ARCTIC P12 PWM PST

Lab ID AC12000067

ID FN25067

ID: 25FN67A

: -

Scheme: PHI







Aristeidis Bitziopoulos,

SECTION A: 噪音測試裝置

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
測試方法	Cybenetics Phi Fan Performance Standard

SECTION B: 風扇測試儀器技術規格

Manufacturer	Long Win Science & Technology Corporation
Model Number	LW-9266
Air Flow Rate	2.4 – 250 CFM
Accuracy of Air Flow Rate	< 3.5% INFS
Repeatability error	< 2%
Static pressure	0-20mmAq (100mmAq with the high static pressure throttle device)
Overall Dimensions	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

SECTION C: PHI 效能等級

壓力 at 25 dB(A)	P (mmAq)	1.42
風量 at 25 dB(A)	Q (CFM)	44.95

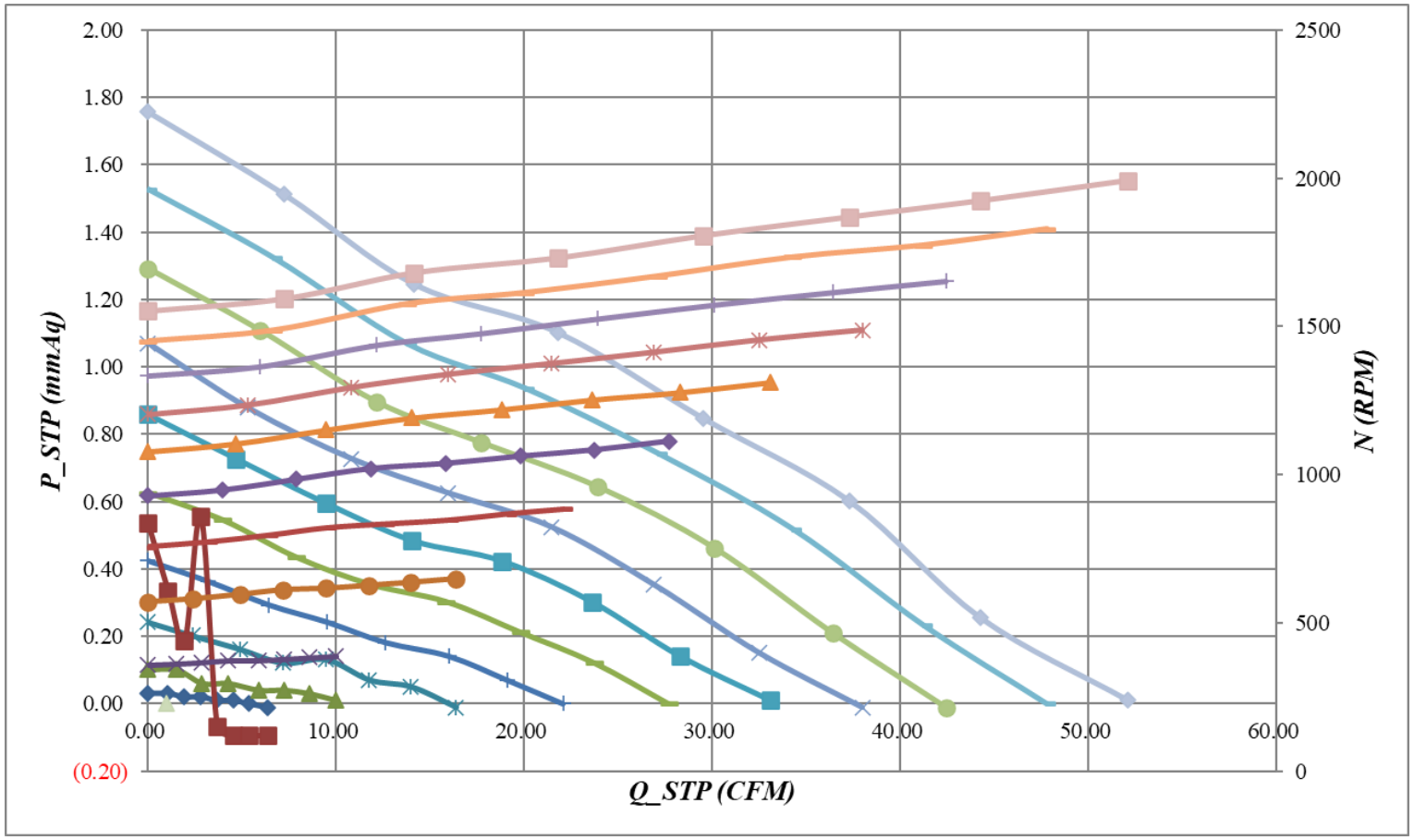
