

เอกสารอ้างอิง

1. ISO 5221 1984 (E), "Air Distribution and Air Diffusion Rules to Method of Measuring Air Flow Rate in an Air Handling Duct".
2. BS 1042-1983 BSI, "Measurement of Fluid Flow in Closed Conduits".
3. ISO 3966, "Measurement of Fluid Flow in Closed Conduits Velocity-Area Method Using Pitot State Tubes".
4. Yoshiro Tochtani, "Anemometer With An Intermittently Heated Transistor As A Sensor", JSME, Vol.31, No.4, 1988.
5. Mahir Aydir and Hans J. Leutheusser, "Very Low Velocity Calibration and Application of Hot Wire Probs", DISA Information, No.25, 1980.
6. BS 4773 - 1971 BSI, "Testing and Rating Air Terminal Devices for Air Disturbution Systems".
7. ISO 7145 1982 (E), "Determination of Flow Rate of Fluid in Closed Conduits of Circular Cross Section".
8. ISO 7244, "Air Distribution and Air Diffusion Aerodynamic Testing".
9. ISO 4006, "Measurement of Fluid Flow in Closed Conduits Vocabulary and Symboles".
10. AMCA Standard ANSI/AMCA ,210-85,ASHRAE Std," Laboratory Methods of Testind Fans".
11. AABC, "Associated Air Balance Council", 1973, No. 12173, "National Standards for Field Measurements and Instrumentation".
12. Thomas L. Day, VAV Air Distribution, ASHRAE Journal, April 1974.
13. D.J.Nevrala S.D.Probert, Modelling Of Air Movements In Rooms, Journal Mechanical Engineering Science, Vol.19, No.6, 1977.
14. Pakl L. Miller, Jr., Room Air Diffusion Systems Design Techniques, ASHRAE Journal, April 1977.

ภาคผนวก ก
ตารางและกราฟแสดงผลการทดสอบ



ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

ผลการทดสอบ

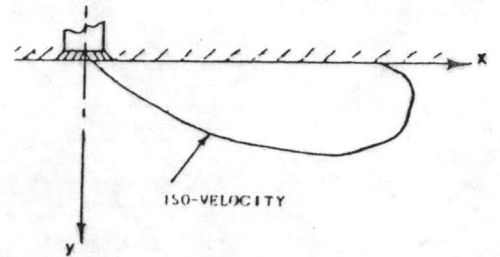
TABLE 1-18	ค่าความเร็วอากาศที่อ่านได้จริงจากการทดสอบอุปกรณ์จ่ายอากาศทั้ง 4 ขนาด
TABLE 19-36	แสดงตำแหน่ง (X, Y) ที่ขอบเขตความเร็วคงที่ที่กำหนด ของอุปกรณ์จ่ายอากาศที่ค่าอัตราการไหลต่าง ๆ กัน
TABLE 37-54	แสดงค่าความเร็วที่ช่องทางออกจากอุปกรณ์ (JET VELOCITY) ที่วัดได้จริงในทุก ๆ ช่องของอุปกรณ์จ่ายอากาศ
TABLE 55	เป็นค่าขนาดต่าง ๆ ของอุปกรณ์จ่ายอากาศที่วัดได้จริง
TABLE 56	ค่าพื้นที่การไหลจริง (A_x FACTOR) ที่ได้จากการทดสอบ
TABLE 57	เป็นค่าสมรรถนะของอุปกรณ์จ่ายอากาศที่ทดสอบได้
TABLE 58-60	เป็นค่าสมรรถนะของอุปกรณ์จ่ายอากาศที่ได้มาจากแหล่งต่าง ๆ
X	เป็นระยะแนวระดับในทิศทางแกนหลักอ้างอิงกับศูนย์กลางของอุปกรณ์
Y	เป็นระยะแนวตั้งวัดอ้างอิงกับระนาบผ้าเพดานของห้องทดสอบ
READING VELOCITY	เป็นความเร็วอากาศที่อ่านได้จริงจากเครื่องวัดหน่วยเป็นฟุตต่อนาที
TRUE VELOCITY	เป็นความเร็วอากาศที่ปรับค่าแล้วเป็นค่าความเร็วที่ถูกต้องหน่วยเป็นฟุตต่อนาที
SUPPLY TEMPERATURE	เป็นอุณหภูมิอากาศอัดที่ตำแหน่งก่อนเข้าอุปกรณ์จ่ายอากาศหน่วยเป็นองศาเซลเซียส

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

TABLE 1

แสดงความเร็วอากาศที่ตำแหน่งต่าง ๆ ในกระแสอากาศ

SQUARE DIFFUSER	=	254x254	MM ² .	[10x10	in ² .]
FLOW RATE	=	0.177	M ³ /S	[375	CFM.]
NECK VELOCITY	=	3	M/S	[600	FPM.]
STATIC PRESSURE	=	2.54	MM.Wg.	[0.10	in.Wg.]



X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
40	10	1.50 [300]	2.40 [480]	25.6
	15	1.15 [230]	1.90 [380]	
	20	0.20 [40]	0.54 [107]	
60	10	1.30 [260]	2.12 [423]	25.5
	15	1.25 [250]	2.04 [408]	
	20	0.90 [180]	1.54 [308]	
	25	0.35 [70]	0.75 [150]	
80	10	1.15 [230]	1.90 [380]	25.4
	15	1.10 [220]	1.83 [365]	
	20	1.00 [200]	1.69 [337]	
	25	0.70 [140]	1.25 [250]	
	30	0.35 [70]	0.75 [150]	
100	10	0.95 [190]	1.61 [322]	25.5
	15	0.90 [180]	1.54 [308]	
	20	0.80 [160]	1.40 [280]	
	25	0.65 [130]	1.18 [236]	
	30	0.45 [90]	0.90 [179]	
	35	0.35 [70]	0.75 [150]	
120	10	0.75 [150]	1.33 [265]	25.4
	15	0.65 [130]	1.18 [236]	
	20	0.65 [130]	1.18 [236]	
	25	0.60 [120]	1.11 [222]	
	30	0.45 [90]	0.90 [180]	
	35	0.40 [80]	0.83 [165]	
	40	0.30 [60]	0.68 [136]	
140	10	0.60 [120]	1.11 [222]	25.3
	15	0.60 [120]	1.11 [222]	
	20	0.55 [110]	1.04 [208]	
	25	0.50 [100]	0.97 [193]	
	30	0.50 [100]	0.97 [193]	
	35	0.40 [80]	0.83 [165]	
	35	0.40 [80]	0.83 [165]	
	40	0.35 [70]	0.75 [150]	

CONTINUED

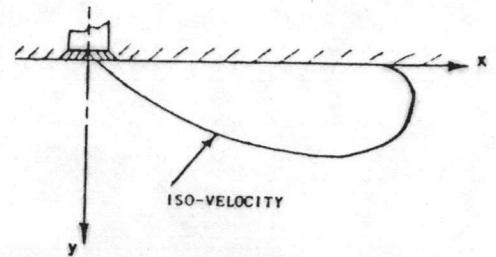
X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
160	10	0.50 [100]	0.97 [193]	25.2
	15	0.55 [110]	1.04 [208]	
	20	0.55 [110]	1.04 [208]	
	25	0.50 [100]	0.97 [193]	
	30	0.45 [90]	0.85 [170]	
	35	0.40 [80]	0.83 [165]	
	40	0.35 [70]	0.75 [150]	
	45	0.33 [65]	0.72 [143]	
180	10	0.40 [80]	0.83 [165]	25.3
	15	0.40 [80]	0.83 [165]	
	20	0.45 [90]	0.90 [180]	
	25	0.45 [90]	0.90 [180]	
	30	0.40 [80]	0.83 [165]	
	35	0.40 [80]	0.83 [165]	
	40	0.35 [70]	0.75 [150]	
	45	0.28 [55]	0.64 [128]	
200	10	0.38 [75]	0.79 [157]	25.3
	15	0.40 [80]	0.83 [165]	
	20	0.40 [80]	0.83 [165]	
	25	0.38 [75]	0.79 [157]	
	30	0.35 [70]	0.75 [150]	
	35	0.33 [65]	0.72 [143]	
	40	0.28 [55]	0.64 [128]	
	45	0.45 [45]	0.58 [115]	

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

TABLE 2

แสดงความเร็วอากาศที่ตำแหน่งต่าง ๆ ในกระแสอากาศ

SQUARE DIFFUSER = 254x254 MM². [10x10 in².]
 FLOW RATE = 0.196 M³/S [416 CFM.]
 NECK VELOCITY = 3.50 M/S [700 FPM.]
 STATIC PRESSURE = 3.05 MM.Wg. [0.12 in.Wg.]



X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
40	10	2.60 [520]	3.98 [796]	26.3
	15	1.35 [270]	2.19 [437]	
	20	0.40 [80]	0.83 [165]	
60	10	2.25 [450]	3.48 [695]	26.2
	15	1.95 [390]	3.05 [609]	
	20	1.40 [280]	2.25 [450]	
	25	0.35 [70]	0.75 [150]	
80	10	1.90 [380]	2.98 [595]	26.1
	15	1.85 [370]	2.90 [580]	
	20	1.40 [280]	2.26 [451]	
	25	0.90 [180]	1.54 [308]	
	30	0.30 [60]	0.68 [136]	
100	10	1.45 [290]	2.33 [466]	26.1
	15	1.50 [300]	2.40 [480]	
	20	1.35 [270]	2.19 [437]	
	25	1.15 [230]	1.90 [380]	
	30	0.80 [160]	1.40 [280]	
	35	0.30 [60]	0.68 [136]	
120	10	1.20 [240]	1.97 [394]	26.0
	15	1.20 [240]	1.97 [394]	
	20	1.15 [230]	1.90 [380]	
	25	1.05 [210]	1.79 [357]	
	30	0.85 [170]	1.47 [293]	
	35	0.65 [130]	1.18 [236]	
	40	0.40 [80]	0.83 [165]	
	45	0.33 [65]	0.72 [143]	
140	10	1.00 [200]	1.69 [337]	25.7
	15	0.95 [190]	1.61 [322]	
	20	1.05 [210]	1.76 [351]	
	25	1.00 [200]	1.69 [337]	
	30	0.90 [180]	1.54 [308]	
	35	0.75 [150]	1.33 [265]	
	40	0.50 [100]	0.97 [193]	
	45	0.30 [60]	0.68 [136]	

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE- VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
160	10	0.90 [180]	1.54 [308]	25.5
	15	0.90 [180]	1.54 [308]	
	20	0.85 [170]	1.47 [294]	
	25	0.80 [160]	1.40 [280]	
	30	0.80 [160]	1.40 [280]	
	35	0.70 [140]	1.25 [250]	
	40	0.60 [120]	1.11 [222]	
	45	0.40 [80]	0.83 [165]	
180	10	0.70 [140]	1.25 [250]	25.3
	15	0.75 [150]	1.33 [265]	
	20	0.75 [150]	1.33 [265]	
	25	0.65 [130]	1.18 [236]	
	30	0.70 [140]	1.25 [250]	
	35	0.65 [130]	1.18 [236]	
	40	0.60 [120]	1.11 [222]	
	45	0.40 [80]	0.83 [165]	
	50	0.30 [60]	0.68 [136]	
200	10	0.60 [120]	1.11 [222]	25.4
	15	0.65 [130]	1.18 [236]	
	20	0.70 [140]	1.25 [250]	
	25	0.65 [130]	1.18 [236]	
	30	0.65 [130]	1.18 [236]	
	35	0.55 [110]	1.04 [208]	
	40	0.55 [110]	1.04 [208]	
	45	0.50 [100]	0.97 [193]	
	50	0.35 [70]	0.75 [150]	
220	10	0.50 [100]	0.97 [193]	25.6
	15	0.50 [100]	0.97 [193]	
	20	0.55 [110]	1.04 [208]	
	25	0.55 [110]	1.04 [208]	
	30	0.55 [110]	1.04 [208]	
	35	0.55 [110]	1.04 [208]	
	40	0.50 [100]	0.97 [193]	
	45	0.40 [80]	0.83 [165]	
	50	0.35 [70]	0.75 [150]	
240	10	0.50 [100]	0.97 [193]	25.7
	15	0.55 [110]	1.04 [208]	
	20	0.50 [100]	0.97 [193]	
	25	0.50 [100]	0.97 [193]	
	30	0.45 [90]	0.90 [179]	
	35	0.45 [90]	0.90 [179]	
	40	0.45 [90]	0.90 [179]	
	45	0.40 [80]	0.83 [165]	
	50	0.35 [70]	0.75 [150]	

CONTINUED

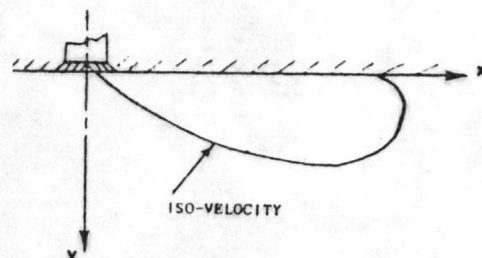
X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
260	10	0.50 [100]	0.97 [193]	26.0
	15	0.50 [100]	0.97 [193]	
	20	0.45 [90]	0.90 [179]	
	25	0.40 [80]	0.83 [165]	
	30	0.40 [80]	0.83 [165]	
	35	0.38 [75]	0.79 [157]	
	40	0.35 [70]	0.75 [150]	
	45	0.35 [70]	0.75 [150]	
	50	0.33 [65]	0.72 [143]	

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

TABLE 3

แสดงความเร็วอากาศที่ตำแหน่งต่าง ๆ ในกระแสอากาศ

SQUARE DIFFUSER	=	254x254 MM ² . [10x10 in ² .]
FLOW RATE	=	0.224 M ³ /S [475 CFM.]
NECK VELOCITY	=	4.00 M/S [800 FPM.]
STATIC PRESSURE	=	3.30 MM.Wg. [0.13 in.Wg.]



X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
40	10	2.50 [500]	3.83 [766]	24.1
	15	2.10 [420]	3.26 [652]	
	20	0.40 [80]	0.83 [165]	
60	10	2.25 [450]	3.48 [695]	24.0
	15	2.15 [430]	3.33 [666]	
	20	1.60 [320]	2.54 [508]	
	25	0.43 [85]	0.86 [172]	
	30	0.33 [65]	0.72 [143]	
80	10	1.90 [380]	2.98 [595]	24.0
	15	2.00 [400]	3.12 [623]	
	20	1.75 [350]	2.75 [550]	
	25	1.25 [250]	2.04 [408]	
	30	0.50 [100]	0.97 [193]	
	35	0.40 [80]	0.83 [165]	
	40	0.35 [70]	0.75 [150]	
100	10	1.70 [340]	2.69 [537]	24.0
	15	1.65 [330]	2.62 [523]	
	20	1.55 [310]	2.47 [494]	
	25	1.35 [270]	2.19 [437]	
	30	0.90 [180]	1.54 [308]	
	35	0.40 [80]	0.83 [165]	
	40	0.35 [70]	0.75 [150]	
120	10	1.20 [240]	1.97 [394]	23.9
	15	1.20 [240]	1.97 [394]	
	20	1.25 [250]	2.04 [408]	
	25	1.15 [230]	1.90 [380]	
	30	1.00 [200]	1.69 [337]	
	35	0.80 [160]	1.40 [280]	
	40	0.45 [90]	0.90 [179]	
	45	0.35 [70]	0.75 [150]	

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
140	10	1.15 [230]	1.90 [380]	23.9
	15	1.20 [240]	1.97 [394]	
	20	1.15 [230]	1.90 [380]	
	25	1.10 [220]	1.83 [365]	
	30	0.95 [190]	1.61 [322]	
	35	0.70 [140]	1.25 [250]	
	40	0.50 [100]	0.97 [193]	
	45	0.40 [80]	0.83 [165]	
	50	0.30 [60]	0.68 [136]	
160	10	0.95 [190]	1.61 [322]	23.9
	15	0.90 [180]	1.54 [308]	
	20	0.85 [170]	1.47 [293]	
	25	0.80 [160]	1.40 [280]	
	30	0.80 [160]	1.40 [280]	
	35	0.70 [140]	1.25 [250]	
	40	0.60 [120]	1.11 [222]	
	45	0.40 [80]	0.83 [165]	
	50	0.35 [70]	0.75 [150]	
180	10	0.70 [140]	1.25 [250]	23.8
	15	0.75 [150]	1.33 [265]	
	20	0.75 [150]	1.33 [265]	
	25	0.70 [140]	1.25 [250]	
	30	0.65 [130]	1.18 [236]	
	35	0.60 [120]	1.11 [222]	
	40	0.50 [100]	0.97 [193]	
	45	0.45 [90]	0.90 [179]	
	50	0.40 [80]	0.83 [165]	
200	10	0.70 [140]	1.25 [250]	24.0
	15	0.65 [130]	1.18 [236]	
	20	0.60 [120]	1.11 [222]	
	25	0.60 [120]	1.11 [222]	
	30	0.60 [120]	1.11 [222]	
	35	0.55 [110]	1.04 [208]	
	40	0.50 [100]	0.97 [193]	
	45	0.45 [90]	0.90 [179]	
	50	0.40 [80]	0.83 [165]	
220	10	0.60 [120]	1.11 [222]	23.9
	15	0.60 [120]	1.11 [222]	
	20	0.60 [120]	1.11 [222]	
	25	0.60 [120]	1.11 [222]	
	30	0.60 [120]	1.11 [222]	
	35	0.55 [110]	1.04 [208]	
	40	0.50 [100]	0.97 [193]	
	45	0.45 [90]	0.90 [179]	
	50	0.40 [80]	0.83 [165]	

CONTINUED

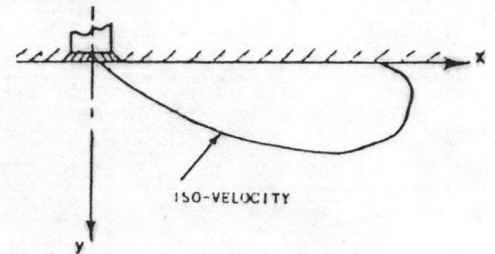
X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
240	10	0.55 [110]	1.04 [208]	23.9
	15	0.60 [120]	1.11 [222]	
	20	0.55 [110]	1.04 [208]	
	25	0.55 [110]	1.04 [208]	
	30	0.50 [100]	0.97 [193]	
	35	0.45 [90]	0.90 [179]	
	40	0.40 [80]	0.83 [165]	
	45	0.38 [75]	0.79 [157]	
260	10	0.45 [90]	0.90 [179]	23.9
	15	0.50 [100]	0.97 [193]	
	20	0.45 [90]	0.90 [179]	
	25	0.45 [90]	0.90 [179]	
	30	0.45 [90]	0.90 [179]	
	35	0.40 [80]	0.83 [165]	
	40	0.38 [75]	0.79 [157]	
	45	0.35 [70]	0.75 [150]	
	50	0.30 [60]	0.68 [136]	

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

TABLE 4

แสดงความเร็วอากาศที่ตำแหน่งต่าง ๆ ในกระแสอากาศ

SQUARE DIFFUSER	=	254x254	MM ² .	[10x10	in ² .]
FLOW RATE	=	0.252	M ³ /S	[535	CFM.]
NECK VELOCITY	=	4.5	M/S	[900	FPM.]
STATIC PRESSURE	=	4.57	MM.Wg.	[0.18	in.Wg.]



X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
40	10	3.00 [600]	4.55 [910]	24.2
	15	2.75 [550]	4.19 [838]	
	20	0.50 [100]	0.97 [193]	
	25	0.30 [60]	0.68 [136]	
60	10	2.45 [490]	3.76 [752]	24.3
	15	2.40 [480]	3.69 [738]	
	20	2.10 [420]	3.26 [652]	
	25	0.80 [160]	1.40 [279]	
	30	0.35 [70]	0.75 [150]	
80	10	2.20 [440]	3.40 [680]	24.2
	15	2.25 [450]	3.48 [695]	
	20	2.00 [400]	3.12 [623]	
	25	1.65 [330]	2.62 [523]	
	30	0.80 [160]	1.40 [279]	
	35	0.35 [70]	0.75 [150]	
100	10	1.80 [360]	2.83 [566]	24.1
	15	1.85 [370]	2.90 [580]	
	20	1.90 [380]	2.98 [595]	
	25	1.65 [330]	2.62 [523]	
	30	1.10 [220]	1.83 [365]	
	35	0.70 [140]	1.25 [250]	
	40	0.38 [75]	0.79 [157]	
120	10	1.45 [290]	0.83 [166]	24.0
	15	1.40 [280]	2.26 [451]	
	20	1.35 [270]	2.19 [437]	
	25	1.35 [270]	2.19 [437]	
	30	1.25 [250]	2.04 [408]	
	35	1.00 [200]	1.69 [337]	
	40	0.65 [130]	1.18 [236]	
	45	0.35 [70]	0.00 000	

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
140	10	1.10 [220]	1.83 [365]	24.1
	15	1.05 [210]	1.76 [351]	
	20	1.10 [220]	1.83 [365]	
	25	1.05 [210]	1.76 [351]	
	30	1.00 [200]	1.69 [337]	
	35	0.90 [180]	1.54 [308]	
	40	0.70 [140]	1.25 [250]	
	45	0.40 [80]	0.83 [165]	
160	10	1.10 [220]	1.83 [365]	24.0
	15	0.95 [190]	1.61 [322]	
	20	1.00 [200]	1.69 [337]	
	25	0.95 [190]	1.61 [322]	
	30	0.90 [180]	1.54 [308]	
	35	0.85 [170]	1.47 [294]	
	40	0.70 [140]	1.25 [250]	
	45	0.60 [120]	1.11 [222]	
180	10	0.85 [170]	1.47 [294]	24.1
	15	0.90 [180]	1.54 [308]	
	20	0.85 [170]	1.47 [294]	
	25	0.75 [150]	1.33 [265]	
	30	0.80 [160]	1.40 [280]	
	35	0.75 [150]	1.33 [265]	
	40	0.65 [130]	1.18 [236]	
	45	0.50 [100]	0.97 [193]	
200	10	0.80 [160]	1.40 [280]	24.1
	15	0.70 [140]	1.25 [250]	
	20	0.70 [140]	1.25 [250]	
	25	0.75 [150]	1.33 [265]	
	30	0.70 [140]	1.25 [250]	
	35	0.70 [140]	1.25 [250]	
	40	0.65 [130]	1.18 [236]	
	45	0.55 [110]	1.04 [208]	
50	0.45 [90]	0.90 [180]		
	55	0.35 [70]	0.75 [150]	

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
220	10	0.65 [130]	1.18 [236]	24.0
	15	0.60 [120]	1.11 [222]	
	20	0.65 [130]	1.18 [236]	
	25	0.65 [130]	1.18 [236]	
	30	0.60 [120]	1.11 [222]	
	35	0.60 [120]	1.11 [222]	
	40	0.55 [110]	1.04 [208]	
	45	0.50 [100]	0.97 [193]	
	50	0.45 [90]	0.90 [179]	
	55	0.40 [80]	0.83 [165]	
	60	0.35 [70]	0.75 [150]	
240	10	0.65 [130]	1.18 [236]	24.1
	15	0.60 [120]	1.11 [222]	
	20	0.65 [130]	1.18 [236]	
	25	0.70 [140]	1.25 [250]	
	30	0.65 [130]	1.18 [236]	
	35	0.65 [130]	1.18 [236]	
	40	0.60 [120]	1.11 [222]	
	45	0.55 [110]	0.97 [193]	
	50	0.45 [90]	0.85 [170]	
	55	0.35 [70]	0.75 [150]	
	260	10	0.55 [110]	
15		0.55 [110]	1.04 [208]	
20		0.60 [120]	1.11 [222]	
25		0.55 [110]	1.04 [208]	
30		0.55 [110]	1.04 [208]	
35		0.50 [100]	0.97 [193]	
40		0.50 [100]	0.97 [193]	
45		0.50 [100]	0.97 [193]	
50		0.45 [90]	0.85 [170]	
55		0.35 [70]	0.75 [150]	
280		10	0.55 [110]	1.04 [208]
	15	0.55 [110]	1.04 [208]	
	20	0.55 [110]	1.04 [208]	
	25	0.50 [100]	0.97 [193]	
	30	0.50 [100]	0.97 [193]	
	35	0.45 [90]	0.90 [180]	
	40	0.45 [90]	0.90 [180]	
	45	0.40 [80]	0.83 [165]	
	50	0.40 [80]	0.83 [165]	
	55	0.35 [70]	0.75 [150]	

CONTINUED

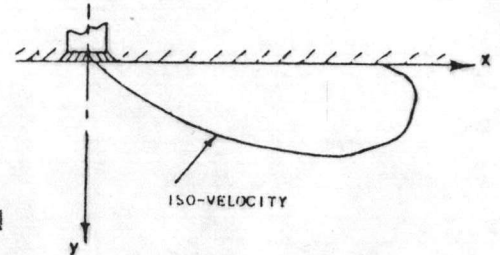
X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
300	10	0.55 [110]	1.04 [208]	24.0
	15	0.50 [100]	0.97 [193]	
	20	0.50 [100]	0.97 [193]	
	25	0.50 [100]	0.97 [193]	
	30	0.50 [100]	0.97 [193]	
	35	0.45 [90]	0.90 [180]	
	40	0.45 [90]	0.90 [180]	
	45	0.40 [80]	0.83 [165]	
	50	0.40 [80]	0.83 [165]	
	55	0.35 [70]	0.75 [150]	
320	10	0.50 [100]	0.97 [193]	24.0
	15	0.50 [100]	0.97 [193]	
	20	0.50 [100]	0.97 [193]	
	25	0.45 [90]	0.90 [180]	
	30	0.45 [90]	0.90 [180]	
	35	0.45 [90]	0.90 [180]	
	40	0.40 [80]	0.83 [165]	
	45	0.40 [80]	0.83 [165]	
	50	0.35 [70]	0.75 [150]	
	55	0.33 [65]	0.72 [143]	

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

TABLE 5

แสดงความเร็วอากาศที่ตำแหน่งต่าง ๆ ในกระแสอากาศ

SQUARE DIFFUSER	=	304.8x304.8	MM ² . [12x12 in ² .]
FLOW RATE	=	0.217	M ³ /S [460 CFM.]
NECK VELOCITY	=	2.50	M/S [500 FPM.]
STATIC PRESSURE	=	2.286	MM.Wg. [0.09 in.Wg.]



X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
40	10	1.95 [390]	3.05 [609]	22.6
	15	0.40 [80]	0.86 [171]	
60	10	1.75 [350]	2.76 [551]	22.6
	15	1.25 [250]	2.04 [408]	
	20	0.35 [70]	0.75 [150]	
80	10	1.40 [280]	2.26 [451]	22.5
	15	1.15 [230]	1.90 [380]	
	20	0.80 [160]	1.40 [280]	
	25	0.30 [60]	0.68 [136]	
100	10	1.20 [240]	1.97 [394]	22.5
	15	0.90 [180]	1.54 [308]	
	20	0.70 [140]	1.25 [250]	
	25	0.50 [100]	0.93 [186]	
	30	0.35 [70]	0.75 [150]	
	35	0.15 [30]	0.47 [93]	
120	10	0.90 [180]	1.54 [308]	22.3
	15	0.80 [160]	1.40 [280]	
	20	0.70 [140]	1.25 [250]	
	25	0.60 [120]	1.11 [222]	
	30	0.45 [90]	0.90 [179]	
	35	0.30 [60]	0.68 [136]	
	40	0.20 [40]	0.54 [107]	
140	10	0.85 [170]	1.47 [294]	22.0
	15	0.75 [150]	1.33 [265]	
	20	0.60 [120]	1.11 [222]	
	25	0.50 [100]	0.97 [193]	
	30	0.40 [80]	0.82 [163]	
	35	0.30 [60]	0.68 [136]	
	40	0.20 [40]	0.54 [107]	
	45	0.13 [25]	0.40 [80]	

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
160	10	0.70 [140]	1.40 [280]	21.8
	15	0.60 [120]	1.11 [222]	
	20	0.55 [110]	1.04 [207]	
	25	0.50 [100]	0.97 [193]	
	30	0.40 [80]	0.83 [165]	
	35	0.25 [50]	0.61 [121]	
	40	0.20 [40]	0.54 [107]	
180	45	0.13 [25]	0.43 [85]	21.8
	10	0.65 [130]	1.18 [236]	
	15	0.55 [110]	1.04 [207]	
	20	0.45 [90]	0.90 [179]	
	25	0.35 [70]	0.75 [150]	
	30	0.30 [60]	0.68 [136]	
	35	0.25 [50]	0.61 [121]	
200	40	0.20 [40]	0.54 [107]	21.7
	45	0.13 [25]	0.43 [85]	
	10	0.50 [100]	0.97 [193]	
	15	0.40 [80]	0.82 [164]	
	20	0.45 [90]	0.90 [179]	
	25	0.40 [80]	0.82 [164]	
	30	0.35 [70]	0.75 [150]	
	35	0.30 [60]	0.68 [136]	
	40	0.30 [60]	0.68 [136]	
220	45	0.25 [50]	0.61 [122]	21.6
	50	0.25 [50]	0.61 [122]	
	55	0.20 [40]	0.54 [107]	
	60	0.13 [25]	0.43 [85]	
	10	0.40 [80]	0.82 [164]	
	15	0.35 [70]	0.75 [150]	
	20	0.30 [60]	0.68 [136]	
	25	0.30 [60]	0.68 [136]	
	30	0.35 [70]	0.75 [150]	
	35	0.33 [65]	0.70 [140]	
	40	0.28 [55]	0.64 [128]	
45	0.25 [50]	0.61 [122]		
50	0.20 [40]	0.54 [107]		
55	0.13 [25]	0.43 [85]		
60	0.10 [20]	0.39 [78]		

CONTINUED

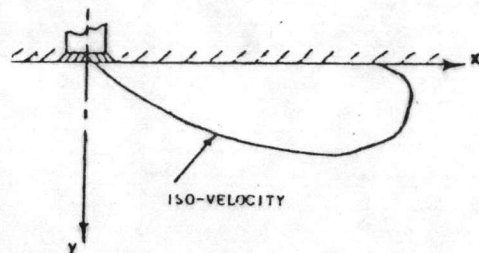
X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
240	10	0.40 [80]	0.82 [164]	21.5
	15	0.35 [70]	0.75 [150]	
	20	0.30 [60]	0.68 [136]	
	25	0.28 [55]	0.64 [128]	
	30	0.30 [60]	0.68 [136]	
	35	0.33 [65]	0.72 [143]	
	40	0.30 [60]	0.68 [136]	
	45	0.20 [40]	0.54 [107]	
	50	0.15 [30]	0.45 [90]	
	55	0.15 [30]	0.45 [90]	
	60	0.10 [20]	0.39 [78]	
260	10	0.35 [70]	0.75 [150]	21.4
	15	0.28 [55]	0.64 [128]	
	20	0.25 [50]	0.61 [121]	
	25	0.28 [55]	0.64 [128]	
	30	0.25 [50]	0.61 [121]	
	35	0.25 [50]	0.64 [128]	
	40	0.20 [40]	0.54 [107]	
	45	0.18 [35]	0.50 [100]	
	50	0.15 [30]	0.47 [93]	
	55	0.15 [30]	0.47 [94]	
	60	0.13 [25]	0.43 [85]	

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

TABLE 6

แสดงความเร็วอากาศที่ตำแหน่งต่าง ๆ ในกระแสอากาศ

SQUARE DIFFUSER	=	304.8x304.8	MM ² . [12x12 in ² .]
FLOW RATE	=	0.260	M ³ /S [552 CFM.]
NECK VELOCITY	=	3	M/S [600 FPM.]
STATIC PRESSURE	=	2.794	MM.Wg.[0.11 in.Wg.]



X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
40	10	2.60 [520]	3.90 [780]	22.2
	15	0.70 [140]	1.25 [250]	
60	10	2.00 [400]	3.10 [620]	22.2
	15	1.85 [370]	2.90 [580]	
	20	0.70 [140]	1.25 [250]	
	25	0.10 [20]	0.39 [78]	
80	10	1.70 [340]	2.69 [537]	22.1
	15	1.65 [330]	2.62 [523]	
	20	0.40 [80]	2.26 [451]	
	25	0.55 [110]	1.04 [207]	
	30	0.20 [40]	0.54 [107]	
100	10	1.50 [300]	2.40 [480]	22.0
	15	1.40 [280]	2.26 [451]	
	20	1.20 [240]	1.97 [394]	
	25	0.95 [190]	1.61 [322]	
	30	0.45 [90]	0.90 [179]	
	35	0.20 [40]	0.54 [107]	
	40	0.10 [20]	0.39 [78]	
120	10	1.35 [270]	2.19 [437]	21.8
	15	1.25 [250]	2.04 [408]	
	20	1.15 [230]	1.90 [379]	
	25	0.95 [190]	1.61 [322]	
	30	0.65 [130]	1.18 [236]	
	35	0.45 [90]	0.90 [179]	
	40	0.25 [50]	0.61 [121]	
	45	0.15 [30]	0.47 [93]	
140	10	1.30 [260]	2.11 [422]	21.6
	15	1.10 [220]	1.83 [365]	
	20	0.95 [190]	1.61 [322]	
	25	0.85 [170]	1.47 [293]	
	30	0.75 [150]	1.33 [265]	
	35	0.50 [100]	0.97 [193]	
	40	0.25 [50]	0.61 [121]	
	45	0.10 [20]	0.39 [78]	

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
160	10	1.00 [200]	1.69 [337]	21.4
	15	1.10 [220]	1.83 [365]	
	20	1.00 [200]	1.68 [336]	
	25	0.90 [180]	1.54 [308]	
	30	0.75 [150]	1.33 [265]	
	35	0.65 [130]	1.18 [236]	
	40	0.50 [100]	0.97 [193]	
	45	0.35 [70]	0.75 [150]	
	50	0.20 [40]	0.54 [107]	
	55	0.10 [20]	0.39 [78]	
	60	0.05 [10]	0.32 [64]	
180	10	0.90 [180]	1.54 [308]	21.4
	15	0.85 [170]	1.47 [293]	
	20	0.75 [150]	1.33 [265]	
	25	0.80 [160]	1.40 [279]	
	30	0.75 [150]	1.33 [265]	
	35	0.65 [130]	1.18 [236]	
	40	0.50 [100]	0.97 [193]	
	45	0.40 [80]	0.82 [164]	
	50	0.25 [50]	0.61 [121]	
	55	0.15 [30]	0.47 [93]	
	60	0.10 [20]	0.39 [20]	
	65	0.08 [15]	0.36 [71]	
200	10	0.75 [150]	1.33 [265]	21.2
	15	0.80 [160]	1.40 [280]	
	20	0.80 [160]	1.40 [280]	
	25	0.70 [140]	1.25 [250]	
	30	0.65 [130]	1.18 [236]	
	35	0.50 [100]	0.97 [193]	
	40	0.45 [90]	0.90 [179]	
	45	0.35 [70]	0.75 [150]	
	50	0.30 [60]	0.68 [136]	
	55	0.20 [40]	0.54 [107]	
	60	0.13 [25]	0.43 [86]	
220	10	0.70 [140]	1.25 [250]	20.9
	15	0.65 [130]	1.18 [236]	
	20	0.60 [120]	1.11 [222]	
	25	0.55 [110]	1.04 [207]	
	30	0.50 [100]	0.97 [193]	
	35	0.43 [85]	0.86 [172]	
	40	0.35 [70]	0.75 [150]	
	45	0.33 [65]	0.72 [143]	
	50	0.28 [55]	0.64 [128]	
	55	0.20 [40]	0.54 [107]	
	60	0.15 [30]	0.47 [93]	

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
240	10	0.65 [130]	1.18 [236]	20.9
	15	0.58 [115]	1.07 [214]	
	20	0.50 [100]	0.97 [193]	
	25	0.43 [85]	0.86 [171]	
	30	0.35 [70]	0.75 [150]	
	35	0.35 [70]	0.75 [150]	
	40	0.35 [70]	0.75 [150]	
	45	0.30 [60]	0.68 [136]	
	50	0.25 [50]	0.61 [121]	
	55	0.20 [40]	0.54 [107]	
	60	0.18 [35]	0.50 [100]	
65	0.15 [30]	0.47 [93]		
70	0.10 [20]	0.39 [78]		
260	10	0.55 [110]	1.04 [207]	20.8
	15	0.50 [100]	0.97 [193]	
	20	0.45 [90]	0.90 [179]	
	25	0.40 [80]	0.82 [164]	
	30	0.35 [70]	0.75 [150]	
	35	0.35 [70]	0.75 [150]	
	40	0.33 [65]	0.72 [143]	
	45	0.33 [65]	0.72 [143]	
	50	0.25 [50]	0.61 [121]	
	55	0.25 [50]	0.61 [121]	
	60	0.18 [35]	0.50 [100]	
65	0.15 [30]	0.47 [93]		
70	0.10 [20]	0.39 [78]		
280	10	0.45 [90]	0.90 [179]	20.8
	15	0.40 [80]	0.82 [164]	
	20	0.40 [80]	0.82 [164]	
	25	0.35 [70]	0.75 [150]	
	30	0.35 [70]	0.75 [150]	
	35	0.30 [60]	0.68 [136]	
	40	0.30 [60]	0.68 [136]	
	45	0.25 [50]	0.61 [121]	
	50	0.20 [40]	0.54 [107]	
	55	0.20 [40]	0.54 [107]	
	60	0.20 [40]	0.54 [107]	
65	0.15 [30]	0.47 [93]		
70	0.10 [20]	0.39 [78]		

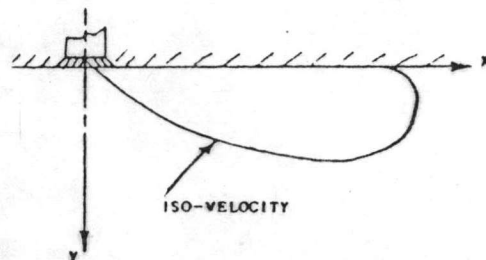
CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
300	10	0.45 [90]	0.90 [179]	20.8
	15	0.40 [80]	0.82 [164]	
	20	0.40 [80]	0.82 [164]	
	25	0.35 [70]	0.75 [150]	
	30	0.30 [60]	0.68 [136]	
	35	0.30 [60]	0.68 [136]	
	40	0.25 [50]	0.61 [121]	
	45	0.25 [50]	0.61 [121]	
	50	0.20 [40]	0.54 [107]	
	55	0.20 [40]	0.54 [107]	
	60	0.20 [40]	0.54 [107]	
	65	0.15 [30]	0.47 [93]	
	70	0.15 [30]	0.47 [93]	
320	10	0.40 [80]	0.82 [164]	20.8
	15	0.35 [70]	0.75 [150]	
	20	0.35 [70]	0.75 [150]	
	25	0.30 [60]	0.68 [136]	
	30	0.30 [60]	0.68 [136]	
	35	0.30 [60]	0.68 [136]	
	40	0.25 [50]	0.61 [121]	
	45	0.30 [60]	0.68 [136]	
	50	0.25 [50]	0.61 [121]	
	55	0.25 [50]	0.61 [121]	
	60	0.20 [40]	0.54 [107]	
	65	0.10 [20]	0.39 [78]	
	340	10	0.38 [75]	
15		0.30 [60]	0.68 [136]	
20		0.30 [60]	0.68 [136]	
25		0.25 [50]	0.61 [121]	
30		0.20 [40]	0.54 [107]	
35		0.25 [50]	0.61 [121]	
40		0.20 [40]	0.54 [107]	
45		0.20 [40]	0.54 [107]	
50		0.18 [35]	0.50 [100]	
55		0.18 [35]	0.50 [100]	
60		0.15 [30]	0.47 [93]	
65		0.15 [30]	0.47 [93]	

TABLE 7

แสดงความเร็วอากาศที่ตำแหน่งต่าง ๆ ในกระแสอากาศ

SQUARE DIFFUSER	=	304.8x304.8	MM ² . [12x12 in ² .]
FLOW RATE	=	0.307	M ³ /S [652 CFM.]
NECK VELOCITY	=	3.5	M/S [700 FPM.]
STATIC PRESSURE	=	4.572	MM.Wg.[0.18 in.Wg.]



X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
40	10	3.50 [700]	1000	22.5
	15	0.80 [160]	280	
60	10	2.70 [540]	824	22.4
	15	2.35 [470]	723	
	20	0.90 [180]	308	
	25	0.23 [45]	114	
80	10	2.40 [480]	738	22.3
	15	2.30 [460]	709	
	20	1.80 [360]	560	
	25	0.70 [140]	251	
	30	0.28 [55]	129	
100	10	2.25 [450]	695	22.1
	15	2.10 [420]	652	
	20	1.85 [370]	580	
	25	1.20 [240]	394	
	30	0.65 [130]	236	
	35	0.30 [60]	136	
	40	0.10 [20]	78	
120	10	1.90 [380]	595	22.0
	15	1.85 [370]	580	
	20	1.50 [300]	480	
	25	1.25 [250]	408	
	30	0.85 [170]	293	
	35	0.60 [120]	222	
	40	0.35 [70]	150	
140	10	1.75 [350]	551	21.8
	15	1.50 [300]	480	
	20	1.45 [290]	465	
	25	1.20 [240]	394	
	30	1.05 [210]	351	
	35	0.80 [160]	280	
	40	0.45 [90]	180	
	45	0.20 [40]	107	

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
160	10	300	480	21.7
	15	280	451	
	20	270	437	
	25	240	394	
	30	220	365	
	35	140	265	
	40	130	236	
	45	90	180	
	50	50	121	
	55	20	82	
180	10	260	423	21.5
	15	240	394	
	20	220	365	
	25	190	322	
	30	160	280	
	35	140	250	
	40	110	207	
	45	80	164	
	50	50	121	
	55	35	100	
	60	20	78	
200	10	220	365	21.4
	15	190	322	
	20	170	294	
	25	150	265	
	30	140	250	
	35	130	236	
	40	120	222	
	45	100	193	
	50	70	150	
	55	40	107	
	60	30	93	
65	15	71		
220	10	190	322	21.4
	15	190	322	
	20	180	308	
	25	180	308	
	30	170	294	
	35	150	265	
	40	120	222	
	45	90	179	
	50	70	150	
	55	50	121	
	60	20	78	

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
240	10	180	308	21.3
	15	160	280	
	20	140	250	
	25	130	236	
	30	120	222	
	35	110	207	
	40	100	193	
	45	70	157	
	50	65	143	
	55	50	121	
	60	40	107	
65	35	100		
70	20	78		
260	10	140	250	21.2
	15	130	236	
	20	120	222	
	25	120	222	
	30	130	236	
	35	110	207	
	40	100	193	
	45	90	179	
	50	75	157	
	55	60	136	
	60	40	107	
65	25	86		
70	20	78		
280	10	170	236	21.3
	15	120	222	
	20	120	222	
	25	130	236	
	30	130	236	
	35	110	207	
	40	100	193	
	45	90	179	
	50	75	157	
	55	60	136	
	60	40	107	
65	25	86		
70	25	86		

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
300	10	120	222	21.3
	15	125	229	
	20	130	236	
	25	120	222	
	30	110	207	
	35	100	193	
	40	90	107	
	45	80	165	
	50	75	157	
	55	60	136	
	60	40	107	
	65	35	100	
	70	20	78	
320	10	110	208	21.4
	15	120	222	
	20	115	214	
	25	90	179	
	30	80	172	
	35	90	179	
	40	80	164	
	45	75	157	
	50	70	150	
	55	70	150	
	60	60	136	
	65	50	121	
	70	40	107	
75	25	86		
340	10	100	193	21.4
	15	100	193	
	20	90	179	
	25	100	193	
	30	90	179	
	35	80	165	
	40	75	157	
	45	70	150	
	50	60	136	
	55	50	121	
	60	50	121	
	65	40	107	
	70	30	93	
75	35	100		
80	15	71		

CONTINUED

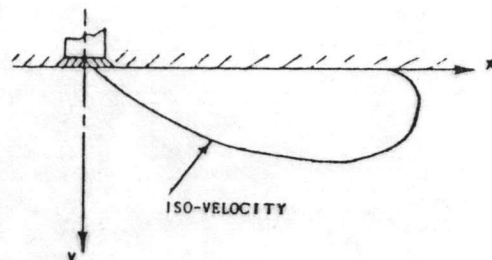
X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
360	10	105	200	21.4
	15	100	193	
	20	90	179	
	25	85	171	
	30	80	165	
	35	70	150	
	40	55	129	
	45	50	122	
	50	60	136	
	55	40	107	
	60	30	93	
	65	25	86	
	70	20	78	
	75	30	93	
	80	15	71	

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

TABLE B

แสดงความเร็วอากาศที่ตำแหน่งต่าง ๆ ในกระแสอากาศ

SQUARE DIFFUSER	=	304.8x304.8	MM ² . [12x12 in ² .]
FLOW RATE	=	0.347	M ³ /S [736 CFM.]
NECK VELOCITY	=	4	M/S [800 FPM.]
STATIC PRESSURE	=	6.096	MM.Wg.[0.24 in.Wg.]



