ARCTIC P12 PWM PST

Serial Number

Lab ID AC12000067

Certification ID FN25067

Test Result Report ID: 25FN67A

Certificate Issue Date: -

Scheme: PHI

Airflow Rating

Static Pressure Rating



Aristeidis Bitziopoulos, Certification Body General Manager

SECTION A: Noise Testing 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
Testing Methodology	Cybenetics Phi Fan Performance Standard

SECTION B: Fan Testing Instrument Technical Specifications

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 Performance Levels

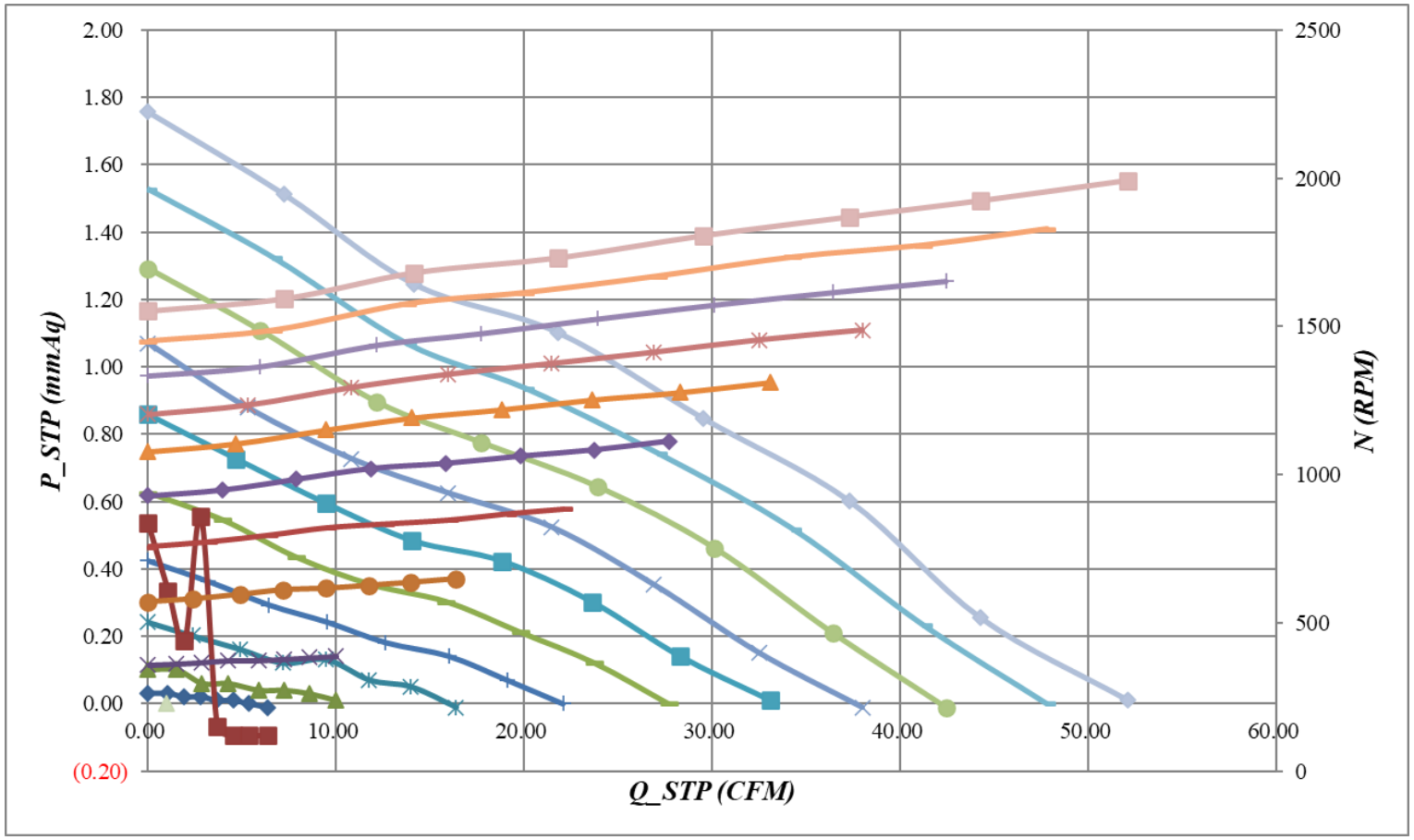
Pressure at 25 dB(A)	P (mmAq)	1.42
Airflow at 25 dB(A)	Q (CFM)	44.95