SECTION D: Information about DUT

Product Identification Details	
Brand	ARCTIC

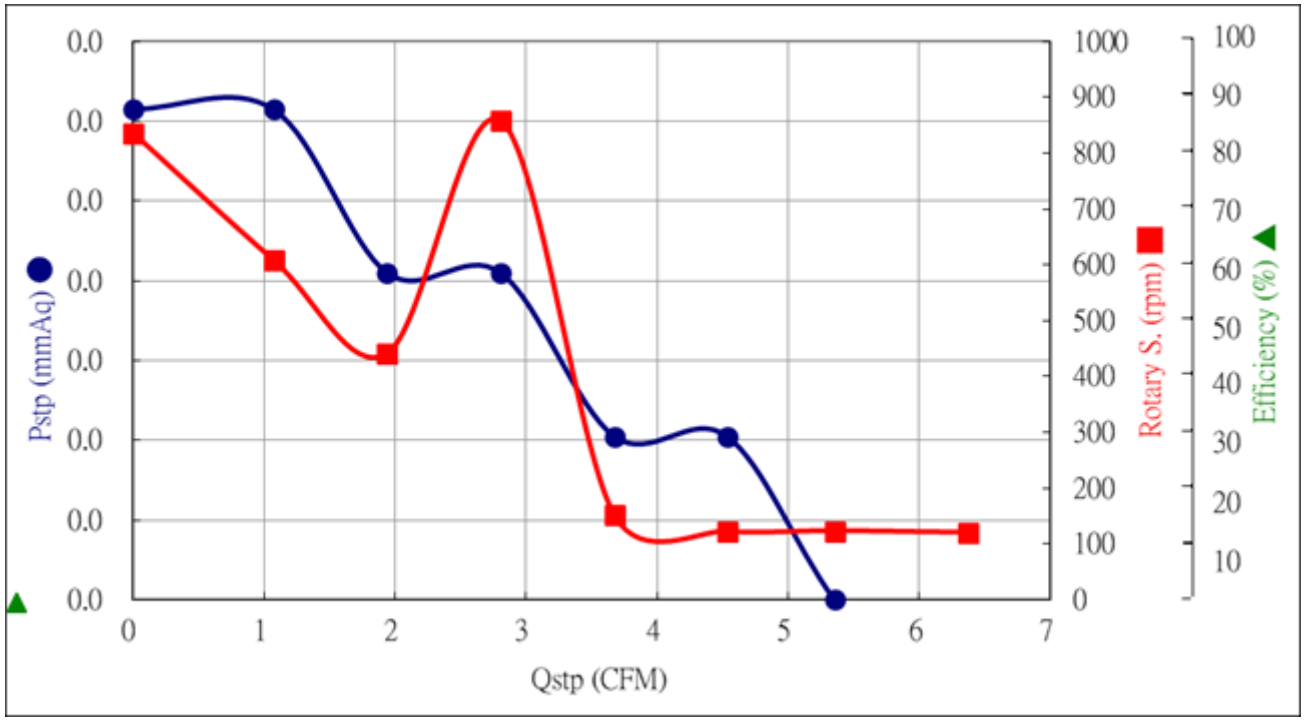
Model	P12 PWM PST
Serial Number	-
Product Specifications	
Manufacturer-Provided Information	
Bearing	Fluid Dynamic
Connector	PWM
Cable length (mm)	390
Daisy-chain	Cable
RGB Connector	None
RGB Daisy-chain	None
Cybenetics Measurements	
Max Speed (RPM)	1889
Max Airflow (CFM)	52.15
Max Static Pressure (mmAq)	1.76
Max Fan Noise Level (dBA)	28.60
Fan Max Current (A)	0.10
Fan Weight (gr)	147
Dimensions (W x H x D)	120mm x 120mm x 25mm
Cybenetics Testing Information	
Lab ID	AC12000067
Date of receipt	-
Testing Date	-
Report Issued Date	-
Engineer Name	Georgios Theodoros Sarimpalas