X [CM.]	Y [CM.]	READING VELOCITY [M/S] [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
40	10	4.25 [850]	6.33 [1265]	21.9
	15	1.25 [250]	2.00 [400]	
	20	0.10 [20]	0.39 [78]	
60	10	3.00 [600]	4.55 [910]	21.8
	15	2.25 [450]	3.20 [640]	
	20	0.95 [190]	1.60 [320]	
	25	0.15 [30]	0.47 [93]	
80	10	2.50 [500]	3.80 [760]	21.9
	15	2.10 [420]	3.25 [650]	
	20	1.80 [360]	2.80 [560]	
	25	0.90 [180]	1.54 [308]	
	30	0.25 [50]	0.61 [121]	
100	10	2.20 [440]	3.40 [680]	21.7
	15	2.10 [420]	3.25 [650]	
	20	2.00 [400]	3.10 [620]	
	25	1.45 [290]	2.30 [460]	
	30	0.80 [160]	1.40 [280]	
	35	0.35 [70]	0.75 [150]	
	40	0.20 [40]	0.54 [107]	
120	10	2.15 [430]	3.30 [660]	21.8
	15	1.95 [390]	3.00 [600]	
	20	1.80 [360]	2.80 [560]	
	25	1.60 [320]	2.50 [500]	
	30	1.25 [250]	2.04 [408]	
	35	0.70 [140]	1.25 [250]	
	40	0.38 [75]	0.79 [157]	
	45	0.20 [40]	0.54 [107]	

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY [M/S] [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
140	10	2.20 [440]	3.10 [620]	21.7
	15	1.85 [370]	2.90 [580]	
	20	1.70 [340]	2.68 [535]	
	25	1.55 [310]	2.45 [490]	
	30	1.45 [290]	2.33 [465]	
	35	0.90 [180]	1.54 [308]	
	40	0.65 [130]	1.18 [236]	
	45	0.35 [70]	0.75 [150]	
	50	0.20 [40]	0.54 [107]	
	55	0.10 [20]	0.39 [78]	
160	10	1.65 [330]	2.62 [523]	21.7
	15	1.50 [300]	2.40 [480]	
	20	1.35 [270]	2.19 [437]	
	25	1.25 [250]	2.04 [408]	
	30	1.10 [220]	1.83 [365]	
	35	1.00 [200]	1.68 [336]	
	40	0.75 [150]	1.33 [265]	
	45	0.48 [95]	0.93 [186]	
	50	0.50 [100]	0.97 [193]	
	55	0.20 [40]	0.54 [107]	
180	10	1.35 [270]	2.19 [437]	21.6
	15	1.25 [250]	2.04 [408]	
	20	1.20 [240]	1.97 [394]	
	25	1.15 [230]	1.90 [380]	
	30	1.10 [220]	1.83 [365]	
	35	1.00 [200]	1.68 [336]	
	40	0.90 [180]	1.54 [308]	
	45	0.70 [140]	1.25 [250]	
	50	0.45 [90]	0.90 [179]	
	55	0.35 [70]	0.75 [150]	
200	10	1.25 [250]	2.04 [408]	21.6
	15	1.10 [220]	1.83 [365]	
	20	1.15 [230]	1.90 [379]	
	25	1.10 [220]	1.83 [365]	
	30	1.05 [210]	1.76 [351]	
	35	0.95 [190]	1.61 [322]	
	40	0.85 [170]	1.47 [293]	
	45	0.70 [140]	1.25 [250]	
	50	0.60 [120]	1.11 [222]	
	55	0.45 [90]	0.90 [179]	
60	0.30 [60]	0.68 [136]		
65	0.10 [20]	0.39 [78]		

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY [M/S] [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
220	10	1.00 [200]	1.68 [336]	21.6
	15	1.05 [210]	1.75 [350]	
	20	1.05 [210]	1.75 [350]	
	25	1.00 [200]	1.68 [336]	
	30	0.95 [190]	1.61 [322]	
	35	0.90 [180]	1.54 [308]	
	40	0.85 [170]	1.47 [293]	
	45	0.75 [150]	1.33 [265]	
	50	0.60 [120]	1.11 [222]	
	55	0.48 [95]	0.93 [186]	
	60	0.35 [70]	0.75 [150]	
65	0.28 [55]	0.64 [128]		
70	0.18 [35]	0.50 [100]		
240	10	0.90 [180]	1.54 [308]	21.8
	15	0.95 [190]	1.61 [322]	
	20	0.90 [180]	1.54 [308]	
	25	0.85 [170]	1.47 [293]	
	30	0.80 [160]	1.40 [279]	
	35	0.80 [160]	1.40 [279]	
	40	0.75 [150]	1.33 [265]	
	45	0.65 [130]	1.18 [236]	
	50	0.50 [100]	0.97 [193]	
	55	0.35 [70]	0.75 [150]	
	60	0.25 [50]	0.61 [121]	
65	0.20 [40]	0.54 [107]		
70	0.13 [25]	0.43 [86]		
260	10	0.80 [160]	1.40 [279]	21.9
	15	0.85 [170]	1.47 [293]	
	20	0.80 [160]	1.40 [279]	
	25	0.75 [150]	1.33 [265]	
	30	0.70 [140]	1.25 [250]	
	35	0.65 [130]	1.25 [250]	
	40	0.60 [120]	1.11 [222]	
	45	0.50 [100]	0.97 [193]	
	50	0.38 [75]	0.79 [157]	
	55	0.35 [70]	0.75 [150]	
	60	0.30 [60]	0.68 [136]	
65	0.25 [50]	0.61 [121]		
70	0.25 [50]	0.47 [93]		

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY [M/S] [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
280	10	0.80 [160]	1.40 [279]	21.9
	15	0.75 [150]	1.33 [265]	
	20	0.75 [150]	1.33 [265]	
	25	0.80 [160]	1.40 [279]	
	30	0.70 [140]	1.25 [250]	
	35	0.65 [130]	1.18 [236]	
	40	0.60 [120]	1.11 [222]	
	45	0.55 [110]	1.04 [207]	
	50	0.50 [100]	0.97 [193]	
	55	0.40 [80]	0.82 [164]	
	60	0.30 [60]	0.68 [136]	
	65	0.23 [45]	0.57 [114]	
	70	0.20 [40]	0.54 [107]	
	75	0.13 [25]	0.43 [86]	
300	10	0.70 [140]	1.25 [250]	21.9
	15	0.70 [140]	1.25 [250]	
	20	0.65 [130]	1.18 [236]	
	25	0.65 [130]	1.18 [236]	
	30	0.60 [120]	1.11 [222]	
	35	0.50 [100]	0.97 [193]	
	40	0.45 [90]	0.90 [179]	
	45	0.40 [80]	0.82 [164]	
	50	0.35 [70]	0.75 [150]	
	55	0.35 [70]	0.75 [150]	
	60	0.28 [55]	0.64 [128]	
	65	0.20 [40]	0.54 [107]	
	70	0.13 [25]	0.43 [86]	
	75	0.15 [30]	0.47 [93]	
320	10	0.60 [120]	1.11 [222]	22.0
	15	0.65 [130]	1.18 [236]	
	20	0.60 [120]	1.11 [222]	
	25	0.55 [110]	1.04 [207]	
	30	0.55 [110]	1.04 [207]	
	35	0.45 [90]	0.90 [179]	
	40	0.40 [80]	0.82 [164]	
	45	0.40 [80]	0.82 [164]	
	50	0.40 [80]	0.82 [164]	
	55	0.38 [75]	0.79 [157]	
	60	0.38 [75]	0.79 [157]	
	65	0.35 [70]	0.75 [150]	
	70	0.30 [60]	0.68 [136]	
	75	0.30 [60]	0.57 [114]	
80	0.13 [25]	0.43 [86]		

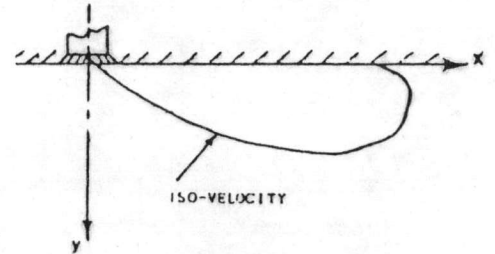
CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY [M/S] [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
340	10	0.65 [130]	1.18 [236]	22.1
	15	0.60 [120]	1.11 [222]	
	20	0.55 [110]	1.04 [207]	
	25	0.50 [100]	0.97 [193]	
	30	0.55 [110]	1.04 [207]	
	35	0.50 [100]	0.97 [193]	
	40	0.45 [90]	0.90 [179]	
	45	0.40 [80]	0.82 [164]	
	50	0.38 [75]	0.79 [157]	
	55	0.35 [70]	0.76 [151]	
	60	0.30 [60]	0.68 [136]	
	65	0.25 [50]	0.61 [121]	
	70	0.23 [45]	0.57 [114]	
	75	0.20 [40]	0.54 [107]	
	80	0.10 [20]	0.39 [78]	
85	0.10 [20]	0.39 [78]		
360	10	0.60 [120]	1.11 [222]	22.0
	15	0.55 [110]	1.04 [207]	
	20	0.48 [95]	0.93 [186]	
	25	0.43 [85]	0.86 [171]	
	30	0.40 [80]	0.82 [164]	
	35	0.35 [70]	0.76 [151]	
	40	0.38 [75]	0.79 [157]	
	45	0.38 [75]	0.79 [157]	
	50	0.35 [70]	0.76 [151]	
	55	0.33 [65]	0.72 [143]	
	60	0.28 [55]	0.64 [128]	
	65	0.23 [45]	0.57 [114]	
	70	0.18 [35]	0.50 [100]	
	75	0.20 [40]	0.54 [107]	
	80	0.13 [25]	0.43 [86]	
85	0.10 [20]	0.39 [78]		

TABLE 9

แสดงความเร็วอากาศที่ตำแหน่งต่าง ๆ ในกระแสอากาศ

SQUARE DIFFUSER	=	304.8x304.8	MM ² . [12x12 in ² .]
FLOW RATE	=	0.390	M ³ /S [828 CFM.]
NECK VELOCITY	=	4.5	M/S [900 FPM.]
STATIC PRESSURE	=	7.874	MM.Wg. [0.31 in.Wg.]



X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
40	10	4.75 [950]	7.00 [1400]	22.9
	15	1.30 [260]	2.12 [423]	
	20	0.10 [20]	0.40 [79]	
60	10	3.25 [650]	4.91 [982]	22.9
	15	3.20 [640]	4.84 [967]	
	20	1.75 [350]	2.76 [552]	
	25	0.25 [50]	0.61 [122]	
	30	0.05 [10]	0.33 [65]	
80	10	3.00 [600]	4.55 [910]	22.8
	15	2.85 [570]	4.34 [867]	
	20	2.50 [500]	3.84 [767]	
	25	1.70 [340]	2.69 [537]	
	30	0.45 [90]	0.90 [179]	
	35	0.10 [20]	0.39 [78]	
100	10	2.65 [530]	4.05 [809]	22.8
	15	2.50 [500]	3.84 [767]	
	20	2.30 [460]	3.55 [709]	
	25	1.90 [380]	2.98 [595]	
	30	1.10 [220]	1.83 [365]	
	35	0.55 [110]	1.04 [208]	
	40	0.15 [30]	0.47 [93]	
120	10	2.30 [460]	3.55 [709]	22.8
	15	2.15 [430]	3.34 [667]	
	20	2.00 [400]	3.12 [623]	
	25	2.00 [400]	3.12 [623]	
	30	1.75 [350]	2.76 [551]	
	35	0.80 [160]	1.40 [279]	
	40	0.45 [90]	0.90 [179]	
	45	0.20 [40]	0.54 [107]	

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
140	10	1.95 [390]	3.05 [609]	22.8
	15	2.00 [400]	3.12 [623]	
	20	2.15 [430]	3.34 [667]	
	25	1.80 [360]	2.83 [566]	
	30	1.60 [320]	2.54 [508]	
	35	1.05 [210]	1.76 [351]	
	40	0.80 [160]	1.40 [279]	
	45	0.50 [100]	0.97 [193]	
	50	0.33 [65]	0.72 [143]	
	55	0.13 [25]	0.43 [86]	
160	10	1.45 [290]	2.33 [466]	22.7
	15	1.65 [330]	2.62 [523]	
	20	1.90 [380]	2.98 [595]	
	25	1.80 [360]	2.83 [566]	
	30	1.60 [320]	2.54 [508]	
	35	1.25 [250]	2.04 [408]	
	40	1.05 [210]	1.76 [351]	
	45	0.70 [140]	1.26 [251]	
	50	0.45 [90]	0.90 [179]	
	55	0.33 [65]	0.72 [143]	
60	0.05 [10]	0.33 [65]		
180	10	1.35 [270]	2.19 [437]	22.6
	15	1.45 [290]	2.33 [466]	
	20	1.50 [300]	2.40 [480]	
	25	1.50 [300]	2.40 [480]	
	30	1.35 [270]	2.19 [437]	
	35	1.25 [250]	2.04 [408]	
	40	1.05 [210]	1.76 [351]	
	45	0.85 [170]	1.47 [294]	
	50	0.55 [110]	1.04 [208]	
	55	0.40 [80]	0.83 [165]	
60	0.15 [30]	0.47 [93]		
200	10	1.35 [270]	2.19 [437]	22.6
	15	1.25 [250]	2.04 [408]	
	20	1.25 [250]	2.04 [408]	
	25	1.30 [260]	2.12 [423]	
	30	1.35 [270]	2.19 [437]	
	35	1.20 [240]	1.97 [394]	
	40	1.00 [200]	1.68 [336]	
	45	0.70 [140]	1.25 [250]	
	50	0.55 [110]	1.04 [208]	
	55	0.43 [85]	0.86 [172]	
60	0.25 [50]	0.61 [122]		

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
220	10	1.20 [240]	1.97 [394]	22.5
	15	1.15 [230]	1.90 [380]	
	20	1.15 [230]	1.90 [380]	
	25	1.20 [240]	1.47 [294]	
	30	1.15 [230]	1.90 [380]	
	35	1.05 [210]	1.76 [351]	
	40	0.95 [190]	1.61 [322]	
	45	0.75 [150]	1.33 [265]	
	50	0.60 [120]	1.11 [222]	
	55	0.45 [90]	0.90 [179]	
	60	0.33 [65]	0.72 [143]	
	65	0.20 [40]	0.54 [107]	
240	10	1.20 [240]	1.97 [394]	22.4
	15	1.15 [230]	1.90 [380]	
	20	1.10 [220]	1.83 [365]	
	25	1.10 [220]	1.83 [365]	
	30	1.05 [210]	1.76 [351]	
	35	1.00 [200]	1.68 [336]	
	40	0.90 [180]	1.54 [308]	
	45	0.75 [150]	1.33 [265]	
	50	0.60 [120]	1.11 [222]	
	55	0.45 [90]	0.90 [179]	
	60	0.35 [70]	0.75 [150]	
	65	0.25 [50]	0.61 [122]	
	70	0.18 [35]	0.50 [100]	
	75	0.10 [20]	0.39 [78]	
260	10	1.05 [210]	1.76 [351]	22.4
	15	1.05 [210]	1.76 [351]	
	20	1.00 [200]	1.69 [337]	
	25	0.95 [190]	1.61 [322]	
	30	0.90 [180]	1.54 [308]	
	35	0.80 [160]	1.40 [280]	
	40	0.75 [150]	1.33 [265]	
	45	0.70 [140]	1.25 [250]	
	50	0.63 [125]	1.15 [229]	
	55	0.50 [100]	0.97 [193]	
	60	0.35 [70]	0.75 [150]	
	65	0.30 [60]	0.68 [136]	
	70	0.25 [50]	0.61 [121]	
	75	0.18 [35]	0.50 [100]	

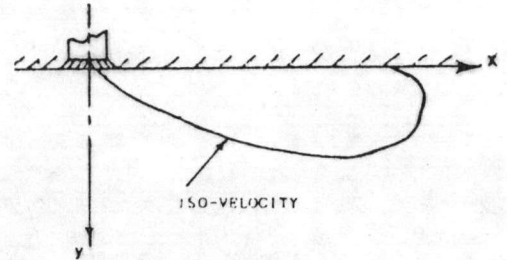
CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
280	10	1.00 [200]	1.69 [337]	22.5
	15	0.95 [190]	1.61 [322]	
	20	0.90 [180]	1.54 [308]	
	25	0.85 [170]	1.47 [294]	
	30	0.75 [150]	1.33 [265]	
	35	0.75 [150]	1.33 [265]	
	40	0.65 [130]	1.18 [236]	
	45	0.60 [120]	1.11 [222]	
	50	0.50 [100]	0.97 [193]	
	55	0.40 [80]	0.83 [165]	
	60	0.35 [70]	0.75 [150]	
	65	0.25 [50]	0.61 [122]	
	70	0.18 [35]	0.50 [100]	
	75	0.15 [30]	0.47 [93]	
300	10	0.90 [180]	1.54 [308]	22.3
	15	0.95 [190]	1.61 [322]	
	20	0.90 [180]	1.54 [308]	
	25	0.90 [180]	1.54 [308]	
	30	0.85 [170]	1.47 [294]	
	35	0.80 [160]	1.40 [279]	
	40	0.75 [150]	1.33 [265]	
	45	0.65 [130]	1.18 [236]	
	50	0.55 [110]	1.04 [208]	
	55	0.48 [95]	0.93 [186]	
	60	0.40 [80]	0.83 [165]	
	65	0.30 [60]	0.68 [136]	
	70	0.18 [35]	0.50 [100]	
	75	0.10 [20]	0.39 [78]	
320	10	0.85 [170]	1.47 [294]	22.2
	15	0.80 [160]	1.40 [279]	
	20	0.80 [160]	1.40 [279]	
	25	0.75 [150]	1.33 [265]	
	30	0.60 [120]	1.11 [222]	
	35	0.65 [130]	1.18 [236]	
	40	0.55 [110]	1.04 [208]	
	45	0.60 [120]	1.11 [222]	
	50	0.55 [110]	1.04 [208]	
	55	0.45 [90]	0.90 [179]	
	60	0.38 [75]	0.79 [157]	
	65	0.30 [60]	0.68 [136]	
	70	0.20 [40]	0.54 [107]	
	75	0.10 [20]	0.39 [78]	

TABLE 10

แสดงความเร็วอากาศที่ตำแหน่งต่าง ๆ ในกระแสอากาศ

SQUARE DIFFUSER	=	355.6x355.6	MM ² . [14x14 in ² .]
FLOW RATE	=	0.226	M ³ /S [480 CFM.]
NECK VELOCITY	=	2.00	M/S [400 FPM.]
STATIC PRESSURE	=	1.524	MM.Wg.[0.06 in.Wg.]



X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
40	10	1.75 [350]	2.75 [550]	21.1
	15	1.80 [360]	2.83 [566]	
	20	0.40 [80]	0.82 [164]	
60	10	1.35 [270]	2.19 [437]	21.0
	15	1.60 [320]	2.50 [500]	
	20	1.15 [230]	1.90 [379]	
	25	0.33 [65]	0.72 [143]	
80	10	1.10 [220]	1.83 [365]	20.7
	15	1.20 [240]	1.97 [394]	
	20	1.10 [220]	1.83 [365]	
	25	0.90 [180]	1.54 [308]	
	30	0.40 [80]	0.82 [164]	
100	10	0.85 [170]	1.47 [294]	20.6
	15	0.68 [135]	1.22 [243]	
	20	0.80 [160]	1.40 [279]	
	25	0.70 [140]	1.25 [250]	
	30	0.60 [120]	1.11 [222]	
	35	0.45 [90]	0.90 [179]	
	40	0.30 [60]	0.68 [136]	
120	10	0.75 [150]	1.33 [265]	20.6
	15	0.65 [130]	1.18 [236]	
	20	0.60 [120]	1.11 [222]	
	25	0.58 [115]	1.07 [214]	
	30	0.48 [95]	0.93 [186]	
	35	0.35 [70]	0.75 [150]	
	40	0.28 [55]	0.64 [128]	
	45	0.15 [30]	0.47 [93]	

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
140	10	0.60 [120]	1.11 [222]	20.5
	15	0.55 [110]	1.04 [207]	
	20	0.48 [95]	0.93 [186]	
	25	0.50 [100]	0.97 [193]	
	30	0.43 [85]	0.86 [171]	
	35	0.48 [95]	0.93 [186]	
	40	0.50 [100]	0.97 [193]	
	45	0.50 [100]	0.97 [193]	
	50	0.18 [35]	0.50 [100]	
	55	0.13 [25]	0.43 [86]	
160	10	0.55 [110]	1.04 [207]	20.4
	15	0.48 [95]	0.93 [186]	
	20	0.43 [85]	0.86 [171]	
	25	0.38 [75]	0.79 [157]	
	30	0.35 [70]	0.75 [150]	
	35	0.38 [75]	0.79 [157]	
	40	0.35 [70]	0.75 [150]	
	45	0.30 [60]	0.68 [136]	
	50	0.28 [55]	0.64 [128]	
	55	0.25 [50]	0.61 [121]	
180	10	0.43 [85]	0.86 [171]	20.6
	15	0.40 [80]	0.82 [164]	
	20	0.35 [70]	0.75 [150]	
	25	0.33 [65]	0.72 [143]	
	30	0.33 [65]	0.72 [143]	
	35	0.33 [65]	0.72 [143]	
	40	0.33 [65]	0.72 [143]	
	45	0.30 [60]	0.68 [136]	
	50	0.28 [55]	0.64 [128]	
	55	0.30 [60]	0.68 [136]	
200	10	0.40 [80]	0.82 [164]	20.6
	15	0.35 [70]	0.75 [150]	
	20	0.33 [65]	0.72 [143]	
	25	0.33 [65]	0.72 [143]	
	30	0.30 [60]	0.68 [136]	
	35	0.33 [65]	0.72 [143]	
	40	0.33 [65]	0.72 [143]	
	45	0.33 [65]	0.72 [143]	
	50	0.30 [60]	0.68 [136]	
	55	0.28 [55]	0.64 [128]	
	60	0.25 [50]	0.61 [121]	
	65	0.23 [45]	0.57 [114]	
	70	0.10 [20]	0.35 [70]	

CONTINUED

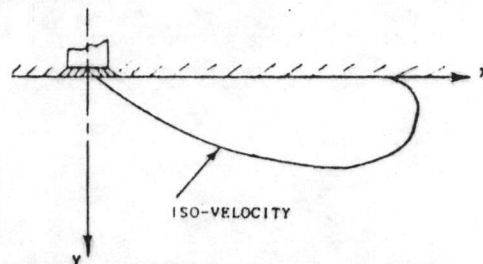
X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
220	10	0.35 [70]	0.75 [150]	20.7
	15	0.33 [65]	0.72 [143]	
	20	0.30 [60]	0.68 [136]	
	25	0.30 [60]	0.68 [136]	
	30	0.30 [60]	0.68 [136]	
	35	0.25 [50]	0.61 [121]	
	40	0.25 [50]	0.61 [121]	
	45	0.25 [50]	0.61 [121]	
	50	0.23 [45]	0.57 [114]	
	55	0.25 [50]	0.61 [121]	
	60	0.20 [40]	0.54 [107]	
	65	0.20 [40]	0.54 [107]	
	70	0.20 [40]	0.54 [107]	
	75	0.18 [35]	0.49 [98]	
	80	0.13 [25]	0.43 [86]	

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

TABLE 11

แสดงความเร็วอากาศที่ตำแหน่งต่าง ๆ ในกระแสอากาศ

SQUARE DIFFUSER	=	355.6x355.6	MM ² . [14x14 in ² .]
FLOW RATE	=	0.283	M ³ /S [600 CFM.]
NECK VELOCITY	=	2.50	M/S [500 FPM.]
STATIC PRESSURE	=	2.032	MM.Wg. [0.08 in.Wg.]



X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
40	10	2.20 [400]	3.40 [680]	20.6
	15	2.25 [450]	3.48 [695]	
	20	0.35 [70]	0.75 [150]	
60	10	1.90 [380]	2.97 [594]	20.6
	15	2.10 [420]	3.26 [652]	
	20	1.75 [350]	2.76 [551]	
	25	0.80 [160]	1.40 [279]	
	30	0.08 [15]	0.36 [71]	
80	10	1.45 [290]	2.33 [465]	20.6
	15	1.50 [300]	2.40 [480]	
	20	1.50 [300]	2.40 [480]	
	25	1.30 [260]	2.11 [422]	
	30	0.70 [140]	1.25 [250]	
	35	0.15 [30]	0.47 [93]	
100	10	1.15 [230]	1.90 [379]	20.7
	15	1.25 [250]	2.04 [408]	
	20	1.30 [260]	2.11 [422]	
	25	1.15 [230]	1.90 [379]	
	30	0.85 [170]	1.47 [293]	
	35	0.55 [110]	1.04 [207]	
	40	0.25 [50]	0.61 [121]	
120	10	1.10 [220]	1.83 [365]	20.7
	15	0.95 [190]	1.61 [322]	
	20	1.05 [210]	1.76 [351]	
	25	1.10 [220]	1.83 [365]	
	30	0.95 [190]	1.61 [322]	
	35	0.80 [160]	1.40 [279]	
	40	0.65 [130]	1.18 [236]	
	45	0.35 [70]	0.75 [150]	
	50	0.25 [50]	0.61 [121]	

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
140	10	0.90 [180]	1.54 [308]	20.6
	15	0.80 [160]	1.40 [279]	
	20	0.75 [150]	1.33 [265]	
	25	0.65 [130]	1.18 [236]	
	30	0.68 [135]	1.22 [243]	
	35	0.70 [140]	1.25 [250]	
	40	0.65 [130]	1.18 [236]	
	45	0.55 [110]	1.04 [207]	
	50	0.35 [70]	0.75 [150]	
	55	0.18 [35]	0.50 [100]	
160	10	0.75 [150]	1.33 [265]	20.6
	15	0.65 [130]	1.18 [236]	
	20	0.60 [120]	1.11 [222]	
	25	0.68 [135]	1.22 [243]	
	30	0.70 [140]	1.25 [250]	
	35	0.63 [125]	1.15 [229]	
	40	0.65 [130]	1.18 [236]	
	45	0.55 [110]	1.04 [207]	
	50	0.40 [80]	0.82 [164]	
	55	0.35 [70]	0.75 [150]	
180	10	0.65 [130]	1.18 [236]	20.6
	15	0.60 [120]	1.11 [222]	
	20	0.48 [95]	0.93 [186]	
	25	0.45 [90]	0.90 [179]	
	30	0.40 [80]	0.82 [164]	
	35	0.35 [70]	0.75 [150]	
	40	0.50 [100]	0.97 [193]	
	45	0.48 [95]	0.93 [186]	
	50	0.40 [80]	0.82 [164]	
	55	0.40 [80]	0.82 [164]	
60	0.35 [70]	0.75 [150]		
65	0.33 [65]	0.72 [143]		
70	0.25 [50]	0.61 [121]		
75	0.15 [30]	0.47 [93]		

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
200	10	0.60 [120]	1.11 [222]	20.6
	15	0.50 [100]	0.97 [193]	
	20	0.45 [90]	0.90 [179]	
	25	0.45 [90]	0.90 [179]	
	30	0.40 [80]	0.82 [164]	
	35	0.43 [85]	0.86 [171]	
	40	0.38 [75]	0.79 [157]	
	45	0.38 [75]	0.79 [157]	
	50	0.35 [70]	0.75 [150]	
	55	0.38 [75]	0.79 [157]	
	60	0.33 [65]	0.72 [143]	
	65	0.30 [60]	0.68 [136]	
	70	0.23 [45]	0.57 [114]	
	75	0.15 [30]	0.47 [93]	
80	0.13 [25]	0.43 [85]		
220	10	0.55 [110]	1.04 [207]	20.7
	15	0.45 [90]	0.90 [179]	
	20	0.43 [85]	0.86 [171]	
	25	0.40 [80]	0.82 [164]	
	30	0.40 [80]	0.82 [164]	
	35	0.45 [90]	0.90 [179]	
	40	0.43 [85]	0.86 [171]	
	45	0.43 [85]	0.86 [171]	
	50	0.38 [75]	0.79 [157]	
	55	0.35 [70]	0.75 [150]	
	60	0.33 [65]	0.72 [143]	
	65	0.30 [60]	0.68 [136]	
	70	0.25 [50]	0.61 [121]	
	75	0.18 [35]	0.50 [100]	
80	0.13 [25]	0.43 [86]		
240	10	0.45 [90]	0.90 [179]	20.8
	15	0.40 [80]	0.82 [164]	
	20	0.38 [75]	0.79 [157]	
	25	0.40 [80]	0.82 [164]	
	30	0.35 [70]	0.75 [150]	
	35	0.40 [80]	0.82 [164]	
	40	0.35 [70]	0.75 [150]	
	45	0.33 [65]	0.72 [143]	
	50	0.33 [65]	0.72 [143]	
	55	0.35 [70]	0.75 [150]	
	60	0.30 [60]	0.72 [143]	
	65	0.25 [50]	0.61 [121]	
	70	0.23 [45]	0.57 [114]	
	75	0.18 [35]	0.50 [100]	
80	0.13 [25]	0.43 [86]		

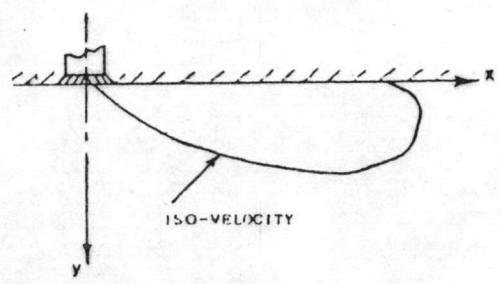
CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
260	10	0.40 [80]	0.82 [164]	20.8
	15	0.35 [70]	0.75 [150]	
	20	0.35 [70]	0.75 [150]	
	25	0.33 [65]	0.72 [143]	
	30	0.30 [60]	0.68 [136]	
	35	0.30 [60]	0.68 [136]	
	40	0.33 [65]	0.72 [143]	
	45	0.35 [70]	0.75 [150]	
	50	0.33 [65]	0.72 [143]	
	55	0.30 [60]	0.68 [136]	
	60	0.30 [60]	0.68 [136]	
	65	0.25 [50]	0.61 [121]	
	70	0.25 [50]	0.61 [121]	
	75	0.20 [40]	0.54 [107]	
80	0.10 [20]	0.39 [78]		
280	10	0.35 [70]	0.75 [150]	20.8
	15	0.33 [65]	0.72 [143]	
	20	0.33 [65]	0.72 [143]	
	25	0.30 [60]	0.68 [136]	
	30	0.30 [60]	0.68 [136]	
	35	0.28 [55]	0.64 [128]	
	40	0.25 [50]	0.61 [121]	
	45	0.28 [55]	0.64 [128]	
	50	0.30 [60]	0.68 [136]	
	55	0.28 [55]	0.64 [128]	
	60	0.30 [60]	0.68 [136]	
	65	0.25 [50]	0.61 [121]	
	70	0.23 [45]	0.57 [114]	
	75	0.15 [30]	0.47 [93]	
80	0.10 [20]	0.39 [78]		
300	10	0.30 [60]	0.68 [136]	20.8
	15	0.33 [65]	0.72 [143]	
	20	0.30 [60]	0.68 [136]	
	25	0.28 [55]	0.64 [128]	
	30	0.25 [50]	0.61 [121]	
	35	0.28 [55]	0.64 [128]	
	40	0.25 [50]	0.61 [121]	
	45	0.23 [45]	0.57 [114]	
	50	0.25 [50]	0.61 [121]	
	55	0.25 [50]	0.61 [121]	
	60	0.25 [50]	0.61 [121]	
	65	0.25 [50]	0.61 [121]	
	70	0.20 [40]	0.54 [107]	
	75	0.15 [30]	0.47 [93]	
80	0.13 [25]	0.43 [86]		

TABLE 12

แสดงความเร็วอากาศที่ตำแหน่งต่าง ๆ ในกระแสอากาศ

SQUARE DIFFUSER = 355.6x355.6 MM². [14x14 in².]
 FLOW RATE = 0.339 M³/S [720 CFM.]
 NECK VELOCITY = 3 M/S [600 FPM.]
 STATIC PRESSURE = 3.048 MM.Wg.[0.12 in.Wg.]



X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
40	10	2.75 [550]	4.19 [838]	21.8
	15	2.65 [530]	4.05 [809]	
	20	0.35 [70]	0.75 [150]	
60	10	2.20 [440]	3.40 [680]	21.7
	15	2.40 [480]	3.69 [738]	
	20	2.15 [430]	3.33 [666]	
	25	0.90 [180]	1.53 [305]	
	30	0.15 [30]	0.47 [93]	
80	10	0.19 [380]	2.95 [590]	21.6
	15	2.00 [400]	3.12 [623]	
	20	2.00 [400]	3.12 [623]	
	25	1.70 [340]	2.69 [537]	
	30	0.90 [180]	1.54 [308]	
	35	0.35 [70]	0.75 [150]	
	40	0.10 [20]	0.39 [78]	
100	10	1.45 [290]	2.33 [465]	21.5
	15	1.50 [300]	2.40 [480]	
	20	1.45 [290]	2.33 [465]	
	25	1.35 [270]	2.19 [437]	
	30	1.20 [240]	1.97 [394]	
	35	0.95 [190]	1.61 [322]	
	40	0.55 [110]	1.04 [207]	
	45	0.10 [20]	0.39 [78]	
120	10	1.40 [280]	2.25 [450]	21.4
	15	1.30 [260]	2.11 [422]	
	20	1.20 [240]	1.97 [394]	
	25	1.15 [230]	1.90 [379]	
	30	1.00 [200]	1.68 [336]	
	35	0.88 [175]	1.50 [300]	
	40	0.70 [140]	1.25 [250]	
	45	0.40 [80]	0.82 [164]	
	50	0.13 [25]	0.43 [86]	

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
140	10	1.20 [240]	1.97 [394]	21.3
	15	1.20 [240]	1.97 [394]	
	20	0.95 [190]	1.54 [308]	
	25	0.85 [170]	1.47 [293]	
	30	0.75 [150]	1.33 [265]	
	35	0.80 [160]	1.40 [279]	
	40	0.65 [130]	1.18 [236]	
	45	0.75 [150]	1.33 [265]	
	50	0.40 [80]	0.82 [164]	
	55	0.30 [60]	0.68 [136]	
60	0.13 [25]	0.43 [85]		
160	10	1.10 [220]	1.83 [365]	21.2
	15	1.00 [200]	1.68 [336]	
	20	0.90 [180]	1.54 [308]	
	25	0.80 [160]	1.40 [279]	
	30	0.75 [150]	1.33 [265]	
	35	0.75 [150]	1.33 [265]	
	40	0.85 [170]	1.47 [293]	
	45	0.70 [140]	1.25 [250]	
	50	0.55 [110]	1.04 [207]	
	55	0.40 [80]	0.82 [164]	
60	0.28 [55]	0.64 [128]		
65	0.18 [35]	0.50 [100]		
180	10	1.00 [200]	1.68 [336]	21.1
	15	0.88 [175]	1.50 [300]	
	20	0.85 [170]	1.47 [293]	
	25	0.80 [160]	1.40 [279]	
	30	0.75 [150]	1.33 [265]	
	35	0.65 [130]	1.18 [236]	
	40	0.60 [120]	1.11 [222]	
	45	0.55 [110]	1.04 [207]	
	50	0.40 [80]	0.82 [164]	
	55	0.35 [70]	0.75 [150]	
60	0.25 [50]	0.61 [121]		
65	0.18 [35]	0.50 [100]		
70	0.13 [25]	0.43 [85]		

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
200	10	0.85 [170]	1.47 [293]	21.0
	15	0.75 [150]	1.33 [265]	
	20	0.70 [140]	1.25 [250]	
	25	0.65 [130]	1.18 [236]	
	30	0.55 [110]	1.04 [207]	
	35	0.50 [100]	0.97 [193]	
	40	0.60 [120]	1.11 [222]	
	45	0.65 [130]	1.18 [236]	
	50	0.60 [120]	1.11 [222]	
	55	0.60 [120]	1.11 [222]	
	60	0.50 [100]	0.97 [193]	
	65	0.40 [80]	0.82 [164]	
	70	0.20 [40]	0.54 [107]	
	75	0.10 [20]	0.39 [78]	
220	10	0.70 [140]	1.25 [250]	20.9
	15	0.65 [130]	1.18 [236]	
	20	0.55 [110]	1.04 [207]	
	25	0.50 [100]	0.97 [193]	
	30	0.45 [90]	0.87 [174]	
	35	0.50 [100]	0.97 [193]	
	40	0.45 [90]	0.90 [179]	
	45	0.50 [100]	0.97 [193]	
	50	0.55 [110]	1.04 [207]	
	55	0.50 [100]	0.97 [193]	
	60	0.45 [90]	0.90 [179]	
	65	0.35 [70]	0.75 [150]	
	70	0.25 [50]	0.61 [121]	
	75	0.18 [35]	0.50 [100]	
80	0.10 [20]	0.39 [78]		
240	10	0.65 [130]	1.18 [236]	20.8
	15	0.50 [100]	0.97 [193]	
	20	0.45 [90]	0.90 [179]	
	25	0.40 [80]	0.82 [164]	
	30	0.50 [100]	0.97 [193]	
	35	0.45 [90]	0.90 [179]	
	40	0.45 [90]	0.90 [179]	
	45	0.40 [80]	0.82 [164]	
	50	0.38 [75]	0.79 [157]	
	55	0.40 [80]	0.82 [164]	
	60	0.45 [90]	0.97 [193]	
	65	0.38 [75]	0.79 [157]	
	70	0.30 [60]	0.68 [136]	
	75	0.18 [35]	0.50 [100]	

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
260	10	0.50 [100]	0.97 [193]	20.6
	15	0.40 [80]	0.82 [164]	
	20	0.38 [75]	0.79 [157]	
	25	0.30 [60]	0.68 [136]	
	30	0.28 [55]	0.64 [128]	
	35	0.33 [65]	0.72 [143]	
	40	0.38 [75]	0.79 [157]	
	45	0.35 [70]	0.75 [150]	
	50	0.50 [100]	0.97 [193]	
	55	0.40 [80]	0.82 [164]	
	60	0.40 [80]	0.82 [164]	
	65	0.38 [75]	0.79 [157]	
	70	0.33 [65]	0.72 [143]	
	75	0.33 [65]	0.72 [143]	
	80	0.25 [50]	0.61 [121]	
85	0.20 [40]	0.54 [107]		
280	10	0.50 [100]	0.97 [193]	20.7
	15	0.45 [90]	0.90 [179]	
	20	0.40 [80]	0.82 [164]	
	25	0.38 [75]	0.79 [157]	
	30	0.40 [80]	0.82 [164]	
	35	0.35 [75]	0.75 [150]	
	40	0.40 [80]	0.82 [164]	
	45	0.43 [85]	0.86 [171]	
	50	0.38 [75]	0.79 [157]	
	55	0.43 [85]	0.86 [171]	
	60	0.35 [70]	0.75 [150]	
	65	0.35 [70]	0.75 [150]	
	70	0.30 [60]	0.68 [136]	
	75	0.28 [55]	0.64 [128]	
	80	0.30 [60]	0.68 [136]	
85	0.18 [35]	0.50 [100]		
300	10	0.45 [90]	0.90 [179]	20.7
	15	0.38 [75]	0.79 [157]	
	20	0.35 [70]	0.75 [150]	
	25	0.35 [70]	0.75 [150]	
	30	0.33 [65]	0.72 [143]	
	35	0.33 [65]	0.72 [143]	
	40	0.35 [70]	0.75 [150]	
	45	0.40 [80]	0.82 [164]	
	50	0.38 [75]	0.79 [157]	
	55	0.35 [70]	0.75 [150]	
	60	0.33 [65]	0.82 [164]	
	65	0.30 [60]	0.93 [186]	
	70	0.28 [55]	0.64 [128]	
	75	0.23 [45]	0.57 [114]	
	80	0.20 [40]	0.54 [107]	
85	0.13 [25]	0.43 [85]		

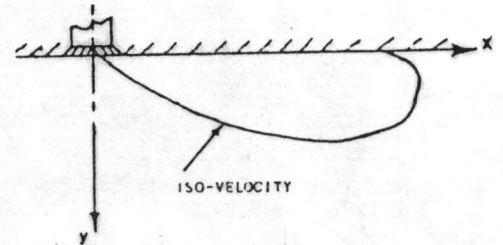
CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
320	10	0.40 [80]	0.82 [164]	20.7
	15	0.38 [75]	0.79 [157]	
	20	0.35 [70]	0.75 [150]	
	25	0.30 [60]	0.68 [136]	
	30	0.30 [60]	0.68 [136]	
	35	0.28 [55]	0.64 [128]	
	40	0.25 [50]	0.61 [121]	
	45	0.30 [60]	0.68 [136]	
	50	0.25 [50]	0.61 [121]	
	55	0.23 [45]	0.57 [114]	
	60	0.25 [50]	0.64 [128]	
	65	0.28 [55]	0.61 [121]	
	70	0.25 [50]	0.54 [107]	
	75	0.20 [40]	0.50 [100]	
80	0.18 [35]	0.47 [93]		
340	10	0.33 [65]	0.72 [143]	20.7
	15	0.30 [60]	0.68 [136]	
	20	0.35 [70]	0.75 [150]	
	25	0.30 [60]	0.68 [136]	
	30	0.28 [55]	0.64 [128]	
	35	0.25 [50]	0.61 [121]	
	40	0.28 [55]	0.64 [128]	
	45	0.30 [60]	0.68 [136]	
	50	0.28 [55]	0.64 [128]	
	55	0.30 [60]	0.68 [136]	
	60	0.23 [45]	0.57 [114]	
	65	0.23 [45]	0.57 [114]	
	70	0.25 [50]	0.61 [121]	
	75	0.25 [50]	0.61 [121]	
80	0.25 [50]	0.61 [121]		
85	0.20 [40]	0.54 [107]		

TABLE 13

แสดงความเร็วอากาศที่ตำแหน่งต่าง ๆ ในกระแสอากาศ

SQUARE DIFFUSER	=	355.6x355.6	MM ² . [14x14 in ² .]
FLOW RATE	=	0.396	M ³ /S [840 CFM.]
NECK VELOCITY	=	3.5	M/S [700 FPM.]
STATIC PRESSURE	=	4.064	MM.Wg.[0.16 in.Wg.]