SECTION D: Information about DUT

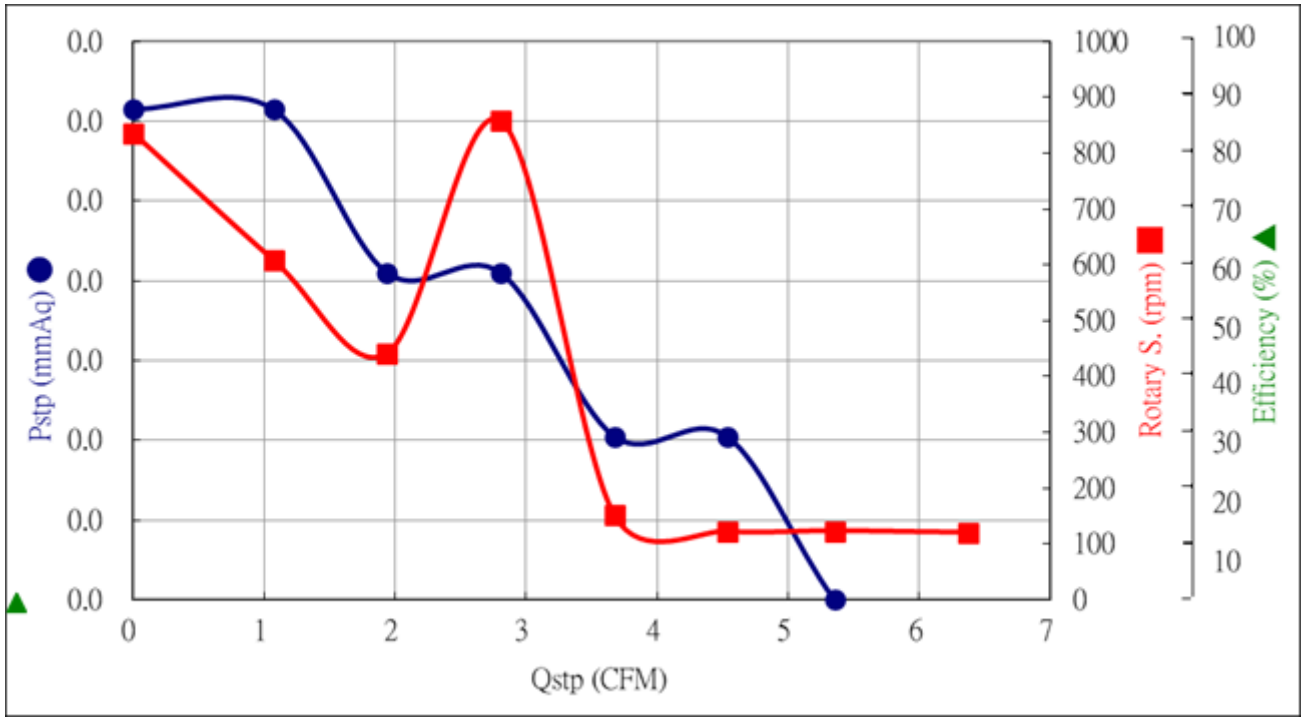
Product Identification Details	
Brand	ARCTIC
Model	P12 PWM PST
Serial Number	-
Product Specifications	
Manufacturer-Provided Information	
Bearing	Fluid Dynamic
Connector	PWM
Cable length (mm)	390
Daisy-chain	Cable
RGB Connector	None
RGB Daisy-chain	None
Cybenetics Measurements	
Max Speed (RPM)	1889
Max 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