SECTION E: Long Win LW-9266 - Pressure and Airflow

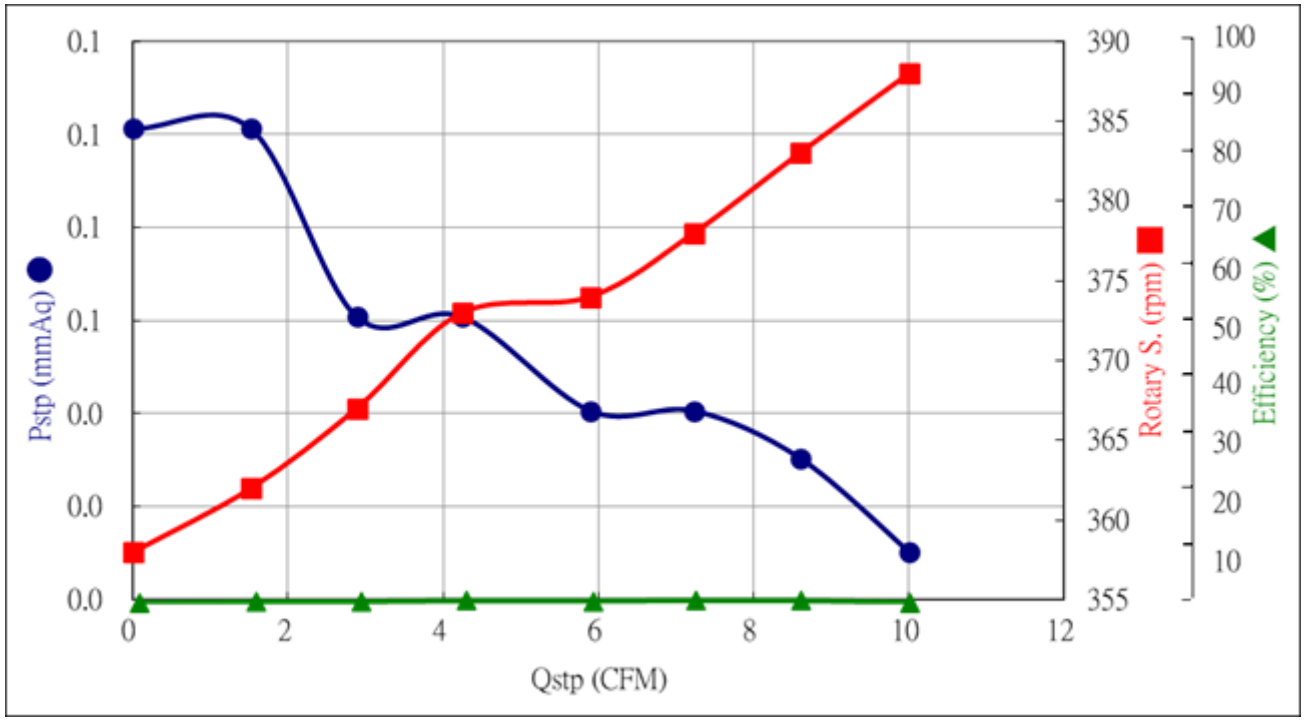
PQ Chart All Speed



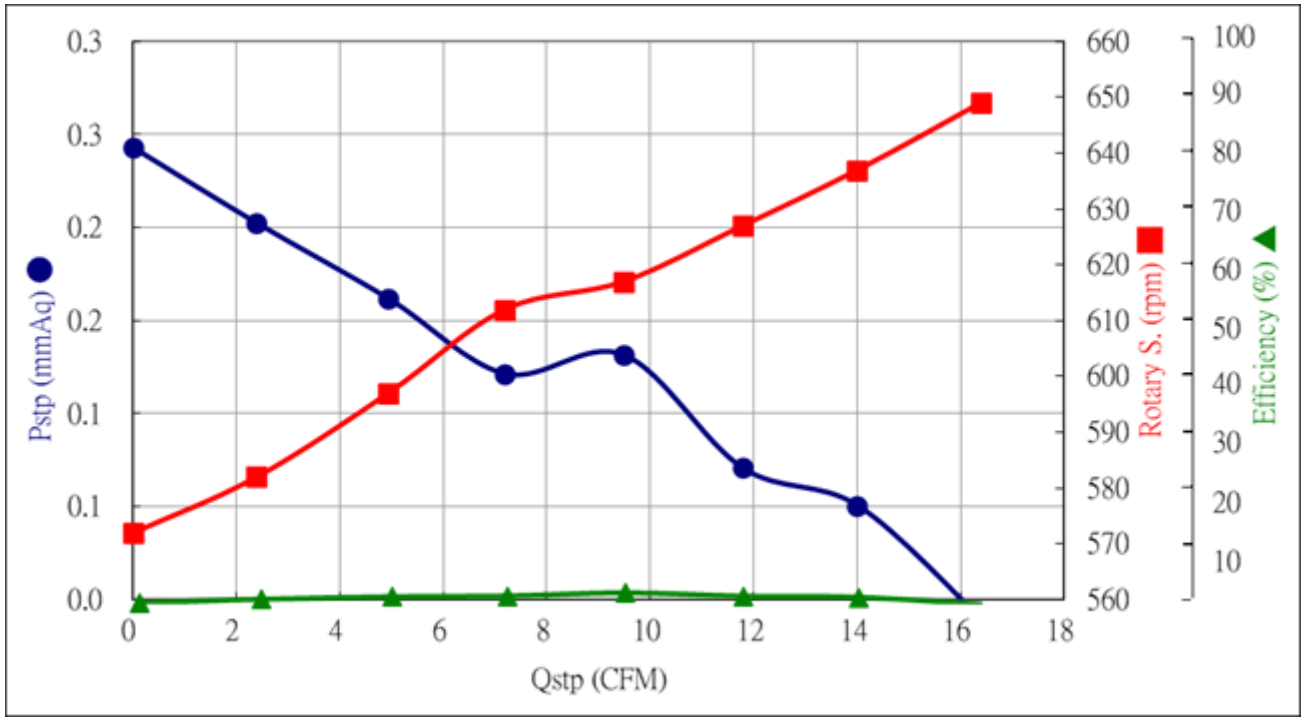
PQ Chart 10% Speed



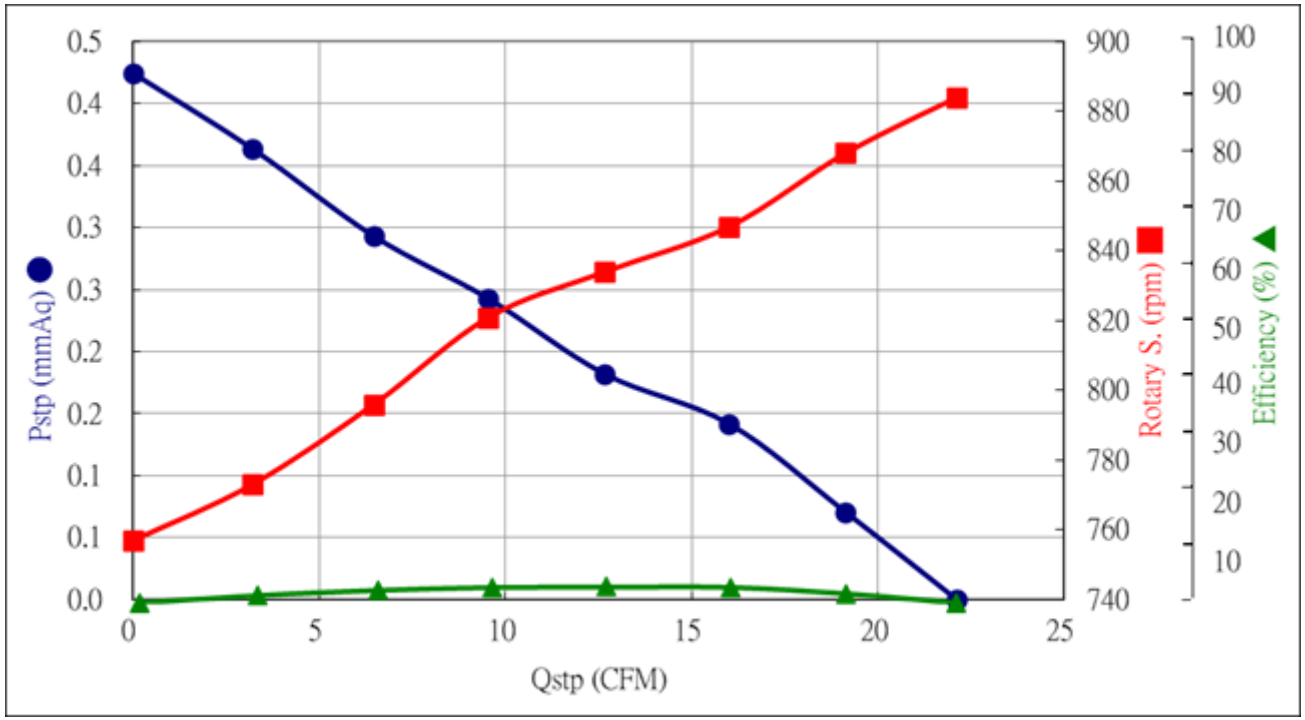
PQ Chart 20% Speed



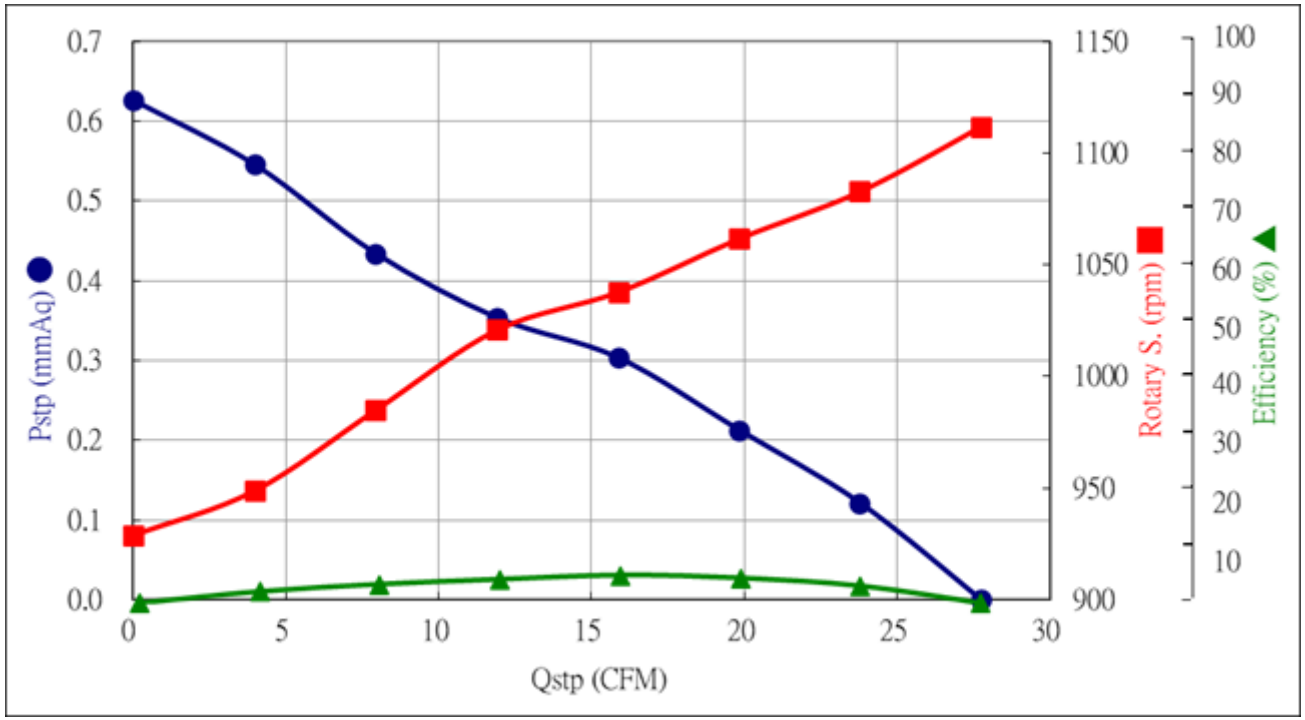
PQ Chart 30% Speed



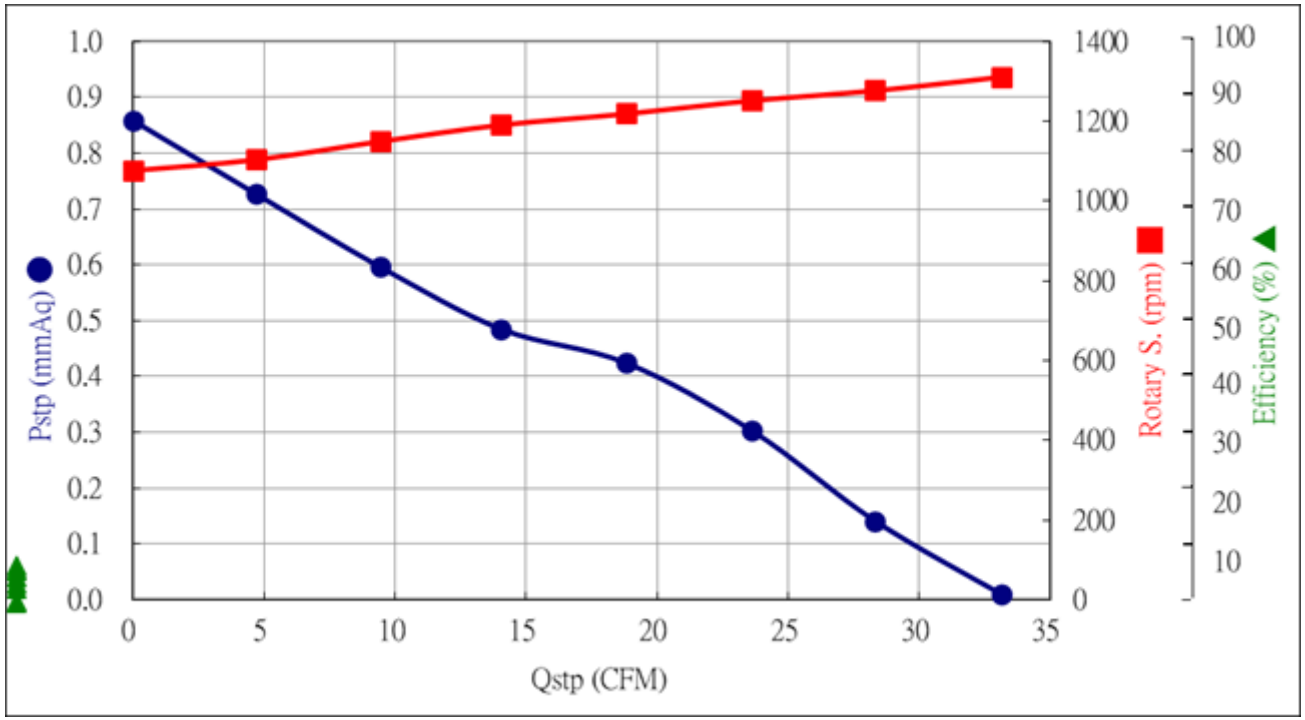
PQ Chart 40% Speed



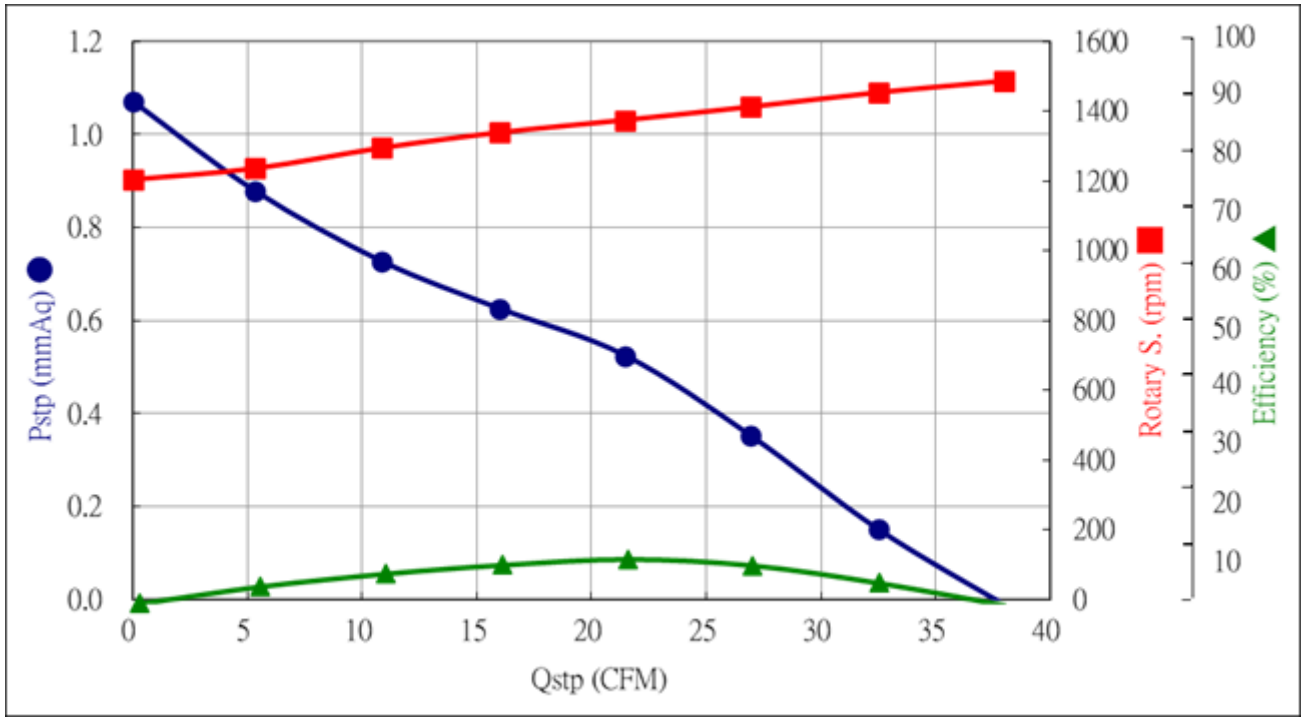
PQ Chart 50% Speed



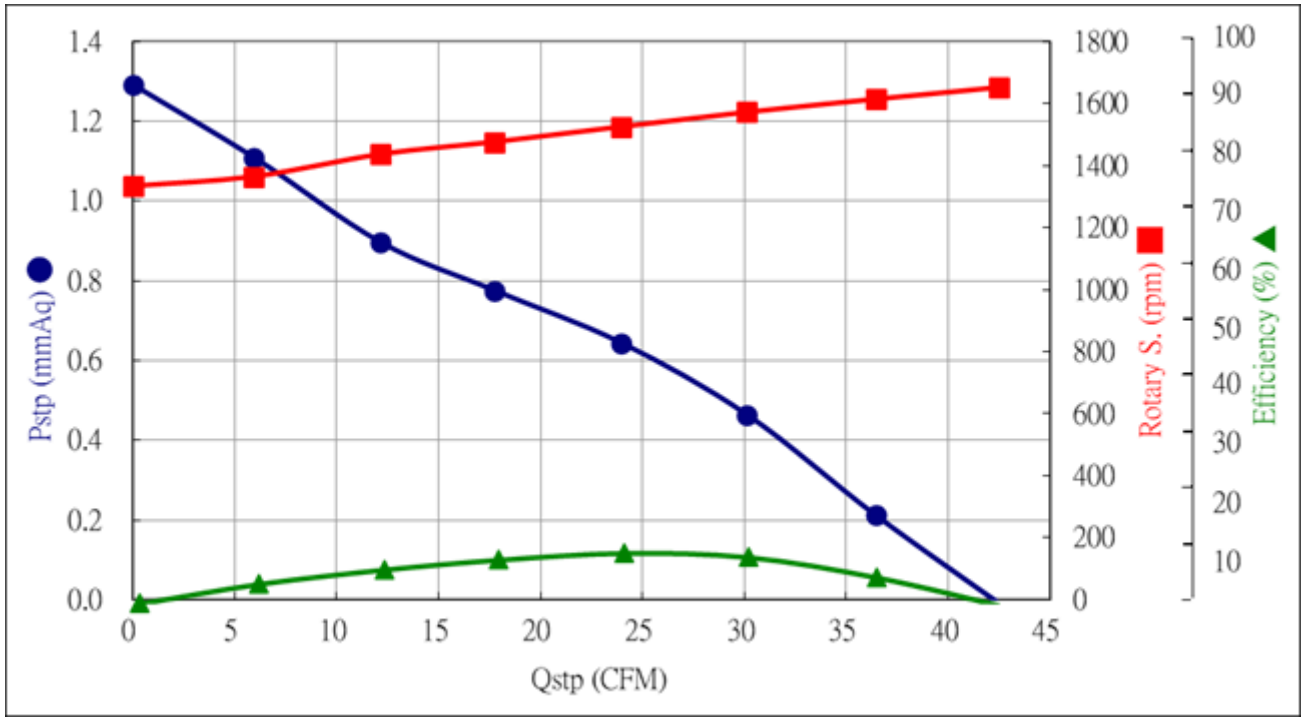
PQ Chart 60% Speed



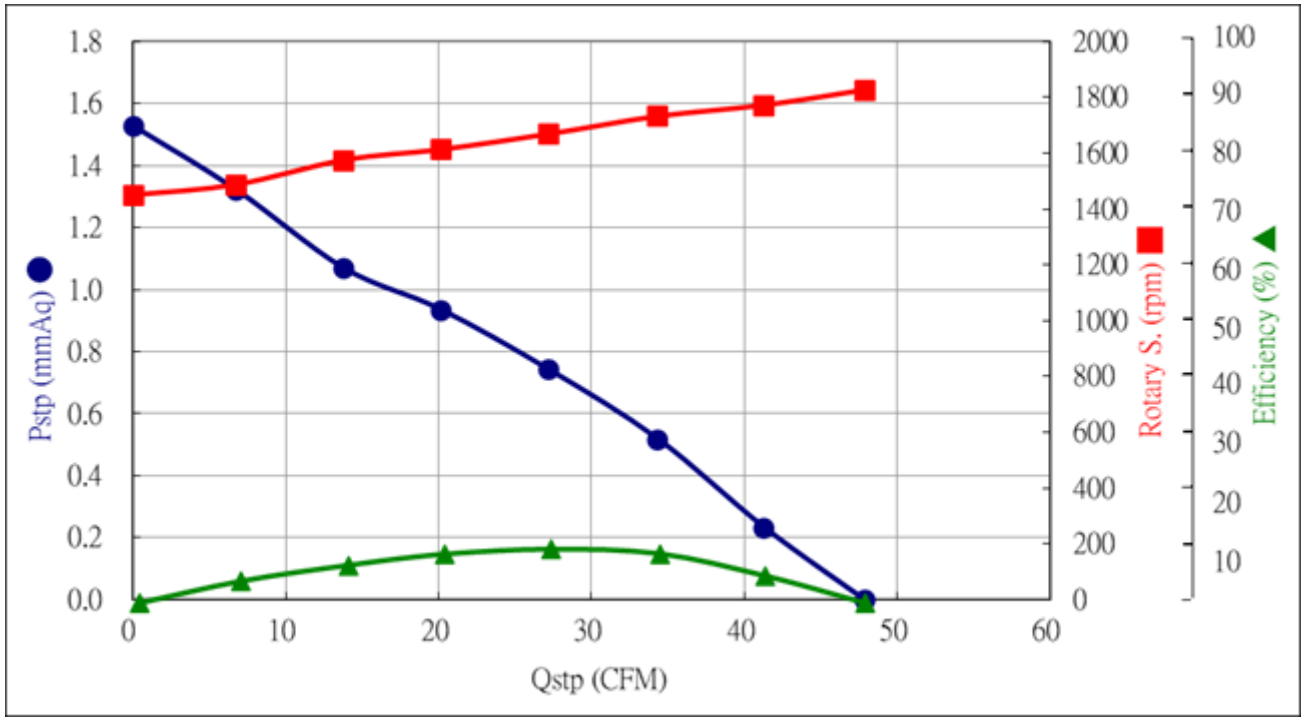
PQ Chart 70% Speed



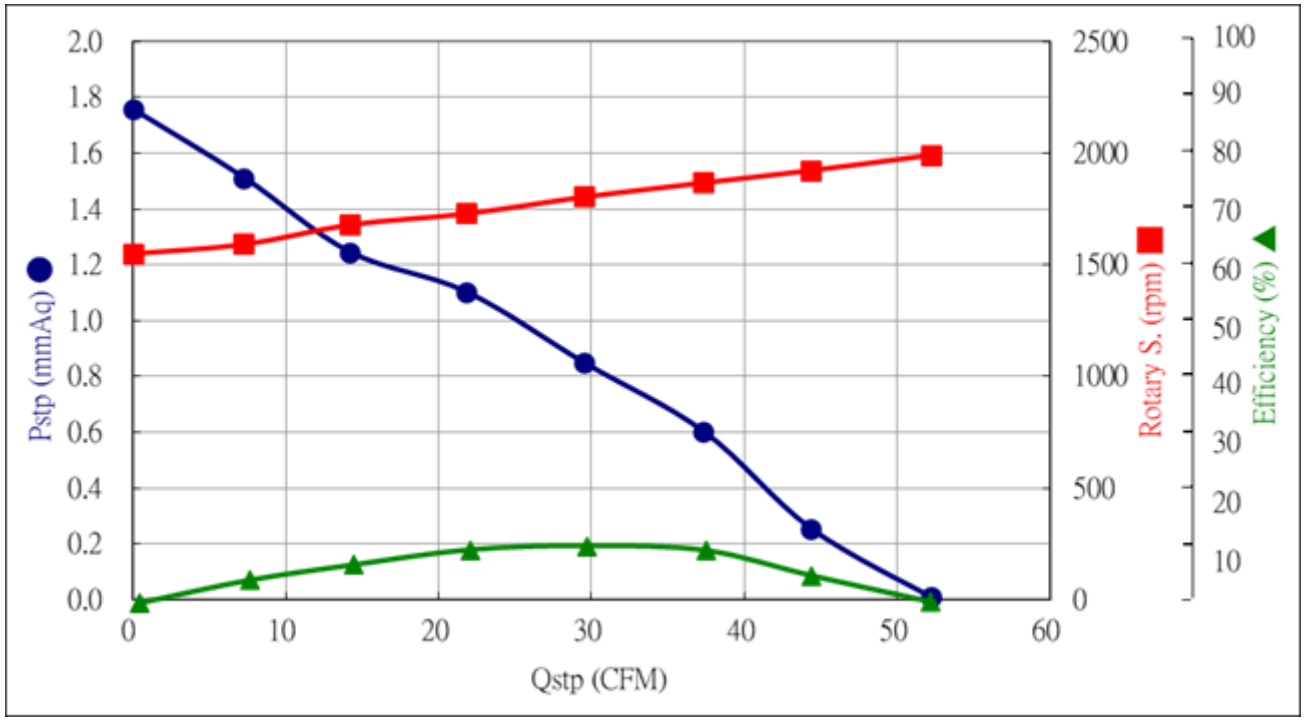
PQ Chart 80% Speed