X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
40	10	3.10 [620]	4.65 [930]	22.9
	15	3.00 [600]	4.50 [900]	
	20	0.90 [180]	1.54 [308]	
60	10	2.50 [500]	3.80 [760]	23.0
	15	2.90 [580]	4.40 [880]	
	20	2.65 [530]	4.03 [805]	
	25	1.10 [220]	1.83 [365]	
	30	0.30 [60]	0.68 [136]	
80	10	2.15 [430]	3.30 [660]	23.0
	15	2.35 [470]	3.60 [720]	
	20	2.00 [400]	3.10 [620]	
	25	1.75 [350]	2.75 [550]	
	30	1.05 [210]	1.75 [350]	
	35	0.40 [80]	0.82 [164]	
	40	0.10 [20]	0.35 [70]	
100	10	1.90 [380]	2.95 [590]	23.1
	15	2.00 [400]	3.12 [623]	
	20	2.10 [420]	3.26 [652]	
	25	2.00 [400]	3.12 [623]	
	30	1.80 [360]	2.83 [566]	
	35	0.85 [170]	1.47 [293]	
	40	0.40 [80]	0.82 [163]	
	45	0.15 [30]	0.47 [93]	
120	10	1.80 [360]	2.83 [566]	23.2
	15	1.60 [320]	2.53 [505]	
	20	1.60 [320]	2.53 [505]	
	25	1.50 [300]	2.40 [480]	
	30	1.50 [300]	2.40 [480]	
	35	1.40 [280]	2.25 [450]	
	40	1.00 [200]	1.68 [336]	
	45	0.65 [130]	1.18 [236]	
	50	0.20 [40]	0.54 [107]	

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
140	10	1.35 [270]	2.19 [437]	23.2
	15	1.20 [240]	1.97 [394]	
	20	1.15 [230]	1.90 [379]	
	25	1.10 [220]	1.83 [365]	
	30	1.10 [220]	1.83 [365]	
	35	1.15 [230]	1.90 [379]	
	40	1.05 [210]	1.76 [351]	
	45	0.90 [180]	1.54 [308]	
	50	0.65 [130]	1.18 [236]	
	55	0.38 [75]	0.79 [157]	
	60	0.20 [40]	0.54 [107]	
160	10	1.25 [250]	2.04 [408]	23.1
	15	1.10 [220]	1.83 [365]	
	20	1.00 [200]	1.68 [336]	
	25	0.95 [190]	1.61 [322]	
	30	1.00 [200]	1.68 [336]	
	35	0.95 [190]	1.61 [322]	
	40	0.95 [190]	1.61 [322]	
	45	0.90 [180]	1.54 [308]	
	50	0.80 [160]	1.40 [279]	
	55	0.60 [120]	1.11 [222]	
	60	0.25 [50]	0.61 [121]	
65	0.20 [40]	0.54 [107]		
180	10	1.00 [200]	1.68 [336]	23.0
	15	0.90 [180]	1.54 [308]	
	20	0.80 [160]	1.40 [279]	
	25	0.85 [170]	1.47 [293]	
	30	0.80 [160]	1.40 [279]	
	35	0.85 [170]	1.47 [293]	
	40	0.80 [160]	1.40 [279]	
	45	0.75 [150]	1.33 [265]	
	50	0.70 [140]	1.25 [250]	
	55	0.60 [120]	1.11 [222]	
	60	0.50 [100]	0.97 [193]	
65	0.35 [70]	0.75 [150]		
70	0.18 [35]	0.50 [100]		

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
200	10	0.95 [190]	1.61 [322]	22.9
	15	0.90 [180]	1.54 [308]	
	20	0.85 [170]	1.47 [293]	
	25	0.75 [150]	1.33 [265]	
	30	0.80 [160]	1.40 [279]	
	35	0.75 [150]	1.33 [265]	
	40	0.80 [160]	1.40 [279]	
	45	0.75 [150]	1.33 [265]	
	50	0.70 [140]	1.25 [250]	
	55	0.65 [130]	1.18 [236]	
	60	0.55 [110]	1.04 [207]	
	65	0.45 [90]	0.90 [179]	
	70	0.35 [70]	0.75 [150]	
	75	0.25 [50]	0.61 [121]	
80	0.18 [35]	0.50 [100]		
220	10	0.85 [170]	1.47 [293]	22.8
	15	0.75 [150]	1.33 [265]	
	20	0.80 [160]	1.40 [279]	
	25	0.80 [160]	1.40 [279]	
	30	0.75 [150]	1.33 [265]	
	35	0.75 [150]	1.33 [265]	
	40	0.70 [140]	1.25 [250]	
	45	0.65 [130]	1.18 [236]	
	50	0.60 [120]	1.11 [222]	
	55	0.50 [100]	0.97 [193]	
	60	0.45 [90]	0.90 [179]	
	65	0.43 [85]	0.86 [171]	
	70	0.38 [75]	0.79 [157]	
	75	0.33 [65]	0.72 [143]	
80	0.25 [50]	0.61 [121]		
240	10	0.70 [140]	1.25 [250]	22.8
	15	0.65 [130]	1.18 [236]	
	20	0.60 [120]	1.11 [222]	
	25	0.60 [120]	1.11 [222]	
	30	0.55 [110]	1.04 [207]	
	35	0.55 [110]	1.04 [207]	
	40	0.50 [100]	0.97 [193]	
	45	0.53 [105]	1.00 [200]	
	50	0.50 [100]	1.00 [193]	
	55	0.55 [110]	1.04 [207]	
	60	0.55 [110]	1.04 [207]	
	65	0.48 [95]	0.93 [186]	
	70	0.45 [90]	0.90 [179]	
	75	0.35 [70]	0.75 [150]	
80	0.28 [55]	0.64 [128]		
85	0.20 [40]	0.54 [107]		

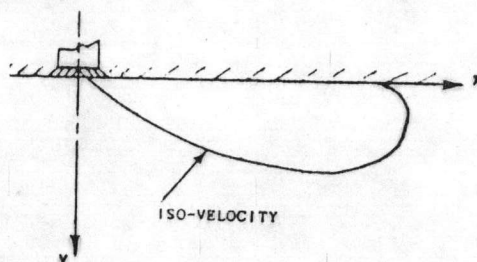
CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
260	10	0.65 [130]	1.18 [236]	22.6
	15	0.60 [120]	1.11 [222]	
	20	0.58 [115]	1.07 [214]	
	25	0.55 [110]	1.04 [207]	
	30	0.50 [100]	1.00 [193]	
	35	0.43 [85]	0.90 [171]	
	40	0.40 [80]	0.82 [164]	
	45	0.40 [80]	0.82 [164]	
	50	0.45 [90]	0.90 [179]	
	55	0.45 [90]	0.90 [179]	
	60	0.48 [95]	0.93 [186]	
	65	0.40 [80]	0.82 [164]	
	70	0.35 [70]	0.75 [150]	
	75	0.33 [65]	0.72 [143]	
	80	0.28 [55]	0.64 [128]	
85	0.18 [35]	0.50 [100]		
280	10	0.58 [115]	1.07 [214]	22.6
	15	0.55 [110]	1.04 [207]	
	20	0.53 [105]	1.00 [200]	
	25	0.45 [90]	0.90 [179]	
	30	0.40 [80]	0.82 [164]	
	35	0.38 [75]	0.80 [157]	
	40	0.40 [80]	0.82 [164]	
	45	0.43 [85]	0.86 [171]	
	50	0.40 [80]	0.82 [164]	
	55	0.43 [85]	0.86 [171]	
	60	0.45 [90]	0.90 [179]	
	65	0.40 [80]	0.82 [164]	
	70	0.35 [70]	0.75 [150]	
	75	0.33 [65]	0.72 [143]	
	80	0.28 [55]	0.64 [128]	
85	0.15 [30]	0.47 [93]		
300	10	0.50 [100]	1.00 [193]	22.5
	15	0.45 [90]	0.90 [179]	
	20	0.48 [95]	0.93 [186]	
	25	0.45 [90]	0.90 [179]	
	30	0.40 [80]	0.82 [164]	
	35	0.43 [85]	0.86 [171]	
	40	0.45 [90]	0.90 [179]	
	45	0.45 [90]	0.90 [179]	
	50	0.43 [85]	0.86 [171]	
	55	0.40 [80]	0.82 [164]	
	60	0.40 [80]	0.82 [164]	
	65	0.43 [85]	0.86 [171]	
	70	0.35 [70]	0.75 [150]	
	75	0.30 [60]	0.68 [136]	
	80	0.28 [55]	0.64 [128]	
85	0.13 [25]	0.43 [85]		

TABLE 14

แสดงความเร็วอากาศที่ตำแหน่งต่าง ๆ ในกระแสอากาศ

SQUARE DIFFUSER	=	355.6x355.6	MM ² . [14x14 in ² .]
FLOW RATE	=	0.453	M ³ /S [960 CFM.]
NECK VELOCITY	=	4	M/S [800 FPM.]
STATIC PRESSURE	=	5.08	MM.Wg.[0.20 in.Wg.]



X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
40	10	3.25 [650]	4.65 [930]	23.5
	15	3.40 [680]	4.50 [900]	
	20	0.90 [180]	1.54 [308]	
60	10	2.70 [540]	3.80 [760]	23.5
	15	3.25 [650]	4.40 [880]	
	20	3.00 [600]	4.03 [805]	
	25	1.50 [300]	1.83 [365]	
	30	0.38 [75]	0.68 [136]	
80	10	2.40 [480]	3.30 [660]	23.1
	15	2.65 [530]	3.60 [720]	
	20	2.50 [500]	3.10 [620]	
	25	2.20 [440]	2.75 [550]	
	30	1.40 [280]	1.75 [350]	
	35	0.65 [130]	0.82 [164]	
100	10	2.10 [420]	2.95 [590]	23.0
	15	2.00 [400]	3.12 [623]	
	20	2.25 [450]	3.26 [652]	
	25	2.15 [430]	3.12 [623]	
	30	1.70 [340]	2.83 [566]	
	35	1.25 [250]	1.47 [293]	
	40	0.75 [150]	0.82 [163]	
	45	0.35 [70]	0.47 [93]	
120	10	1.75 [350]	2.83 [566]	22.6
	15	1.90 [380]	2.53 [505]	
	20	1.75 [350]	2.53 [505]	
	25	1.65 [330]	2.40 [480]	
	30	1.55 [310]	2.40 [480]	
	35	1.35 [270]	2.25 [450]	
	40	1.15 [230]	1.68 [336]	
	45	0.75 [150]	1.18 [236]	
	50	0.40 [80]	0.54 [107]	
	55	0.13 [25]	0.54 [107]	

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
140	10	1.50 [300]	2.19 [437]	22.6
	15	1.40 [280]	1.97 [394]	
	20	1.35 [270]	1.90 [379]	
	25	1.40 [280]	1.83 [365]	
	30	1.30 [260]	1.83 [365]	
	35	1.25 [250]	1.90 [379]	
	40	1.30 [260]	1.76 [351]	
	45	1.20 [240]	1.54 [308]	
	50	1.00 [200]	1.18 [236]	
	55	0.60 [120]	0.79 [157]	
	60	0.18 [35]	0.54 [107]	
160	10	1.30 [260]	2.04 [408]	22.6
	15	1.15 [230]	1.83 [365]	
	20	1.10 [220]	1.68 [336]	
	25	1.05 [210]	1.61 [322]	
	30	1.10 [220]	1.68 [336]	
	35	1.10 [220]	1.61 [322]	
	40	1.05 [210]	1.61 [322]	
	45	1.00 [200]	1.54 [308]	
	50	0.80 [160]	1.40 [279]	
	55	0.60 [120]	1.11 [222]	
	60	0.35 [70]	0.61 [121]	
65	0.25 [50]	0.54 [107]		
180	10	1.10 [220]	1.68 [336]	22.4
	15	1.15 [230]	1.54 [308]	
	20	1.10 [220]	1.40 [279]	
	25	1.10 [220]	1.47 [293]	
	30	1.05 [210]	1.40 [279]	
	35	1.00 [200]	1.47 [293]	
	40	0.95 [190]	1.40 [279]	
	45	1.10 [220]	1.33 [265]	
	50	1.00 [200]	1.25 [250]	
	55	0.90 [180]	1.11 [222]	
	60	0.70 [140]	0.97 [193]	
	65	0.45 [90]	0.75 [150]	
	70	0.28 [55]	0.50 [100]	
75	0.18 [35]	0.50 [100]		

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
200	10	0.95 [190]	1.61 [322]	22.5
	15	0.90 [180]	1.54 [308]	
	20	0.85 [170]	1.47 [293]	
	25	0.80 [160]	1.33 [265]	
	30	0.85 [170]	1.40 [279]	
	35	0.90 [180]	1.33 [265]	
	40	0.90 [180]	1.40 [279]	
	45	0.88 [175]	1.33 [265]	
	50	0.85 [170]	1.25 [250]	
	55	0.75 [150]	1.18 [236]	
	60	0.60 [120]	1.04 [207]	
	65	0.45 [90]	0.90 [179]	
	70	0.38 [75]	0.75 [150]	
	75	0.15 [30]	0.61 [121]	
220	10	0.85 [170]	1.47 [293]	22.6
	15	0.80 [160]	1.33 [265]	
	20	0.75 [150]	1.40 [279]	
	25	0.70 [140]	1.40 [279]	
	30	0.75 [150]	1.33 [265]	
	35	0.75 [150]	1.33 [265]	
	40	0.70 [140]	1.25 [250]	
	45	0.65 [130]	1.18 [236]	
	50	0.60 [120]	1.11 [222]	
	55	0.50 [100]	0.97 [193]	
	60	0.45 [90]	0.90 [179]	
	65	0.43 [85]	0.86 [171]	
	70	0.38 [75]	0.79 [157]	
	75	0.33 [65]	0.72 [143]	
80	0.25 [50]	0.61 [121]		
240	10	0.70 [140]	1.25 [250]	22.5
	15	0.65 [130]	1.18 [236]	
	20	0.60 [120]	1.11 [222]	
	25	0.60 [120]	1.11 [222]	
	30	0.55 [110]	1.04 [207]	
	35	0.55 [110]	1.04 [207]	
	40	0.50 [100]	0.97 [193]	
	45	0.53 [105]	1.00 [200]	
	50	0.50 [100]	1.00 [193]	
	55	0.55 [110]	1.04 [207]	
	60	0.55 [110]	1.04 [207]	
	65	0.48 [95]	0.93 [186]	
	70	0.45 [90]	0.90 [179]	
	75	0.35 [70]	0.75 [150]	
	80	0.28 [55]	0.64 [128]	
	85	0.20 [40]	0.54 [107]	

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
260	10	0.65 [130]	1.18 [236]	22.4
	15	0.60 [120]	1.11 [222]	
	20	0.58 [115]	1.07 [214]	
	25	0.55 [110]	1.04 [207]	
	30	0.50 [100]	1.00 [193]	
	35	0.43 [85]	0.90 [171]	
	40	0.40 [80]	0.82 [164]	
	45	0.40 [80]	0.82 [164]	
	50	0.45 [90]	0.90 [179]	
	55	0.45 [90]	0.90 [179]	
	60	0.48 [95]	0.93 [186]	
	65	0.40 [80]	0.82 [164]	
	70	0.35 [70]	0.75 [150]	
	75	0.33 [65]	0.72 [143]	
	80	0.28 [55]	0.64 [128]	
85	0.18 [35]	0.50 [100]		
280	10	0.58 [115]	1.07 [214]	22.4
	15	0.55 [110]	1.04 [207]	
	20	0.53 [105]	1.00 [200]	
	25	0.45 [90]	0.90 [179]	
	30	0.40 [80]	0.82 [164]	
	35	0.38 [75]	0.80 [157]	
	40	0.40 [80]	0.82 [164]	
	45	0.43 [85]	0.86 [171]	
	50	0.40 [80]	0.82 [164]	
	55	0.43 [85]	0.86 [171]	
	60	0.45 [90]	0.90 [179]	
	65	0.40 [80]	0.82 [164]	
	70	0.35 [70]	0.75 [150]	
	75	0.33 [65]	0.72 [143]	
	80	0.28 [55]	0.64 [128]	
85	0.15 [30]	0.47 [93]		
300	10	0.50 [100]	1.00 [193]	22.5
	15	0.45 [90]	0.90 [179]	
	20	0.48 [95]	0.93 [186]	
	25	0.45 [90]	0.90 [179]	
	30	0.40 [80]	0.82 [164]	
	35	0.43 [85]	0.86 [171]	
	40	0.45 [90]	0.90 [179]	
	45	0.45 [90]	0.90 [179]	
	50	0.43 [85]	0.86 [171]	
	55	0.40 [80]	0.82 [164]	
	60	0.40 [80]	0.82 [164]	
	65	0.43 [85]	0.86 [171]	
	70	0.35 [70]	0.75 [150]	
	75	0.30 [60]	0.68 [136]	
	80	0.28 [55]	0.64 [128]	
85	0.13 [25]	0.43 [85]		

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
320	10	0.45 [90]	0.90 [179]	22.5
	15	0.43 [85]	0.86 [171]	
	20	0.40 [80]	0.82 [164]	
	25	0.43 [85]	0.86 [171]	
	30	0.40 [80]	0.82 [164]	
	35	0.38 [75]	0.79 [157]	
	40	0.38 [75]	0.79 [157]	
	45	0.35 [70]	0.75 [150]	
	50	0.38 [75]	0.79 [157]	
	55	0.38 [75]	0.79 [157]	
	60	0.38 [75]	0.79 [157]	
	65	0.40 [80]	0.82 [164]	
	70	0.35 [70]	0.75 [150]	
	75	0.33 [65]	0.72 [143]	
	80	0.28 [55]	0.64 [128]	
	85	0.20 [40]	0.54 [107]	
340	10	0.45 [90]	0.90 [179]	22.5
	15	0.43 [85]	0.86 [171]	
	20	0.40 [80]	0.82 [164]	
	25	0.43 [85]	0.86 [171]	
	30	0.35 [70]	0.75 [150]	
	35	0.38 [75]	0.79 [157]	
	40	0.35 [70]	0.75 [150]	
	45	0.33 [65]	0.72 [143]	
	50	0.33 [65]	0.72 [143]	
	55	0.35 [70]	0.75 [150]	
	60	0.35 [70]	0.75 [150]	
	65	0.38 [75]	0.79 [157]	
	70	0.35 [70]	0.75 [150]	
	75	0.33 [65]	0.72 [143]	
	80	0.28 [55]	0.64 [128]	
	85	0.20 [40]	0.54 [107]	
360	10	0.43 [85]	0.86 [171]	22.7
	15	0.40 [80]	0.82 [164]	
	20	0.38 [75]	0.79 [157]	
	25	0.38 [75]	0.79 [157]	
	30	0.33 [65]	0.72 [143]	
	35	0.35 [70]	0.75 [150]	
	40	0.33 [65]	0.72 [143]	
	45	0.30 [60]	0.68 [136]	
	50	0.28 [55]	0.64 [128]	
	55	0.33 [65]	0.72 [143]	
	60	0.33 [65]	0.72 [143]	
	65	0.33 [65]	0.72 [143]	
	70	0.33 [65]	0.72 [143]	
	75	0.33 [65]	0.72 [143]	
	80	0.28 [55]	0.64 [128]	
	85	0.23 [45]	0.57 [114]	

CONTINUED

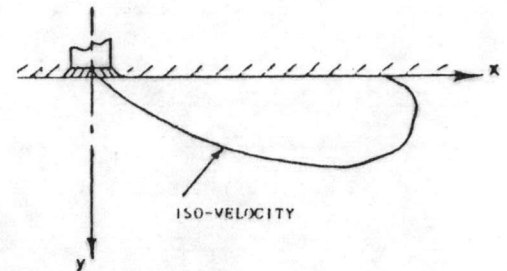
X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
380	10	0.43 [85]	0.86 [171]	22.7
	15	0.40 [80]	0.82 [164]	
	20	0.38 [75]	0.79 [157]	
	25	0.38 [75]	0.79 [157]	
	30	0.33 [65]	0.72 [143]	
	35	0.35 [70]	0.75 [150]	
	40	0.33 [65]	0.72 [143]	
	45	0.30 [60]	0.68 [136]	
	50	0.28 [55]	0.64 [128]	
	55	0.33 [65]	0.72 [143]	
	60	0.33 [65]	0.72 [143]	
	65	0.33 [65]	0.72 [143]	
	70	0.33 [65]	0.72 [143]	
	75	0.33 [65]	0.72 [143]	
	80	0.28 [55]	0.64 [128]	
85	0.23 [45]	0.57 [114]		

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

TABLE 15

แสดงความเร็วอากาศที่ตำแหน่งต่าง ๆ ในกระแสอากาศ

SQUARE DIFFUSER	=	406.4X406.4	MM ² . [16x16 in ² .]
FLOW RATE	=	0.30	M ³ /S [636 CFM.]
NECK VELOCITY	=	2	M/S [400 FPM.]
STATIC PRESSURE	=	1.27	MM.Wg.[0.05 in.Wg.]



X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
40	10	2.00 [400]	3.12 [623]	20.7
	15	2.40 [480]	3.69 [738]	
	20	0.85 [170]	1.47 [293]	
	25	0.10 [20]	0.39 [78]	
60	10	0.95 [190]	1.61 [322]	20.0
	15	1.50 [300]	2.40 [480]	
	20	1.90 [380]	2.98 [595]	
	25	1.25 [250]	2.04 [408]	
	30	0.50 [100]	0.97 [193]	
	35	0.10 [20]	0.39 [78]	
80	10	1.05 [210]	1.76 [351]	19.5
	15	0.95 [190]	1.61 [322]	
	20	1.30 [260]	2.12 [423]	
	25	1.35 [270]	2.19 [437]	
	30	1.05 [210]	1.76 [351]	
	35	0.50 [100]	0.97 [193]	
	40	0.18 [35]	0.50 [100]	
	45	0.08 [15]	0.36 [72]	
100	10	0.90 [180]	1.54 [308]	19.4
	15	0.75 [150]	1.33 [265]	
	20	0.70 [140]	1.25 [250]	
	25	0.75 [150]	1.33 [265]	
	30	0.80 [160]	1.40 [280]	
	35	0.70 [140]	1.25 [250]	
	40	0.60 [120]	1.11 [222]	
	45	0.35 [70]	0.75 [150]	
	50	0.10 [20]	0.40 [79]	
	120	10	0.85 [170]	
15		0.68 [135]	1.22 [243]	
20		0.60 [120]	1.11 [222]	
25		0.55 [110]	1.04 [208]	
30		0.50 [100]	0.97 [193]	
35		0.60 [120]	1.11 [222]	
40		0.65 [130]	1.18 [236]	
45		0.60 [120]	1.11 [222]	
50		0.43 [85]	0.86 [172]	

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
140	10	0.80 [160]	1.40 [280]	19.4
	15	0.63 [125]	1.15 [229]	
	20	0.45 [90]	0.90 [179]	
	25	0.40 [80]	0.83 [165]	
	30	0.40 [80]	0.84 [168]	
	35	0.58 [115]	1.08 [215]	
	40	0.60 [120]	1.11 [222]	
	45	0.50 [100]	0.97 [193]	
	50	0.45 [90]	0.90 [179]	
	55	0.38 [75]	0.79 [157]	
	60	0.30 [60]	0.68 [136]	
65	0.23 [45]	0.57 [114]		
70	0.10 [20]	0.39 [78]		
160	10	0.70 [140]	1.25 [250]	19.3
	15	0.60 [120]	1.11 [222]	
	20	0.50 [100]	0.97 [193]	
	25	0.43 [85]	0.86 [172]	
	30	0.40 [80]	0.83 [165]	
	35	0.35 [70]	0.75 [150]	
	40	0.38 [75]	0.79 [157]	
	45	0.40 [80]	0.83 [165]	
	50	0.40 [80]	0.82 [164]	
	55	0.38 [75]	0.79 [157]	
	60	0.35 [70]	0.75 [150]	
65	0.28 [55]	0.65 [129]		
70	0.20 [40]	0.54 [107]		
180	10	0.63 [125]	1.15 [229]	19.2
	15	0.55 [110]	1.04 [207]	
	20	0.48 [95]	0.93 [186]	
	25	0.90 [90]	0.87 [174]	
	30	0.43 [85]	0.86 [171]	
	35	0.38 [76]	0.79 [157]	
	40	0.35 [70]	0.75 [150]	
	45	0.40 [80]	0.83 [165]	
	50	0.40 [80]	0.83 [165]	
	55	0.38 [75]	0.79 [157]	
	60	0.33 [65]	0.72 [143]	
65	0.30 [60]	0.68 [136]		
70	0.25 [50]	0.61 [122]		
75	0.23 [45]	0.57 [114]		
80	0.18 [35]	0.50 [100]		
85	0.15 [30]	0.47 [93]		

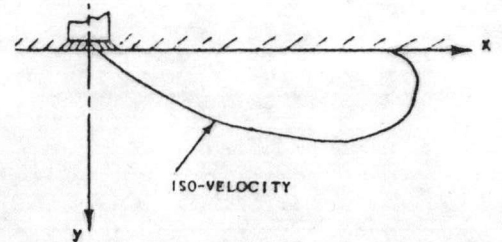
CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
200	10	0.55 [110]	1.04 [208]	19.2
	15	0.40 [80]	0.83 [165]	
	20	0.43 [85]	0.86 [171]	
	25	0.38 [75]	0.79 [157]	
	30	0.35 [70]	0.75 [150]	
	35	0.33 [65]	0.72 [143]	
	40	0.30 [60]	0.68 [136]	
	45	0.30 [60]	0.68 [136]	
	50	0.23 [45]	0.57 [114]	
	55	0.28 [55]	0.64 [128]	
	60	0.33 [65]	0.72 [143]	
	65	0.30 [60]	0.68 [136]	
	70	0.25 [50]	0.61 [122]	
	75	0.23 [45]	0.57 [114]	
	80	0.18 [36]	0.50 [100]	
220	10	0.45 [90]	0.90 [179]	19.2
	15	0.38 [75]	0.79 [157]	
	20	0.35 [70]	0.75 [150]	
	25	0.35 [70]	0.75 [150]	
	30	0.33 [65]	0.72 [143]	
	35	0.30 [60]	0.68 [136]	
	40	0.30 [60]	0.68 [136]	
	45	0.25 [50]	0.61 [122]	
	50	0.25 [50]	0.61 [122]	
	55	0.28 [55]	0.65 [129]	
	60	0.25 [50]	0.61 [122]	
	65	0.25 [50]	0.61 [122]	
	70	0.23 [45]	0.57 [114]	
	75	0.20 [40]	0.54 [107]	
	80	0.23 [45]	0.57 [114]	
85	0.18 [35]	0.50 [100]		

TABLE 16

แสดงความเร็วอากาศที่ตำแหน่งต่าง ๆ ในกระแสอากาศ

SQUARE DIFFUSER	=	406.4x406.4	MM ² . [16x16 in ² .]
FLOW RATE	=	0.375	M ³ /S [795 CFM.]
NECK VELOCITY	=	2.5	M/S [500 FPM.]
STATIC PRESSURE	=	2.286	MM.Wg.[0.09 in.Wg.]



X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
40	10	2.80 [560]	4.18 [835]	23.0
	15	2.75 [550]	4.19 [838]	
	25	1.00 [200]	1.69 [337]	
60	10	1.40 [280]	2.26 [451]	23.0
	15	2.35 [470]	3.62 [723]	
	20	2.40 [480]	3.69 [738]	
	25	1.70 [340]	2.69 [537]	
	30	0.43 [85]	0.86 [171]	
80	10	1.40 [280]	2.26 [451]	23.0
	15	1.50 [300]	2.40 [480]	
	20	1.75 [350]	2.76 [551]	
	25	1.90 [380]	2.98 [595]	
	30	1.65 [330]	2.62 [523]	
	35	0.60 [120]	1.11 [222]	
100	10	1.35 [270]	2.19 [437]	22.9
	15	1.25 [250]	2.04 [408]	
	20	1.30 [260]	2.11 [422]	
	25	1.50 [300]	2.40 [480]	
	30	1.65 [330]	2.62 [523]	
	35	0.38 [75]	0.79 [157.5]	
	40	0.23 [45]	0.57 [114]	
120	10	1.30 [260]	2.11 [422]	22.6
	15	1.10 [220]	1.33 [265]	
	20	1.00 [200]	1.69 [337]	
	25	1.05 [210]	1.76 [351]	
	30	1.20 [240]	1.97 [394]	
	35	1.30 [260]	2.12 [423]	
	40	1.20 [240]	1.97 [394]	
	45	1.00 [200]	1.69 [337]	
	50	0.60 [120]	1.11 [222]	
	55	0.30 [60]	0.68 [136]	

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
140	10	1.15 [230]	1.90 [380]	22.0
	15	0.95 [190]	1.61 [322]	
	20	0.80 [160]	1.40 [279]	
	25	0.85 [170]	1.47 [294]	
	30	0.85 [170]	1.47 [294]	
	35	0.88 [175]	1.50 [300]	
	40	0.85 [170]	1.47 [294]	
	45	0.90 [180]	1.54 [308]	
	50	0.80 [160]	1.40 [279]	
	55	0.70 [140]	1.25 [250]	
	60	0.33 [65]	0.72 [143]	
65	0.18 [35]	0.50 [100]		
160	10	0.95 [190]	1.61 [322]	21.5
	15	0.80 [160]	1.40 [279]	
	20	0.70 [140]	1.25 [250]	
	25	0.70 [140]	1.25 [250]	
	30	0.70 [140]	1.25 [250]	
	35	0.65 [130]	1.18 [236]	
	40	0.75 [150]	1.33 [265]	
	45	0.75 [150]	1.33 [265]	
	50	0.70 [140]	1.25 [250]	
	55	0.60 [120]	1.11 [222]	
	60	0.43 [85]	0.86 [171]	
65	0.30 [60]	0.68 [136]		
180	10	0.85 [170]	1.47 [293]	21.3
	15	0.75 [150]	1.33 [265]	
	20	0.65 [130]	1.18 [236]	
	25	0.65 [130]	1.18 [236]	
	30	0.60 [120]	1.11 [222]	
	35	0.65 [130]	1.18 [236]	
	40	0.60 [120]	1.11 [222]	
	45	0.60 [120]	1.11 [222]	
	50	0.65 [130]	1.18 [236]	
	55	0.60 [120]	1.11 [222]	
	60	0.50 [100]	0.97 [193]	
65	0.35 [70]	0.75 [150]		
70	0.23 [45]	0.57 [114]		

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
200	10	0.75 [150]	1.33 [265]	21.2
	15	0.70 [140]	1.25 [250]	
	20	0.63 [125]	1.15 [229]	
	25	0.55 [110]	1.04 [208]	
	30	0.50 [100]	0.97 [193]	
	35	0.55 [110]	1.04 [207]	
	40	0.45 [90]	0.90 [179]	
	45	0.48 [95]	0.93 [186]	
	50	0.50 [100]	0.97 [193]	
	55	0.48 [95]	0.93 [186]	
	60	0.48 [95]	0.93 [186]	
	65	0.40 [80]	0.82 [164]	
	70	0.30 [60]	0.68 [136]	
	75	0.20 [40]	0.54 [107]	
220	10	0.63 [125]	1.15 [229]	21.0
	15	0.60 [120]	1.11 [222]	
	20	0.50 [100]	0.97 [193]	
	25	0.50 [100]	0.97 [193]	
	30	0.55 [110]	1.04 [207]	
	35	0.50 [100]	0.97 [193]	
	40	0.50 [100]	0.97 [193]	
	45	0.50 [100]	0.97 [193]	
	50	0.48 [95]	0.93 [186]	
	55	0.45 [90]	0.90 [179]	
	60	0.45 [90]	0.90 [179]	
	65	0.48 [95]	0.93 [186]	
	70	0.40 [80]	0.83 [165]	
	75	0.33 [65]	0.72 [143]	
80	0.20 [40]	0.54 [107]		
85	0.13 [25]	0.43 [86]		
240	10	0.58 [115]	1.08 [215]	20.9
	15	0.50 [100]	0.97 [193]	
	20	0.45 [90]	0.90 [179]	
	25	0.43 [85]	0.86 [172]	
	30	0.45 [90]	0.90 [179]	
	35	0.45 [90]	0.90 [179]	
	40	0.43 [85]	0.86 [172]	
	45	0.43 [85]	0.86 [172]	
	50	0.45 [90]	0.90 [179]	
	55	0.45 [90]	0.90 [179]	
	60	0.45 [90]	0.90 [179]	
	65	0.43 [85]	0.86 [172]	
	70	0.40 [80]	0.82 [164]	
	75	0.35 [70]	0.75 [150]	
	80	0.30 [60]	0.68 [136]	
	85	0.20 [40]	0.54 [107]	

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
260	10	0.50 [100]	0.97 [193]	20.9
	15	0.43 [85]	0.86 [172]	
	20	0.40 [80]	0.83 [165]	
	25	0.38 [75]	0.79 [157]	
	30	0.38 [75]	0.79 [157]	
	35	0.35 [70]	0.75 [150]	
	40	0.35 [70]	0.75 [150]	
	45	0.33 [65]	0.72 [143]	
	50	0.35 [70]	0.75 [150]	
	55	0.35 [70]	0.75 [150]	
	60	0.35 [70]	0.75 [150]	
	65	0.35 [70]	0.75 [150]	
	70	0.33 [65]	0.72 [143]	
	75	0.33 [65]	0.72 [143]	
	80	0.30 [60]	0.68 [136]	
85	0.23 [45]	0.57 [114]		
280	10	0.43 [85]	0.86 [171]	20.8
	15	0.40 [80]	0.83 [165]	
	20	0.38 [75]	0.79 [157]	
	25	0.35 [70]	0.75 [150]	
	30	0.33 [65]	0.72 [143]	
	35	0.33 [65]	0.72 [143]	
	40	0.35 [70]	0.75 [150]	
	45	0.28 [55]	0.65 [130]	
	50	0.30 [60]	0.68 [136]	
	55	0.33 [65]	0.72 [143]	
	60	0.35 [70]	0.75 [150]	
	65	0.33 [65]	0.72 [143]	
	70	0.30 [60]	0.68 [136]	
	75	0.28 [55]	0.65 [130]	
	80	0.25 [50]	0.61 [122]	
85	0.23 [45]	0.57 [114]		
300	10	0.40 [80]	0.82 [164]	20.7
	15	0.38 [75]	0.79 [157]	
	20	0.35 [70]	0.75 [150]	
	25	0.35 [70]	0.75 [150]	
	30	0.33 [65]	0.72 [143]	
	35	0.30 [60]	0.68 [136]	
	40	0.28 [55]	0.65 [129]	
	45	0.28 [55]	0.65 [129]	
	50	0.30 [60]	0.68 [136]	
	55	0.25 [50]	0.61 [122]	
	60	0.28 [55]	0.65 [129]	
	65	0.28 [55]	0.65 [129]	
	70	0.28 [55]	0.65 [129]	
	75	0.25 [50]	0.61 [122]	
	80	0.25 [50]	0.61 [122]	
85	0.23 [45]	0.57 [114]		

CONTINUED

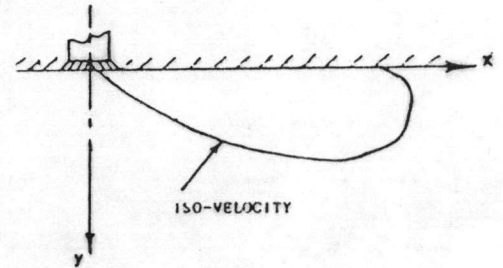
X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
320	10	0.38 [75]	0.79 [157]	20.6
	15	0.38 [75]	0.79 [157]	
	20	0.33 [65]	0.72 [143]	
	25	0.33 [65]	0.72 [143]	
	30	0.30 [60]	0.68 [136]	
	35	0.30 [60]	0.68 [136]	
	40	0.28 [55]	0.65 [129]	
	45	0.28 [55]	0.65 [129]	
	50	0.25 [50]	0.61 [122]	
	55	0.28 [55]	0.65 [129]	
	60	0.25 [50]	0.61 [122]	
	65	0.25 [50]	0.61 [122]	
	70	0.23 [45]	0.57 [114]	
	75	0.25 [50]	0.61 [122]	
	80	0.25 [50]	0.61 [122]	
85	0.23 [45]	0.57 [114]		

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

TABLE 17

แสดงความเร็วอากาศที่ตำแหน่งต่าง ๆ ในกระแสอากาศ

SQUARE DIFFUSER = 406.4x406.4 MM². [16x16 in².]
 FLOW RATE = 0.45 M³/S [954 CFM.]
 NECK VELOCITY = 3 M/S [600 FPM.]
 STATIC PRESSURE = 3.048 MM.Wg.[0.12 in.Wg.]



X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
40	10	3.30 [660]	4.98 [996]	22.2
	15	3.35 [670]	5.05 [1010]	
	25	1.35 [270]	2.19 [437]	
60	10	1.80 [360]	2.83 [566]	22.3
	15	2.85 [570]	4.34 [867]	
	20	3.10 [620]	4.70 [940]	
	25	1.95 [390]	3.05 [609]	
	30	0.50 [100]	0.97 [193]	
80	10	1.80 [360]	2.83 [566]	22.2
	15	1.95 [390]	3.05 [609]	
	20	2.20 [440]	3.40 [680]	
	25	2.30 [460]	3.55 [709]	
	30	2.00 [400]	3.12 [623]	
	35	1.00 [200]	1.68 [336]	
	40	0.25 [50]	0.61 [122]	
100	10	1.80 [360]	2.83 [566]	22.2
	15	1.50 [300]	2.40 [480]	
	20	1.70 [340]	2.69 [537]	
	25	1.90 [380]	2.98 [595]	
	30	1.85 [370]	2.90 [580]	
	35	1.70 [340]	2.69 [537]	
	40	0.90 [180]	1.54 [308]	
	45	0.38 [75]	0.79 [157]	
120	10	1.50 [300]	2.40 [480]	22.1
	15	1.35 [270]	2.19 [437]	
	20	1.30 [260]	2.12 [423]	
	25	1.20 [240]	1.97 [394]	
	30	1.40 [280]	2.26 [451]	
	35	1.35 [270]	2.19 [437]	
	40	1.35 [270]	2.19 [437]	
	45	1.25 [250]	2.04 [408]	
	50	0.70 [140]	1.25 [250]	
	55	0.23 [45]	0.57 [114]	

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
140	10	1.45 [290]	2.33 [466]	22.2
	15	1.20 [240]	1.97 [394]	
	20	1.10 [220]	1.83 [365]	
	25	1.05 [210]	1.76 [351]	
	30	1.00 [200]	1.69 [337]	
	35	1.15 [230]	1.90 [380]	
	40	1.20 [240]	1.97 [394]	
	45	1.15 [230]	1.90 [380]	
	50	1.10 [220]	1.83 [365]	
	55	0.60 [120]	1.11 [222]	
	60	0.40 [80]	0.83 [165]	
65	0.15 [30]	0.47 [93]		
160	10	1.20 [240]	1.97 [394]	22.2
	15	1.10 [220]	1.83 [365]	
	20	0.95 [190]	1.61 [322]	
	25	1.00 [200]	1.69 [337]	
	30	0.95 [190]	1.61 [322]	
	35	1.00 [200]	1.69 [337]	
	40	1.15 [230]	1.90 [380]	
	45	1.10 [220]	1.83 [365]	
	50	1.00 [200]	1.69 [337]	
	55	0.90 [180]	1.54 [307]	
	60	0.60 [120]	1.54 [307]	
65	0.35 [70]	0.75 [150]		
180	10	1.05 [210]	1.76 [351]	22.2
	15	1.00 [200]	1.69 [337]	
	20	0.95 [190]	1.61 [322]	
	25	0.90 [180]	1.54 [308]	
	30	0.85 [170]	1.47 [294]	
	35	0.80 [160]	1.40 [279]	
	40	1.00 [200]	1.69 [337]	
	45	0.90 [180]	1.54 [308]	
	50	0.85 [170]	1.47 [293]	
	55	0.80 [160]	1.40 [279]	
	60	0.75 [150]	1.33 [265]	
65	0.65 [130]	1.18 [236]		
70	0.30 [60]	0.68 [136]		

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
200	10	1.00 [200]	1.69 [337]	22.2
	15	0.85 [170]	1.47 [293]	
	20	0.70 [140]	1.25 [250]	
	25	0.65 [130]	1.18 [236]	
	30	0.75 [150]	1.33 [265]	
	35	0.65 [130]	1.18 [236]	
	40	0.70 [140]	1.25 [250]	
	45	0.75 [150]	1.33 [265]	
	50	0.75 [150]	1.33 [265]	
	55	0.70 [140]	1.40 [279]	
	60	0.65 [130]	1.25 [250]	
	65	0.60 [120]	1.11 [222]	
	70	0.55 [110]	1.04 [208]	
	75	0.45 [90]	0.90 [179]	
	80	0.30 [60]	0.68 [136]	
85	0.13 [25]	0.43 [86]		
220	10	0.85 [170]	1.47 [294]	22.1
	15	0.80 [160]	1.40 [279]	
	20	0.70 [140]	1.25 [250]	
	25	0.70 [140]	1.25 [250]	
	30	0.68 [135]	1.22 [244]	
	35	0.65 [130]	1.18 [236]	
	40	0.65 [130]	1.18 [236]	
	45	0.63 [125]	1.15 [229]	
	50	0.60 [120]	1.11 [222]	
	55	0.60 [120]	1.11 [222]	
	60	0.65 [130]	1.18 [236]	
	65	0.60 [120]	1.11 [222]	
	70	0.50 [100]	0.97 [193]	
	75	0.40 [80]	0.83 [165]	
	80	0.33 [65]	0.72 [143]	
85	0.25 [50]	0.61 [122]		
240	10	0.75 [150]	1.33 [265]	22.1
	15	0.65 [130]	1.18 [236]	
	20	0.60 [120]	1.11 [222]	
	25	0.60 [120]	1.11 [222]	
	30	0.55 [110]	1.04 [208]	
	35	0.60 [120]	1.11 [222]	
	40	0.65 [130]	1.18 [236]	
	45	0.65 [130]	1.18 [236]	
	50	0.60 [120]	1.11 [222]	
	55	0.65 [130]	1.18 [236]	
	60	0.63 [125]	1.15 [229]	
	65	0.58 [115]	1.08 [215]	
	70	0.55 [110]	1.04 [208]	
	75	0.45 [90]	0.90 [179]	
	80	0.38 [75]	0.79 [157]	
85	0.30 [60]	0.68 [136]		

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
260	10	0.70 [140]	1.25 [250]	22.0
	15	0.65 [130]	1.18 [236]	
	20	0.60 [120]	1.11 [222]	
	25	0.60 [120]	1.11 [222]	
	30	0.50 [100]	0.97 [193]	
	35	0.55 [110]	1.04 [208]	
	40	0.58 [115]	1.08 [215]	
	45	0.60 [120]	1.11 [222]	
	50	0.60 [120]	1.11 [222]	
	55	0.55 [110]	1.04 [208]	
	60	0.58 [115]	1.08 [215]	
	65	0.55 [110]	1.04 [208]	
	70	0.43 [85]	0.86 [172]	
	75	0.40 [80]	0.82 [164]	
	80	0.35 [70]	0.75 [150]	
85	0.30 [60]	0.68 [136]		
280	10	0.60 [120]	1.11 [222]	22.0
	15	0.55 [110]	1.04 [208]	
	20	0.50 [100]	0.97 [193]	
	25	0.45 [90]	0.90 [179]	
	30	0.43 [85]	0.86 [172]	
	35	0.40 [80]	0.83 [165]	
	40	0.43 [85]	0.86 [172]	
	45	0.48 [95]	0.93 [186]	
	50	0.43 [85]	0.86 [172]	
	55	0.45 [90]	0.90 [179]	
	60	0.48 [95]	0.93 [186]	
	65	0.50 [100]	0.97 [193]	
	70	0.48 [95]	0.93 [186]	
	75	0.40 [80]	0.83 [165]	
	80	0.35 [70]	0.75 [150]	
85	0.30 [60]	0.68 [136]		
300	10	0.55 [110]	1.04 [208]	21.9
	15	0.55 [110]	1.04 [208]	
	20	0.45 [90]	0.90 [179]	
	25	0.43 [85]	0.86 [172]	
	30	0.43 [85]	0.86 [172]	
	35	0.40 [80]	0.83 [165]	
	40	0.40 [80]	0.83 [165]	
	45	0.43 [85]	0.86 [172]	
	50	0.38 [75]	0.79 [157]	
	55	0.38 [75]	0.79 [157]	
	60	0.38 [75]	0.79 [157]	
	65	0.40 [80]	0.83 [165]	
	70	0.40 [80]	0.83 [165]	
	75	0.35 [70]	0.75 [150]	
	80	0.35 [70]	0.75 [150]	
85	0.30 [60]	0.68 [136]		

CONTINUED

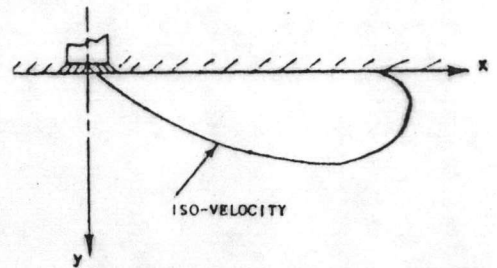
X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
320	10	0.50 [100]	0.97 [193]	21.7
	15	0.48 [95]	0.93 [186]	
	20	0.45 [90]	0.90 [179]	
	25	0.48 [95]	0.93 [186]	
	30	0.45 [90]	0.90 [179]	
	35	0.43 [85]	0.86 [172]	
	40	0.40 [80]	0.83 [165]	
	45	0.40 [80]	0.83 [165]	
	50	0.38 [75]	0.79 [157]	
	55	0.38 [75]	0.79 [157]	
	60	0.35 [70]	0.75 [150]	
	65	0.35 [70]	0.75 [150]	
	70	0.33 [65]	0.72 [143]	
	75	0.33 [65]	0.72 [143]	
	80	0.33 [65]	0.72 [143]	
85	0.33 [65]	0.72 [143]		

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

TABLE 18

แสดงความเร็วอากาศที่ตำแหน่งต่าง ๆ ในกระแสอากาศ

SQUARE DIFFUSER	=	406.4x406.4	MM ² . [16x16 in ² .]
FLOW RATE	=	0.525	M ³ /S [1113 CFM.]
NECK VELOCITY	=	3.5	M/S [700 FPM.]
STATIC PRESSURE	=	4.064	MM.Wg.[0.16 in.Wg.]