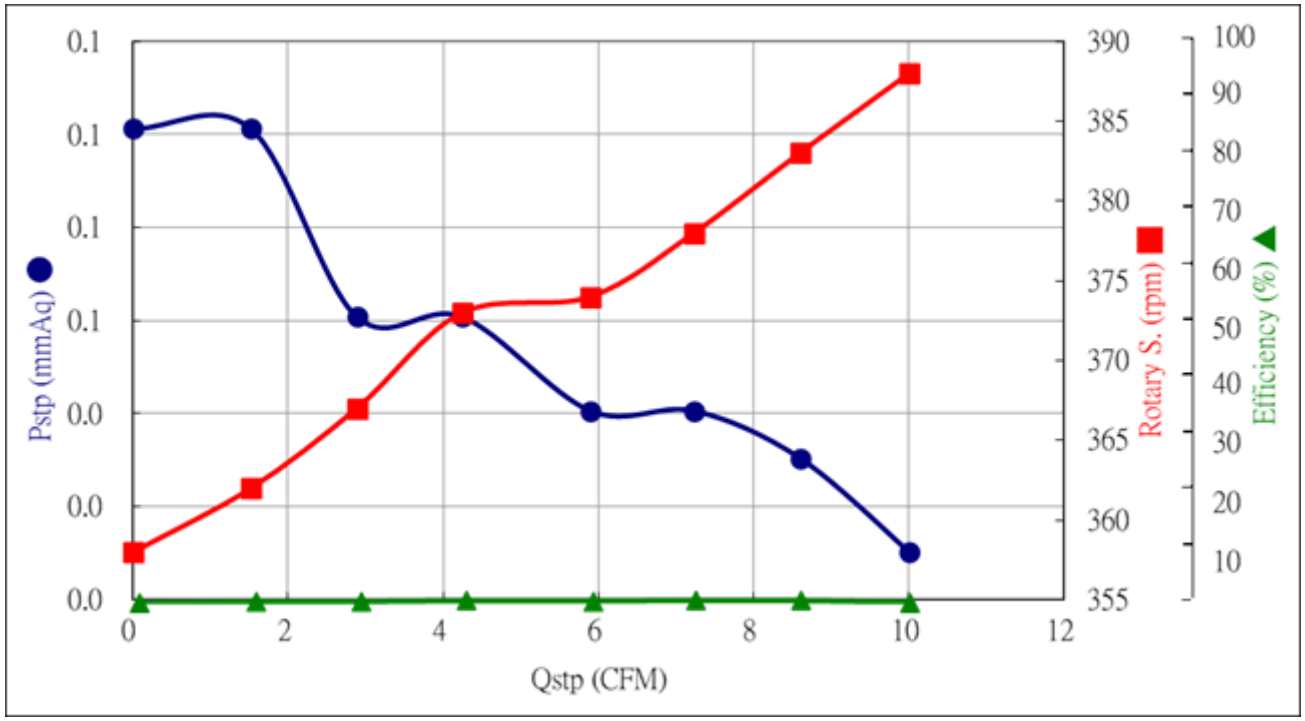
PQ Chart All Speed



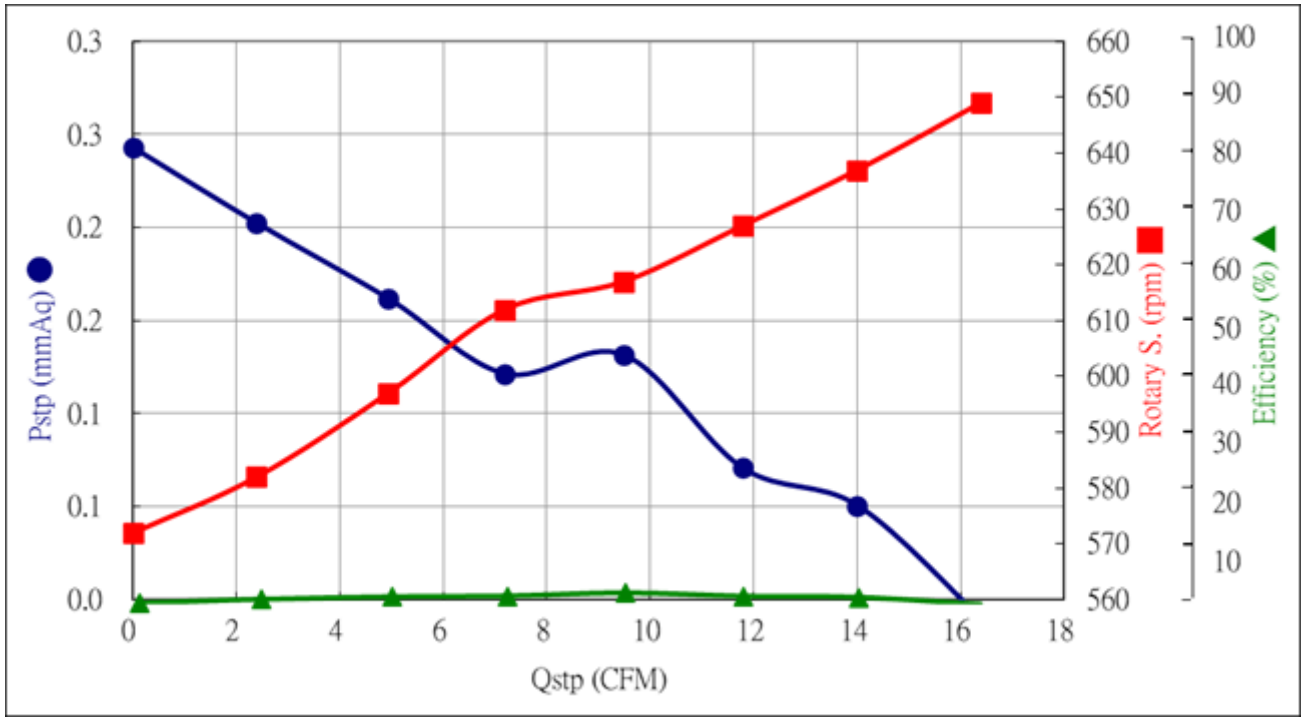
PQ Chart 10% Speed



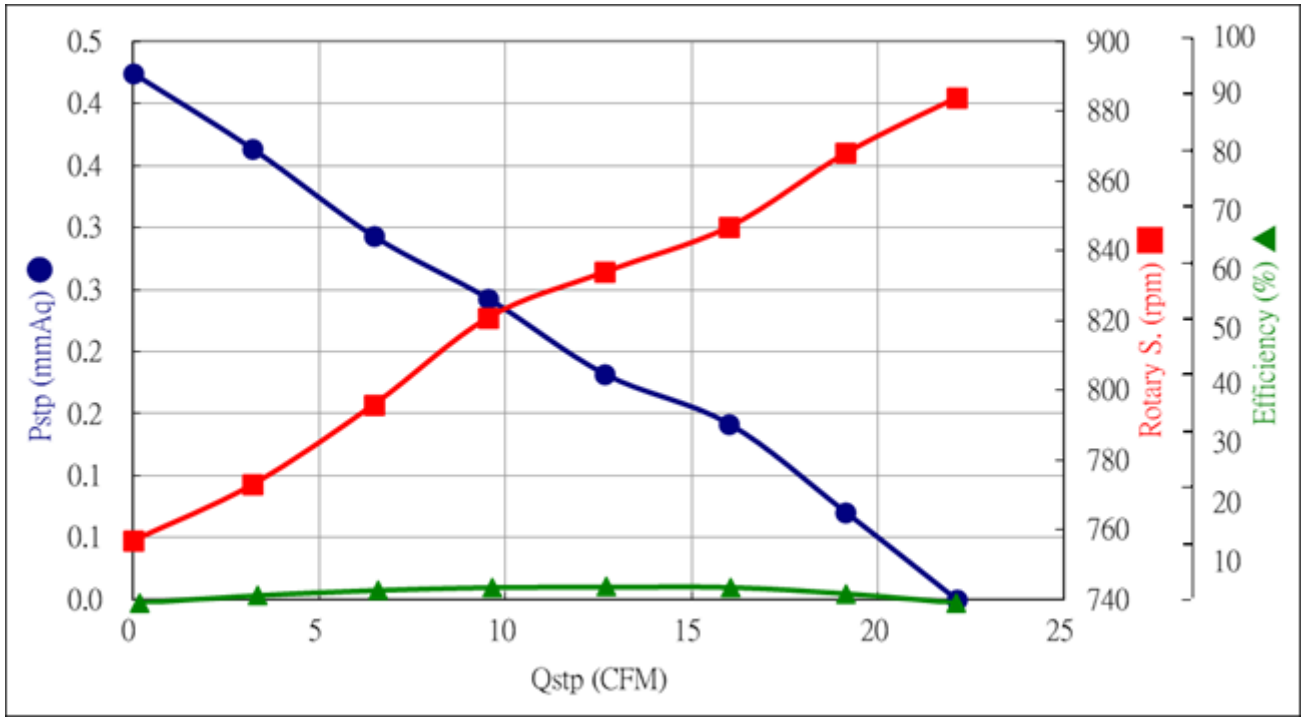
PQ Chart 20% Speed



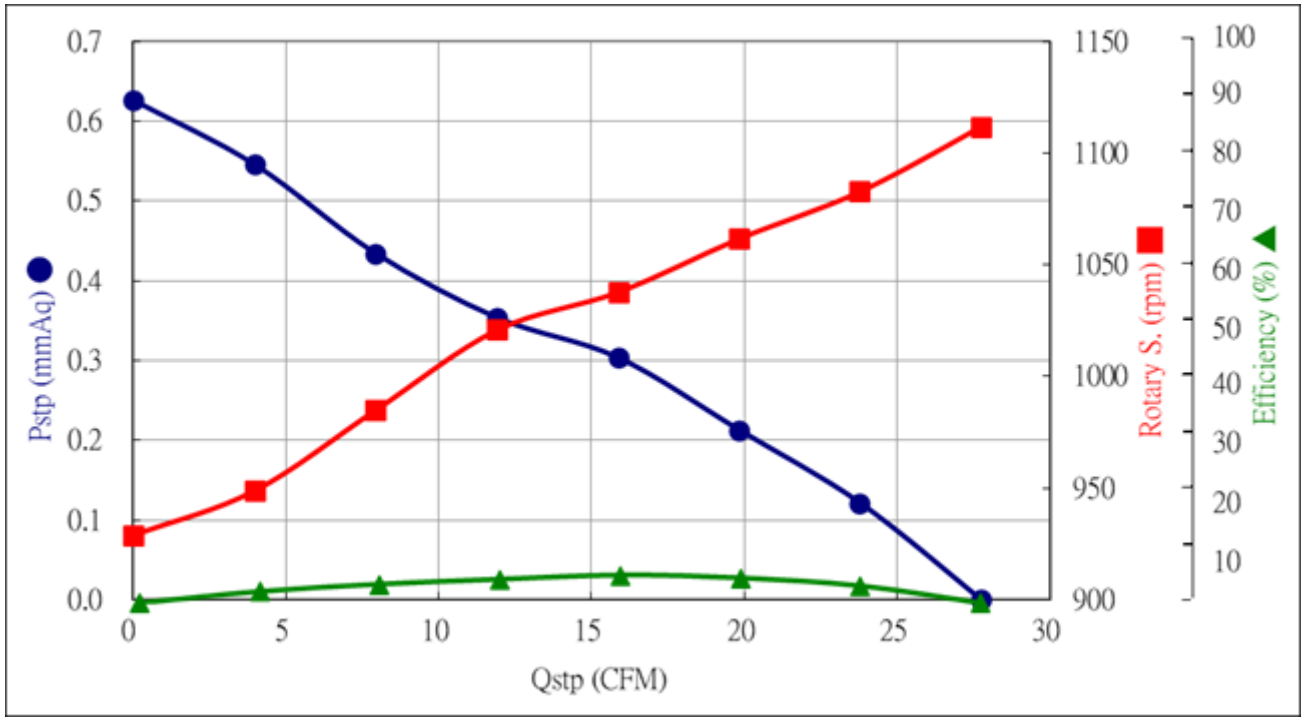
PQ Chart 30% Speed



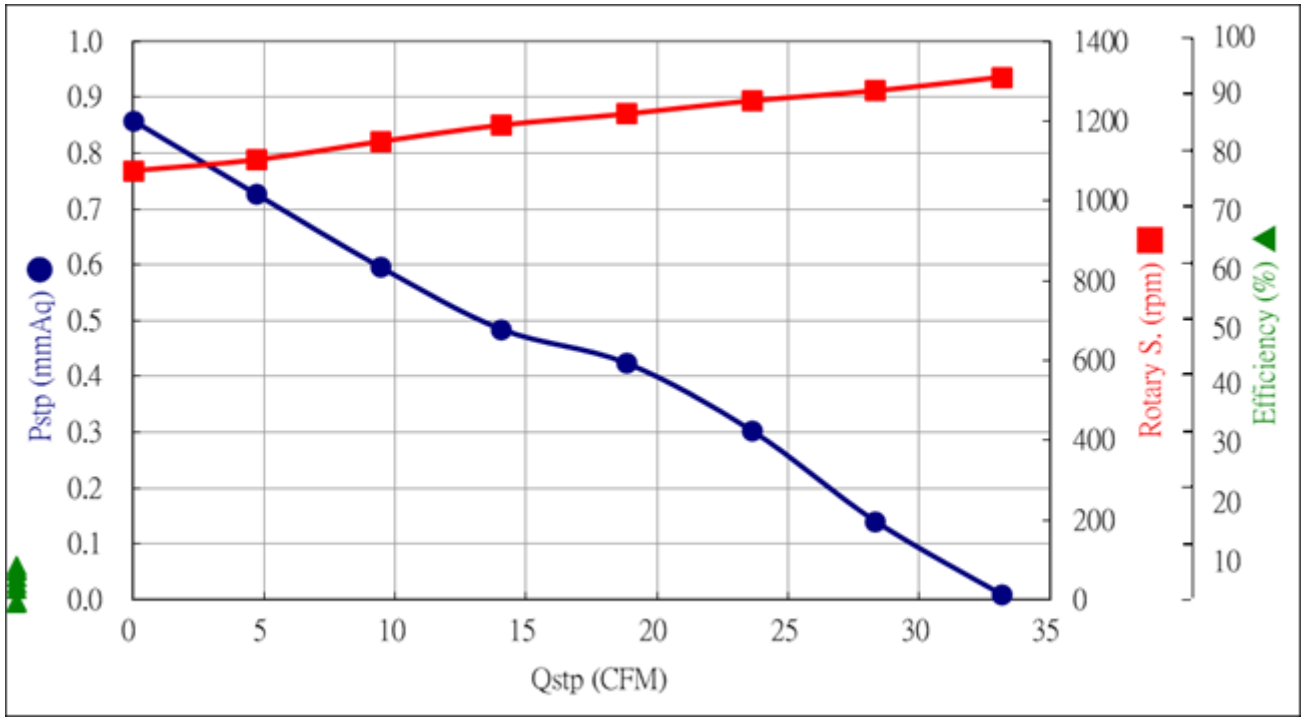
PQ Chart 40% Speed



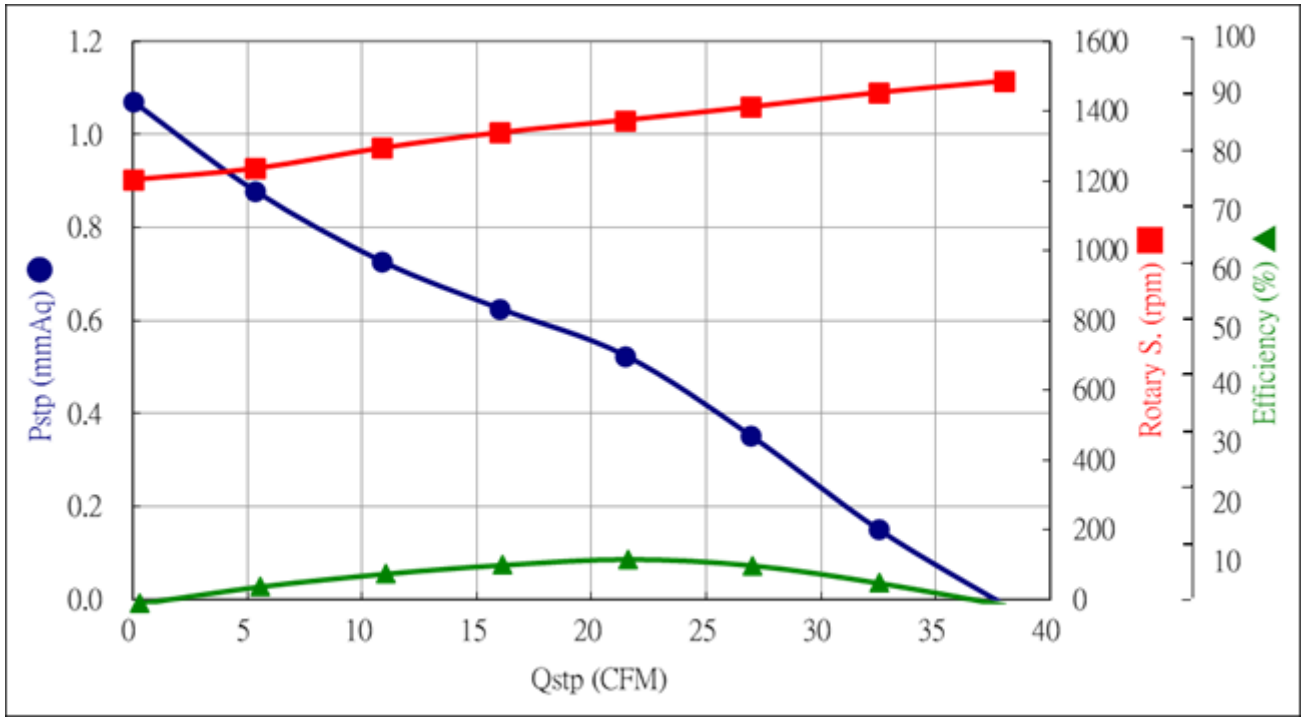
PQ Chart 50% Speed



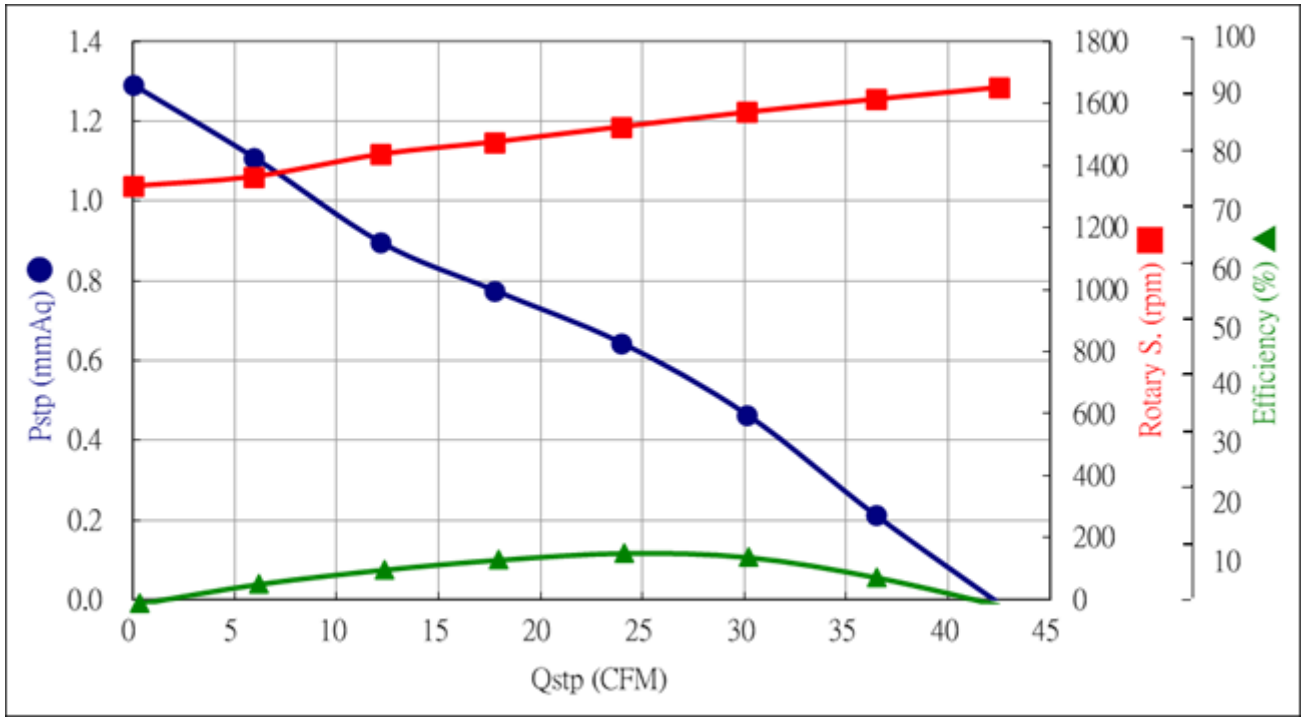