PQ Chart 90% Speed



PQ Chart 100% Speed

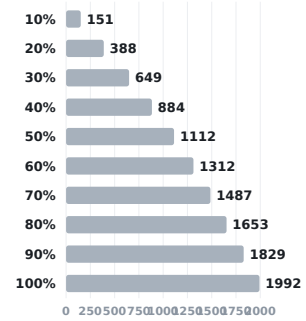


SECTION F: General Performance

RPM

Fan Speed

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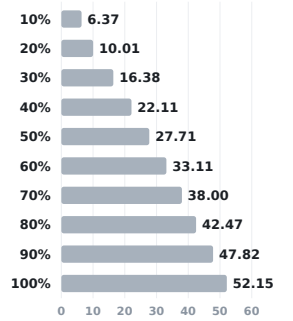


RPM · cybenetics.com

CFM Higher is better

Airflow

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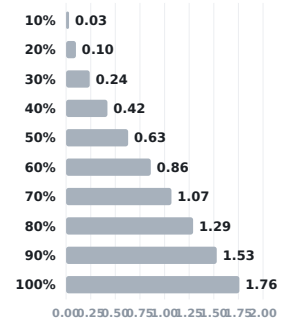


CFM · cybenetics.com

mmAq Higher is better

Static Pressure

ARCTIC P12 PWM PST

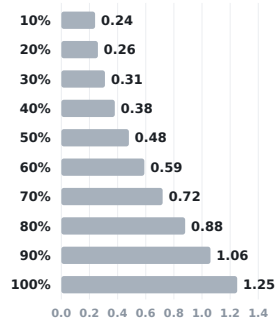


mmAq · cybenetics.com

W Lower is better

Power Consumption

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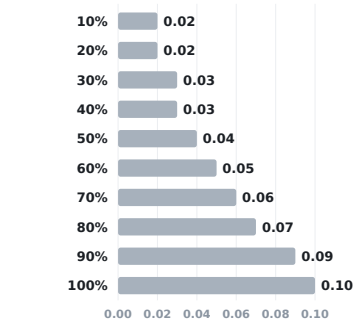