X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
40	10	3.75 [750]	5.63 [1125]	21.5
	15	3.90 [780]	5.84 [1168]	
	20	2.10 [420]	3.26 [652]	
	25	0.15 [30]	0.47 [93]	
60	10	2.05 [410]	3.15 [630]	21.7
	15	3.10 [620]	4.90 [979]	
	20	3.90 [780]	4.19 [838]	
	25	2.75 [550]	1.33 [265]	
80	10	2.10 [420]	3.26 [652]	21.6
	15	2.25 [450]	3.48 [695]	
	20	2.65 [530]	4.05 [809]	
	25	3.05 [610]	4.62 [924]	
	30	2.50 [500]	3.84 [767]	
	35	1.30 [260]	2.12 [423]	
100	10	2.00 [400]	3.12 [623]	21.5
	15	1.85 [370]	2.90 [580]	
	20	1.75 [350]	2.76 [552]	
	25	1.95 [390]	3.05 [609]	
	30	2.10 [420]	3.26 [652]	
	35	2.30 [460]	3.55 [709]	
	40	1.80 [360]	2.83 [566]	
	45	0.90 [180]	1.54 [308]	
	50	0.40 [80]	0.83 [165]	
	55	0.13 [40]	0.43 [86]	
120	10	1.90 [380]	2.98 [595]	21.4
	15	1.75 [350]	2.76 [552]	
	20	1.60 [320]	2.54 [508]	
	25	1.75 [350]	2.76 [552]	
	30	1.90 [380]	2.98 [595]	
	35	2.15 [430]	3.33 [666]	
	40	2.00 [400]	3.12 [623]	
	45	1.65 [330]	2.62 [523]	
	50	1.10 [220]	1.83 [365]	
	55	0.55 [110]	1.04 [208]	
	60	0.23 [45]	0.57 [114]	

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
140	10	1.70 [340]	2.69 [537]	21.2
	15	1.45 [290]	2.33 [466]	
	20	1.30 [260]	2.12 [423]	
	25	1.25 [250]	2.04 [408]	
	30	1.30 [260]	2.12 [423]	
	35	1.45 [290]	2.33 [466]	
	40	1.60 [320]	2.55 [509]	
	45	1.60 [320]	2.55 [509]	
	50	1.30 [260]	2.12 [423]	
	55	0.95 [190]	1.61 [322]	
	60	0.55 [110]	1.04 [208]	
65	0.28 [55]	0.65 [129]		
70	0.18 [35]	0.50 [100]		
160	10	1.40 [280]	2.26 [451]	21.0
	15	1.25 [250]	2.04 [408]	
	20	1.20 [240]	1.97 [394]	
	25	1.15 [230]	1.90 [380]	
	30	1.10 [220]	1.83 [365]	
	35	1.10 [220]	1.83 [365]	
	40	1.15 [230]	1.90 [380]	
	45	1.20 [240]	1.97 [394]	
	50	1.20 [240]	1.97 [394]	
	55	1.15 [230]	1.90 [380]	
	60	1.05 [210]	1.76 [351]	
65	0.55 [110]	1.04 [208]		
70	0.40 [80]	0.83 [165]		
75	0.10 [20]	0.40 [79]		
180	10	1.25 [250]	2.04 [408]	20.7
	15	1.10 [220]	1.83 [365]	
	20	0.95 [190]	1.61 [322]	
	25	0.90 [180]	1.54 [308]	
	30	0.95 [190]	1.61 [322]	
	35	1.00 [200]	1.69 [337]	
	40	1.00 [200]	1.69 [337]	
	45	1.15 [230]	1.90 [380]	
	50	1.20 [240]	1.97 [394]	
	55	1.10 [220]	1.83 [365]	
	60	1.00 [200]	1.69 [337]	
	65	0.70 [140]	1.25 [250]	
	70	0.60 [120]	1.11 [222]	
	75	0.40 [80]	0.83 [165]	
80	0.18 [35]	0.50 [100]		

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
200	10	1.10 [220]	1.83 [365]	20.6
	15	1.00 [200]	1.69 [337]	
	20	0.90 [180]	1.54 [308]	
	25	0.80 [160]	1.40 [280]	
	30	0.85 [170]	1.47 [294]	
	35	0.90 [180]	1.54 [308]	
	40	0.90 [180]	1.54 [308]	
	45	0.95 [190]	1.61 [322]	
	50	0.90 [180]	1.54 [308]	
	55	0.95 [190]	1.61 [322]	
	60	0.90 [180]	1.54 [308]	
	65	0.75 [150]	1.33 [265]	
	70	0.75 [150]	1.33 [265]	
	75	0.45 [90]	0.90 [179]	
	80	0.33 [65]	0.72 [143]	
85	0.20 [40]	0.54 [107]		
220	10	1.00 [200]	1.69 [337]	20.5
	15	0.90 [180]	1.54 [308]	
	20	0.85 [170]	1.47 [294]	
	25	0.80 [160]	1.40 [280]	
	30	0.80 [160]	1.40 [280]	
	35	0.85 [170]	1.47 [294]	
	40	0.80 [160]	1.40 [280]	
	45	0.85 [170]	1.47 [294]	
	50	1.00 [200]	1.69 [337]	
	55	0.90 [180]	1.54 [308]	
	60	0.85 [170]	1.47 [294]	
	65	0.80 [160]	1.40 [280]	
	70	0.60 [120]	1.11 [222]	
	75	0.50 [100]	0.97 [193]	
	80	0.40 [80]	0.83 [165]	
85	0.33 [65]	0.72 [143]		
240	10	0.90 [180]	1.54 [308]	20.4
	15	0.85 [170]	1.47 [294]	
	20	0.75 [150]	1.33 [265]	
	25	0.65 [130]	1.18 [236]	
	30	0.60 [120]	1.11 [222]	
	35	0.60 [120]	1.11 [222]	
	40	0.58 [115]	1.08 [215]	
	45	0.60 [120]	1.11 [222]	
	50	0.65 [130]	1.18 [236]	
	55	0.65 [130]	1.18 [236]	
	60	0.75 [150]	1.33 [265]	
	65	0.80 [160]	1.40 [280]	
	70	0.65 [130]	1.18 [236]	
	75	0.60 [120]	1.11 [222]	
	80	0.40 [80]	0.83 [165]	
85	0.33 [65]	0.72 [143]		

CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
260	10	0.75 [150]	1.33 [265]	20.4
	15	0.70 [140]	1.25 [250]	
	20	0.65 [130]	1.18 [236]	
	25	0.60 [120]	1.11 [222]	
	30	0.58 [115]	1.08 [215]	
	35	0.60 [120]	1.11 [222]	
	40	0.63 [125]	1.15 [229]	
	45	0.50 [100]	0.97 [193]	
	50	0.55 [110]	1.04 [208]	
	55	0.55 [110]	1.04 [208]	
	60	0.60 [120]	1.11 [222]	
	65	0.65 [130]	1.18 [236]	
	70	0.55 [110]	1.04 [208]	
	75	0.45 [90]	0.90 [179]	
	80	0.40 [80]	0.83 [165]	
85	0.35 [70]	0.75 [150]		
280	10	0.65 [130]	1.18 [236]	21.0
	15	0.65 [130]	1.18 [236]	
	20	0.60 [120]	1.11 [222]	
	25	0.60 [120]	1.11 [222]	
	30	0.55 [110]	1.04 [208]	
	35	0.55 [110]	1.04 [208]	
	40	0.58 [115]	1.08 [215]	
	45	0.60 [120]	1.11 [222]	
	50	0.58 [115]	1.08 [215]	
	55	0.55 [110]	1.04 [208]	
	60	0.55 [110]	1.04 [208]	
	65	0.53 [105]	1.00 [200]	
	70	0.55 [110]	1.04 [208]	
	75	0.50 [100]	0.97 [193]	
	80	0.45 [90]	0.90 [179]	
85	0.38 [75]	0.79 [157]		
300	10	0.60 [120]	1.11 [222]	21.1
	15	0.60 [120]	1.11 [222]	
	20	0.58 [115]	0.98 [195]	
	25	0.50 [100]	0.97 [193]	
	30	0.48 [95]	0.93 [186]	
	35	0.50 [100]	0.97 [193]	
	40	0.50 [100]	0.97 [193]	
	45	0.55 [110]	1.04 [208]	
	50	0.58 [115]	1.08 [215]	
	55	0.50 [100]	0.97 [193]	
	60	0.53 [105]	1.00 [200]	
	65	0.55 [110]	1.04 [208]	
	70	0.50 [100]	0.97 [193]	
	75	0.45 [90]	0.90 [179]	
	80	0.40 [80]	0.83 [165]	
85	0.33 [65]	0.72 [143]		

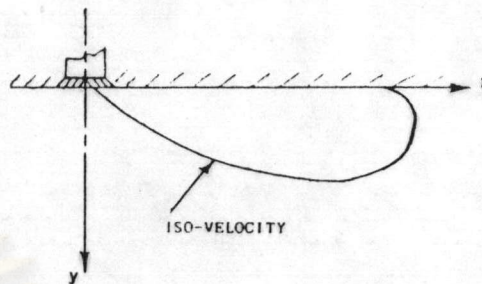
CONTINUED

X [CM.]	Y [CM.]	READING VELOCITY M/S [FPM.]	TRUE VELOCITY M/S [FPM.]	SUPPLY TEMPERATURE C
320	10	0.55 [110]	1.04 [208]	21.2
	15	0.58 [115]	1.08 [215]	
	20	0.55 [110]	1.04 [208]	
	25	0.50 [100]	0.97 [193]	
	30	0.45 [90]	0.90 [179]	
	35	0.45 [90]	0.90 [179]	
	40	0.35 [70]	0.83 [165]	
	45	0.35 [70]	0.75 [150]	
	50	0.38 [75]	0.79 [157]	
	55	0.43 [85]	0.86 [172]	
	60	0.48 [95]	0.93 [186]	
	65	0.50 [100]	0.97 [193]	
	70	0.43 [85]	0.86 [172]	
	75	0.40 [80]	0.83 [165]	
	80	0.40 [80]	0.83 [165]	
	85	0.38 [75]	0.79 [157]	
340	10	0.55 [110]	1.04 [208]	21.2
	15	0.50 [100]	0.97 [193]	
	20	0.45 [90]	0.90 [179]	
	25	0.48 [95]	0.93 [186]	
	30	0.40 [80]	0.83 [165]	
	35	0.40 [80]	0.83 [165]	
	40	0.40 [80]	0.83 [165]	
	45	0.43 [85]	0.86 [172]	
	50	0.43 [85]	0.86 [172]	
	55	0.38 [75]	0.79 [157]	
	60	0.40 [80]	0.83 [165]	
	65	0.40 [80]	0.83 [165]	
	70	0.38 [75]	0.79 [157]	
	75	0.38 [75]	0.79 [157]	
	80	0.38 [75]	0.79 [157]	
	85	0.35 [70]	0.75 [150]	
360	10	0.55 [110]	1.04 [208]	21.2
	15	0.50 [100]	0.97 [193]	
	20	0.45 [90]	0.90 [179]	
	25	0.43 [85]	0.86 [172]	
	30	0.43 [85]	0.86 [172]	
	35	0.40 [80]	0.83 [165]	
	40	0.40 [80]	0.83 [165]	
	45	0.38 [75]	0.79 [157]	
	50	0.40 [80]	0.83 [165]	
	55	0.35 [70]	0.75 [150]	
	60	0.35 [70]	0.75 [150]	
	65	0.35 [70]	0.75 [150]	
	70	0.38 [75]	0.79 [157]	
	75	0.33 [65]	0.72 [143]	
	80	0.35 [70]	0.75 [150]	
	85	0.35 [70]	0.75 [150]	

TABLE 19
=====

แสดงจุดนิกัดที่มีความเร็วคงที่ต่าง ๆ

SQUARE DIFFUSER 254x254 MM². [10x10 in².]
 FLOW RATE = 0.177 M³/S [357 CFM.]
 NECK VELOCITY = 3 M/S [600 FPM.]
 STATIC PRESSURE = 2.54 MM.Hg. [0.10 in.Hg.]

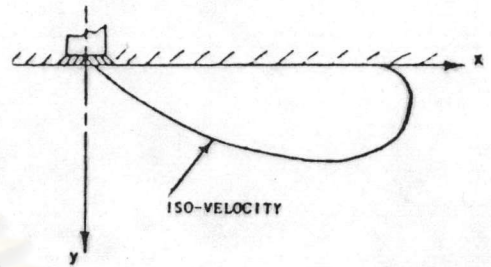


Viso X [CM.]	Iso-velocity lines				
	250	200	150	100	50
40	17.0	18.0	19.0	20.0	21.0
60	22.0	23.5	25.0	26.5	28.0
80	28.0	29.0	30.0	31.0	37.5
100	23.5	28.5	35.0	42.0	-
120	11.0	27.0	37.5	46.0	-
140	-	22.5	40.0	50.0	-
160	-	17.0	40.0	55.0	-
180	-	-	40.0	50.0	-
200	-	-	30.0	50.0	-

TABLE 20
=====

แสดงจุดพิกัดที่มีความเร็วคงที่ต่าง ๆ

SQUARE DIFFUSER 254x254 MM². [10x10 in².]
 FLOW RATE = 0.196 M³/S [416 CFM.]
 NECK VELOCITY = 3.5 M/S [700 FPM.]
 STATIC PRESSURE = 3.05 MM.Wg.[0.12 in.Wg.]

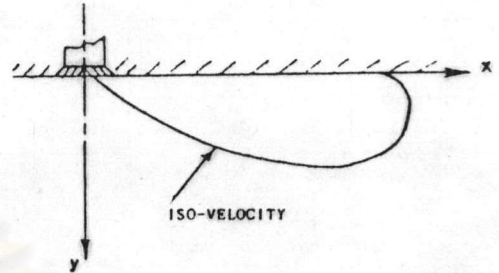


Viso X [CM.]	250	200	150	100	50
	40	17.5	18.5	19.5	20.5
60	20.5	22.0	23.0	24.5	25.5
80	26.5	28.0	29.5	31.0	36.0
100	31.0	32.5	34.5	41.0	-
120	33.5	37.5	42.5	51.0	-
140	36.0	39.5	43.5	49.0	-
160	35.0	41.5	46.0	51.0	-
180	30.0	42.0	47.0	54.5	-
200	20.0	42.5	50.0	56.0	-
220	-	36.5	55.0	60.0	-
240	-	17.5	50.0	64.0	-
260	-	12.0	45.0	68.0	-

TABLE 21
=====

แสดงจุดนิกัดที่มีความเร็วคงที่ต่าง ๆ

SQUARE DIFFUSER 254x254 MM². [10x10 in².]
 FLOW RATE = 0.224 M³/S [475 CFM.]
 NECK VELOCITY = 4 M/S [800 FPM.]
 STATIC PRESSURE = 3.30 MM.Wg.[0.13 in.Wg]



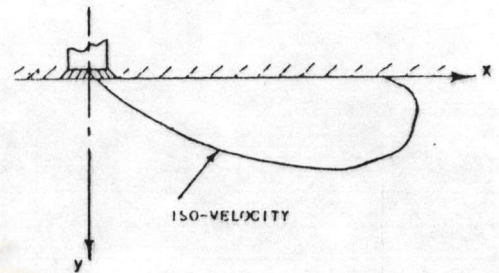
Viso X [CM.]	250	200	150	100	50
	40	18.5	19.0	19.5	20.0
60	24.0	24.5	27.0	33.0	40.0
80	28.5	30.0	40.0	48.0	-
100	32.0	34.0	40.0	50.0	-
120	36.5	39.0	45.0	52.0	-
140	35.0	39.0	48.0	57.0	-
160	35.0	41.5	50.0	62.0	-
180	25.0	38.0	55.0	62.5	-
200	10.0	37.5	56.0	62.0	-
220	-	37.5	55.0	63.0	-
240	-	33.0	54.0	62.5	-
260	-	15.0	45.0	63.0	-

TABLE 22

=====

แสดงจุดพิกัดที่มีความเร็วคงที่ต่าง ๆ

SQUARE DIFFUSER 254x254 MM². [10x10 in².]
 FLOW RATE = 0.252 M³/S [535 CFM.]
 NECK VELOCITY = 4.5 M/S [900 FPM.]
 STATIC PRESSURE = 4.57 MM.Wg. [0.18 in.Wg.]



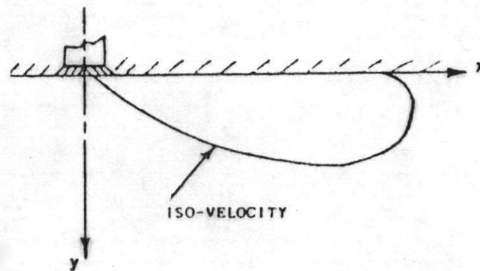
Viso X [CM.]	Viso				
	250	200	150	100	50
40	19.5	20.0	24.0	28.0	-
60	26.0	28.0	30.0	32.0	-
80	31.0	33.0	35.0	37.0	-
100	35.0	37.5	40.5	43.0	-
120	39.0	42.0	45.0	48.0	-
140	40.0	43.0	46.0	48.5	-
160	40.0	46.5	50.0	54.0	-
180	37.5	44.5	50.0	56.0	-
200	33.0	46.5	55.0	62.0	-
220	22.5	43.0	60.0	70.0	-
240	25.0	43.5	55.0	65.0	-
260	-	33.0	55.0	66.0	-
280	-	23.0	55.0	72.0	-
300	-	12.0	55.0	72.0	-
320	-	-	50.0	80.0	-

TABLE 23

=====

แสดงจุดนิกัตที่มีความเร็วคงที่ต่าง ๆ

SQUARE DIFFUSER = 304.8x304.8 MM². [12x12 in².]
 FLOW RATE = 0.217 M³/S [460 CFM.]
 NECK VELOCITY = 2.5 M/S [500 FPM.]
 STATIC PRESSURE = 2.286 MM.Wg.[0.09 in.Wg.]



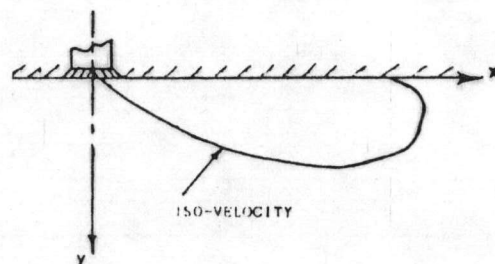
Viso X [CM.]	250	200	150	100	50
	40	14.0	14.5	15.0	15.5
60	18.5	19.5	20.0	21.0	22.0
80	21.0	23.0	24.0	26.0	27.5
100	20.0	24.0	29.0	35.0	40.0
120	20.0	28.0	33.5	40.5	46.0
140	16.5	24.0	32.5	41.0	50.0
160	12.5	22.0	31.5	41.0	51.0
180	-	16.0	30.0	43.0	55.0
200	-	10.0	30.0	57.0	-
220	-	-	24.0	52.0	-
240	-	-	15.0	48.0	-
260	-	-	10.0	45.0	-

TABLE 24

=====

แสดงจุดนิกัตที่มีความเร็วคงที่ต่าง ๆ

SQUARE DIFFUSER	=	304.8x304.8	MM ² . [12x12 in ² .]
FLOW RATE	=	0.260	M ³ /S [552 CFM.]
NECK VELOCITY	=	3	M/S [600 FPM]
STATIC PRESSURE	=	2.794	MM.Wg.[0.11 in.Wg.]



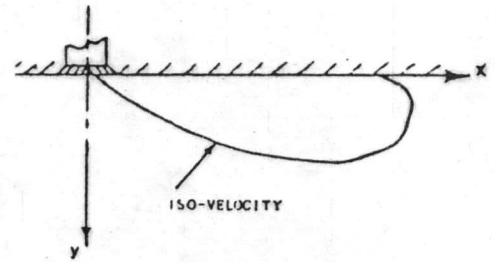
X [CM.]	Viso				
	250	200	150	100	50
40	15.0	15.5	16.0	16.5	17.0
60	20.0	21.5	23.0	24.5	26.0
80	24.0	25.5	27.5	31.0	35.5
100	27.5	29.5	32.5	36.5	44.0
120	29.0	33.0	37.5	43.0	51.0
140	32.5	34.5	38.0	42.0	48.5
160	32.5	39.0	45.0	50.5	61.0
180	32.5	39.0	46.5	53.5	-
200	25.0	34.0	45.0	57.0	-
220	10.0	27.5	40.0	58.0	-
240	-	18.0	35.0	60.0	-
260	-	12.5	35.0	60.0	-
280	-	-	29.5	63.0	-
300	-	-	25.0	63.0	-
320	-	-	19.5	62.0	-
340	-	-	12.0	55.0	-

TABLE 25

=====

แสดงจุดนิกัตที่มีความเร็วคงที่ต่าง ๆ

SQUARE DIFFUSER	=	304.8x304.8	MM ² . [12x12 in ² .]
FLOW RATE	=	0.307	M ³ /S [652 CFM.]
NECK VELOCITY	=	3.5	M/S [700 FPM.]
STATIC PRESSURE	=	4.572	MM.Wg.[0.18 in.Wg.]



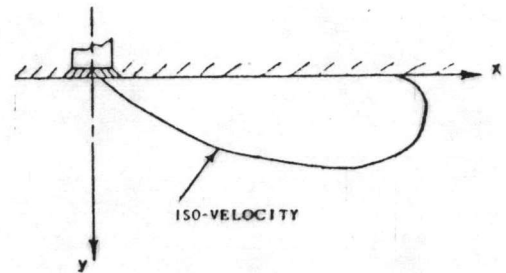
Viso					
	250	200	150	100	50
X [CM.]					
40	17.5	18.0	18.5	19.0	19.5
60	21.5	23.0	24.0	25.5	27.0
80	25.0	27.0	29.0	31.0	32.0
100	29.5	32.0	34.5	38.0	41.5
120	32.5	36.0	40.0	45.0	-
140	36.5	39.5	42.0	45.5	52.0
160	37.5	43.0	47.5	53.0	59.0
180	35.0	41.0	47.0	55.0	61.0
200	30.0	43.5	50.0	57.5	62.5
220	29.0	42.5	50.0	57.5	64.0
240	20.0	32.5	47.5	65.0	-
260	10.0	37.5	53.0	61.0	-
280	-	37.5	53.0	61.0	-
300	-	32.5	53.0	65.0	74.0
320	-	22.0	55.0	71.0	-
340	-	10.0	45.0	66.0	-
360	-	10.0	35.0	52.5	-

TABLE 26

=====

แสดงจุดพิกัดที่มีความเร็วคงที่ต่าง ๆ

SQUARE DIFFUSER	=	304.8x304.8	MM ² . [12x12 in ² .]
FLOW RATE	=	0.347	M ³ /S [736 CFM.]
NECK VELOCITY	=	4	M/S [800 FPM.]
STATIC PRESSURE	=	6.096	MM.Wg.[0.24 in.Wg.]

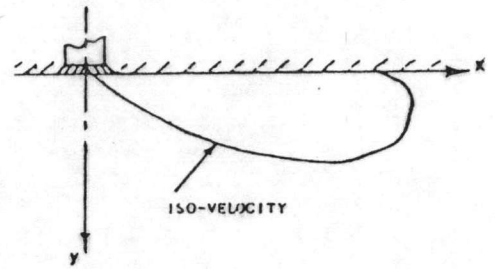


X [CM.]	Viso				
	250	200	150	100	50
40	17.5	18.0	19.0	19.5	20.5
60	21.5	22.5	23.5	25.0	26.0
80	20.5	28.0	29.0	30.5	32.0
100	31.0	33.0	35.0	40.0	47.0
120	35.0	37.0	41.0	46.0	52.0
140	39.0	42.0	45.0	51.0	61.0
160	41.5	46.0	51.0	56.0	62.0
180	45.0	48.5	55.0	60.0	-
200	45.0	52.5	58.0	63.0	-
220	46.5	53.0	60.0	70.0	-
240	42.5	49.5	55.0	67.0	-
260	35.0	43.5	55.0	68.5	-
280	30.0	47.5	58.0	71.0	-
300	15.0	33.5	55.0	66.0	-
320	-	32.0	55.0	77.5	-
340	-	27.5	55.0	76.5	-
360	-	17.0	50.0	70.0	-

TABLE 27

แสดงจุดพิกัดที่มีความเร็วคงที่ต่าง ๆ

SQUARE DIFFUSER = 304.8x304.8 MM². [12x12 in².]
 FLOW RATE = 0.390 M³/S [828 CFM.]
 NECK VELOCITY = 4.5 M/S [900 FPM.]
 STATIC PRESSURE = 7.874 MM.Wg.[0.31 in.Wg.]

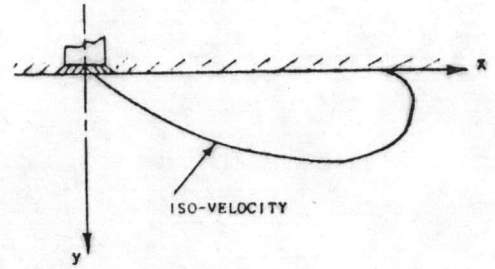


Viso X [CM.]	Viso				
	250	200	150	100	50
40	17.5	18.0	19.0	20.0	21.0
60	23.5	24.0	24.5	26.5	31.0
80	29.0	30.0	31.5	34.0	36.5
100	33.5	35.5	37.5	40.0	42.0
120	36.5	39.0	42.0	45.5	49.0
140	41.5	44.5	49.0	54.0	58.5
160	45.0	48.5	54.0	57.5	61.0
180	47.5	50.5	56.0	59.5	63.0
200	45.0	51.0	57.5	62.0	-
220	46.5	52.5	59.0	66.0	74.0
240	46.5	52.5	60.0	70.0	82.0
260	45.0	54.0	60.0	75.0	85.0
280	38	49.0	60.0	70.0	-
300	43.0	52.0	62.5	70.0	87.0
320	27.0	51.5	62.0	71.5	84.0
340	25.0	51.5	62.5	72.5	89.0
360	15.0	40.0	58.0	73.0	89.0

TABLE 2B
=====

แสดงจุดพิกัดที่มีความเร็วคงที่ต่าง ๆ

SQUARE DIFFUSER = 355.6x355.6 MM². [14x14 in².]
 FLOW RATE = 0.226 M³/S [480 CFM.]
 NECK VELOCITY = 2 M/S [400 FPM.]
 STATIC PRESSURE = 1.524 MM.Wg.[0.06 in.Wg.]



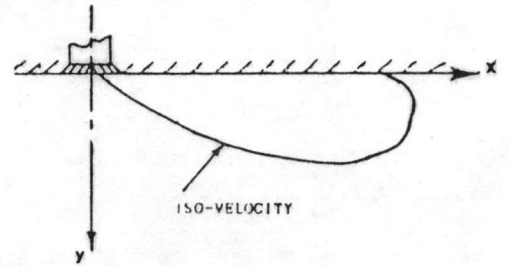
Viso X [CM.]	250	200	150	100	50
	40	19.0	19.5	20.5	21.0
60	22.5	24.0	25.0	26.0	-
80	27.0	28.5	30.5	31.5	32.5
100	25.0	32.5	38.0	43.0	-
120	12.5	27.5	35.5	44.0	-
140	-	16.5	37.0	50.0	-
160	-	11.5	40.0	59.0	-
180	-	-	20.0	65.0	-
200	-	-	15.0	66.5	-
220	-	-	10.0	64.0	-

TABLE 29

=====

แสดงจุดพิกัดที่มีความเร็วคงที่ต่าง ๆ

SQUARE DIFFUSER = 355.6x355.6 MM². [14x14 in².]
 FLOW RATE = 0.283 M³. [600 CFM.]
 NECK VELOCITY = 2.5 M/S [500 FPM.]
 STATIC PRESSURE = 2.032 MM.Wg.[0.08 in.Wg.]



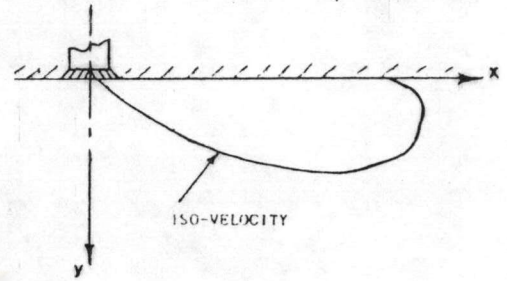
Viso [CM.]	250	200	150	100	50
	40	19.0	19.5	20.0	20.5
60	26.0	27.0	28.0	29.5	30.5
80	30.0	31.5	33.0	34.5	36.0
100	32.5	35.5	38.5	41.0	44.0
120	37.5	41.5	45.0	52.0	59.0
140	35.0	45.5	50.0	55.0	61.0
160	30.0	46.0	55.0	62.0	69.0
180	12.0	39.0	56.0	73.5	83.0
200	-	20.0	57.5	73.5	-
220	-	10.0	55.0	75.0	-
240	-	-	47.0	70.0	-
260	-	-	31.0	76.0	-
280	-	-	10.0	54.0	88.0
300	-	-	-	48.5	-

TABLE 30

=====

แสดงจุดนิกัตที่มีความเร็วคงที่ต่าง ๆ

SQUARE DIFFUSER = 355.6x355.6 MM². [14x14 in².]
 FLOW RATE = 0.339 M³. [720 CFM.]
 NECK VELOCITY = 3 M/S [600 FPM.]
 STATIC PRESSURE = 3.048 MM.Wg.[0.12 in.Wg.]

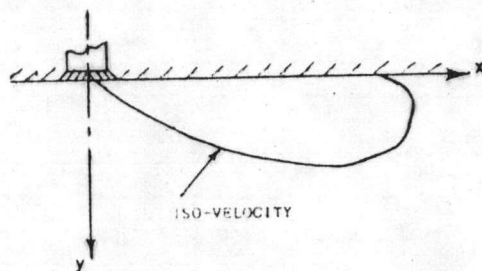


Viso [CM.]	250	200	150	100	50
	40	19.0	19.5	20.0	20.5
60	26.5	27.5	28.5	30.0	31.0
80	32.0	33.5	35.0	38.0	42.0
100	38.0	40.0	42.0	44.0	46.0
120	40.0	42.5	45.5	49.0	52.0
140	38.0	45.0	55.0	58.5	69.0
160	40.0	50.5	56.5	65.0	74.0
180	32.5	46.0	55.0	65.0	80.0
200	20.0	42.0	66.5	72.0	80.0
220	10.0	32.5	65.0	75.0	87.0
240	-	14.0	68.0	75.0	89.0
260	-	-	67.0	78.0	95.5
280	-	-	35.0	65.0	85.0
300	-	-	40.0	62.0	-
320	-	-	45.0	62.5	-
340	-	-	20.0	58.5	-

TABLE 31

แสดงจุดพิกัดที่มีความเร็วคงที่ต่าง ๆ

SQUARE DIFFUSER = 355.6x355.6 MM². [14x14 in².]
 FLOW RATE = 0.396 M³. [840 CFM.]
 NECK VELOCITY = 3.5 M/S [700 FPM.]
 STATIC PRESSURE = 4.064 MM.Wg.[0.16 in.Wg.]

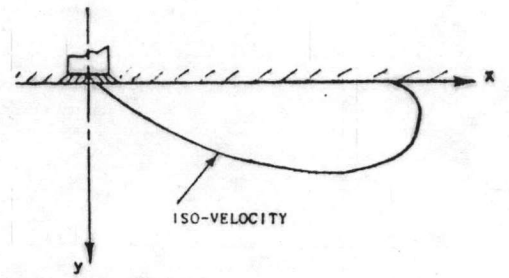


Viso [CM.]	250	200	150	100	50
	40	21.0	21.5	22.0	22.5
60	27.5	28.5	29.5	30.0	32.0
80	32.5	34.0	36.0	38.5	41.0
100	36.5	38.5	41.5	44.5	47.5
120	44.0	46.0	48.0	50.5	52.0
140	49.0	52.5	56.0	61.0	66.0
160	52.5	56.0	59.0	66.0	75.0
180	50.0	58.5	65.0	70.0	77.0
200	50.0	61.5	70.0	80.0	94.0
220	40.0	53.5	72.0	85.0	99.0
240	10.0	43.0	75.0	88.0	96.0
260	-	27.0	70.0	85.0	-
280	-	15.0	70.0	84.0	-
300	-	-	70.0	83.5	-
320	-	-	54.0	86.0	-
340	-	-	61.0	86.0	-
360	-	-	35.0	90.0	-

TABLE 32

แสดงจุดวิกฤตที่มีความเร็ววงที่ต่าง ๆ

SQUARE DIFFUSER = 355.6x355.6 MM². [14x14 in².]
 FLOW RATE = 0.453 M³/S [960 CFM.]
 NECK VELOCITY = 4 M/S [800 FPM.]
 STATIC PRESSURE = 5.08 MM.Wg. [0.20 in.Wg.]



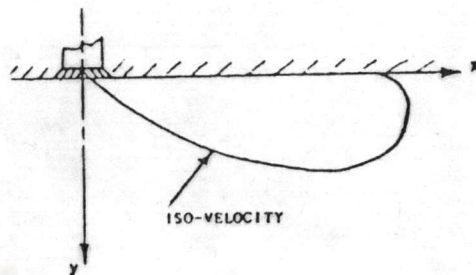
Viso X [CM.]	250	200	150	100	50
	40	23.0	23.5	24.0	24.5
60	23.5	24.5	25.0	26.0	27.0
80	34.5	36.0	37.0	38.0	39.5
100	40.5	42.5	45.0	47.5	50.0
120	45.5	48.0	51.0	54.0	57.0
140	53.5	56.0	58.0	60.0	63.0
160	52.5	56.5	60.0	68.0	76.0
180	60.0	63.5	68.5	75.0	83.0
200	56.5	62.5	71.0	75.0	79.5
220	45.0	69.0	75.0	79.0	83.0
240	37.0	68.0	75.0	84.0	91.0
260	15.0	69.0	80.0	93.0	-
280	10.0	58.0	83.0	98.0	-
300	-	49.0	85.0	108.0	-
320	-	27.0	82.0	102.0	-
340	-	17.5	73.5	93.0	-
360	-	15.0	65.0	100.0	-
380	-	-	45.0	108.0	-

TABLE 33

=====

แสดงจุดนิกัดที่มีความเร็วคงที่ต่าง ๆ

SQUARE DIFFUSER = 406.4x406.4 MM². [16x16 in².]
 FLOW RATE = 0.30 M³/S [636 CFM.]
 NECK VELOCITY = 2 M/S [400 FPM.]
 STATIC PRESSURE = 1.27 MM.Wg.[0.05 in.Wg.]



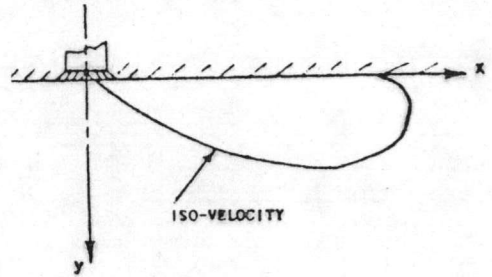
Viso x [CM.]	250	200	150	100	50
	40	21.0	22.0	23.5	24.5
60	28.5	30.0	32.0	33.5	35.5
80	33.0	34.5	37.0	40.0	47.0
100	35.0	41.0	45.0	48.5	52.0
120	28.0	41.5	52.5	58.5	65.0
140	13.0	29.0	57.0	68.0	74.0
160	10.0	28.5	56.0	72.0	83.0
180	-	27.0	45.0	80.0	94.0
200	-	11.0	30.0	80.0	-
220	-	-	20.0	85.0	-

TABLE 34

=====

แสดงจุดวิกฤตที่มีความเร็วคงที่ต่าง ๆ

SQUARE DIFFUSER = 406.4x406.4 MM². [16x16 in².]
 FLOW RATE = 0.375 M³/S [795 CFM.]
 NECK VELOCITY = 2.5 M/S [500 FPM.]
 STATIC PRESSURE = 2.286 MM.Wg.[0.09 in.Wg.]



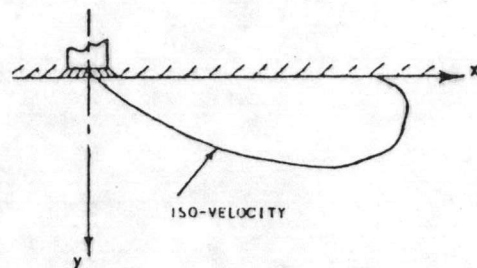
Viso [CM.]	250	200	150	100	50
	40	22.0	22.5	23.0	24.0
60	28.5	24.0	29.5	30.0	31.0
80	29.0	30.0	30.5	31.0	32.0
100	33.5	34.5	36.0	42.0	47.0
120	47.5	51.5	54.5	57.5	60.0
140	55.0	57.5	59.5	65.0	72.0
160	48.0	57.0	63.0	70.0	77.0
180	17.5	58.0	65.0	72.0	-
200	15.0	46.5	67.5	76.0	-
220	-	32.0	73.5	81.0	-
240	-	13.0	75.0	86.0	-
260	-	10.0	55.0	87.0	-
280	-	-	34.0	90.0	-
300	-	-	25.0	90.0	-
320	-	-	17.5	90.0	-

TABLE 35

=====

แสดงจุดพิกัดที่มีความเร็วคงที่ต่าง ๆ

SQUARE DIFFUSER = 406.4x406.4 MM². [16x16 in².]
 FLOW RATE = 0.45 M³/S [954 CFM.]
 NECK VELOCITY = 3 M/S [600 FPM.]
 STATIC PRESSURE = 3.048 MM.Wg.[0.12 in.Wg.]

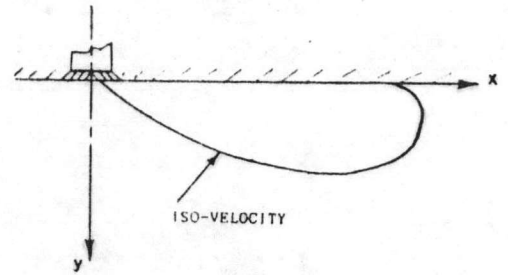


Viso X [CM.]	Viso				
	250	200	150	100	50
40	22.0	22.5	23.0	23.5	24.0
60	29.0	29.5	30.0	32.0	34.0
80	37.0	38.0	39.5	41.0	43.5
100	37.0	38.5	40.0	42.5	45.0
120	50.0	52.0	53.5	55.5	57.5
140	54.0	57.0	61.0	64.0	68.0
160	62.0	63.5	65.0	66.5	71.5
180	63.0	67.0	69.5	72.0	78.0
200	55.0	72.0	78.5	84.0	88.5
220	25.0	70.0	78.0	89.0	-
240	12.5	59.0	81.5	92.0	-
260	10.0	35.0	80.0	94.0	-
280	-	17.5	80.0	95.0	-
300	-	17.0	75.0	94.0	-
320	-	10.0	65.0	93.0	-

TABLE 36
=====

แสดงจุดนิกัตที่มีความเร็วคงที่ต่าง ๆ

SQUARE DIFFUSER = 406.4x406.4 MM². [16x16 in².]
 FLOW RATE = 0.525 M³/S [1113 CFM.]
 NECK VELOCITY = 3.5 M/S [700 FPM.]
 STATIC PRESSURE = 4.064 MM.Hg.[0.16 in.Hg.]



Viso X [CM.]	250	200	150	100	50
	40	23.5	24.0	24.5	25.0
60	29.5	30.0	31.0	32.0	33.0
80	38.0	38.5	39.5	40.5	41.0
100	47.0	49.0	51.0	54.0	57.5
120	53.5	55.5	58.0	61.0	63.5
140	58.0	60.5	64.0	70.0	78.0
160	63.5	66.0	70.5	74.0	77.0
180	65.0	72.0	76.0	80.0	84.0
200	70.5	73.5	79.0	86.0	92.0
220	67.5	73.0	83.0	94.0	-
240	40.0	68.5	83.5	95.0	-
260	15.0	67.0	85.0	100.0	-
280	-	58.5	89.0	103.0	-
300	-	34.5	83.0	95.0	-
320	-	22.5	78.0	-	-
340	-	12.5	85.0	-	-
360	-	12.0	85.0	-	-

TABLE 37

=====

SQUARE DIFFUSER = 254x254 MM². [10x10 in².]
 FLOW RATE = 0.177 M³/S [357 CFM.]
 NECK VELOCITY = 3 M/S [600 FPM.]
 STATIC PRESSURE = 2.54 MM.Wg. [0.10 in.Wg.]

DIRECTION SLOT	DIRECTION			
	1	2	3	4
1	1100	1125	1100	1100
	1150	1150	1125	1150
	1125	1100	1100	1100
2	1100	1050	1050	1050
	1100	1100	1100	1050
3	1125	1150	1150	1150

AVERAGE = 1122 FPM.

AK = 0.32 FT.²

TABLE 38

=====

SQUARE DIFFUSER = 254x254 MM². [10x10 in².]
 FLOW RATE = 0.196 M³/S [416 CFM.]
 NECK VELOCITY = 3.5 M/S [700 FPM.]
 STATIC PRESSURE = 3.05 MM.Wg.[0.12 in.Wg.]

DIRECTION SLOT	DIRECTION			
	1	2	3	4
1	1450	1450	1450	1450
	1500	1500	1450	1475
	1450	1450	1450	1450
2	1400	1400	1450	1450
	1450	1400	1450	1400
3	1450	1450	1450	1450

AVERAGE = 1441 FPM.

Ak = 0.32 FT.²

TABLE 39

=====

SQUARE DIFFUSER = 254x254 MM². [10x10 in².]
 FLOW RATE = 0.224 M³/S [457 CFM.]
 NECK VELOCITY = 4 M/S [800 FPM.]
 STATIC PRESSURE = 3.30 MM.Wg. [0.13 in.Wg.]

DIRECTION SLOT	DIRECTION			
	1	2	3	4
1	1600	1650	1700	1700
	1700	1700	1750	1700
	1700	1650	1700	1650
2	1650	1650	1650	1700
	1650	1650	1650	1700
2	1650	1650	1650	1700

AVERAGE = 1681 FPM.

Ak = 0.28 FT².

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

TABLE 40

=====

SQUARE DIFFUSER = 254x254 MM². [10x10 in².]
 FLOW RATE = 0.252 M³/S [535 CFM.]
 NECK VELOCITY = 4.5 M/S [900 FPM.]
 STATIC PRESSURE = 4.57 MM.Wg. [0.18 in.Wg.]

DIRECTION SLOT	DIRECTION			
	1	2	3	4
1	1900	1900	1900	1950
	2000	1950	1950	2000
	1900	1900	1900	1900
2	1850	1850	1800	1850
	1850	1900	1900	1850
3	1850	1850	1850	1850

AVERAGE = 1867 FPM.

AK = 0.29 FT.²

ศูนย์วิทยุทรัพยากร
 จุฬาลงกรณ์มหาวิทยาลัย

TABLE 41

=====

SQUARE DIFFUSER = 304.8x304.8 MM². [12x12 in².]
 FLOW RATE = 0.217 M³/S [460 CFM.]
 NECK VELOCITY = 2.5 M/S [500 FPM.]
 STATIC PRESSURE = 2.286 MM.Wg. [0.09 in.Wg.]

DIRECTION SLOT	DIRECTION			
	1	2	3	4
1	1200	1150	1200	1250
	1250	1250	1300	1300
	1150	1150	1200	1200
2	1225	1250	1250	1225
	1350	1350	1350	1350
	1250	1250	1225	1225
3	1250	1275	1250	1250
	1275	1250	1250	1250
4	1275	1275	1275	1275

AVERAGE = 1256 FPM.

AK = 0.36 FT.²

TABLE 42

=====

SQUARE DIFFUSER = 304.8x304.8 MM². [12x12 in².]
 FLOW RATE = 0.260 M³/S [552 CFM.]
 NECK VELOCITY = 3 M/S [600 FPM.]
 STATIC PRESSURE = 2.794 MM.Wg.[0.11 in.Wg.]

DIRECTION SLOT	DIRECTION			
	1	2	3	4
1	1575	1575	1575	1575
	1600	1600	1600	1600
	1575	1600	1575	1575
2	1675	1675	1675	1700
	1700	1700	1700	1700
	1650	1675	1650	1675
3	1750	1750	1750	1750
	1725	1700	1725	1750
4	1750	1750	1750	1750

AVERAGE = 1688 FPM.

Ak = 0.33 FT.²

TABLE 43

=====

SQUARE DIFFUSER = 304.8x304.8 MM². [12x12 in².]
 FLOW RATE = 0.307 M³/S [644 CFM.]
 NECK VELOCITY = 3.5 M/S [700 FPM.]
 STATIC PRESSURE = 4.572 MM.Wg.[0.18 in.Wg.]

DIRECTION SLOT	DIRECTION			
	1	2	3	4
1	1950	2000	1975	1975
	2000	2050	2000	2000
	1975	2000	2000	1975
2	1975	2000	2000	2000
	2000	2050	2000	2000
	1975	2000	2000	2000
3	2150	2150	2100	2150
	2100	2150	2150	2175
4	2200	2175	2200	2175

AVERAGE = 2080 FPM.

AK = 0.31 FT.²

TABLE 44

=====

SQUARE DIFFUSER = 304.4x304.8 MM². [12x12 in².]
 FLOW RATE = 0.347 M³/S [736 CFM.]
 NECK VELOCITY = 4 M/S [800 FPM.]
 STATIC PRESSURE = 6.096 MM.Wg.[0.24 in.Wg.]

DIRECTION SLOT	DIRECTION			
	1	2	3	4
1	2200	2200	2225	2225
	2250	2225	2250	2250
	2200	2200	2200	2225
2	2400	2375	2350	2400
	2400	2400	2400	2400
	2375	2380	2375	2375
3	2575	2575	2600	2600
	2600	2575	2575	2575
4	2575	2575	2575	2575

AVERAGE = 2441 FPM.

AK = 0.30 FT.²

TABLE 45

=====

SQUARE DIFFUSER = 304.8x304.8 MM². [12x12 in².]
 FLOW RATE = 0.390 M³/S [828 CFM.]
 NECK VELOCITY = 4.5 M/S [900 FPM.]
 STATIC PRESSURE = 7.874 MM.Wg.[0.31 in.Wg.]

DIRECTION SLOT	DIRECTION			
	1	2	3	4
1	2600	2600	2550	2600
	2550	2575	2575	2600
	2600	2575	2600	2575
2	2550	2600	2600	2600
	2650	2700	2650	2600
	2600	2650	2580	2580
3	2600	2600	2650	2600
	2575	2600	2600	2600
4	2550	2575	2550	2550

AVERAGE = 2589 FPM.

Ak = 0.32 FT.²

TABLE 46

=====

SQUARE DIFFUSER = 355.6x355.6 MM². [14x14 in².]
 FLOW RATE = 0.226 M³/S [480 CFM.]
 NECK VELOCITY = 2 M/S [400 FPM.]
 STATIC PRESSURE = 1.524 MM.Wg.[0.06 in.Wg.]

DIRECTION SLOT	DIRECTION			
	1	2	3	4
1	1000	1000	1000	1000
	1000	1000	1050	1050
	950	1000	1000	1000
2	1000	1000	1000	1050
	1000	1100	1050	1100
	1000	1050	1000	1000
3	1000	1050	1000	1050
	1050	1100	1050	1100
	1000	1050	1000	1000
4	950	950	950	1000
	1000	1000	950	950
5	950	1000	950	950

AVERAGE = 989 FPM.

Ak = 0.48 FT.²

TABLE 47

=====

SQUARE DIFFUSER = 355.6x355.6 MM². [14x14 in².]
 FLOW RATE = 0.283 M³/S [600 CFM.]
 NECK VELOCITY = 2.5 M/S [500 FPM.]
 STATIC PRESSURE = 2.032 MM.Wg.[0.08 in.Wg.]

DIRECT SLOT	1	2	3	4
	1	1200	1250	1200
1250		1250	1250	1250
1200		1200	1200	1250
2	1200	1200	1200	1200
	1250	1250	1200	1250
	1200	1200	1200	1200
3	1200	1200	1200	1200
	1200	1200	1200	1200
	1200	1200	1200	1200
4	1200	1200	1200	1200
	1200	1200	1200	1200
5	1150	1200	1175	1175

AVERAGE = 1210 FPM.