PQ Chart 60% Speed



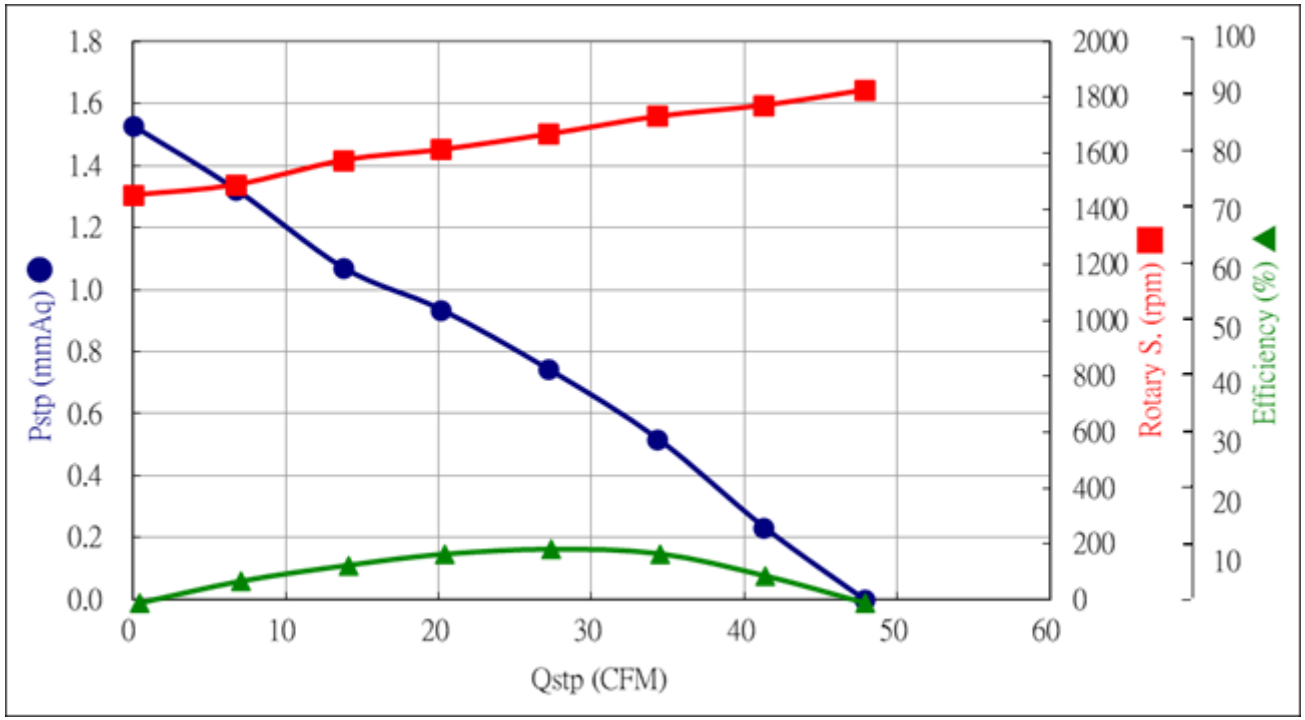
PQ Chart 70% Speed



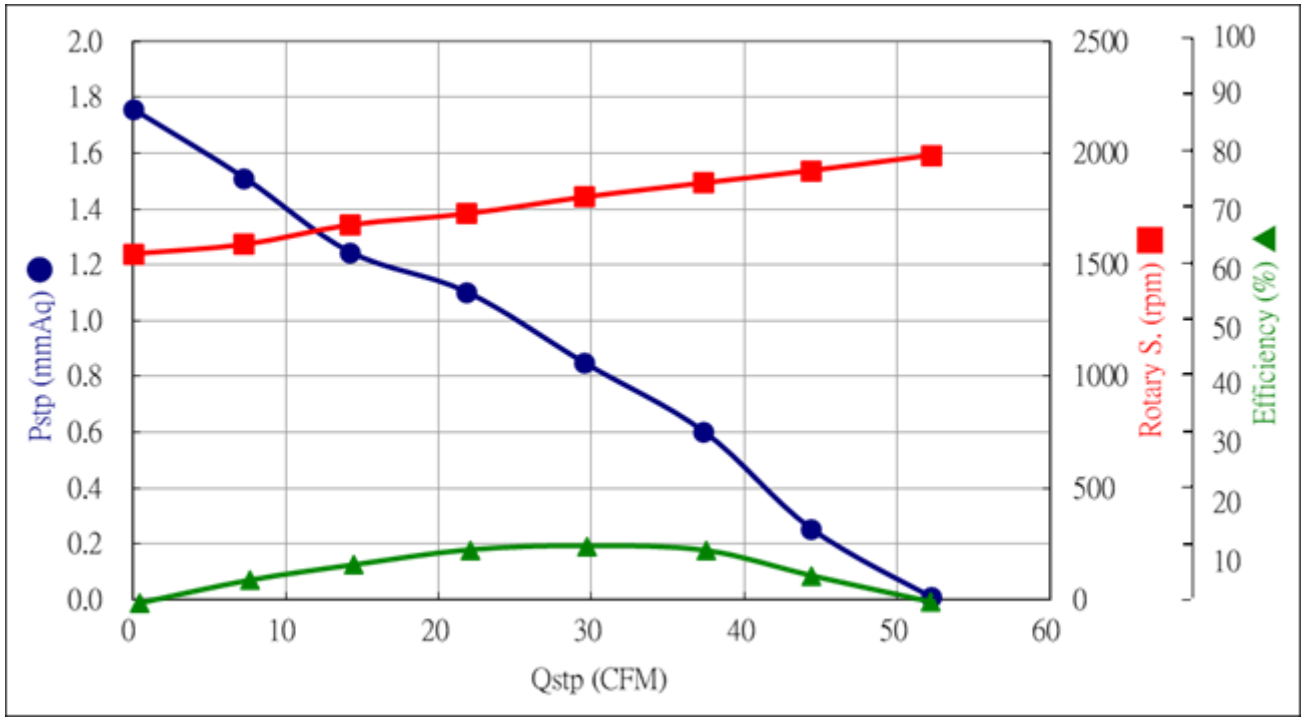
PQ Chart 80% Speed



PQ Chart 90% Speed



PQ Chart 100% Speed

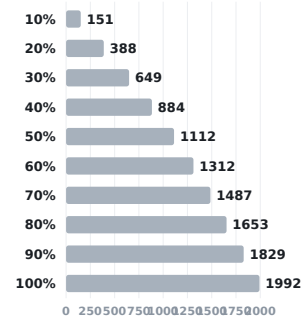


SECTION F: General Performance

RPM

Fan Speed

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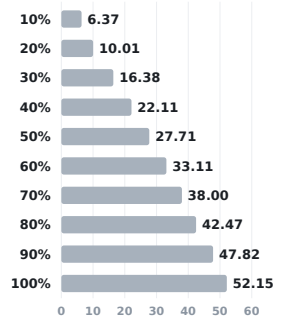