W · cybenetics.com

Cybenetics

A Lower is better

Current

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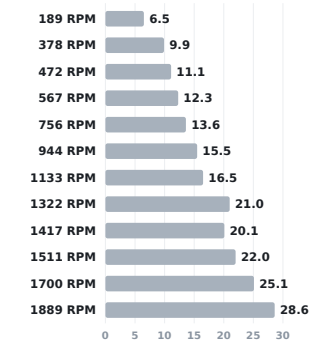
A · cybenetics.com

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dB(A) Lower is better

Noise at Each Fan Speed

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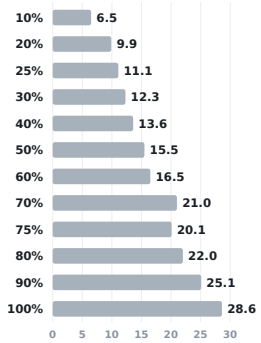
dB(A) · cybenetics.com

Cybenetics

dB(A) Lower is better

Noise Output

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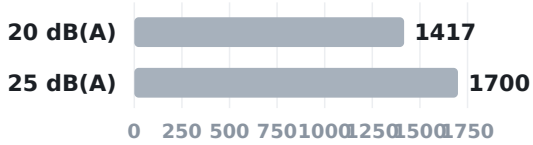
dB(A) · cybenetics.com

Cybenetics

RPM

Fan Speed at Fixed Noise Levels