Ak = 0.49 FT.²

TABLE 4B

=====

SQUARE DIFFUSER = 355.6x355.6 MM². [14x14 in².]
 FLOW RATE = 0.339 M³/S [720 CFM.]
 NECK VELOCITY = 3 M/S [600 FPM.]
 STATIC PRESSURE = 3.048 MM.Wg. [0.12 in.Wg.]

DIRECTION SLOT	DIRECTION			
	1	2	3	4
1	1500	1550	1500	1575
	1550	1600	1550	1600
	1500	1550	1550	1550
2	1600	1600	1600	1675
	1650	1700	1650	1750
	1625	1650	1600	1650
3	1700	1700	1700	1750
	1700	1750	1750	1800
	1675	1750	1700	1775
4	1700	1700	1750	1750
	1750	1700	1750	1750
5	1650	1650	1650	1650

AVERAGE = 1647 FPM.

Ak = 0.44 FT.²

TABLE 49

=====

SQUARE DIFFUSER = 355.6x355.6 MM². [14x14 in².]
 FLOW RATE = 0.396 M³/S [840 CFM.]
 NECK VELOCITY = 3.5 M/S [700 FPM.]
 STATIC PRESSURE = 4.064 MM.Wg. [0.16 in.Wg.]

DIRECTION SLOT	DIRECTION			
	1	2	3	4
1	1900	1950	1950	1950
	1950	2000	1950	2000
	1900	1975	1950	1950
2	2000	2000	2000	2050
	2000	2100	2000	2100
	2000	2000	1950	2000
3	2100	2100	2100	2100
	2100	2100	2100	2100
	2100	2100	2100	2100
4	2000	2100	2100	2000
	2050	2050	2000	2000
5	2000	2000	2000	2000

AVERAGE = 2006 FPM.

Ak = 0.42 FT.²

TABLE 50

=====

SQUARE DIFFUSER	=	355.6x355.6	MM ² . [14x14 in ² .]
FLOW RATE	=	0.453	M ³ /S [960 CFM.]
NECK VELOCITY	=	4	M/S [800 FPM.]
STATIC PRESSURE	=	5.08	MM.Wg.[0.20 in.Wg.]

DIRECTION SLOT	DIRECTION			
	1	2	3	4
1	1900	2100	1900	2100
	1900	2200	1950	2150
	1900	2100	1900	2100
2	2100	2100	2100	2100
	2100	2100	2150	2200
	2050	2100	2100	2100
3	2300	2300	2350	2300
	2350	2400	2400	2400
	2300	2300	2300	2300
4	2400	2400	2400	2400
	2400	2400	2400	2400
5	2400	2400	2400	2400

AVERAGE = 2228 FPM.

Ak = 0.43 FT.²

TABLE 51

=====

SQUARE DIFFUSER = 406.4x406.4 MM². [16x16 in².]
 FLOW RATE = 0.30 M³/S [636 CFM.]
 NECK VELOCITY = 2 M/S [400 FPM.]
 STATIC PRESSURE = 1.27 MM.Wg.[0.05 in.Wg.]

DIRECTION SLOT	DIRECTION			
	1	2	3	4
1	1000	1000	1000	1025
	1050	1050	1025	1075
	1025	1025	1025	1050
	1000	1025	1025	1000
2	1075	1050	1050	1050
	1100	1075	1100	1050
	1050	1050	1000	1050
3	1025	1025	1025	1025
	1050	1050	1025	1050
	1000	1025	1025	1000
4	1075	1050	1075	1050
	1050	1050	1075	1075
5	1025	1025	1025	1025

AVERAGE = 1039 FPM.

AK = 0.61 FT.²

TABLE 52
=====

SQUARE DIFFUSER = 406.4x406.4 MM². [16x16 in².]
 FLOW RATE = 0.375 M³/S [795 CFM.]
 NECK VELOCITY = 2.5 M/S [500 FPM.]
 STATIC PRESSURE = 2.286 MM.Wg.[0.09 in.Wg.]

DIRECTION SLOT	DIRECTION			
	1	2	3	4
1	1375	1350	1375	1375
	1400	1400	1400	1400
	1400	1375	1375	1375
	1375	1350	1375	1350
2	1400	1375	1375	1400
	1425	1400	1425	1425
	1375	1400	1400	1400
3	1375	1400	1375	1375
	1400	1400	1400	1400
	1350	1350	1350	1375
4	1425	1425	1425	1425
	1425	1425	1425	1425
5	1375	1375	1375	1375

AVERAGE = 1390 FPM.
 Ak = 0.57 FT.²

TABLE 53
=====

SQUARE DIFFUSER = 406.4x406.4 MM². [16x16 in².]
 FLOW RATE = 0.45 M³/S [954 CFM.]
 NECK VELOCITY = 3 M/S [600 FPM.]
 STATIC PRESSURE = 3.048 MM.Wg.[0.12 in.Wg.]

DIRECTION SLOT	DIRECTION			
	1	2	3	4
1	1450	1425	1450	1475
	1500	1500	1500	1500
	1500	1500	1450	1475
	1450	1475	1450	1450
2	1500	1500	1500	1500
	1525	1500	1525	1500
	1500	1500	1500	1500
3	1525	1550	1525	1550
	1550	1575	1550	1575
	1525	1525	1525	1525
4	1600	1625	1600	1600
	1600	1600	1600	1625
5	1625	1625	1625	1625

AVERAGE = 1528 FPM.
 Ak = 0.62 FT².

TABLE 54

=====

SQUARE DIFFUSER = 406.4x406.4 MM². [16x16 in².]
 FLOW RATE = 0.525 M³/S [1113 CFM.]
 NECK VELOCITY = 3.5 M/S [700 FPM.]
 STATIC PRESSURE = 4.064 MM.Wg.[0.16 in.Wg.]

DIRECTION SLOT	DIRECTION			
	1	2	3	4
1	1950	1975	1950	1975
	2000	2000	2000	2000
	2000	2000	2000	2000
	1950	1950	1950	1975
2	1975	2000	2000	1950
	2000	2000	2000	2000
	2000	1950	2000	2000
3	1875	1850	1850	1875
	1900	1875	1900	1900
	1875	1875	1875	1875
4	1950	1925	1950	1950
	1950	1950	1950	1925
5	1925	1925	1925	1925

AVERAGE = 1948.5 FPM.

Ak = 0.57 FT.²

TABLE 55

=====

DIMENSION MEASURE MENT OF SQUARE DIFFUSERS

NOMINAL SIZE MM ² . [IN ² .]	254x254 [10x10]	3048x3048 [12x12]	355.6x355.6 [14x14]	406.4x406.4 16x16
NECK SIZE CM ² . [FT ² .]	234 0.77	292 0.96	334 1.09	384 1.26
NECK AREA CM ² . [FT ² .]	581 0.59	812 0.92	1122 1.20	1.59 1482
FREE AREA CM ² . [FT ² .]	519 0.56	762 0.82	1054 1.13	1.54 1431

DIMENSION SIZE MM. [in.]

AREA CM². [FT².]

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

TABLE 56

=====

EFFECTIVE AREA OF SQUARE DIFFUSER

NOMINAL SIZE [MM.xMM.] [in.xin.]	NECK VELOCITY [M/S.] [FPM.]	FLOW RATE [M ³ /S.] [CFM.]	JET VELOCITY [M/S.] [FPM.]	EFFECTIVE AREA [M ² .] [FT ² .]
254x254 [10x10]	3.00 [600]	0.17 [357]	5.61 [1122]	0.03 [0.32]
	3.50 [700]	0.20 [416]	7.21 [1441]	0.03 [0.29]
	4.00 [800]	0.22 [475]	8.41 [1681]	0.03 [0.28]
	4.50 [900]	0.25 [535]	9.34 [1867]	0.03 [0.29]
304.8x304.8 [12x12]	2.50 [500]	0.22 [460]	6.28 [1256]	0.03 [0.36]
	3.00 [600]	0.26 [552]	8.44 [1688]	0.03 [0.33]
	3.50 [700]	0.30 [645]	10.40 [2080]	0.03 [0.31]
	4.00 [800]	0.35 [730]	12.21 [2441]	0.03 [0.30]
	4.50 [900]	0.39 [828]	12.95 [2589]	0.30 [0.32]
355.6x355.6 [14x14]	2.00 [400]	0.23 [480]	4.95 [989]	0.05 [0.48]
	2.50 [500]	0.28 [600]	6.05 [1210]	0.05 [0.49]
	3.00 [600]	0.34 [720]	8.24 [1647]	0.04 [0.44]
	3.50 [700]	0.40 [840]	10.03 [2006]	0.04 [0.42]
	4.00 [800]	0.45 [960]	11.14 [2228]	0.04 [0.43]
406.4x406.4 [16x16]	2.00 [400]	0.30 [636]	5.20 [1039]	0.06 [0.61]
	2.50 [500]	0.38 [795]	6.95 [1390]	0.05 [0.57]
	3.00 [600]	0.45 [945]	7.64 [1528]	0.06 [0.62]
	3.50 [700]	0.53 [1113]	9.74 [1948]	0.05 [0.57]

TABLE 56

=====

EFFECTIVE AREA OF SQUARE DIFFUSER

NOMINAL SIZE [MM.xMM.] [in.xin.]	NECK VELOCITY		FLOW RATE		JET VELOCITY		EFFECTIVE AREA	
	[M/S.]		[M ³ /S.]		[M/S.]		[M ² .]	
	[FPM.]		[CFM.]		[FPM.]		[FT ² .]	
254x254 10x10	3.00	[600]	0.17	[357]	5.61	[1122]	0.03	[0.32]
	3.50	[700]	0.20	[416]	7.21	[1441]	0.03	[0.29]
	4.00	[800]	0.22	[475]	8.41	[1681]	0.03	[0.28]
	4.50	[900]	0.25	[535]	9.34	[1867]	0.03	[0.29]
304.8x304.8 12x12	2.50	[500]	0.22	[460]	6.28	[1256]	0.03	[0.36]
	3.00	[600]	0.26	[552]	8.44	[1688]	0.03	[0.33]
	3.50	[700]	0.30	[645]	10.40	[2080]	0.03	[0.31]
	4.00	[800]	0.35	[730]	12.21	[2441]	0.03	[0.30]
	4.50	[900]	0.39	[828]	12.95	[2589]	0.30	[0.32]
355.6x355.6 14x14	2.00	[400]	0.23	[480]	4.95	[989]	0.05	[0.48]
	2.50	[500]	0.28	[600]	6.05	[1210]	0.05	[0.49]
	3.00	[600]	0.34	[720]	8.24	[1647]	0.04	[0.44]
	3.50	[700]	0.40	[840]	10.03	[2006]	0.04	[0.42]
	4.00	[800]	0.45	[960]	11.14	[2228]	0.04	[0.43]
406.4x406.4 16x16	2.00	[400]	0.30	[636]	5.20	[1039]	0.06	[0.61]
	2.50	[500]	0.38	[795]	6.95	[1390]	0.05	[0.57]
	3.00	[600]	0.45	[945]	7.64	[1528]	0.06	[0.62]
	3.50	[700]	0.53	[1113]	9.74	[1948]	0.05	[0.57]

TABLE 57

=====

SQUARE DIFFUSER PERFORMANCE TESTING RESULT MODEL 4 - CSD

NECK VELOCITY	400			500		
	FLOW	SP	RAD	FLOW	SP	RAD
254x254 [10x10]	-	-	-	-	-	-
304.8x304.8 [12x12]	-	-	-	460	2.29	3.00
355.6x355.6 [14x14]	480	1.52	>2.50	600	2.03	>3.10
406.4x406.4 [16x16]	636	1.27	>2.80	795	2.29	>3.50

CONTINUED

NECK VELOCITY	600			700		
	NECK SIZE	FLOW	SP	RAD	FLOW	SP
254x254 [10x10]	375	2.54	>2.60	416	3.05	>3.00
304.8x304.8 [12x12]	644	4.57	>3.80	736	6.09	>3.80
355.6x355.6 [14x14]	840	4.06	>3.60	840	4.06	>3.80
406.4x406.4 [16x16]	954	3.05	>3.80	1113	4.06	>3.80

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

CONTINUED

NECK VELOCITY	800			900		
	NECK SIZE	FLOW	SP	RAD	FLOW	SP
254x254 [10x10]	475	3.30	>3.30	535	4.57	>3.50
304.8x304.8 [12x12]	736	6.09	>3.80	828	7.87	>4.00
355.6x355.6 [14x14]	960	5.08	>4.10	-	-	-
406.4x406.4 [16x16]	-	-	-	-	-	-

FLOW = AIR FLOW RATE M³/S [CFM]

SP = STATIC PRESSURE MM.WG

R A D = RADIUS OF DIFFUSION AT TERMINAL VELOCITY 100 FPM [0.50 M/S] M [FT]

TABLE 58

=====

SQUARE DIFFUSER PERFORMANCE MODEL 4 - CSD DATA FORM SE. AIR SUPPLY LTD , PART

NECK VELOCITY	400			500		
	FLOW	SP	RAD	FLOW	SP	RAD
254x254 [10x10]	238	1.45	1.40-2.50	298	2.17	1.40-2.50
304.8x304.8 [12x12]	342	0.96	1.60-2.70	427	1.93	1.60-2.70
355.6x355.6 [14x14]	466	1.20	2.20-3.60	583	2.17	2.20-3.60
406.4x406.4 [16x16]	610	1.69	2.70-3.80	763	1.93	2.70-3.80

CONTINUED

NECK VELOCITY	600			700		
	NECK SIZE	FLOW	SP	RAD	FLOW	SP
254x254 [10x10]	356	2.89	1.60-3.00	415	5.31	1.60-3.00
304.8x304.8 [12x12]	513	2.41	1.60-3.30	599	4.34	1.60-3.30
355.6x355.6 [14x14]	700	2.90	3.00-4.10	816	4.10	3.00-4.40
406.4x406.4 [16x16]	916	3.38	3.60-4.70	1068	4.58	3.80-4.40

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

CONTINUED

NECK VELOCITY	800			900		
	NECK SIZE	FLOW	SP	RAD	FLOW	SP
254x254 [10x10]	477	5.79	1.90-3.60	534	7.24	1.90-3.60
304.8x304.8 [12x12]	684	4.83	1.90-3.80	796	7.00	1.90-4.10
355.6x355.6 [14x14]	933	4.83	3.60-5.20	1050	6.76	3.60-5.20
406.4x406.4 [16x16]	1221	6.27	4.70-6.00	1373	7.24	4.90-6.00

FLOW = AIR FLOW RATE M³/S [CFM]

SP = STATIC PRESSURE MM.WG

R A D = RADIUS OF DIFFUSION AT TERMINAL VELOCITY 100 FPM [0.50 M/S] M [FT]

TABLE 59

=====

SQUARE DIFFUSER PERFORMANCE MODEL P - 4 WITH DB DATA FROM
 ENVIROMENTAL AIR PRODUCTS , INC

NECK VELOCITY	400		500	
	FLOW	RAD	FLOW	RAD
152.4x125.4 [6x6]	100	1.83	125	2.13
228.6x228.6 [9x9]	225	2.74	280	3.35
304.8x304.8 [12x12]	400	3.66	500	4.57
381x381 [15x15]	625	4.88	780	6.09
457.2x457.2 [18x18]	900	5.79	1125	7.01

CONTINUED

NECK VELOCITY	600		700	
	FLOW	RAD	FLOW	RAD
152.4x125.4 [6x6]	150	2.74	175	2.74
228.6x228.6 [9x9]	335	3.96	395	4.26
304.8x304.8 [12x12]	600	5.49	700	5.79
381x381 [15x15]	940	6.70	1090	7.01
457.2x457.2 [18x18]	1350	7.92	1575	8.53

CONTINUED

NECK VELOCITY	800		900	
	FLOW	RAD	FLOW	RAD
152.4x125.4 [6x6]	200	3.05	225	3.35
228.6x228.6 [9x9]	450	4.57	505	4.88
304.8x304.8 [12x12]	800	6.09	900	6.70
381x381 [15x15]	1250	7.62	1405	8.22
457.2x457.2 [18x18]	1800	9.14	2030	9.75

FLOW = AIR FLOW RATE M³/S [CFM]

SP = STATIC PRESSURE MM.WG

R A D = RADIUS OF DIFFUSION AT TERMINAL VELOCITY 100 FPM

[0.50 M/S]

TABLE 60

=====

SQUARE DIFFUSER PERFORMANCE MODEL 4 - CSD MANUFACTURED BY S.E. AIR SUPPLY LTD , PART. TEST BY N.A.T.A.

NECK SIZE	MEASUREMENT ITEMS		
	CFM	RAD	SP
152.4x152.4 [6x6]	98	1.3	1.4
	190	2.6	5.0
	246	4.0	8.7
	276	4.5	11.0
304.8x304.8 [12x12]	583	4.7	2.8
	954	6.3	6.8
	1505	7.7	16.3
	2056	8.8	29.6
609.6x609.6 [24x24]	1569	5.7	0.9
	2332	6.7	2.1
	3010	7.8	3.7
	4070	8.8	6.5

CFM = AIR FLOW RATE

SP = STATIC PRESSURE [MM.WG]

R A D = RADIUS OF DIFFUSION [M] AT TERMINAL VELOCITY 100 FPM [0.50 M/S]

N A T A = NATIONAL ASSOCIATION OF TESTING AUTHORITIES AUSTRALIA

TABLE 61

=====

THROW AT 100 FPM FREE JET CALCULATION

SIZE		NECK VELOCITY [FPM]					
A _o		400	500	600	700	800	900
254x254 [10x10]	V _j			1122 (5.61)	1441 (7.2)	1681 (8.4)	1867 (9.33)
	xR			4.93	8.12	11.05	13.64
	xC			6.86	8.78	10.26	11.40
304.8x304.8 [12x12]	V _j		1256 (6.28)	1688 (8.44)	2080 (10.4)	2441 (12.2)	2589 (12.9)
	xR		6.81	12.31	18.69	25.72	28.76
	xC		8.06	10.83	13.35	15.66	16.56
355.6x355.6 [14x14]	V _j	989 (4.94)	1210 (6.05)	1647 (8.23)	2006 (10.03)	2228 (11.14)	
	xR	5.62	8.43	15.60	23.18	29.94	
	xC	7.32	8.97	12.19	14.86	16.51	

คุณย วิทยาลัยพยาบาล
จุฬาลงกรณ์มหาวิทยาลัย

CONTINUED

SIZE		NECK VELOCITY [FPM]					
Ao		400	500	600	700	800	900
406.4x406.4 [16x16]	Vj	1039 (5.2)	1390 (6.95)	1528 (7.64)	1948 (9.74)		
	xR	8.72	15.58	18.83	30.60		
	xC	9.12	12.19	13.39	17.07		

V_j = JET VELOCITY FPM [M/S]

x_R = THROW OF RECTANGULAR JET

x_C = THROW OF CIRCULAR JET

$x_R = A_o \cdot [(2.4 \cdot u_o) / u_{c1}]^2$

$x_C = 7.41 \cdot (u_o / u_{c1}) \cdot (A_o)^{(1/2)}$

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

TABLE 62

=====

ตารางแสดงค่าคงที่ของลักษณะการจ่ายอากาศที่ได้จากการทดสอบ

SIZE	Q	THROW	EFFECTIVE AREA	K
MM. [IN.]	[CFM.]	M. [FT.]	[FT ² .]	
254 [10]	57	2.60 [8.50]	0.32	0.013
	416	3.00 [10.00]	0.29	0.013
	437	3.30 [11.00]	0.28	0.012
	535	3.50 [11.50]	0.29	0.012
304.8 [12]	460	3.00 [10.00]	0.36	0.013
	552	3.60 [12.00]	0.33	0.012
	644	3.80 [12.50]	0.31	0.011
	736	3.80 [12.50]	0.30	0.009
355.6 [14]	828	4.00 [13.00]	0.32	0.009
	480	2.50 [8.00]	0.48	0.012
	600	3.10 [10.00]	0.49	0.012
	720	3.60 [12.00]	0.44	0.011
406.4 [16]	840	3.80 [12.50]	0.42	0.010
	960	4.10 [13.00]	0.43	0.090
	636	2.80 [9.00]	0.61	0.011
	795	3.50 [11.50]	0.57	0.011
[16]	954	3.80 [12.50]	0.62	0.010
	1113	3.80 [12.50]	0.57	0.085

$$T = [K \cdot CFM] / [EA]^{1/2}$$

T = ระยะพุ่งของอุปกรณ์จ่ายอากาศ

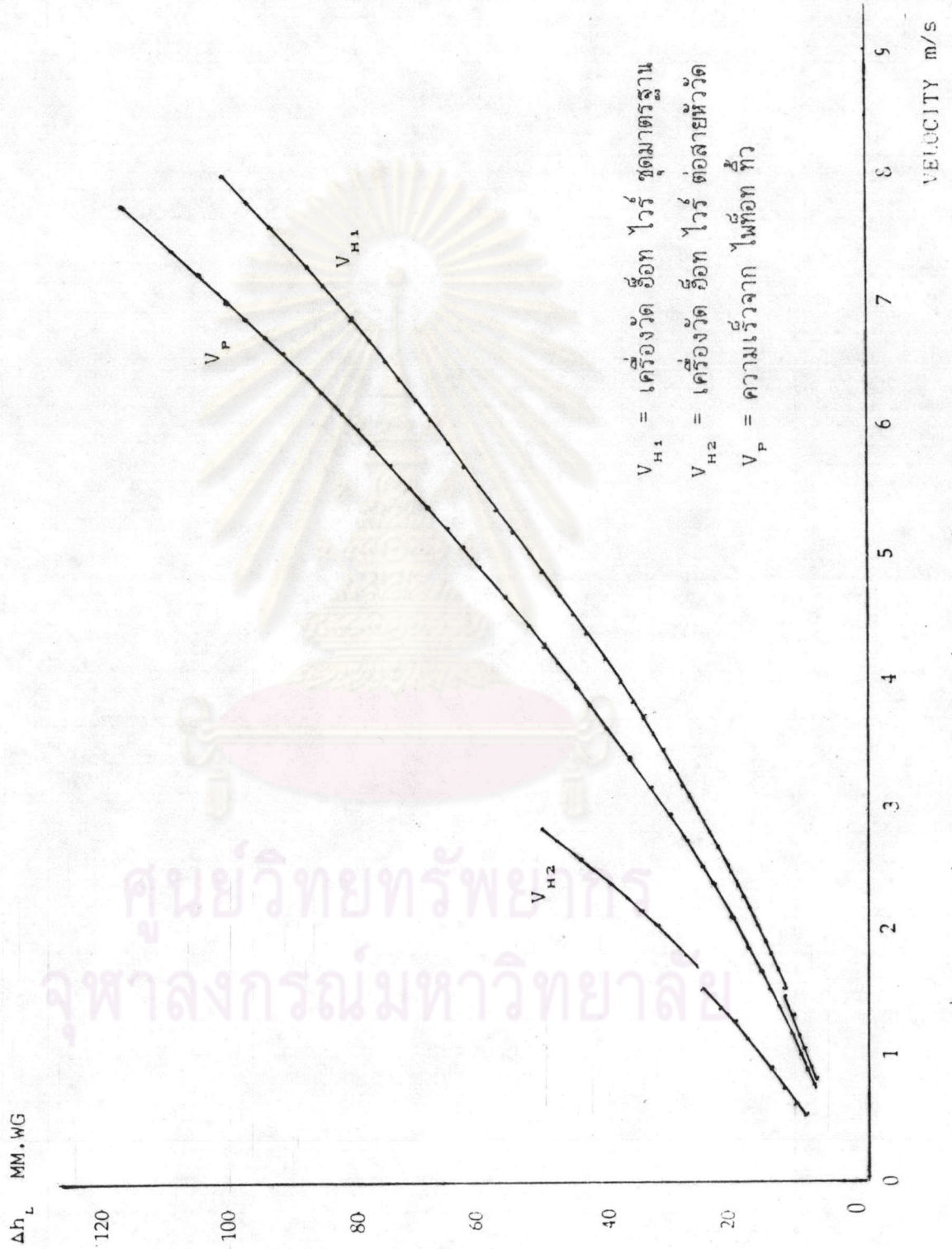
K = ค่าคงที่ของลักษณะการจ่ายอากาศ

EA = ค่า EFFECTIVE AREA

CFM = อัตราการไหลอากาศ

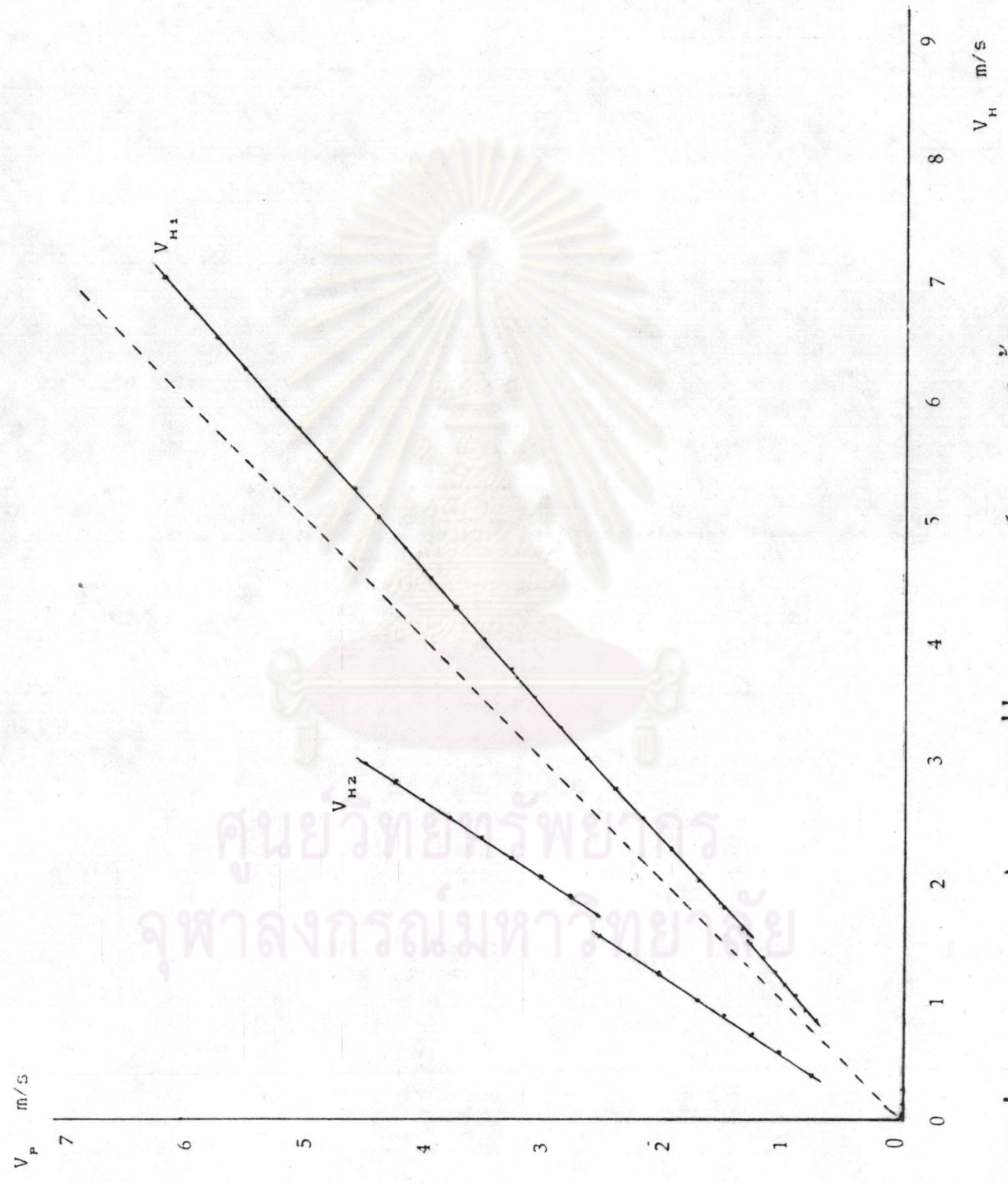


รูปที่ 1 กราฟความสัมพันธ์ของความเร็วที่วัดได้จาก
เทอร์โบมิเตอร์ กับ ฮ็อต ไวร์ แอนนิโมมิเตอร์



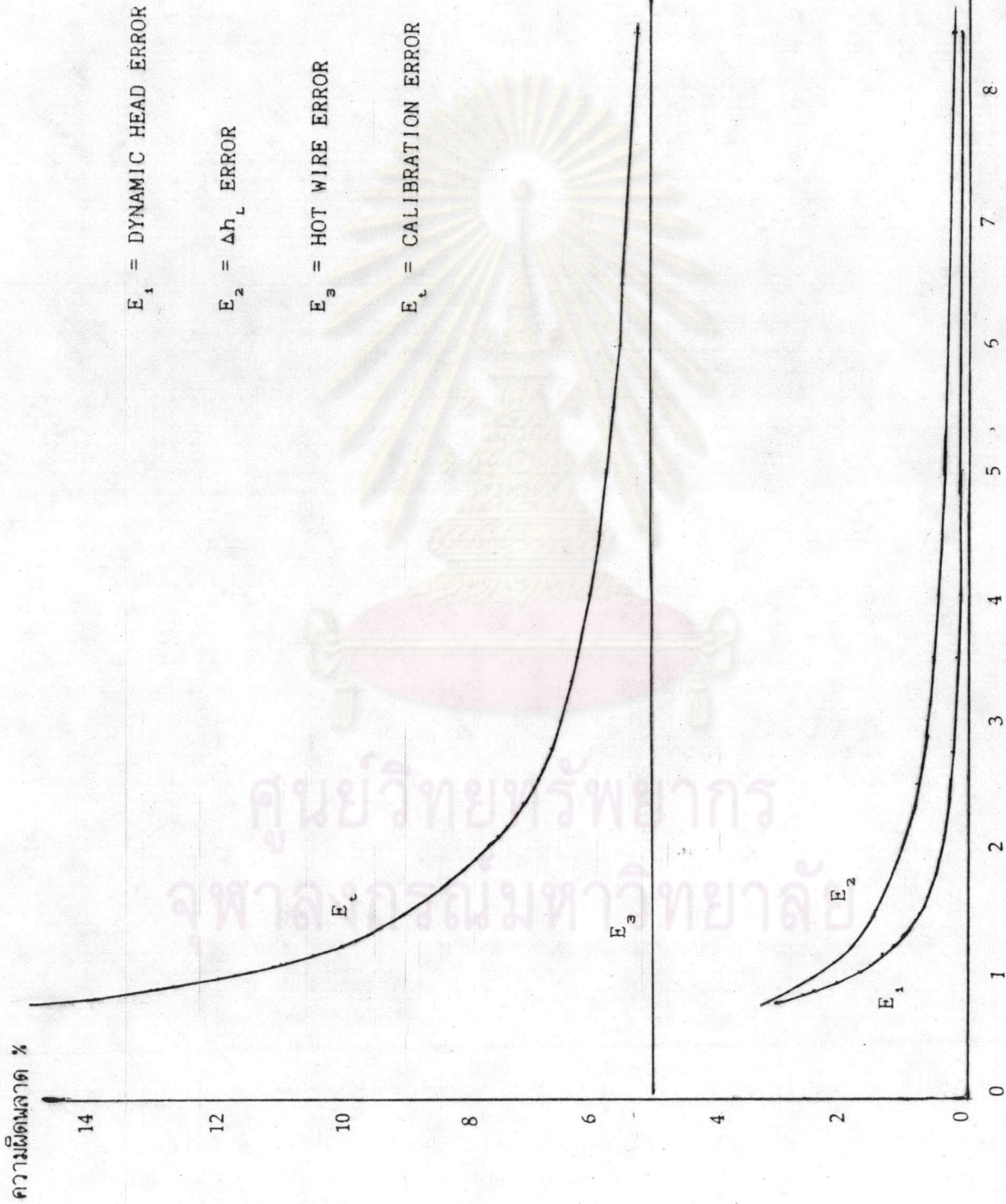
ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

รูปที่ 2 กราฟพล็อตระหว่างความเร็วที่อ่านจากเครื่องวัดต่าง ๆ กับ Δh_L



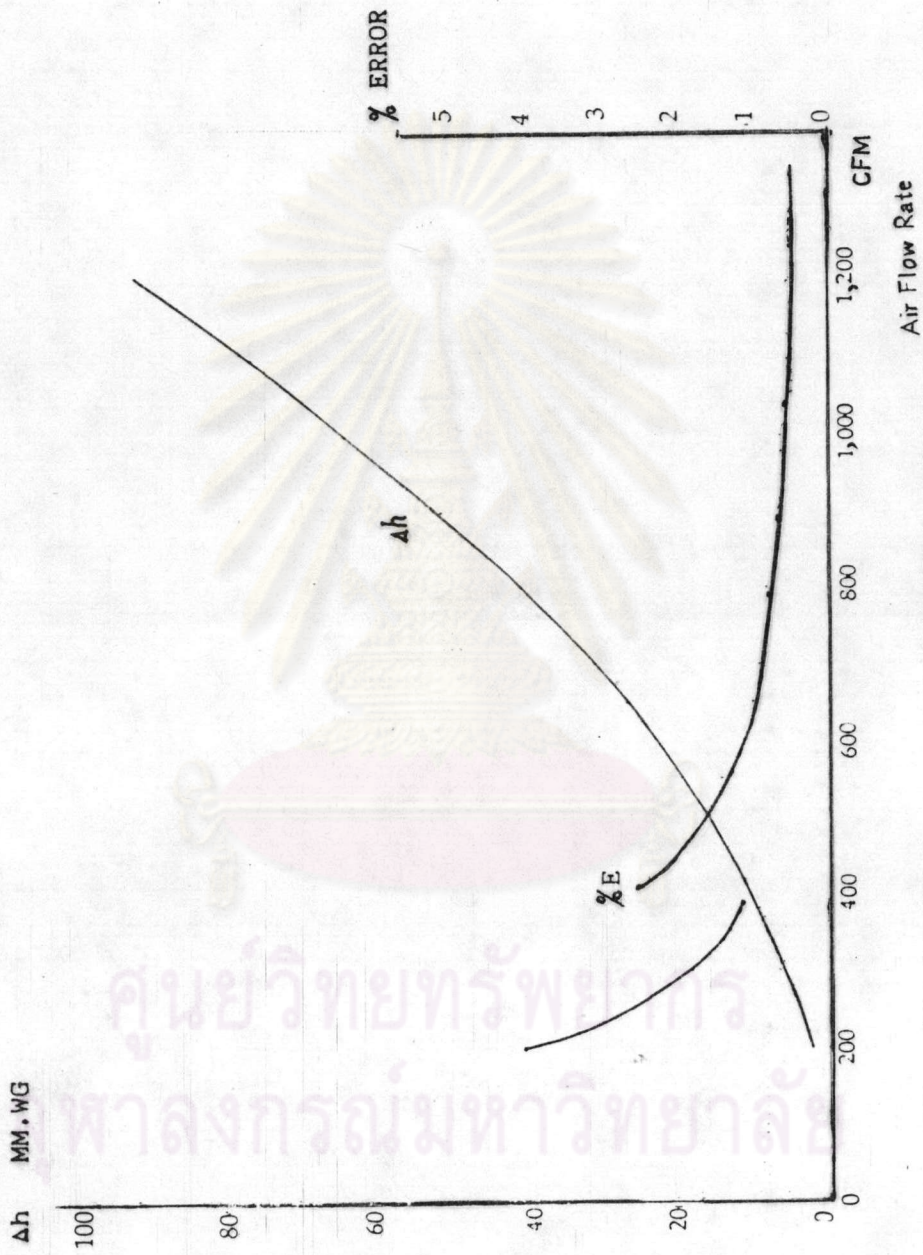
ศูนย์วิทยุทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

รูปที่ 3 กราฟแสดงความสัมพันธ์ระหว่างความเร็วที่อ่านจาก สปีดโอมิเตอร์ กับความเร็วอ้างอิง V_p



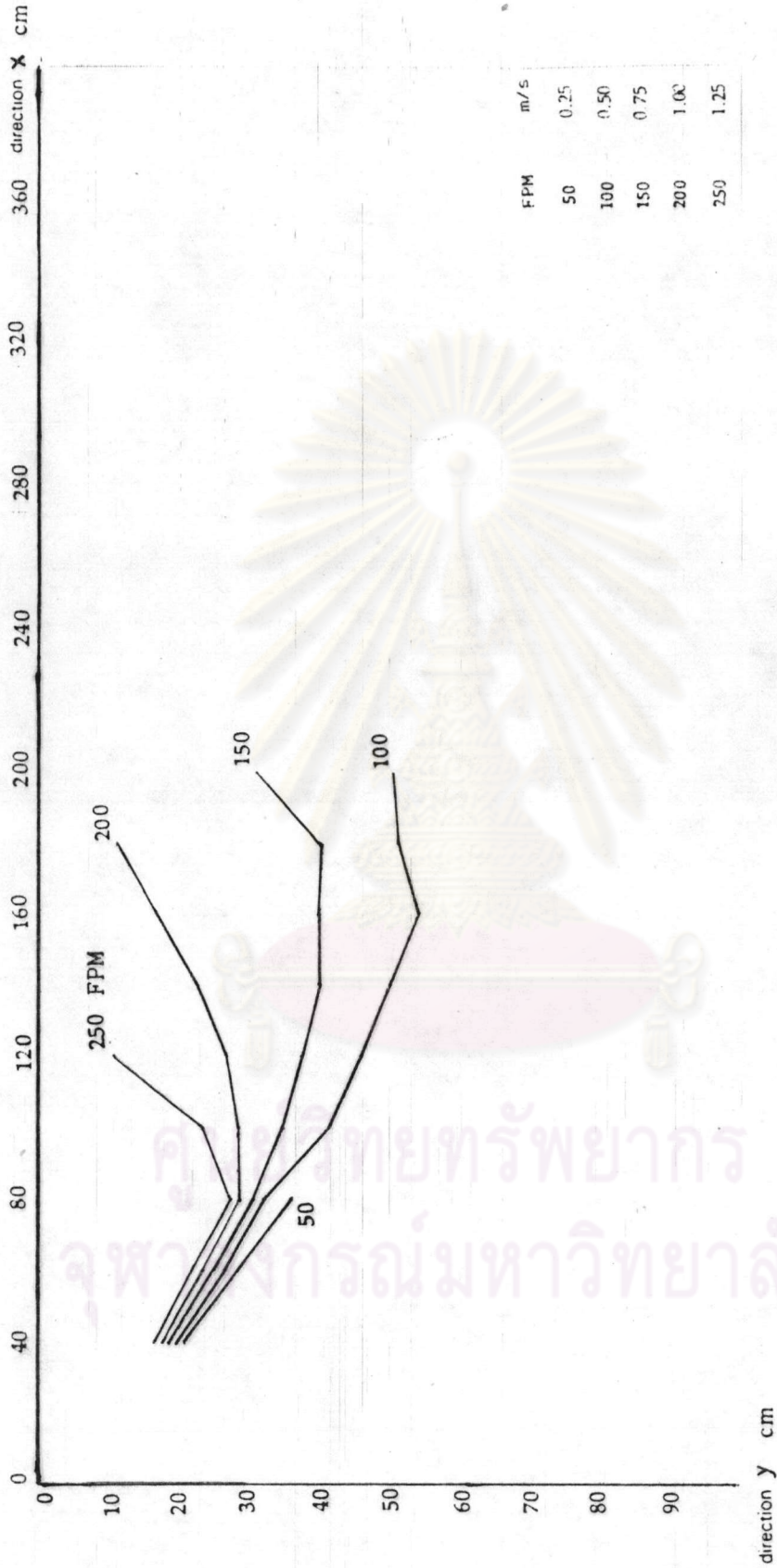
รูปที่ 4 กราฟแสดงเปอร์เซ็นต์ความผิดพลาดของระบบการวัดความเร็ว

ศูนย์วิทยพัชกร
จุฬาลงกรณ์มหาวิทยาลัย



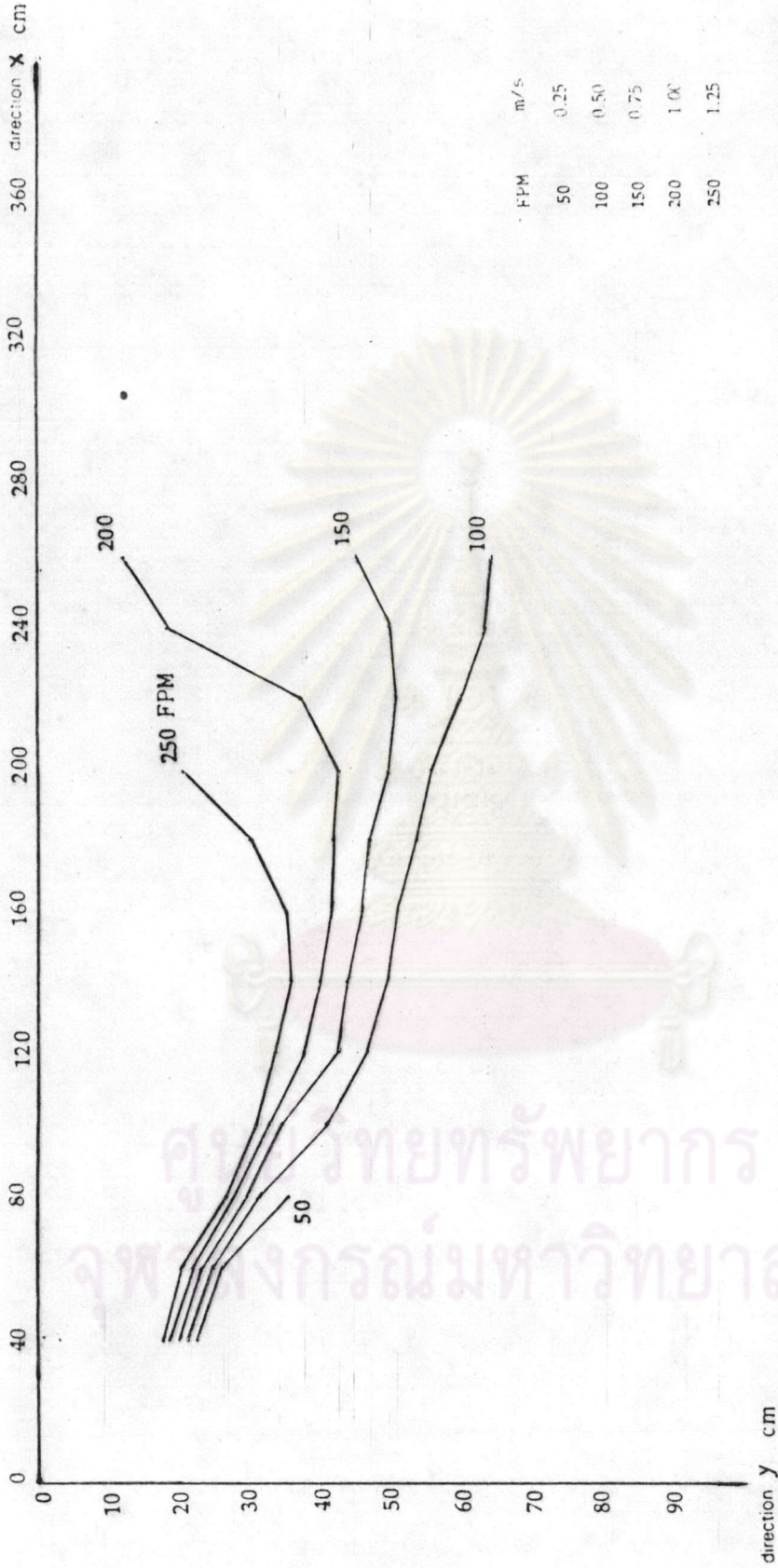
รูปที่ 5 กราฟแสดง Δh และเปอร์เซ็นต์ความผิดพลาดของวิธีวัดอัตราการไหล

ศูนย์วิทยทรัพยากร
ศาลงกรณ์มหาวิทยาลัย



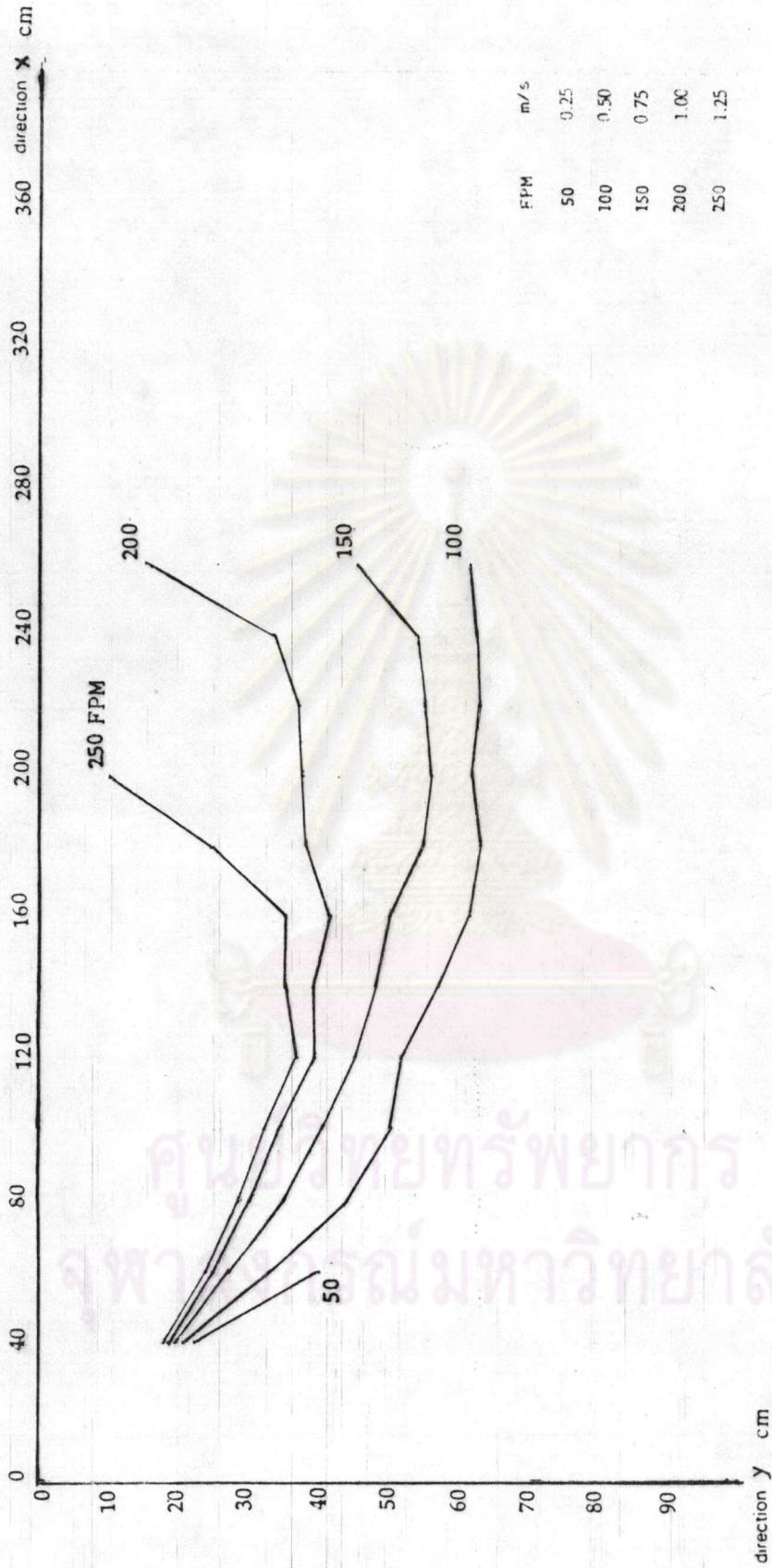
รูปที่ 6 กราฟแสดงขอบเขตความเร็ววงที่ของอุปกรณ์จ่ายอากาศขนาด 254x254 มม² [10x10 IN²] ที่ V_N = 3.00 M/S [600 FPM.]

