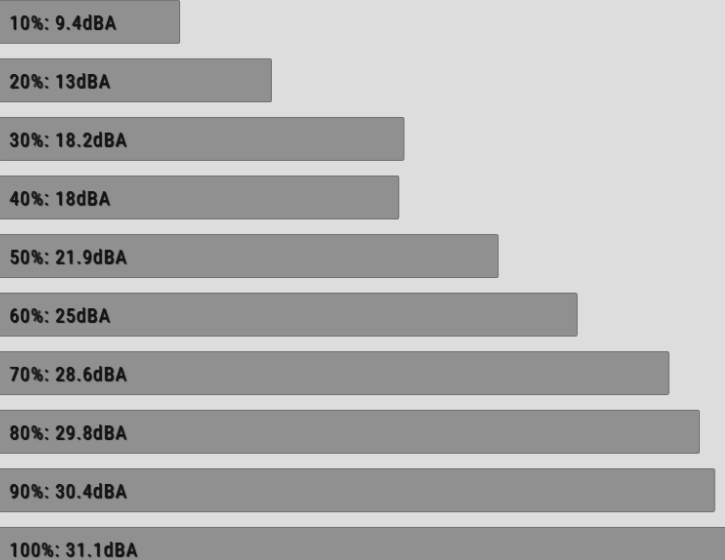
Amperes

XPG XPG Nidec Vento Pro 120 PWM



Speed Percentage - Noise

XPG XPG Nidec Vento Pro 120 PWM



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Speed - Noise

XPG XPG Nidec Vento Pro 120 PWM



961: 9.4dBA

1177: 13dBA

1398: 18.2dBA

1587: 18dBA

1771: 21.9dBA

1924: 25dBA

2065: 28.6dBA

2193: 29.8dBA

2267: 30.4dBA

2288: 31.1dBA

Noise - Speed RPM

XPG XPG Nidec Vento Pro 120 PWM



20 dBA: 1460RPM

25 dBA: 1758RPM

30 dBA: 2080RPM

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