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RPM · cybenetics.com

SECTION G: Uncertainty

Fan Performance Uncertainty Estimation

General Statement

Measurement uncertainty associated with the reported results was evaluated and estimated in accordance with JCGM 100:2008 (Guide to the Expression of Uncertainty in Measurement — GUM) and ISO/IEC 17025:2017, Clauses 7.6 and 7.2.

The uncertainty budget accounts for all significant identified contributors arising from the measurement process, instrumentation, test conditions, and operator interaction.

The reported expanded uncertainty U is obtained by multiplying the combined standard uncertainty uc by a coverage factor k = 2, corresponding to a confidence level of approximately 95 %, assuming a normal probability distribution.

Unless otherwise stated, the reported uncertainty applies only to the specific measurements performed and does not include long-term drift, aging effects, or future environmental changes.

Expanded Measurement Uncertainty by Measurement Type

Measurement	Expanded Uncertainty U (k=2, norm)
Fan Air Flow	±1.23176 % of reading (k=2) — e.g. ±3.69 CFM at 25 CFM, ±4.29 at 92 CFM, ±7.15 at 250 CFM
Fan Static Pressure	±0.6727 Pa

Air flow uncertainty is relative to the reading: $U(Q) = 2 \cdot \sqrt{[(1.8200)^2 + (0.0123176 \cdot Q)^2]}$ CFM, valid over the declared measuring range 2.4 – 250 CFM.

The reported static pressure uncertainty applies over the 0 – 20 mmAq (0 – 196.1 Pa) measuring range of the Long Win LW-9266 apparatus. The apparatus can be extended to 100 mmAq (981 Pa) with the high static pressure throttle device; the uncertainty of that extended range has not been separately verified and the value stated above does not apply to it.

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Front



Rear

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