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย



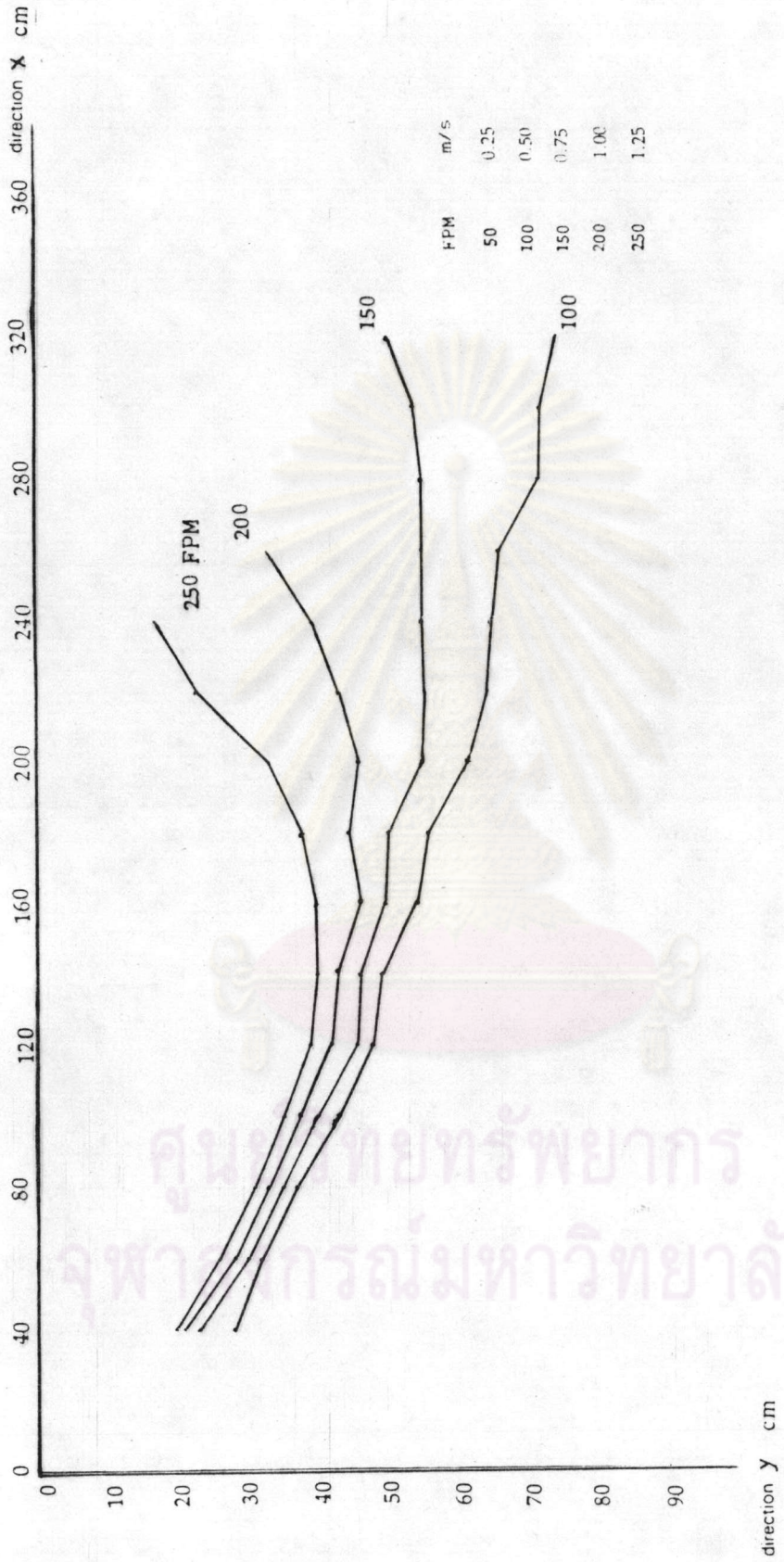
รูปที่ 7 กราฟแสดงขอบเขตความเร็วคงที่ของอุปกรณ์จ่ายอากาศขนาด 254x254 มม² [10x10 IN²] ที่ V_N = 3.50 M/S [700 FPM.]

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย



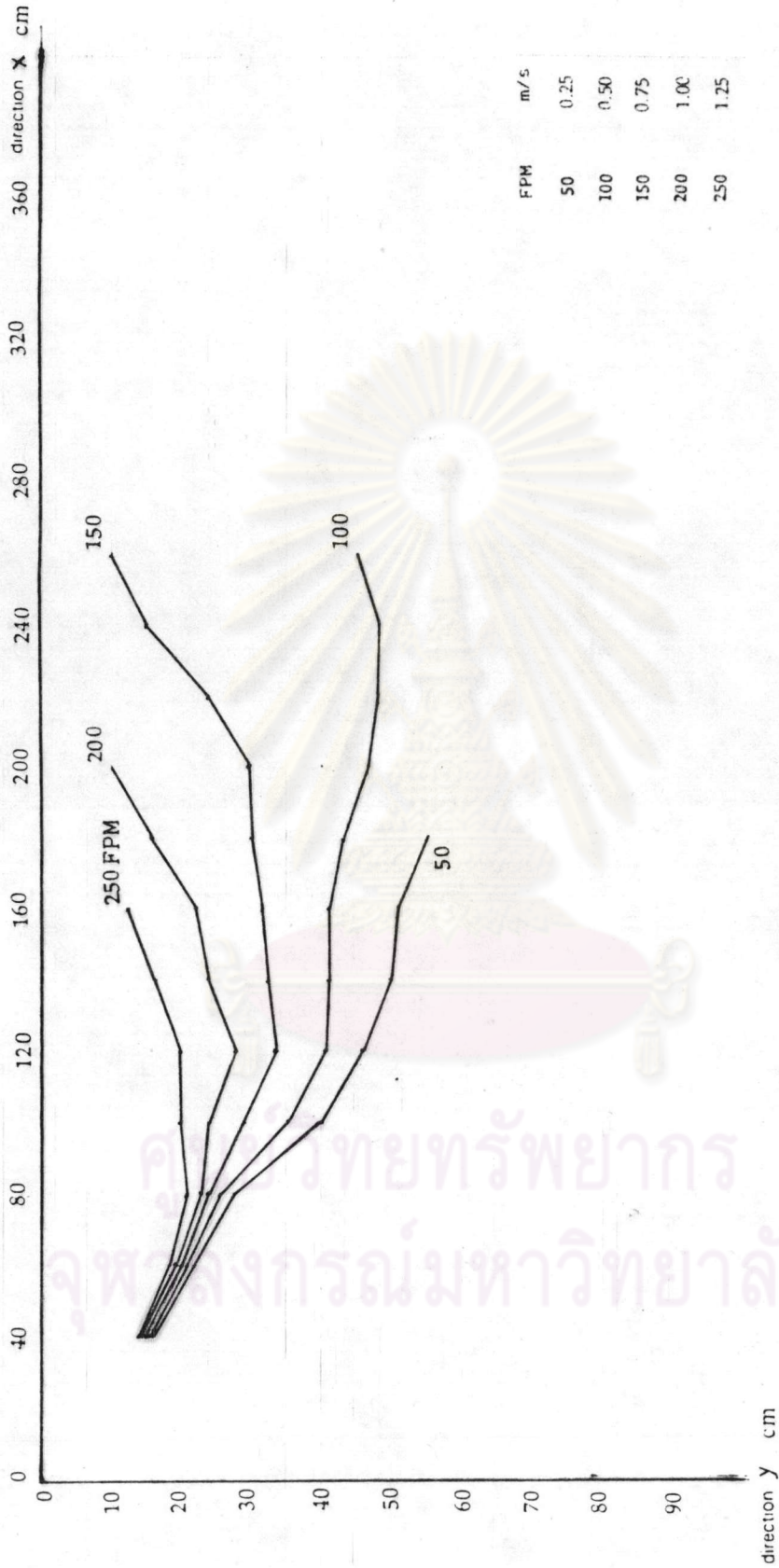
รูปที่ 8 กราฟแสดงขอบเขตความเร็วกว้างที่ของอุปกรณ์จ่ายอากาศขนาด 254x254 มม² [10x10 IN²] ที่ V_N = 4.00 M/S [800 FPM.]

ศูนย์สัตวแพทย์ทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย



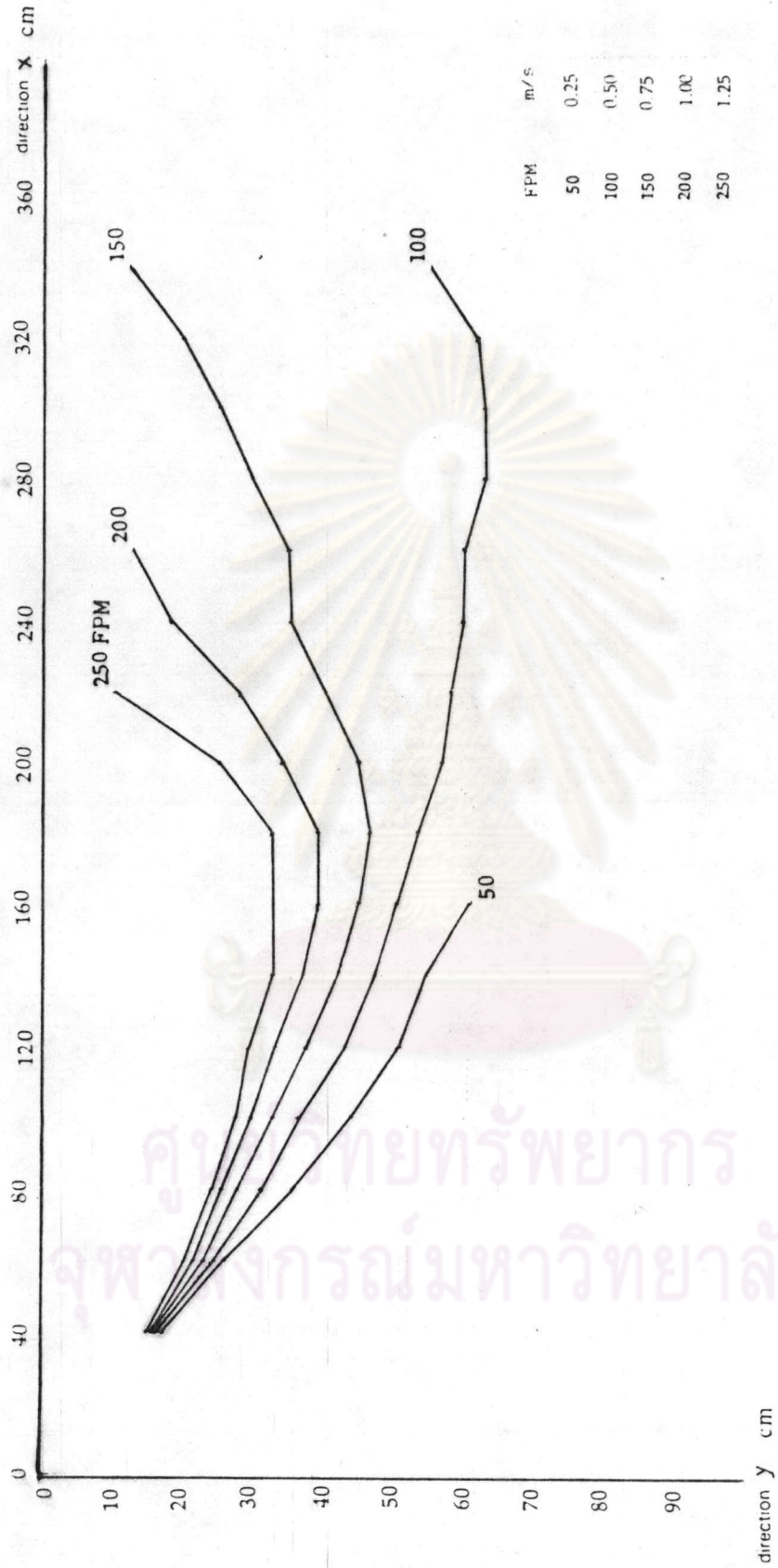
รูปที่ 9 กราฟแสดงขอบเขตความเร็วคงที่ของอุปกรณ์จ่ายอากาศขนาด 254x254 มม² [10x10 IN²] ที่ $V_N = 4.50$ M/S [900 FPM.]

ศูนย์เทคโนโลยีพยากรณ์
จุฬาลงกรณ์มหาวิทยาลัย



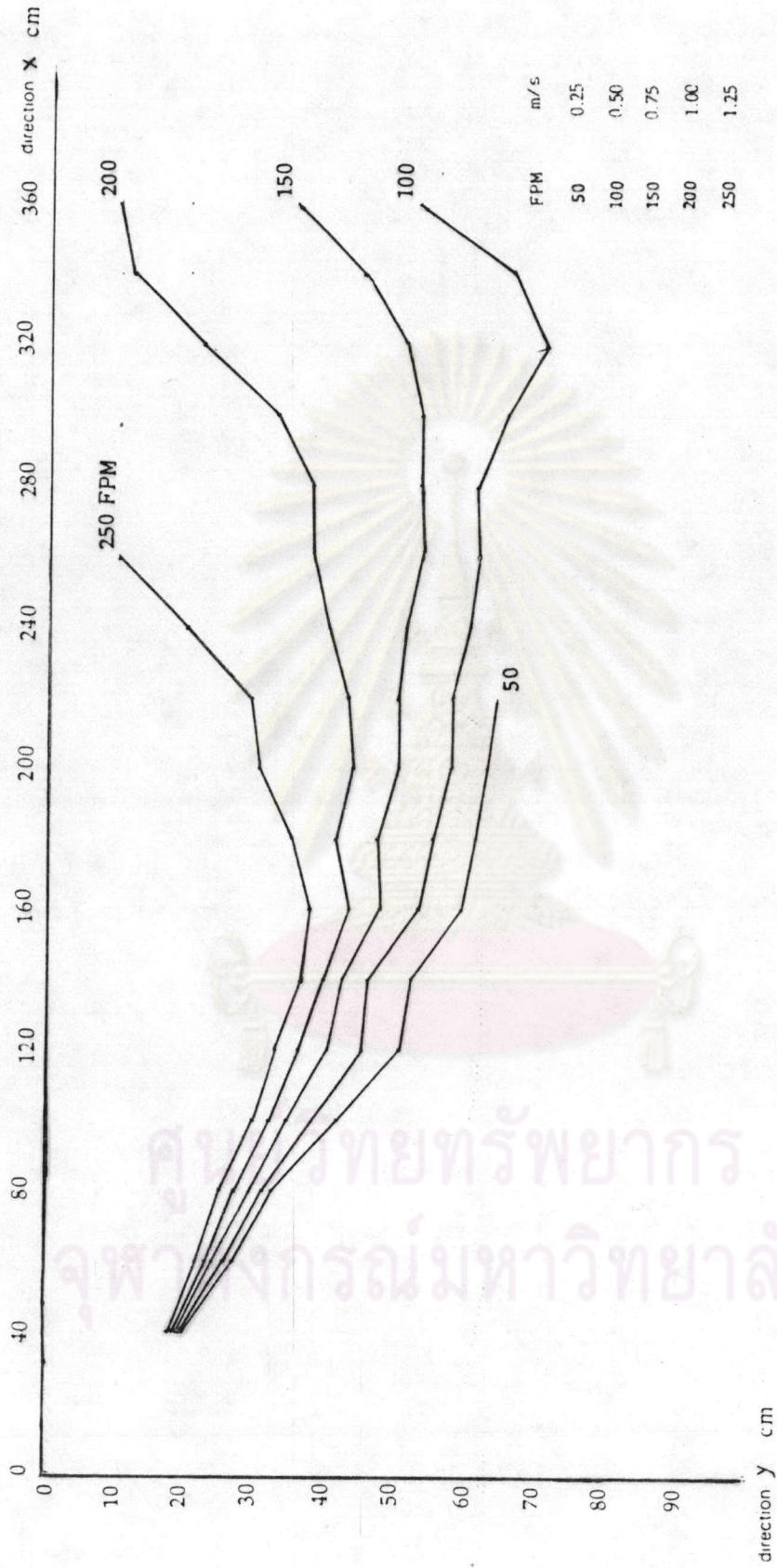
รูปที่ 10 กราฟแสดงขอบเขตความเร็วลมที่ของอุปกรณ์จ่ายอากาศขนาด 304.8x304.8 MM² [12x12 IN²] ที่ V_N = 2.50 M/S [500 FPM.]

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย



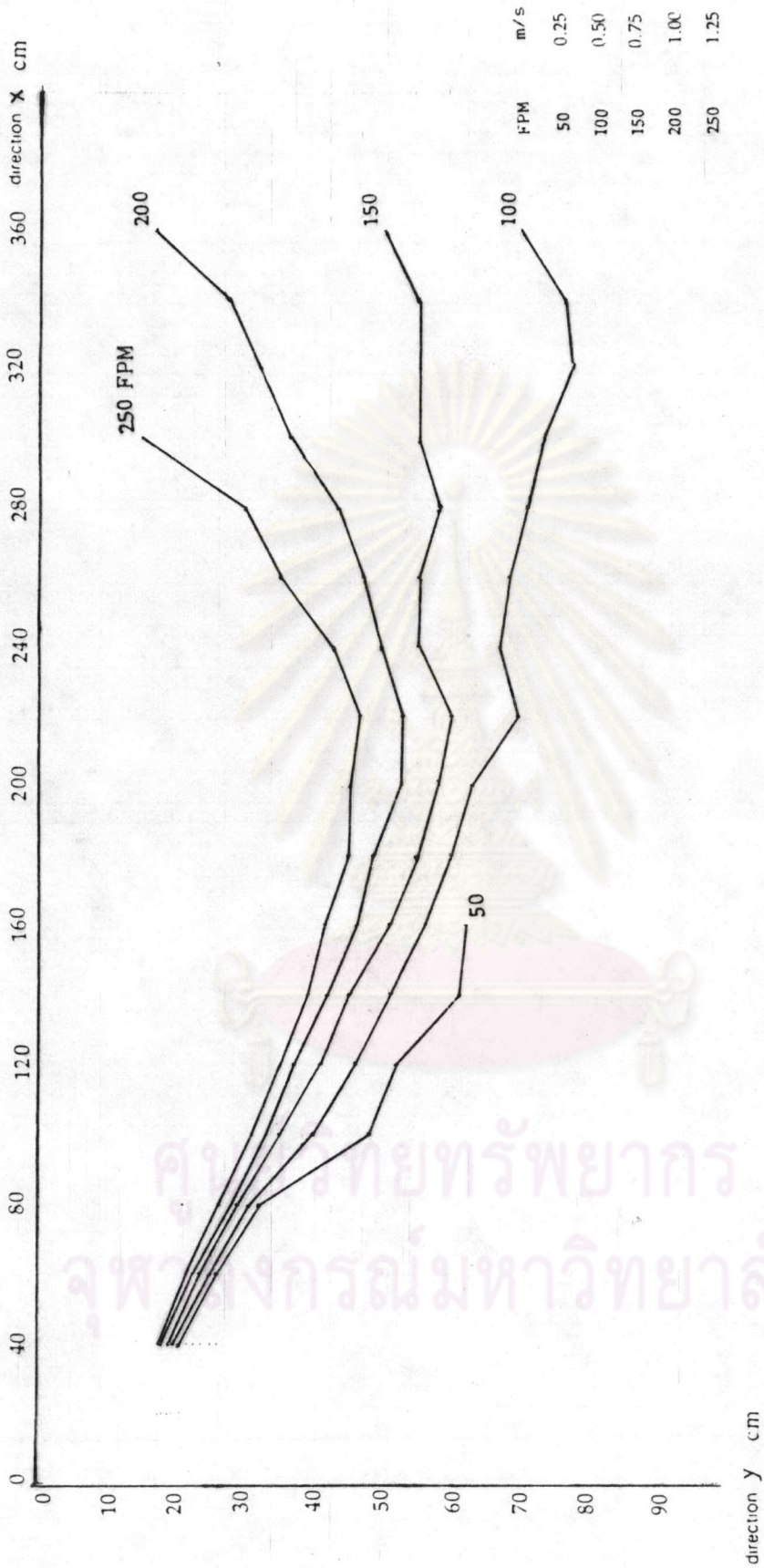
ศูนย์วิจัยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

รูปที่ 11 กราฟแสดงขอบเขตความเร็วคงที่ของอุปกรณ์จ่ายอากาศขนาด 304.8x304.8 มม² [12x12 IN²] ที่ V_N = 3.00 M/S [600 FPM.]



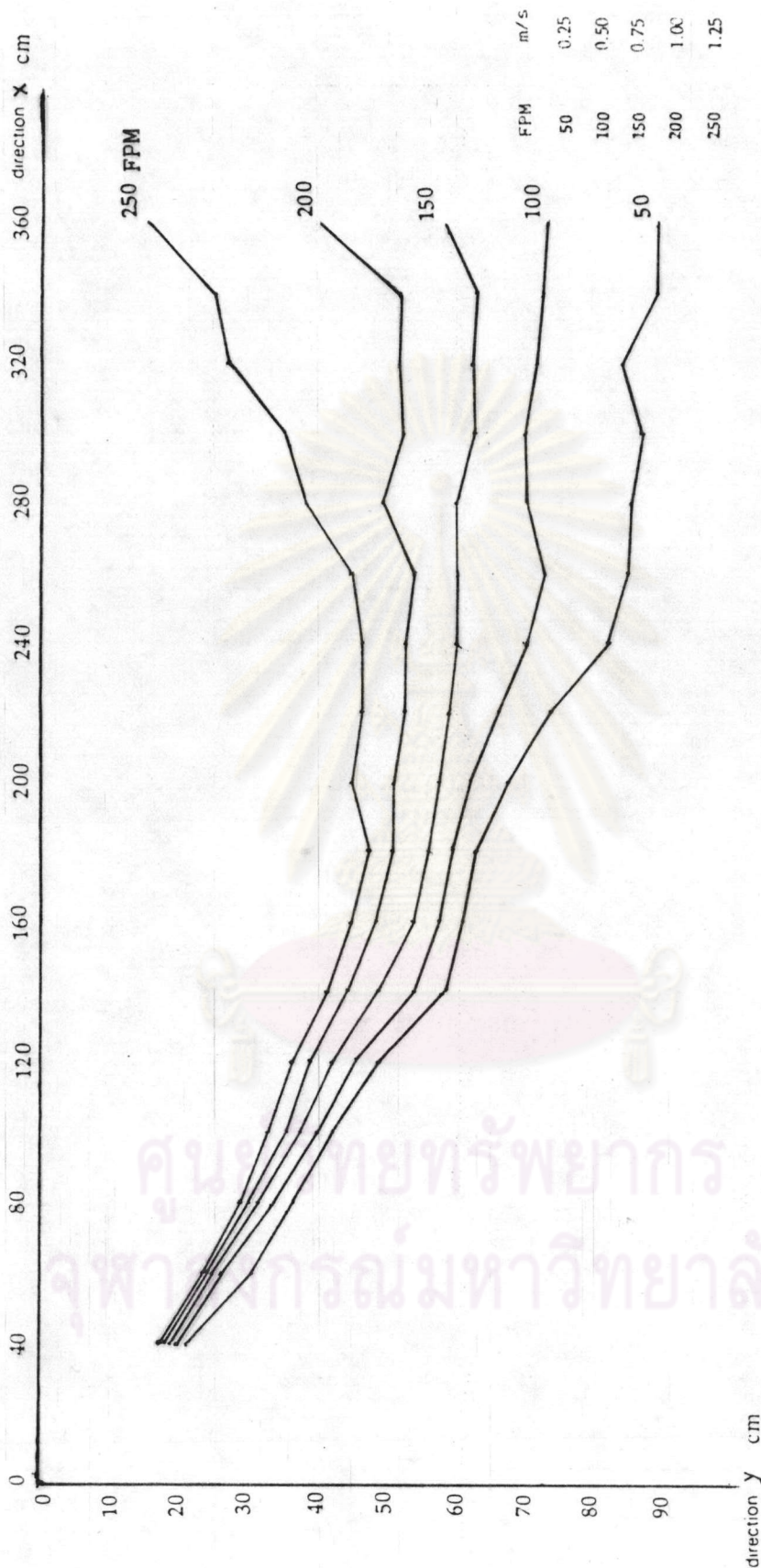
ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

รูปที่ 12 กราฟแสดงขอบเขตความเร็วคงที่ของอุปกรณ์จ่ายอากาศขนาด 304.8x304.8 มม² [12x12 IN²] ที่ V_N = 3.50 M/S [700 FPM.]



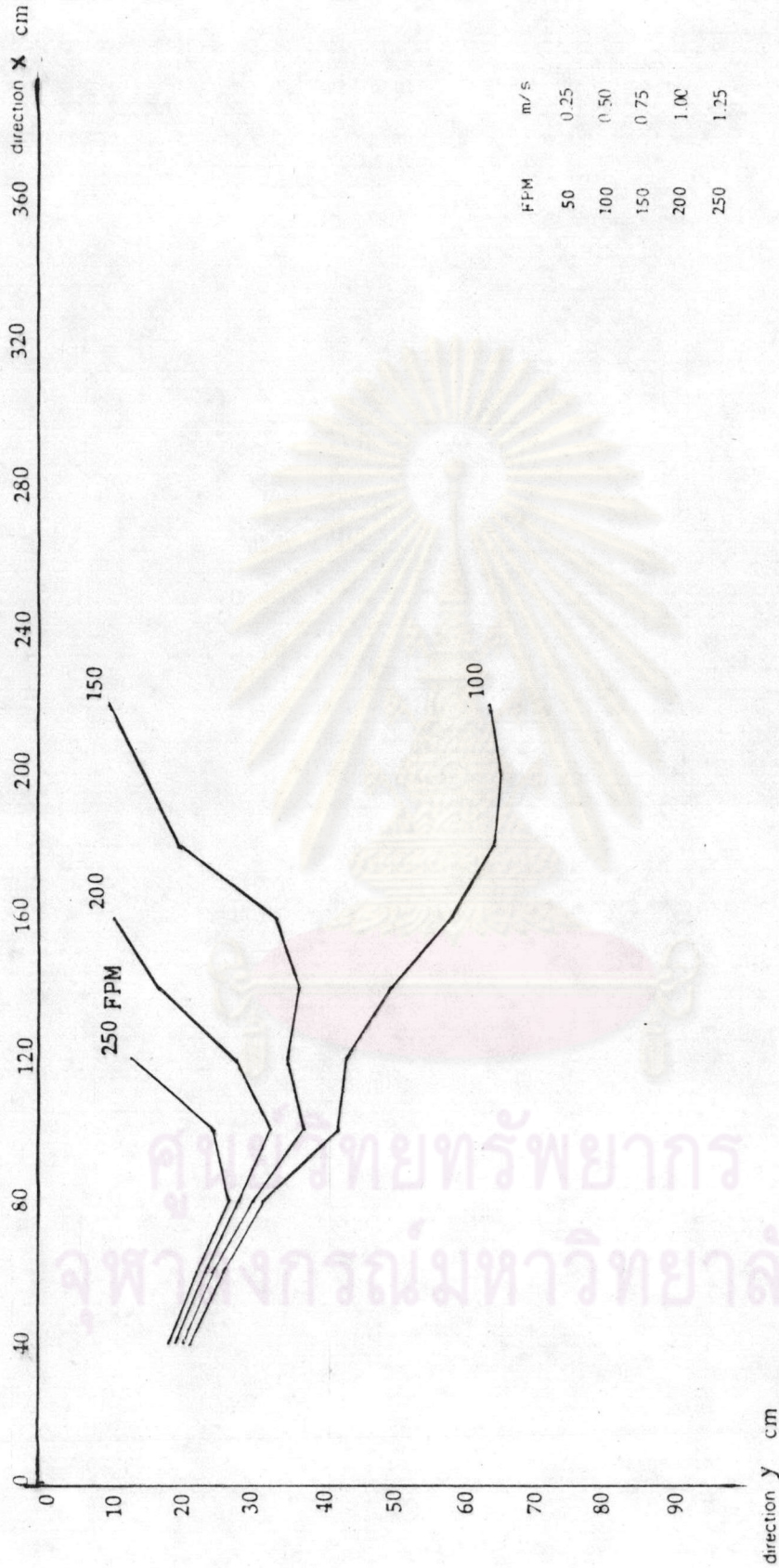
รูปที่ 13 กราฟแสดงขอบเขตความเร็วลมที่ของอุปกรณ์จ่ายอากาศขนาด 304.8x304.8 มม² [12x12 IN²] ที่ V_N = 4.00 M/S [800 FPM.]

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย



รูปที่ 14 กราฟแสดงขอบเขตความเร็วคงที่ของอุปกรณ์จ่ายอากาศขนาด 304.8x304.8 MM² [12x12 IN²] ที่ V_N = 4.50 M/S [900 FPM.]

ศูนย์ทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย



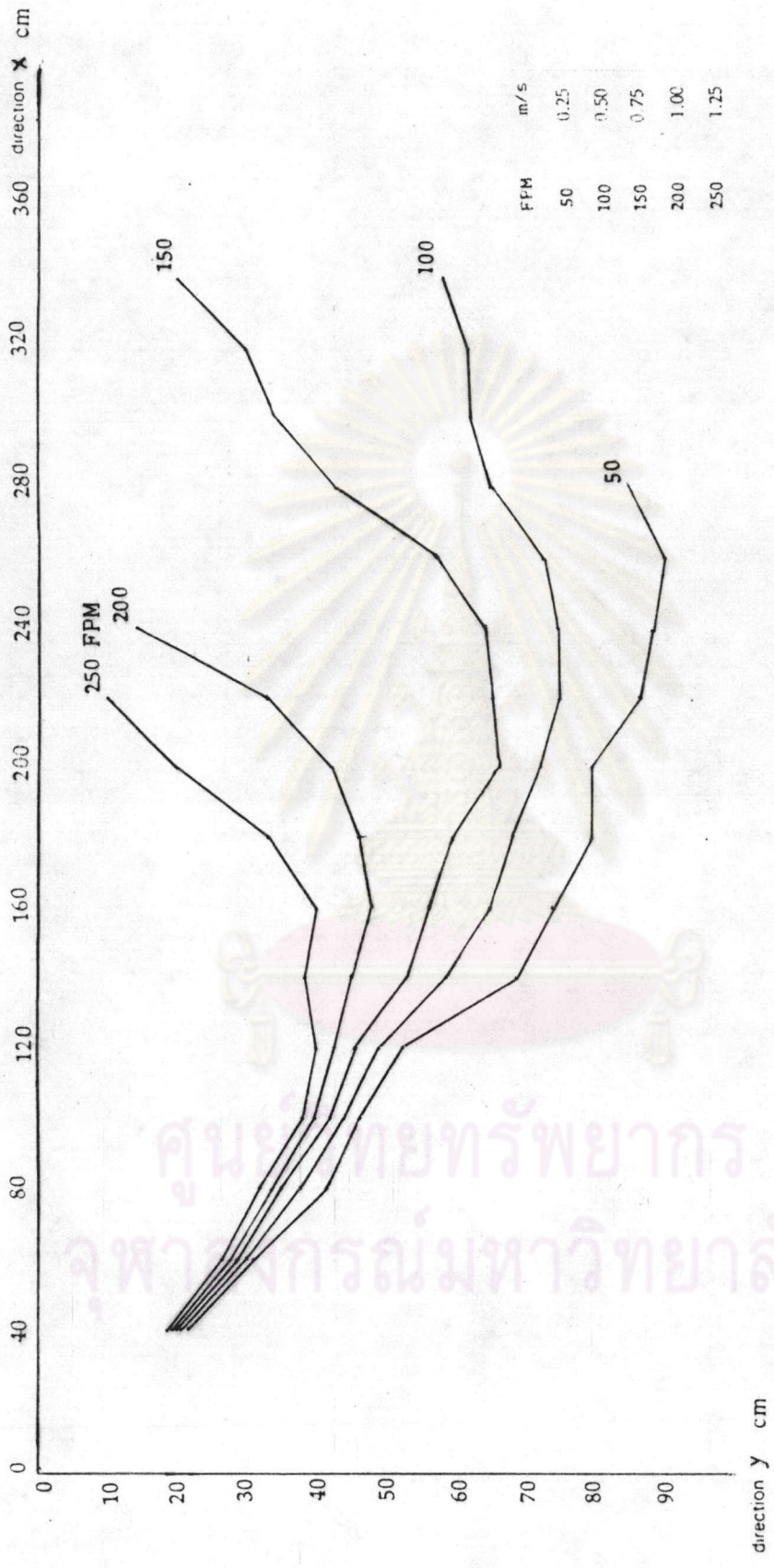
รูปที่ 15 กราฟแสดงขอบเขตความเร็วคองที่ของอุปกรณ์จ่ายอากาศขนาด 355.6x355.6 มม² [14x14 IN²] ที่ V_N = 2.00 M/S [400 FPM.]

ศูนย์เทคโนโลยีทางการแพทย์
จุฬาลงกรณ์มหาวิทยาลัย



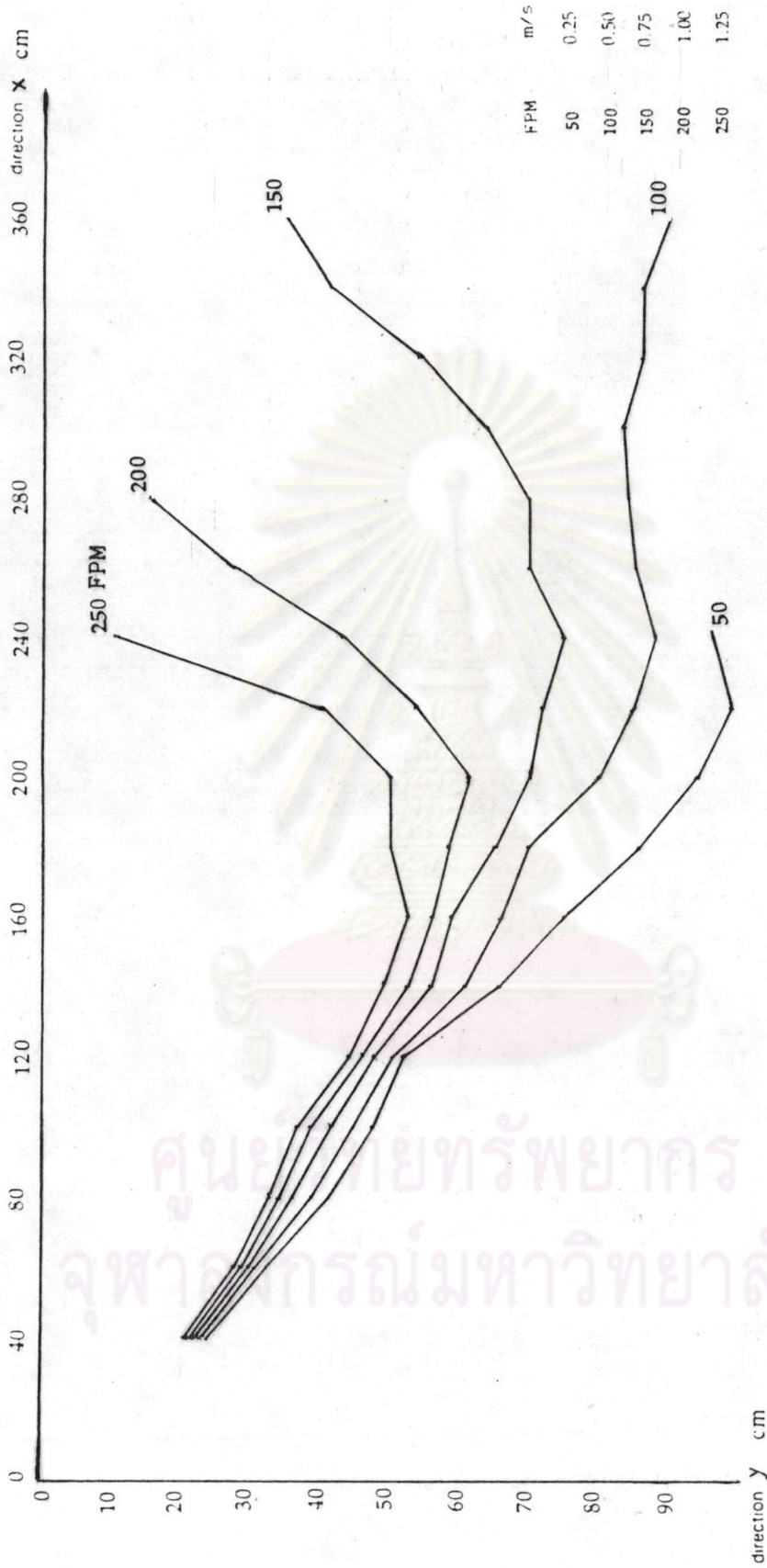
รูปที่ 16 กราฟแสดงขอบเขตความเร็ววงที่ของอุปกรณ์ถ่ายอากาศขนาด 355.6x355.6 มม² [14x14 IN²] ที่ V_N = 2.50 M/S [500 FPM.]

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย



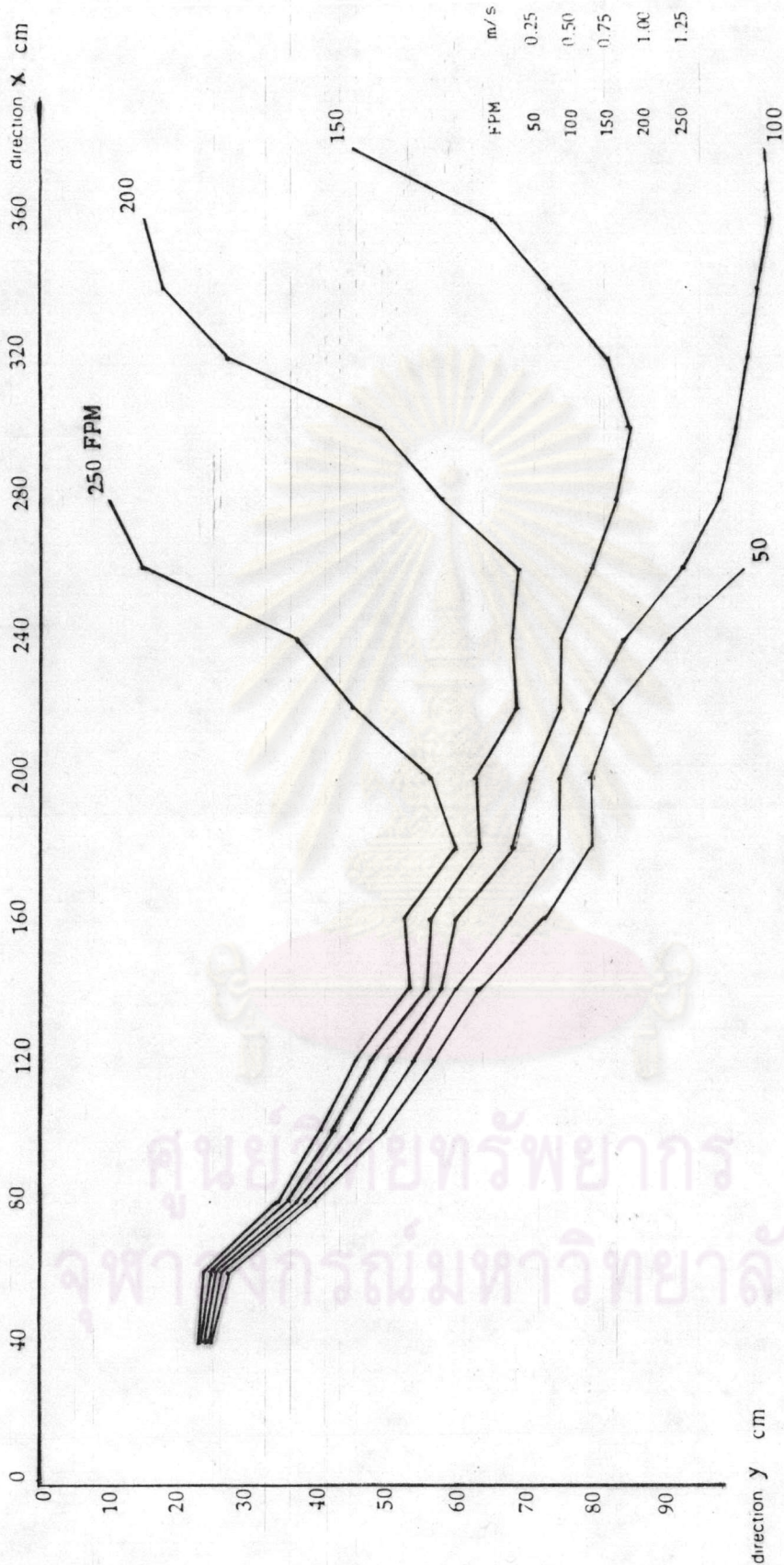
รูปที่ 17 กราฟแสดงขอบเขตความเร็วคงที่ของอุปกรณ์จ่ายอากาศขนาด 355.6x355.6 มม² [14x14 IN²] ที่ V_N = 3.00 M/S [600 FPM.]

ศูนย์ทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย



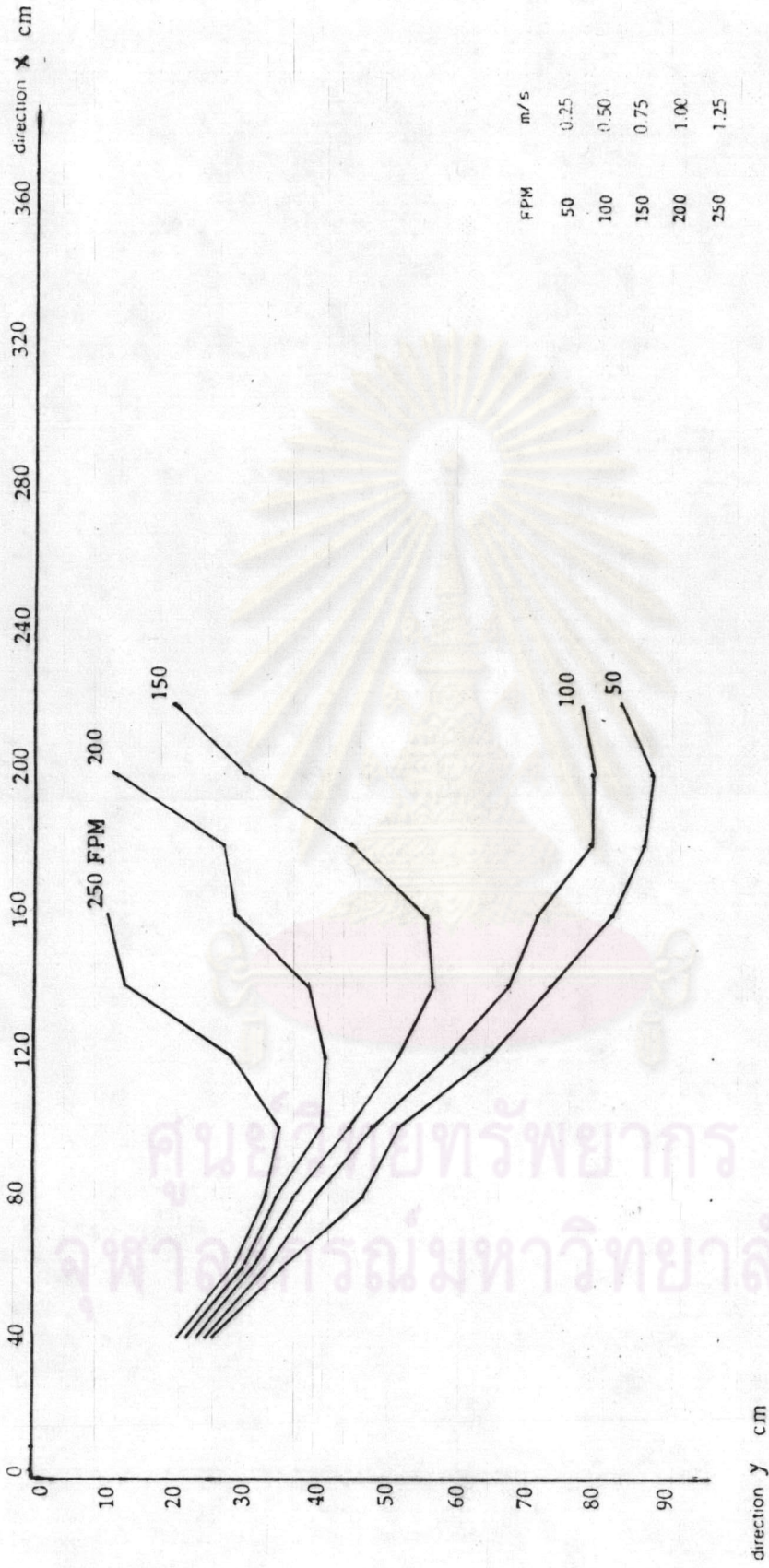
ศูนย์เภสัชศาสตร์
จุฬาลงกรณ์มหาวิทยาลัย

รูปที่ 18 กราฟแสดงขอบเขตความเร็วคงที่ของอุปกรณ์จ่ายอากาศขนาด 355.6x355.6 MM² [14x14 IN²] ที่ V_N = 3.50 M/S [700 FPM.]