RPM · cybenetics.com

CFM Higher is better

Airflow

ARCTIC P12 PWM PST

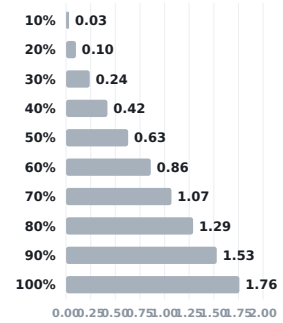


CFM · cybenetics.com

mmAq Higher is better

Static Pressure

ARCTIC P12 PWM PST

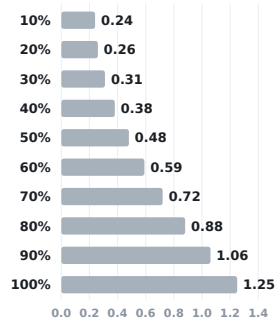


mmAq · cybenetics.com

W Lower is better

Power Consumption

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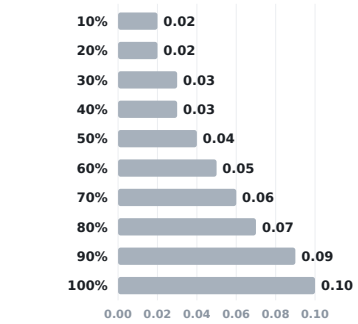
W · cybenetics.com

