

Fan is a very important and widely-used component in lots of industries.
In this experiment, students can understand the correlation of static pressure and flow rate - PQ curve and system resistance curve - SRC by operating various types of fan models.
PQ and SRC are two of the basic characteristics to evaluate fan's performance.

Long Win's Educational Facilities for Thermal & Flow

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LW-9345 Fan PQ Performance Apparatus

Experimental items

Standard flow rate generation and theory validation

The correlation of static pressure (P) and air flow rate (Q)

System resistance curve

Controllable voltage and current for fan's power

A series of fan models with different sizes

Various types of fan models

Example

PQ curve of axial fan 70 mm in diameter



PQ curve of blower 55 mm in diameter

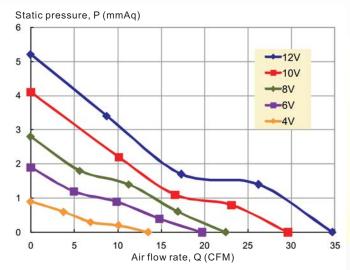


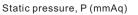
SRC curve of laminar flow

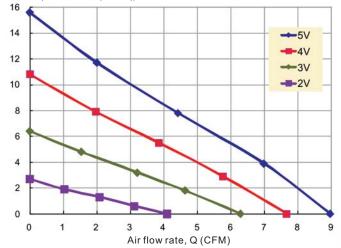


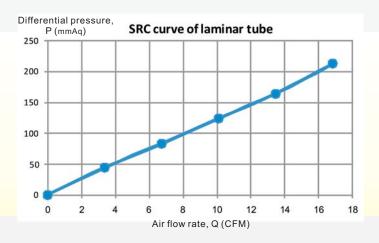
SRC curve of nozzle



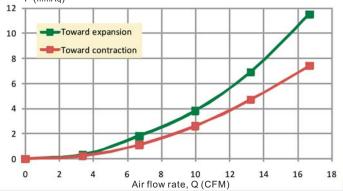








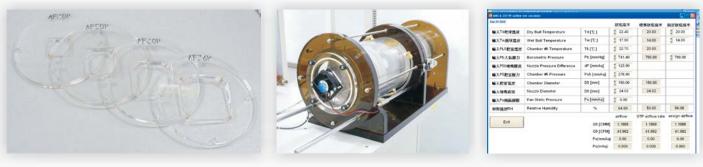
Differential pressure, P (mmAq) SRC curve of 30 mm nozzle







Standard flow rate generator and a set of exchangeable nozzles meeting AMCA 210-99 Standard. By cooperating with digit display meters of parameters, the system can provide a flow rate criterion in fluid mechanics laboratory.



Various kinds of fixtures that can install fans with different sizes and types, It is easy to place and disassemble on the downstream of standard flow rate generator. AMCA 210 software for air flow rate calculation. Students can study the principle by using it.

Specifications

Flow rate generator	According to	According to		AMCA 210-99 Standard, Figure 15.	
	Flow rate range	Flow rate range		2.31~85.9 CFM (0.065~2.41 CMM)	
	Accuracy		3%		
	Common chambe	Common chamber		150 mm in inner diameter	
		a. Dry-bulb temperature (Td)		d. Atmospheric pressure (Pb)	
	Measuring parameters	b. Wet-bulb temperature (Tw)		e. Chamber static pressure (Ps)	
		c. Chamber temperature (Tc)		f. Differential pressure of nozzle (P56)	
	Nozzles dimensio	Nozzles dimension		3,4,5,6,8,10,14,24, and 34 mm	
Digit differential pressure meter	Accuracy of press	Accuracy of pressure transducer		0.25%	
		Range		0 ~ 127 mmAq	
Fan models	Dimension	Dimension		15 ~76 mm, or other customized sizes	
	Structure types	Structure types		Axial fans and blowers	
Overall size	With an operation	With an operation table,		1.2 (L) × 0.7 (D) × 1.6 (H) m	
Power source	AC220V, 5 Amp, 5	AC220V, 5 Amp, 50/60 Hz, single phase.			



Owning a laboratory with the area of **2000 square meters**. **Over 100 kinds** of self-developing equipments are in our lab.

Devoted to fundamental and applied research of thermal & flow, fluid mechanics, condition test and solid mechanics fields for education, IT, semi-conductor, automobile, air-conditioning, LED industries.

Long Win can be your strongest support. Welcome to visit us and test.



Design/Manufacture

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