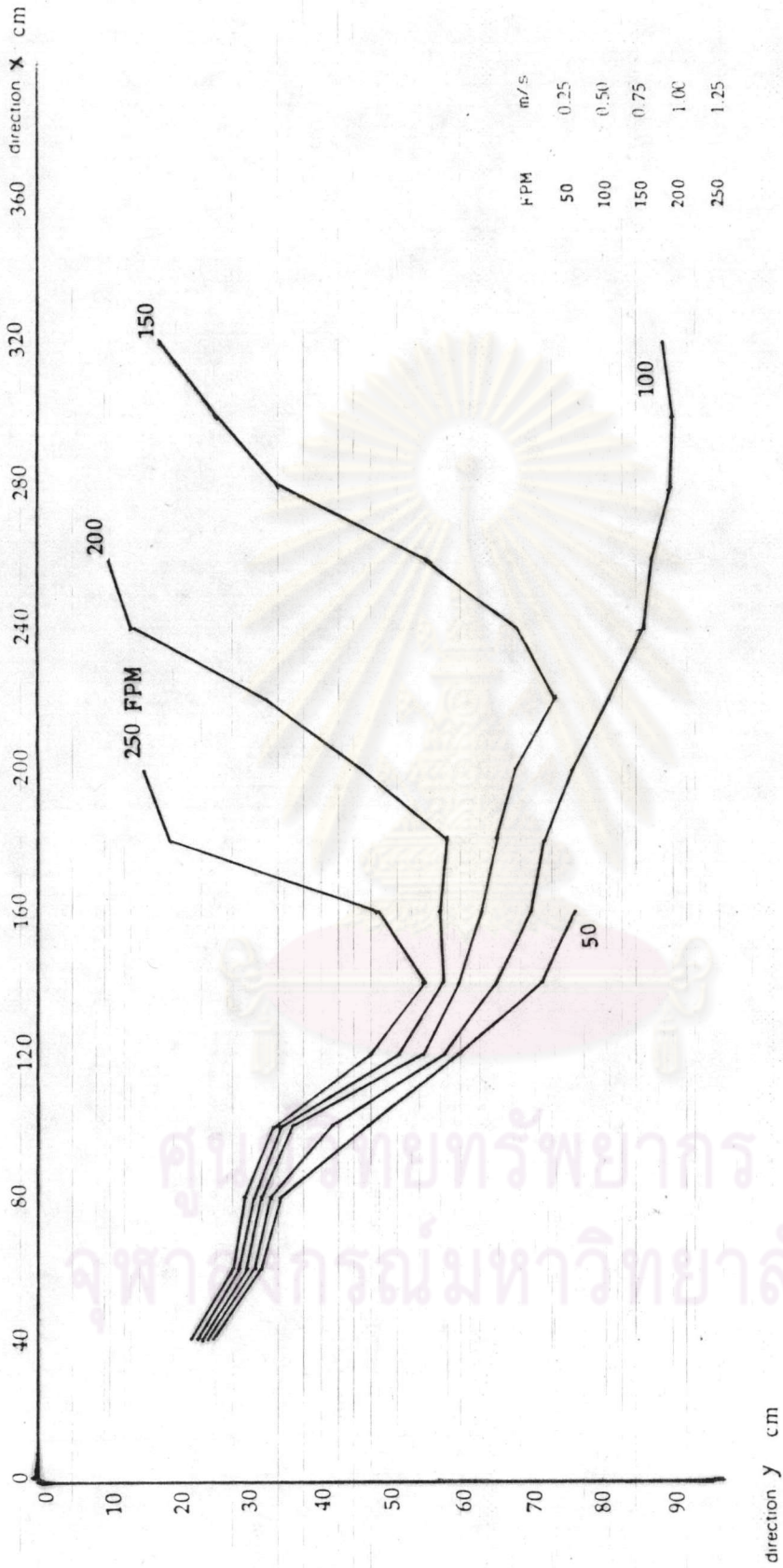
รูปที่ 19 กราฟแสดงขอบเขตความเร็วโค้งที่ของอุปกรณ์จ่ายอากาศขนาด 355.6x355.6 MM² [14x14 IN²] ที่ V_N = 4.00 M/S [800 FPM.]

ศูนย์วิจัยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย



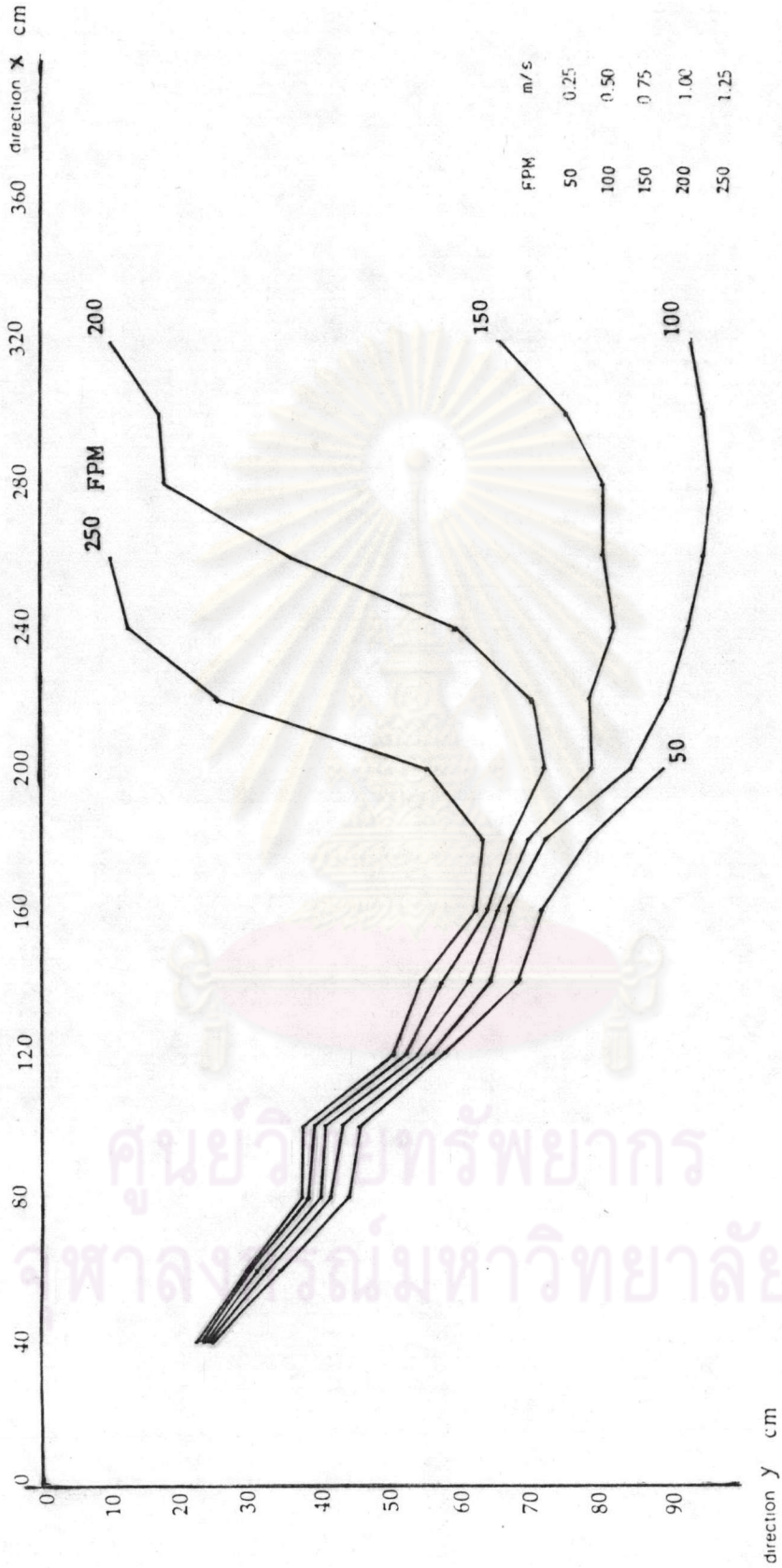
รูปที่ 20 กราฟแสดงขอบเขตความเร็วคงที่ของอุปกรณ์จ่ายอากาศขนาด 406.4x406.4 MM² [16x16 IN²] ที่ V_N = 2.00 M/S [400 FPM.]

ศูนย์ทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย



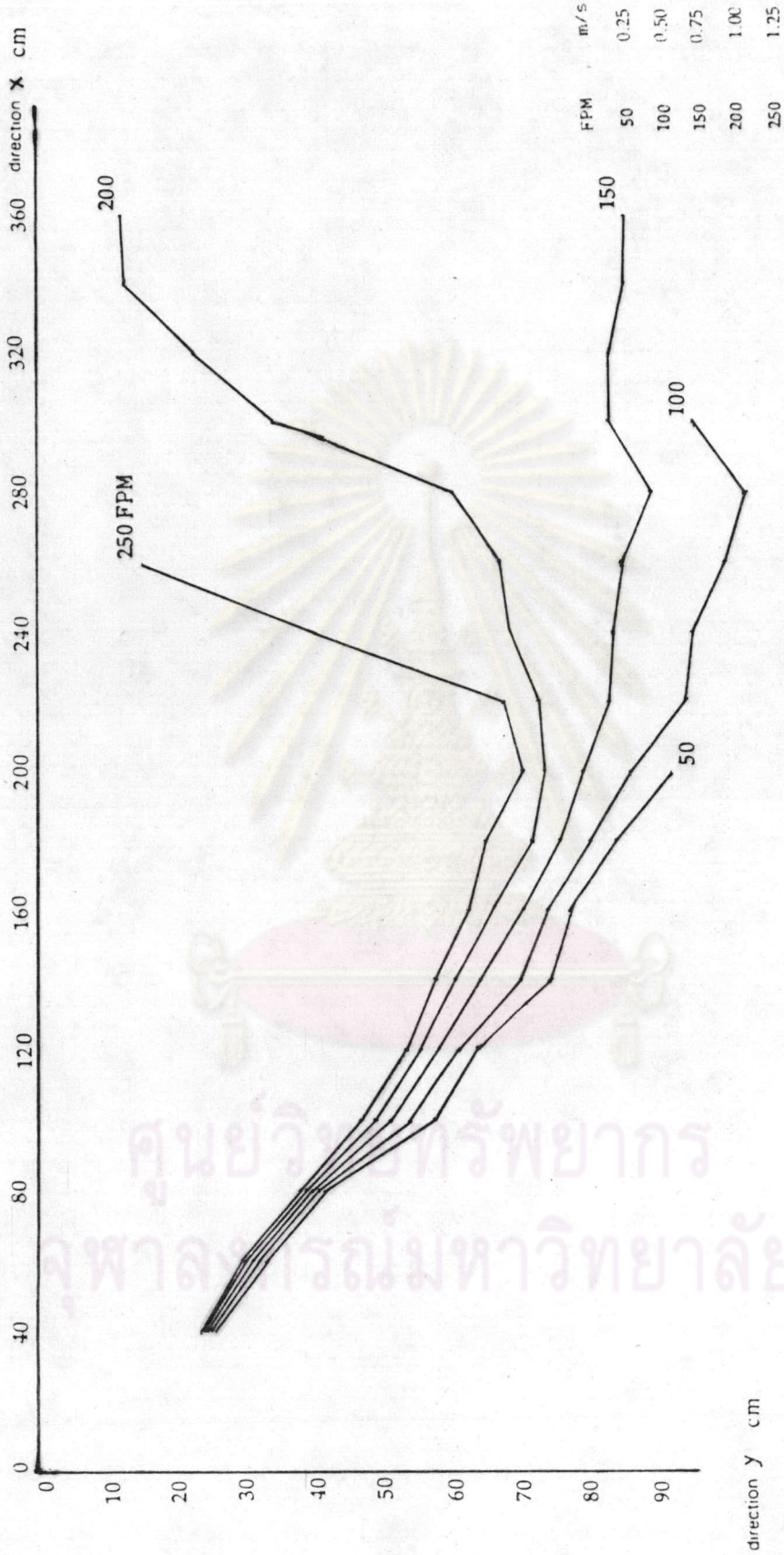
รูปที่ 21 กราฟแสดงขอบเขตความเร็ววงที่ของอุปกรณ์จ่ายอากาศขนาด 406.4x406.4 MM² [16x16 IN²] ที่ V_N = 2.50 M/S [500 FPM.]

ศูนย์กายภาพการ
จุฬาลงกรณ์มหาวิทยาลัย



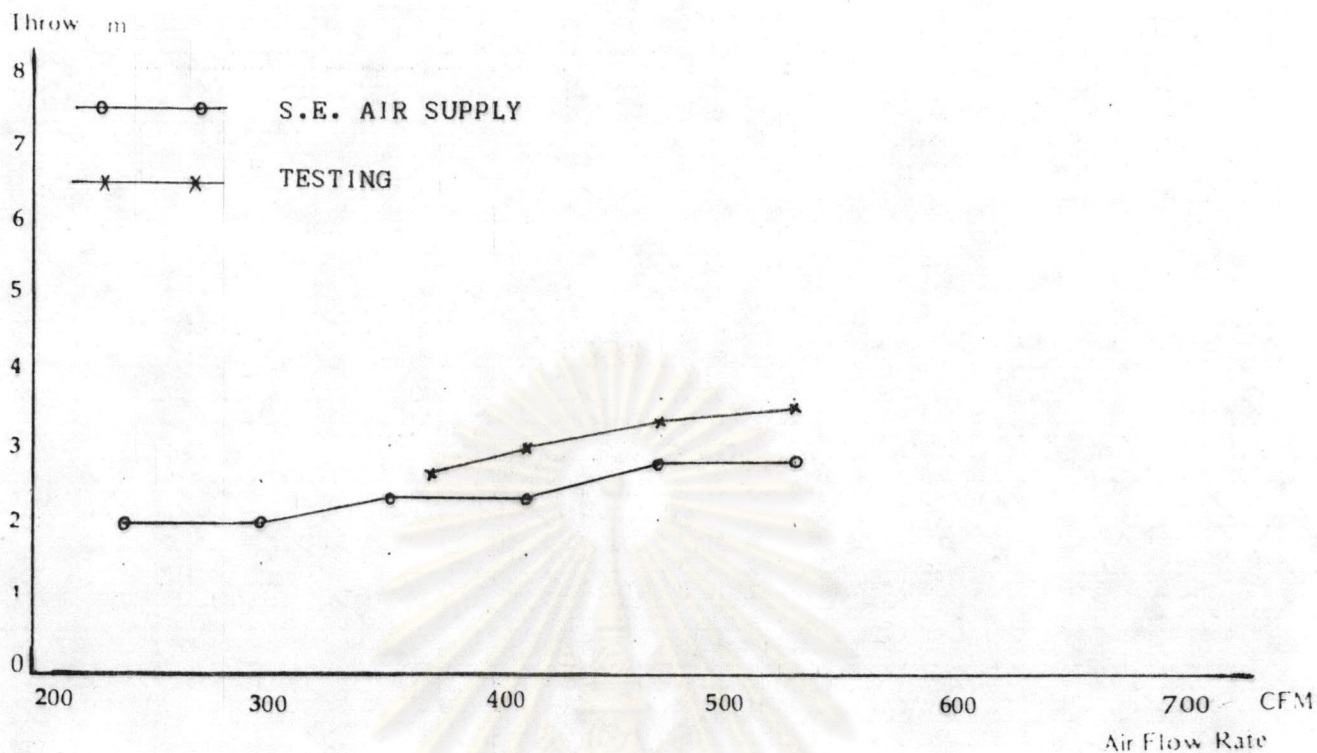
รูปที่ 22 กราฟแสดงขอบเขตความเร็ววงที่ของอุปกรณ์ถ่ายอากาศขนาด 406.4x406.4 มม² [16x16 IN²] ที่ V_N = 3.00 M/S [600 FPM.]

ศูนย์วิจัยทรัพยากร
อำนวยการณ์มหาวิทยาลัย

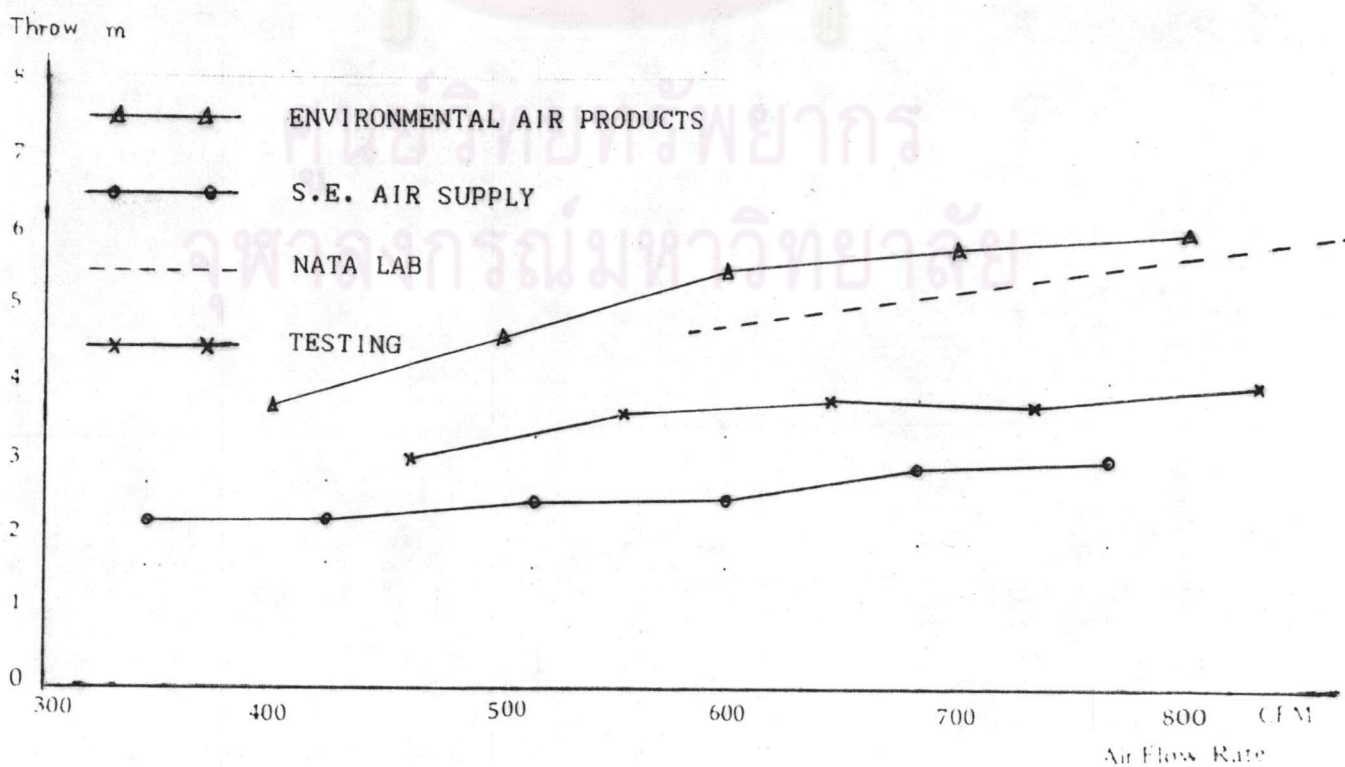


ศูนย์วิจัยทรัพยากร
 ภาควิชาวิศวกรรมมหาวิทาลัย

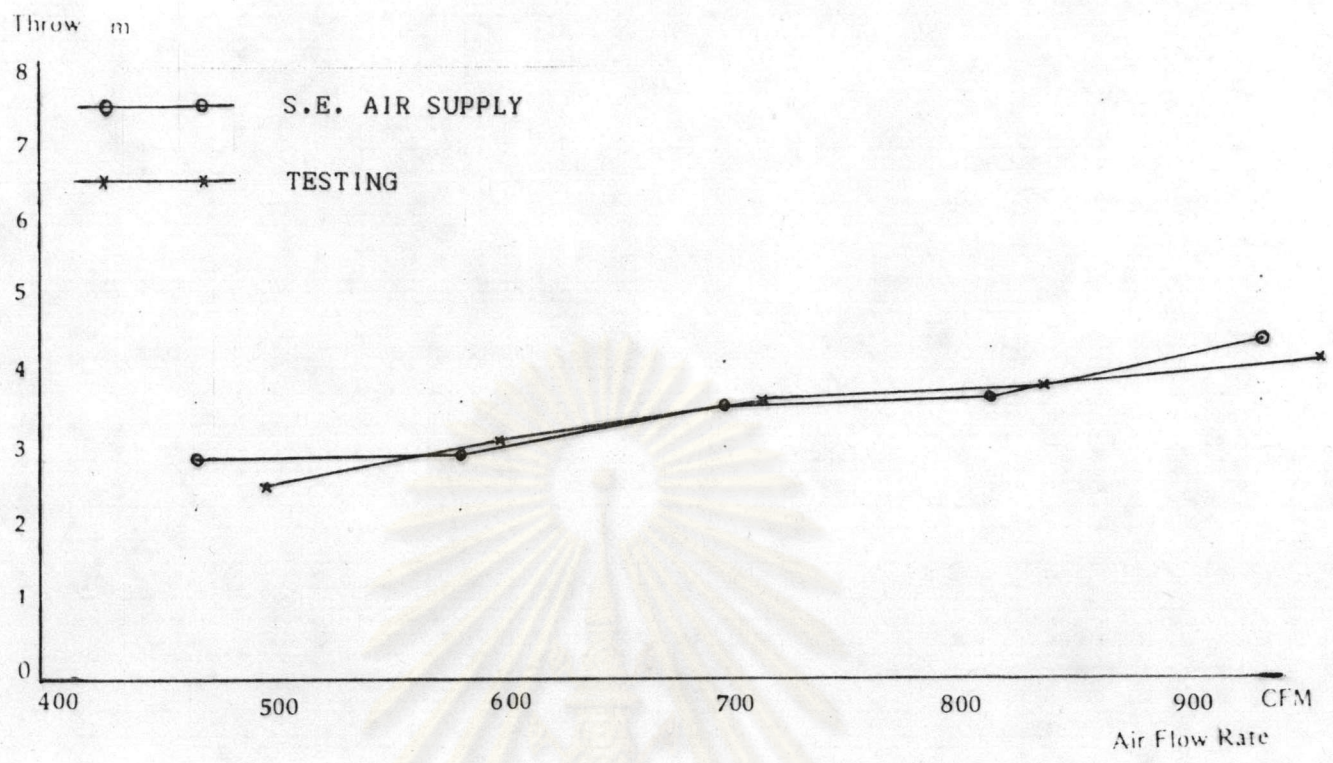
รูปที่ 23 กราฟแสดงขอบเขตความเร็วคงที่ของโปรไฟล์จ่ายอากาศขนาด 406.4x406.4 มม² [16x16 IN²] ที่ V_N = 3.50 M/S [700 FPM.]



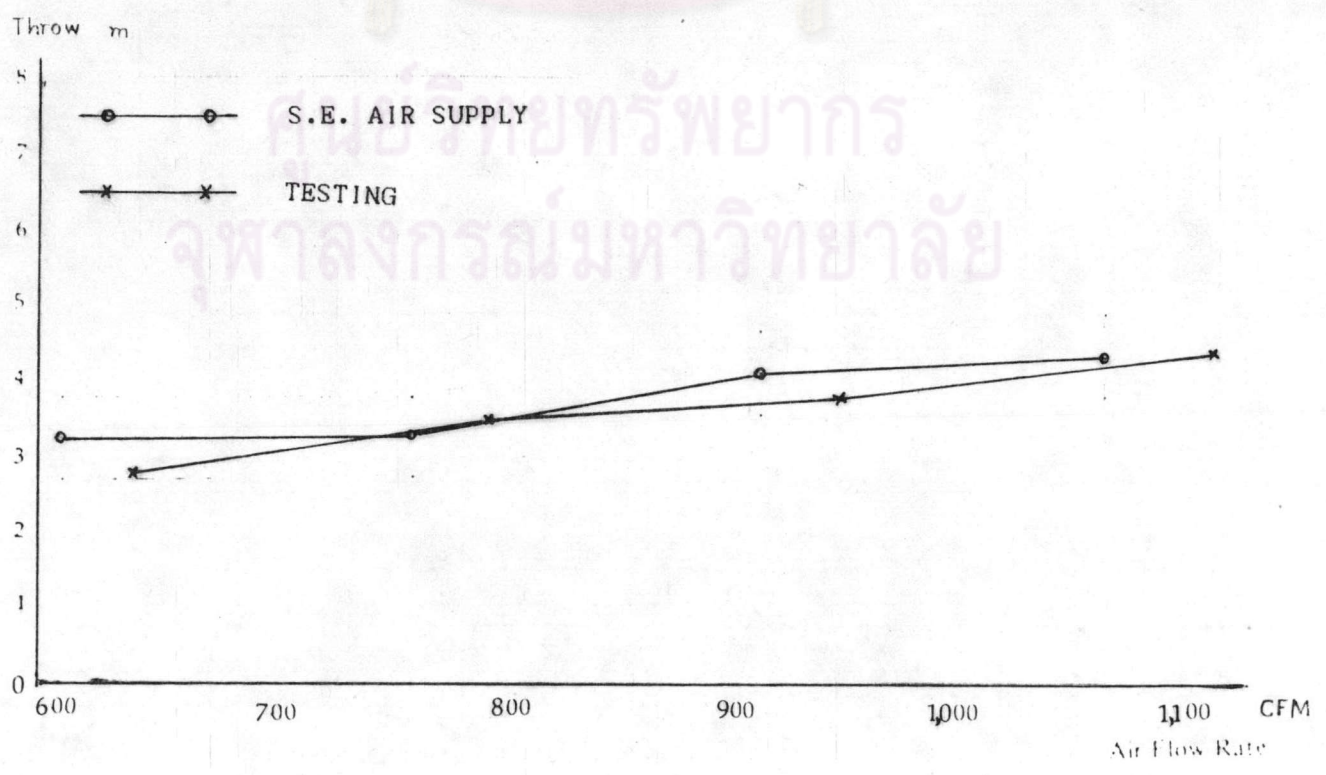
รูปที่ 24 กราฟแสดงระยะพุ่งของอุปกรณ์จ่ายอากาศขนาด 254x254 MM² [10x10 IN²]



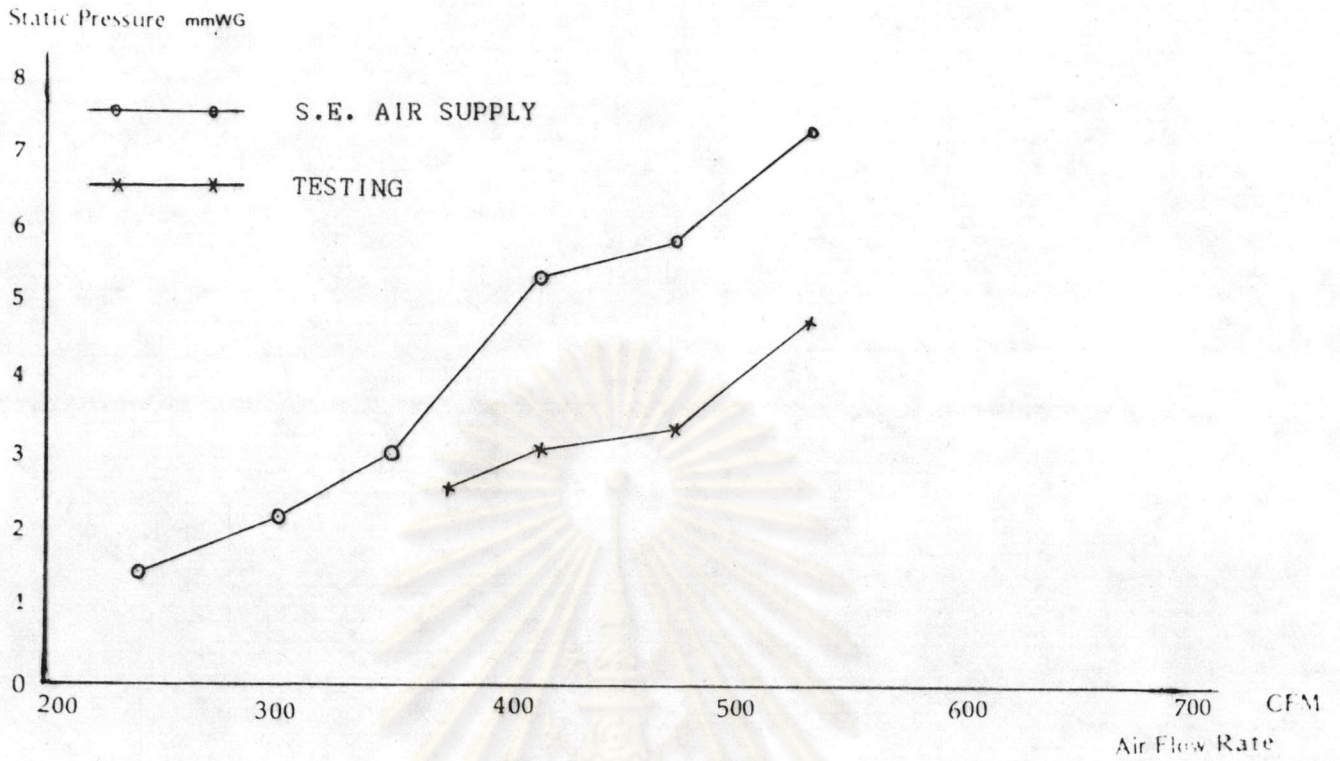
รูปที่ 25 กราฟแสดงระยะพุ่งของอุปกรณ์จ่ายอากาศขนาด 304.8x304.8 MM² [12x12 IN²]



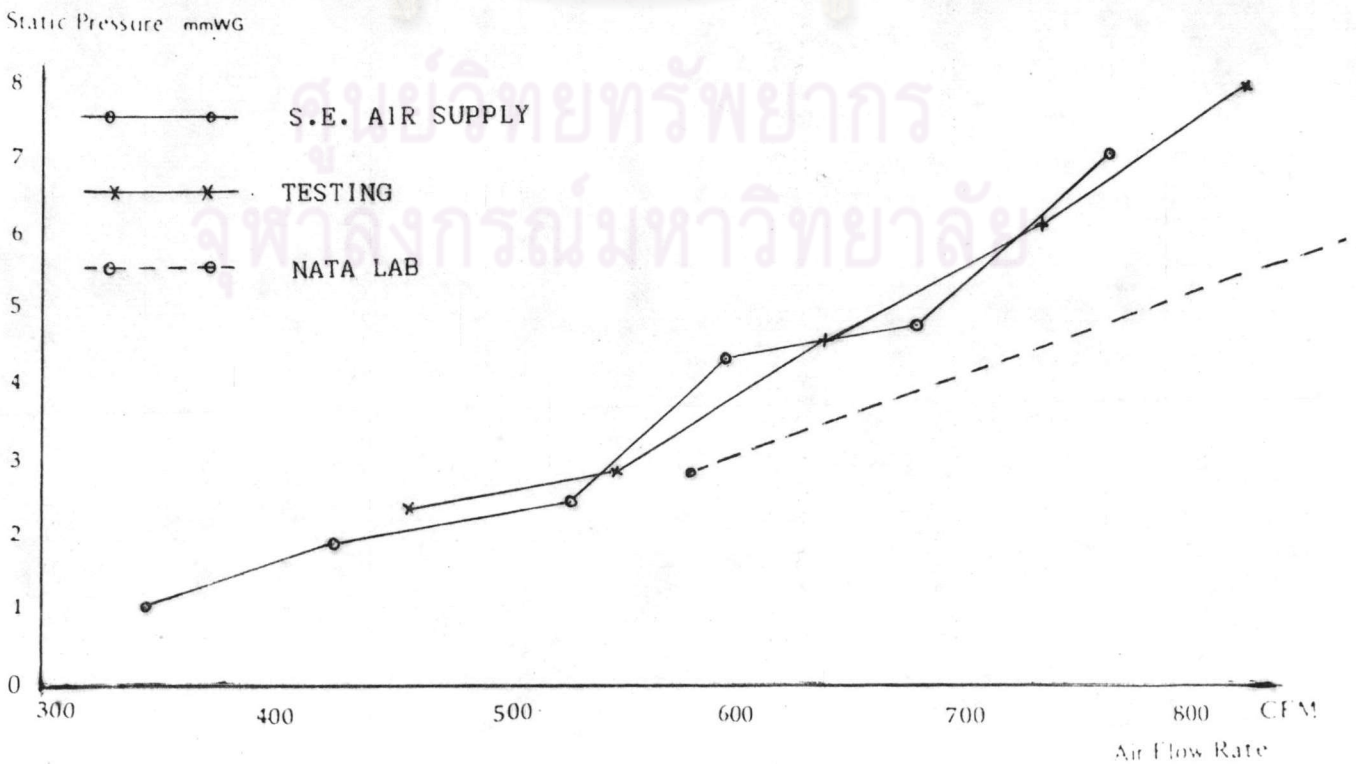
รูปที่ 26 กราฟแสดงระยะพุ่งของอุปกรณ์จ่ายอากาศขนาด 355.6x355.6 MM² [14x14 IN²]



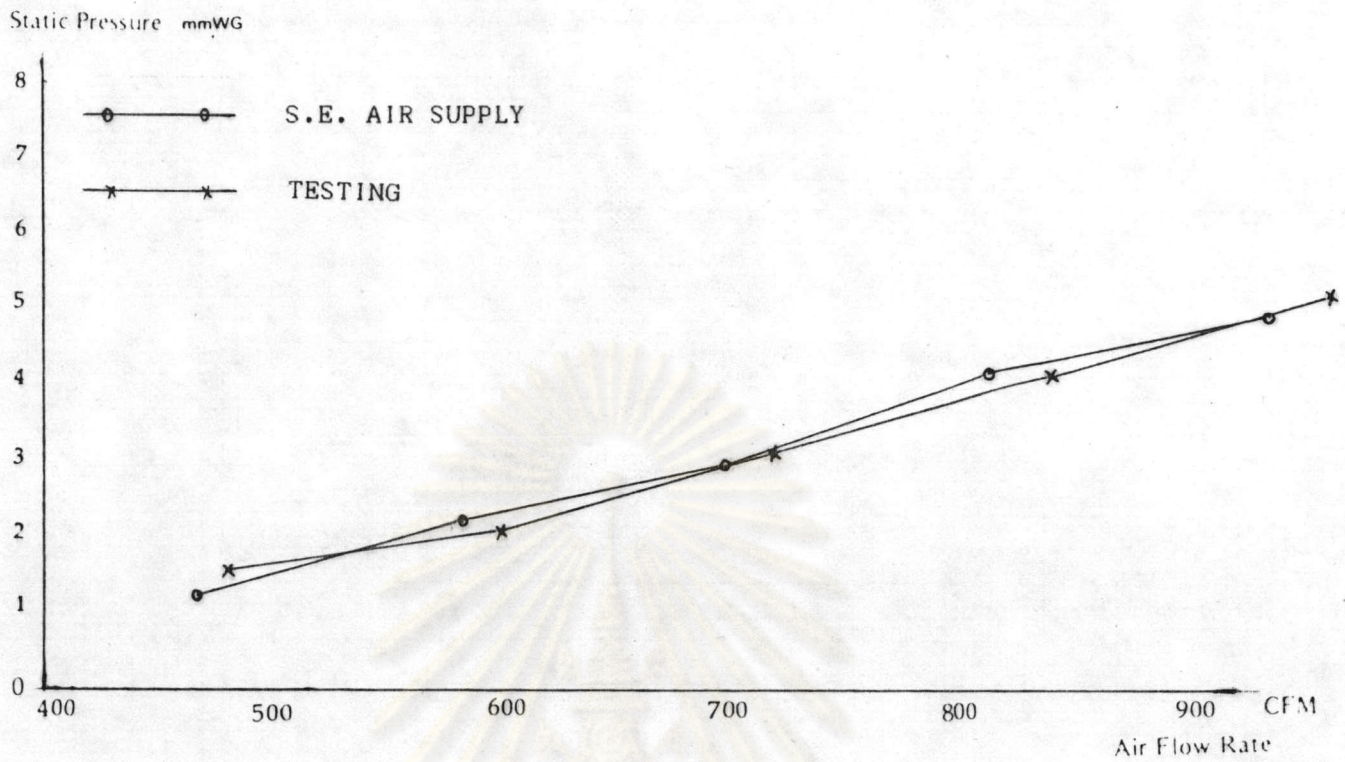
รูปที่ 27 กราฟแสดงระยะพุ่งของอุปกรณ์จ่ายอากาศขนาด 406.4x406.4 MM² [16x16 IN²]



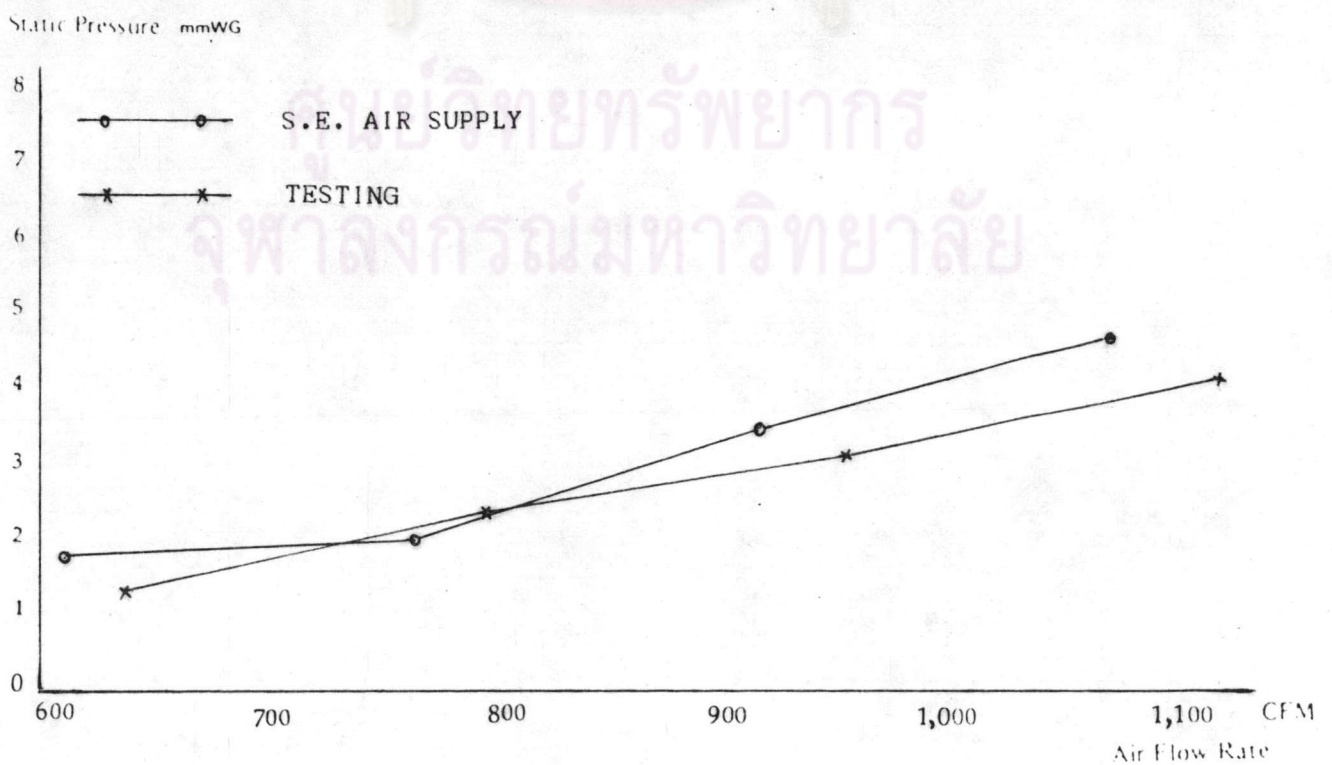
รูปที่ 28 กราฟแสดงความดันสถิตยของอุปกรณ์จ่ายอากาศขนาด 254x254 MM² [10x10 IN²]



รูปที่ 29 กราฟแสดงความดันสถิตยของอุปกรณ์จ่ายอากาศขนาด 304.8x304.8 MM² [12x12 IN²]



รูปที่ 30 กราฟแสดงความดันสถิตย์ของอุปกรณ์จ่ายอากาศขนาด 355.6x355.6 MM² [14x14 IN²]

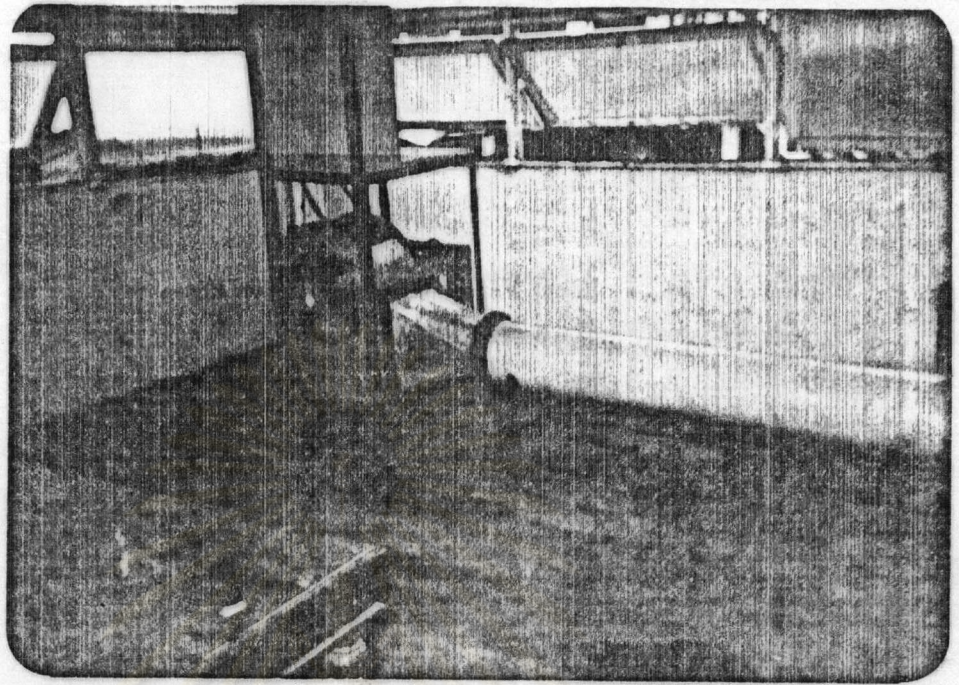


รูปที่ 31 กราฟแสดงความดันสถิตย์ของอุปกรณ์จ่ายอากาศขนาด 406.4x406.4 MM² [16x16 IN²]

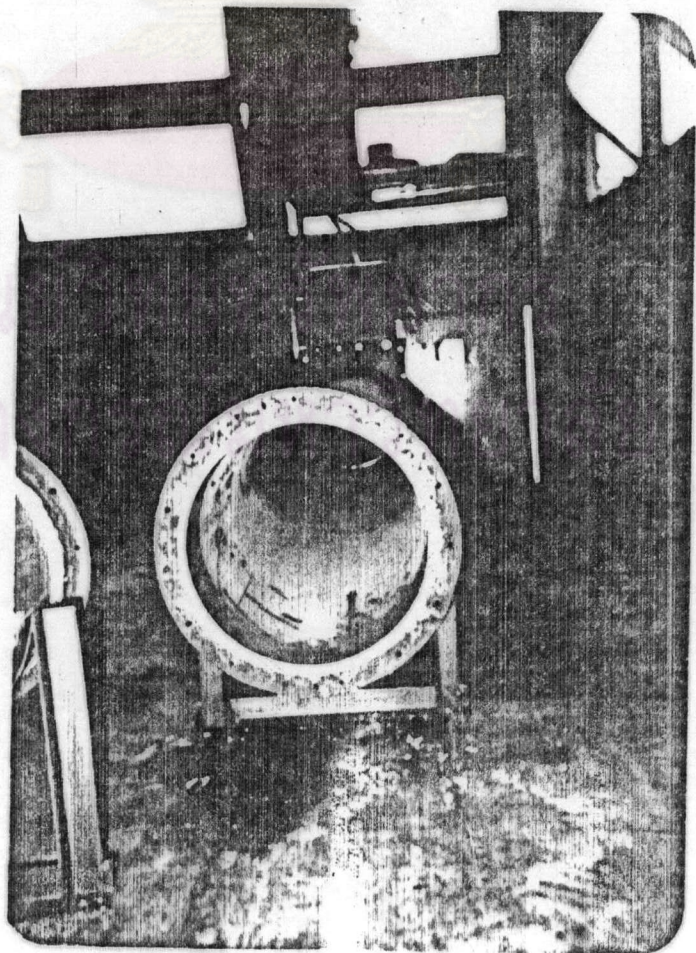
ภาคผนวก ข
ภาพแสดงส่วนต่าง ๆ ของระบบทดสอบ