Cybenetics

A Lower is better

Current

ARCTIC P12 PWM PST



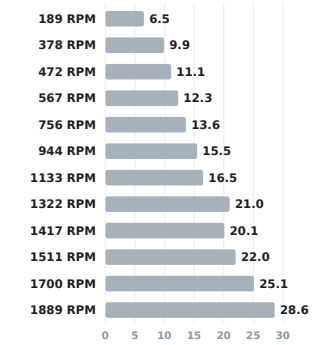
A · cybenetics.com

Cybenetics

dB(A) Lower is better

Noise at Each Fan Speed

ARCTIC P12 PWM PST



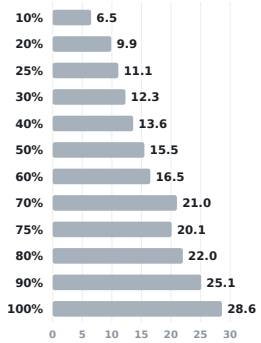
dB(A) · cybenetics.com

Cybenetics

dB(A) Lower is better

Noise Output

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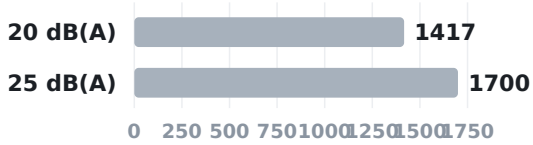
dB(A) · cybenetics.com

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.

ARCTIC P12 PWM PST



Front



Rear

All data and graphs included in this test report can be used by any individual on the following conditions:
› It should be mentioned that the test results are provided by Cybenetics
› The link to the original test results document should be provided in any case

Cybenetics runs voluntary certification programs for power supplies - ETA for efficiency, LAMBDA for noise and SAFE for safety and correct operation - and for cooling products, with DELTA for chassis soundproofing and PHI for fan airflow and static pressure. THETA rates cooler performance on AMD AM5 and Intel LGA1851 outside ISO 17065 and accreditation scope

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