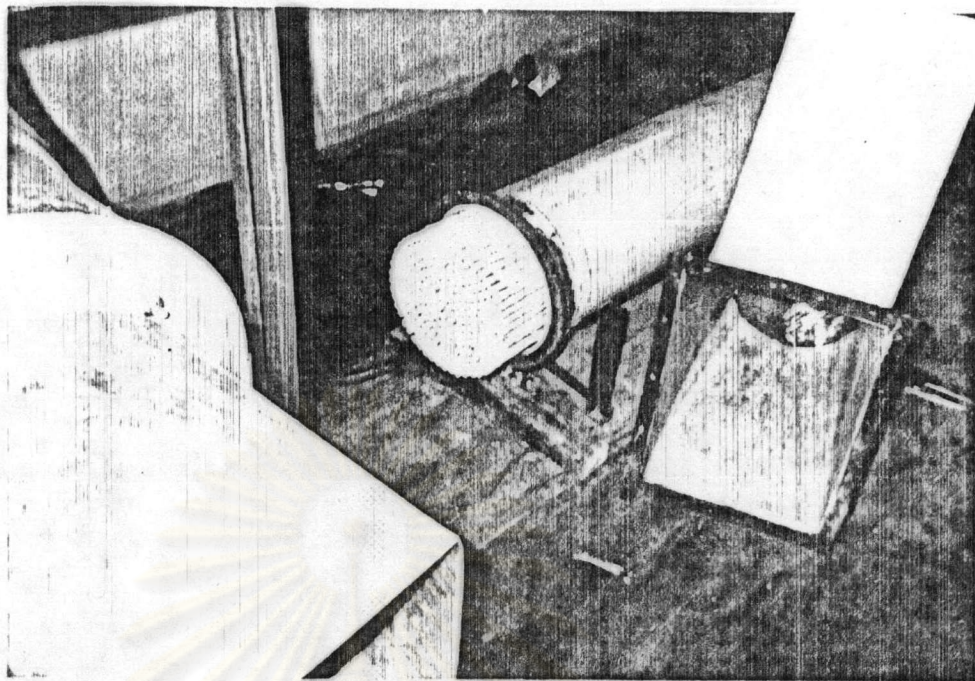


ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

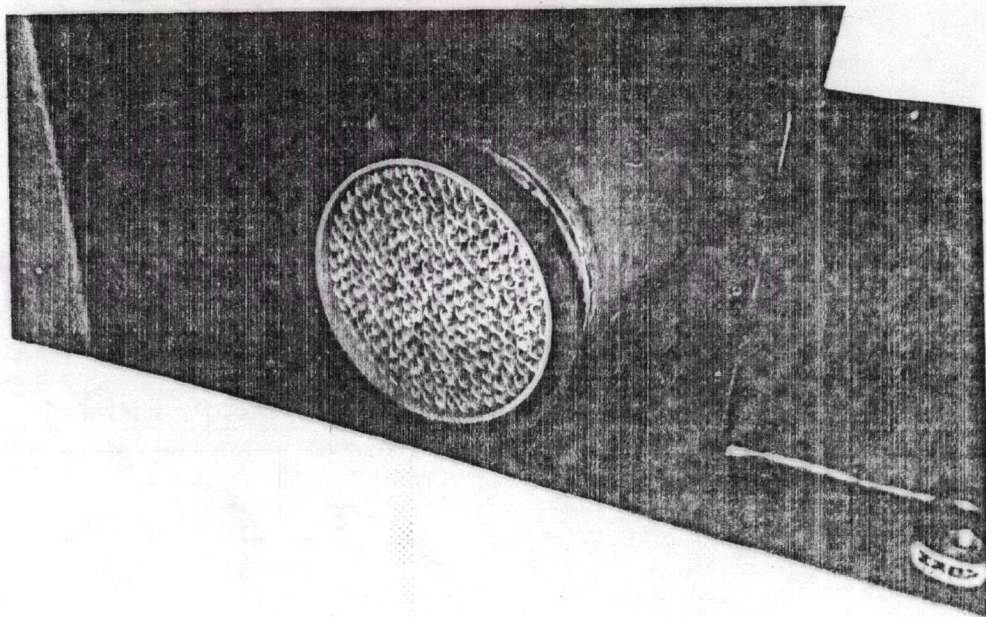


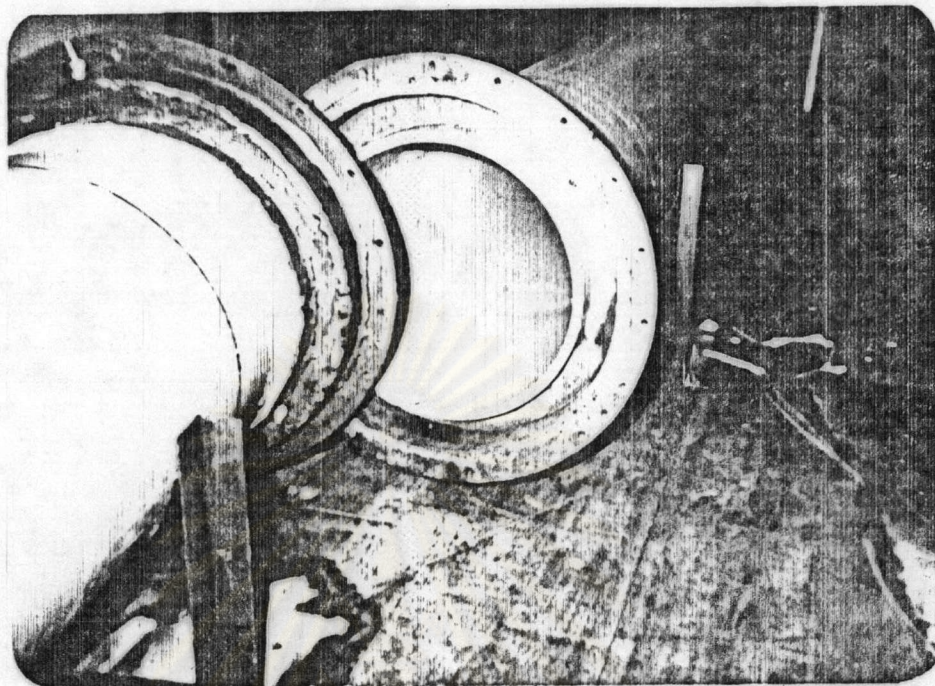
พัดลมส่งอากาศ และอุปกรณ์ที่รับความเร็ว



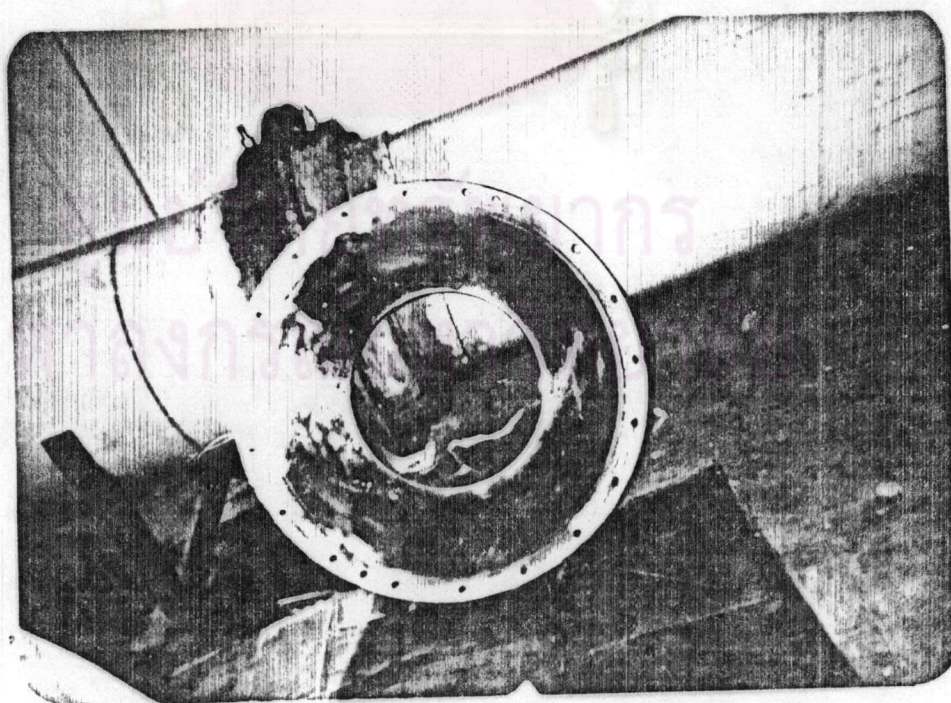


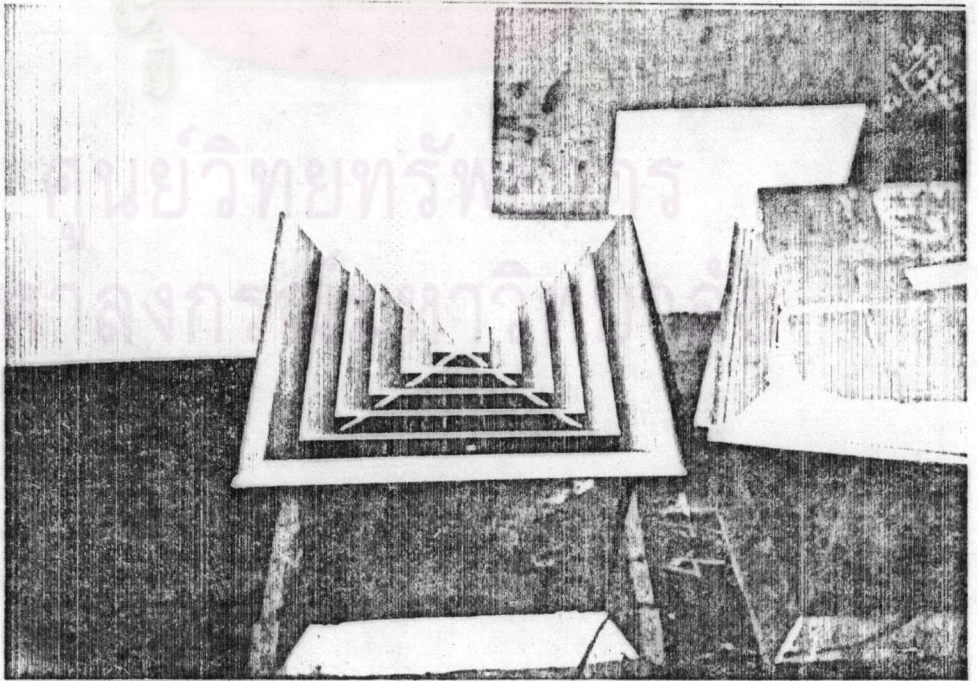
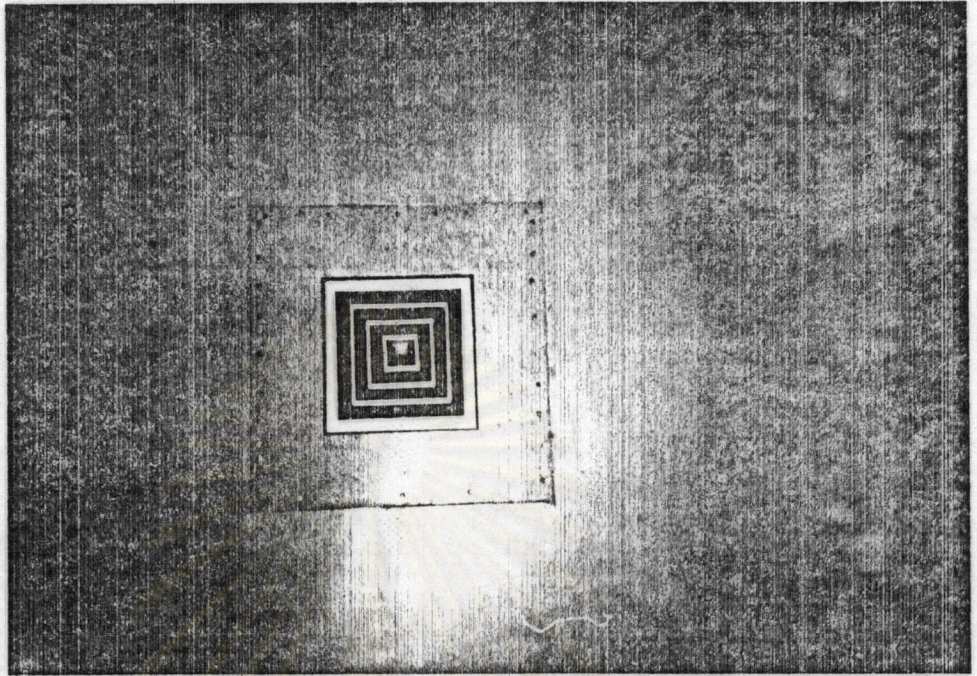
STRAIGHTENER





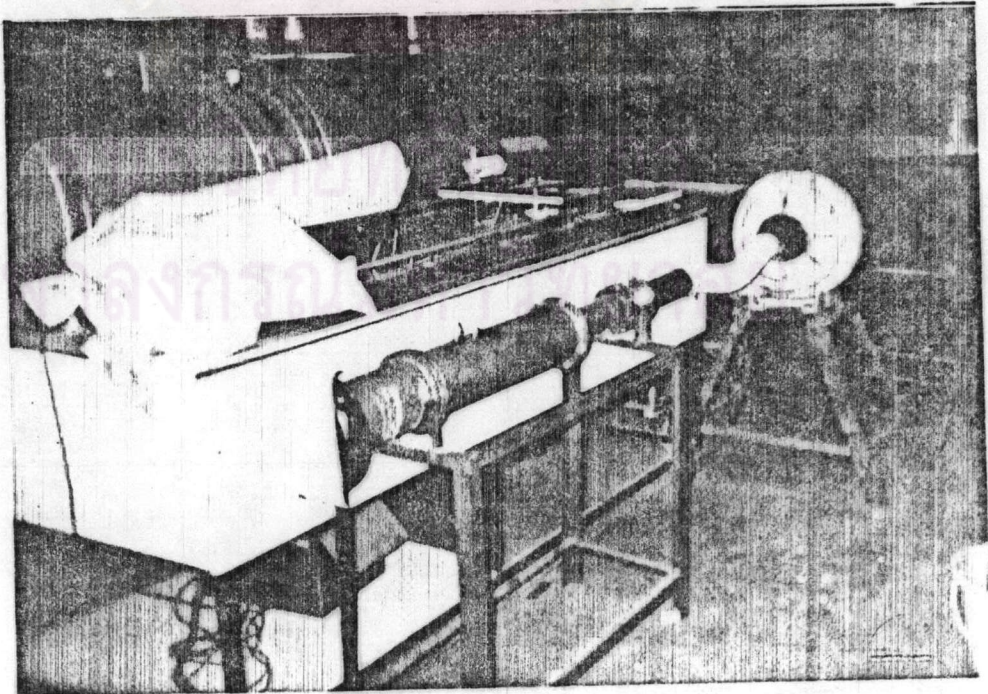
CORNER TAPPING ORIFICE



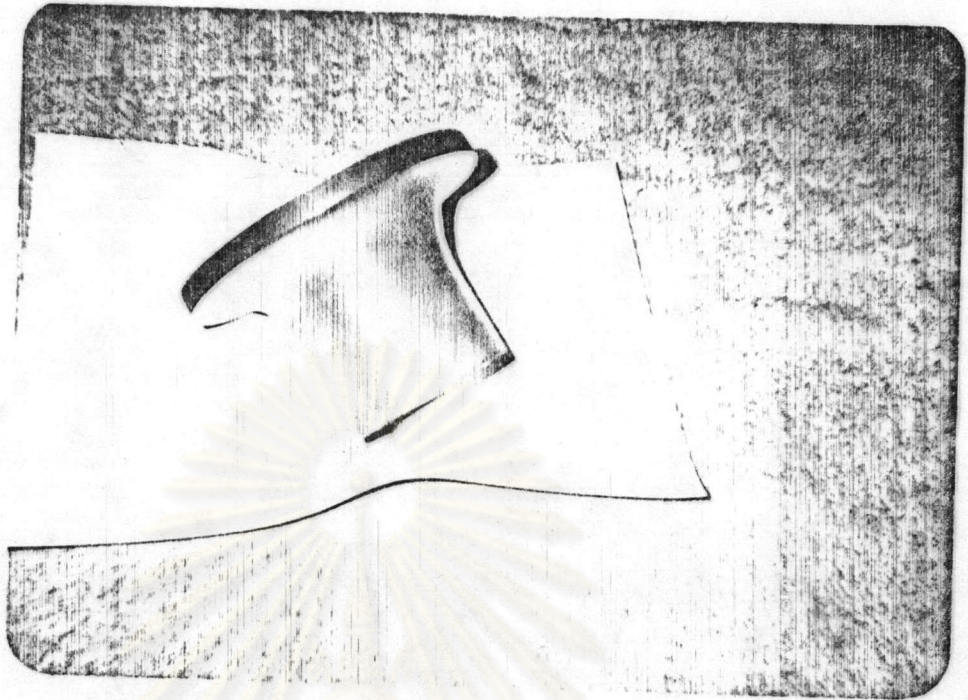




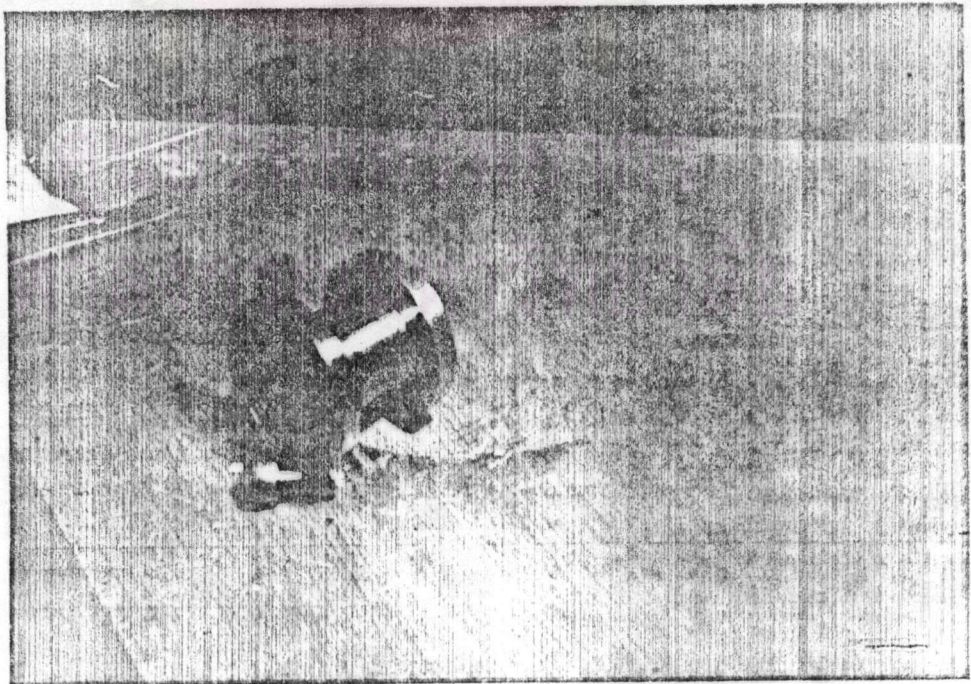
ENTRY CONTOUR



LOW SPEED CALIBRATION TUNNEL



ISA - 1932 NOZZLES

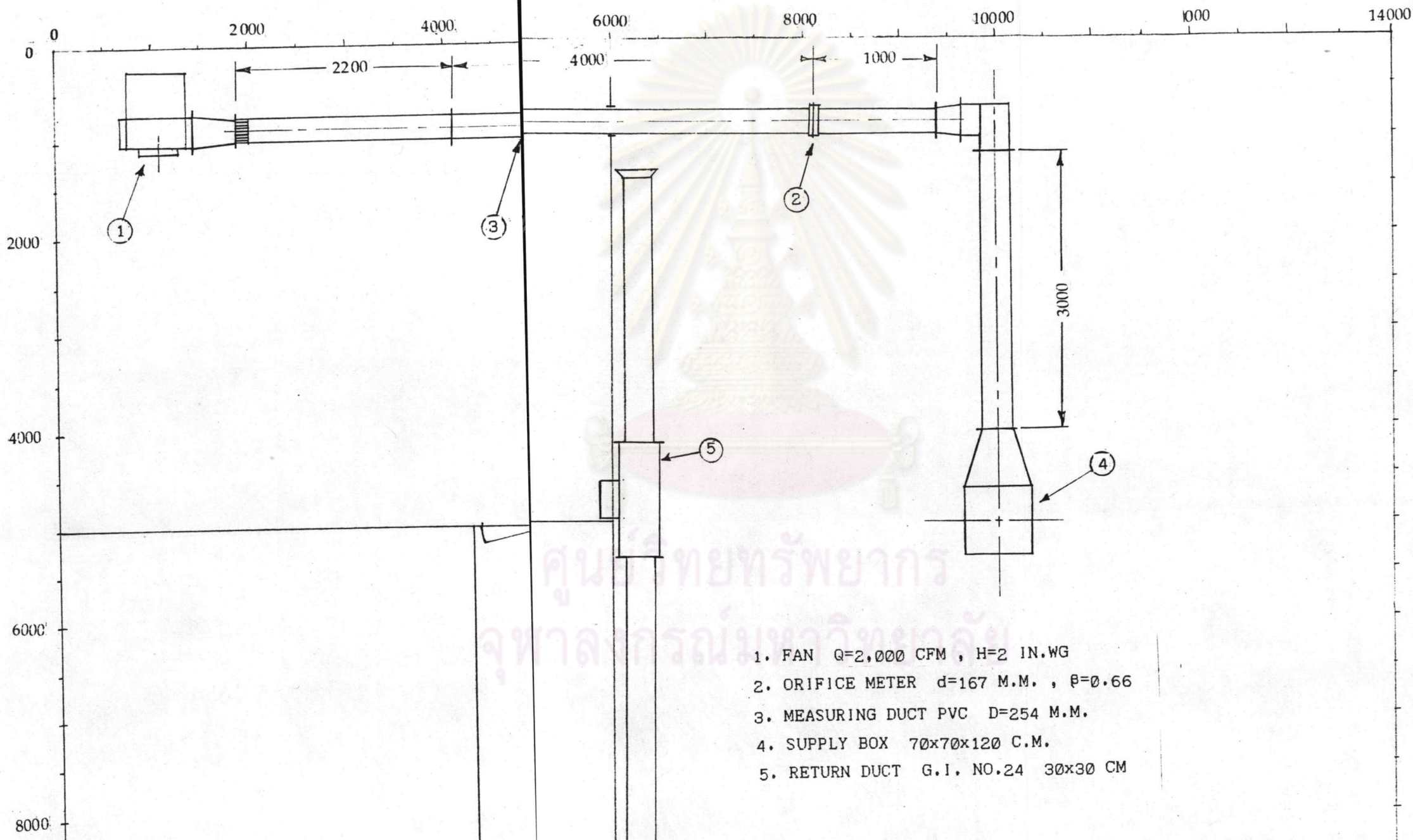


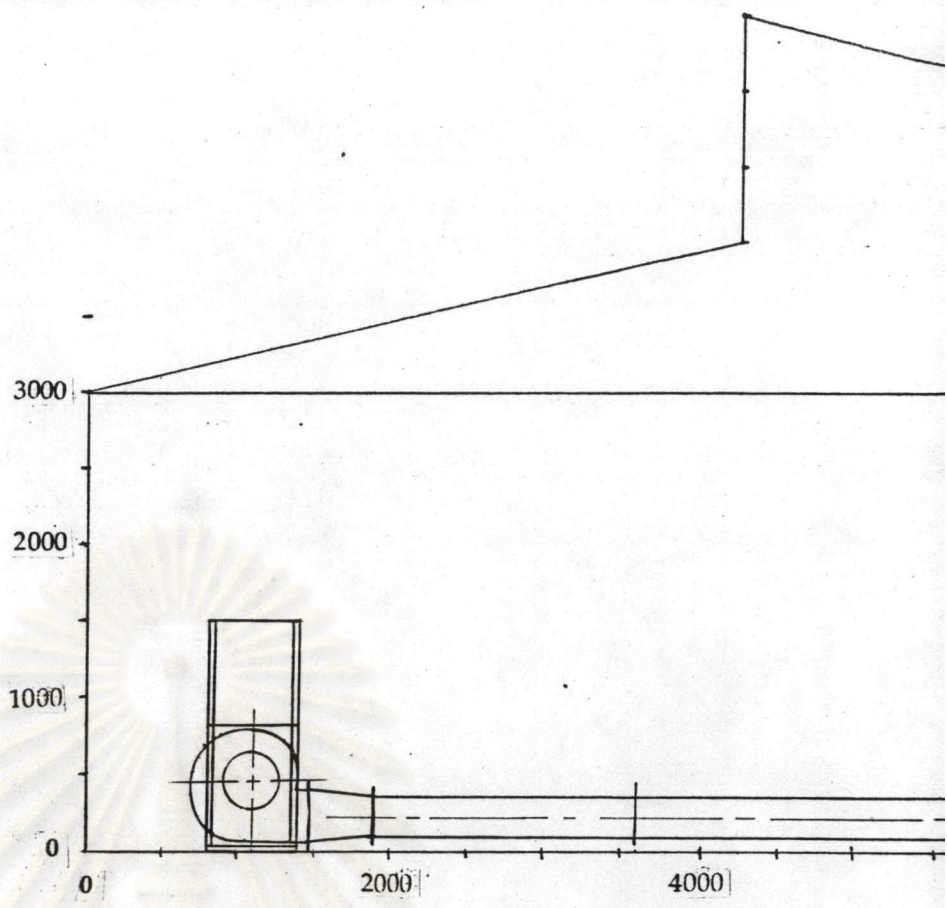
LAMINAR FLOW ELEMENT

ภาคผนวก ค
รายละเอียดของอุปกรณ์ทดสอบ

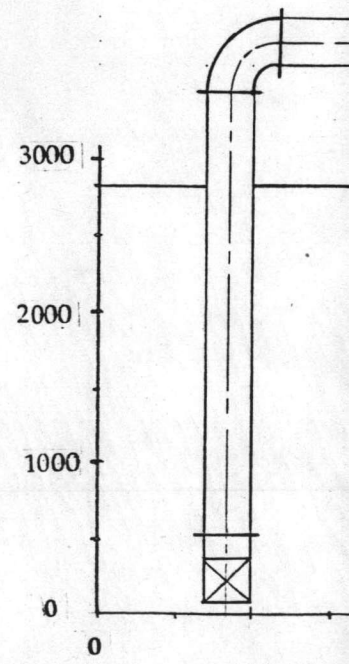


ศูนย์วิทยพัชร์พยากร
จุฬาลงกรณ์มหาวิทยาลัย

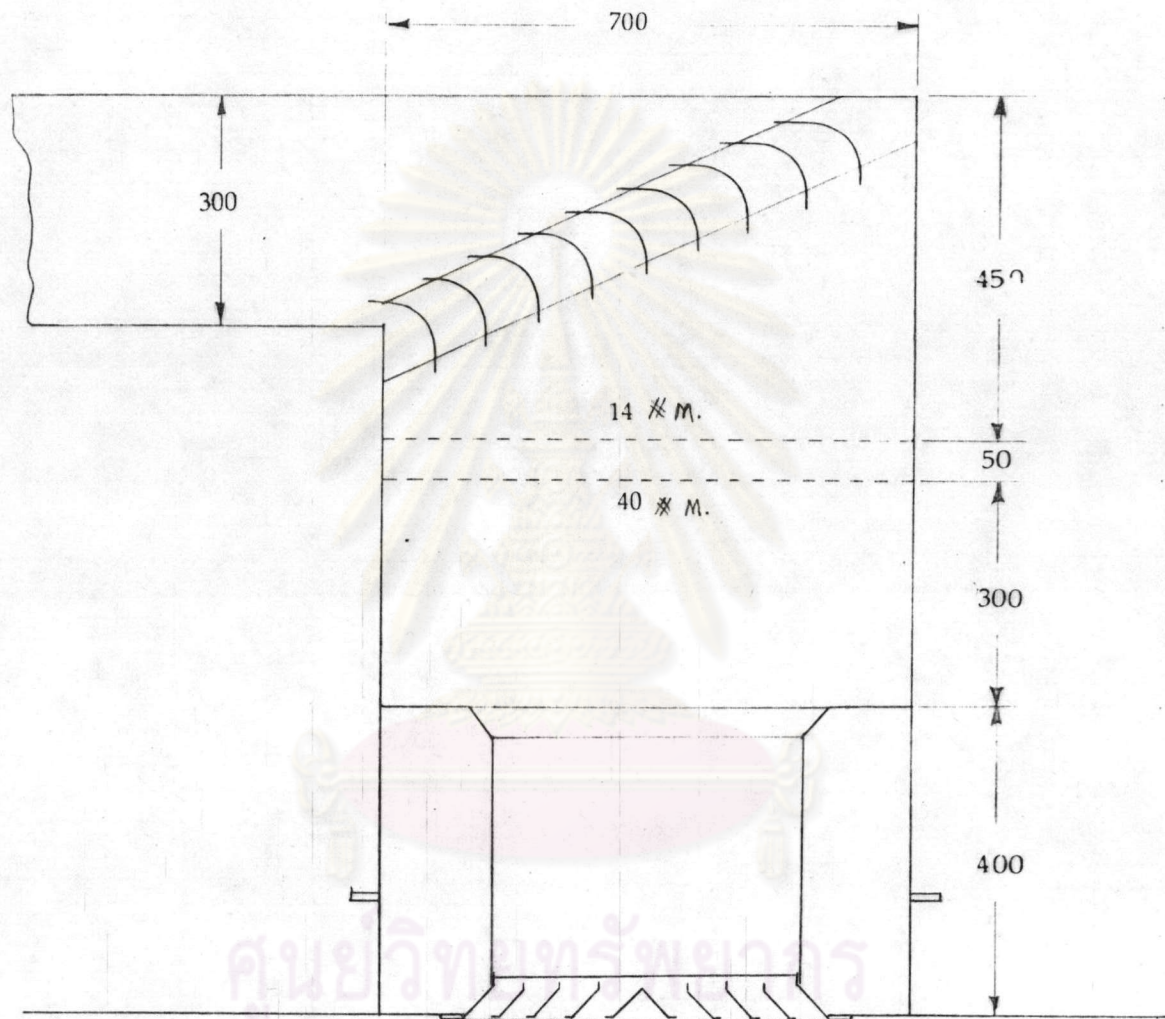




ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

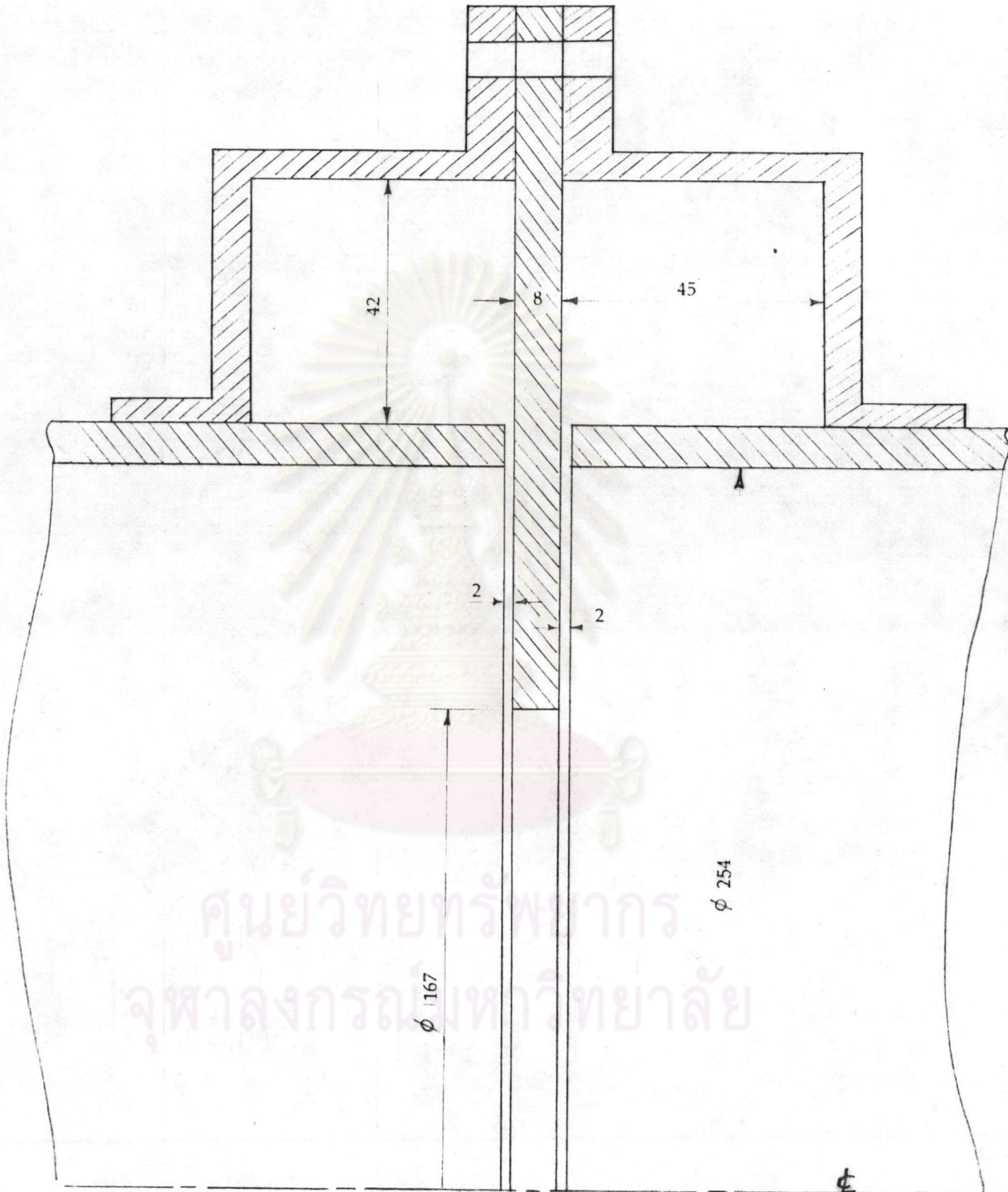


รูปห้อง

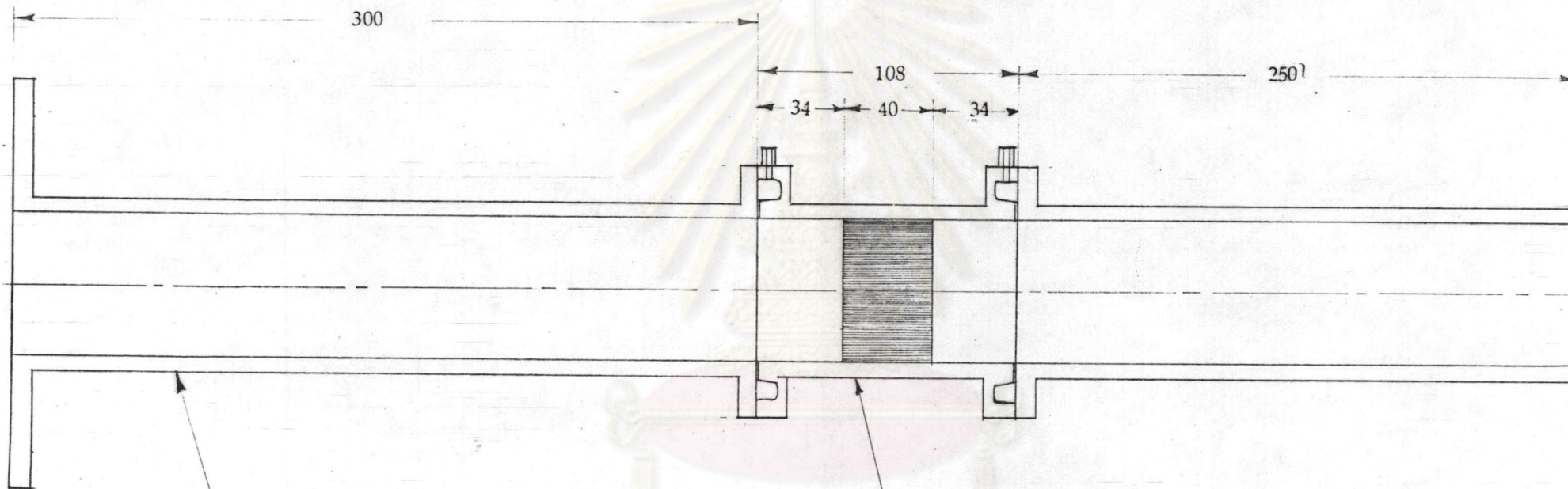


ศูนย์วิทยุโทรทัศน์
จุฬาลงกรณ์มหาวิทยาลัย

รูปกล่องจ่ายอากาศ และการติดตั้งอุปกรณ์จ่ายอากาศ



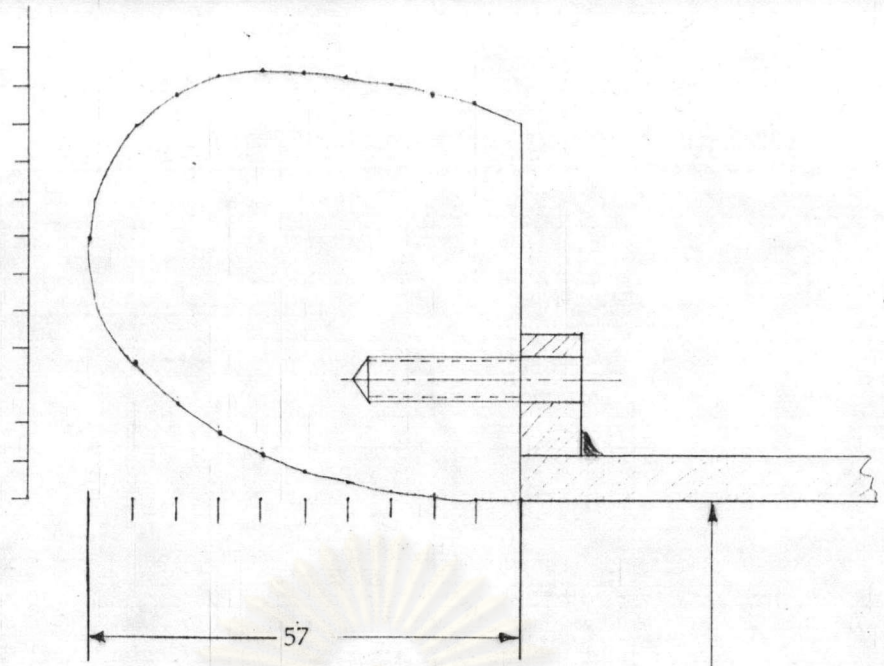
รูปออร์นิชัวต์ตราการไหล



TUBE
 STEEL PIPE
 SCHEDULE 80 XXS
 O.D. 73.0 M.M.
 I.D. 59.0 M.M.

ศูนย์วิทยทรัพยากร
 ศาลากลางกรมมหาวิทยาลัย

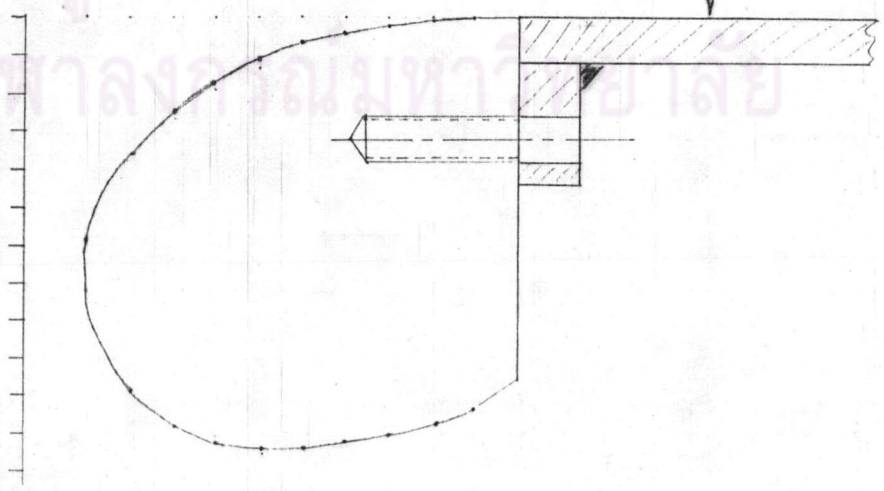
LAMINAR FLOW ELEMENT
 STAINLESS STEEL
 ELEMENT O.D. 1.8 M.M.
 I.D. 0.9 M.M.
 LENGHT 39.7 M.M.
 NO. OF TUBE 1768



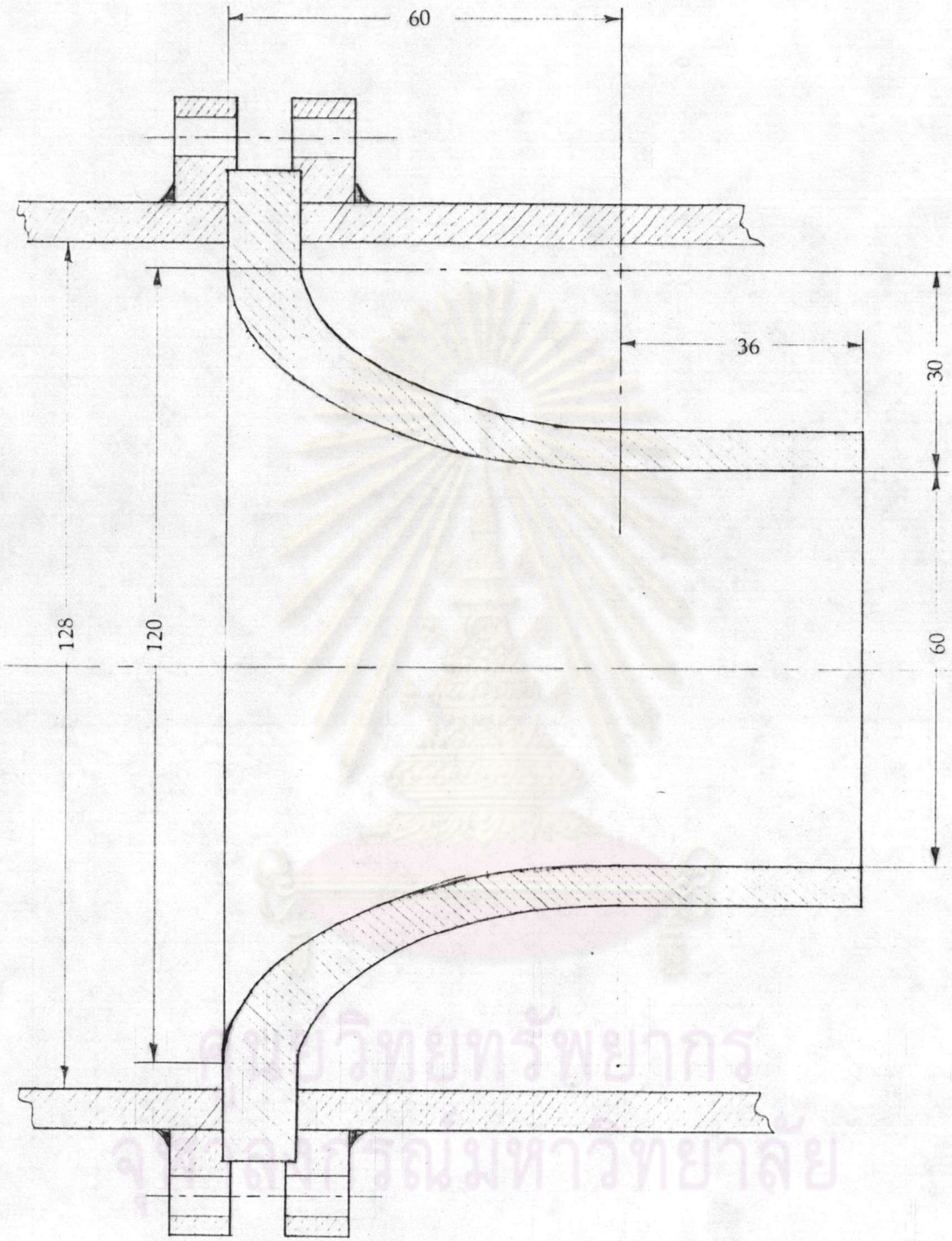
ENTRY CONTOUR

$$R_{ED \text{ MAX}} = 8 \times 10^4$$

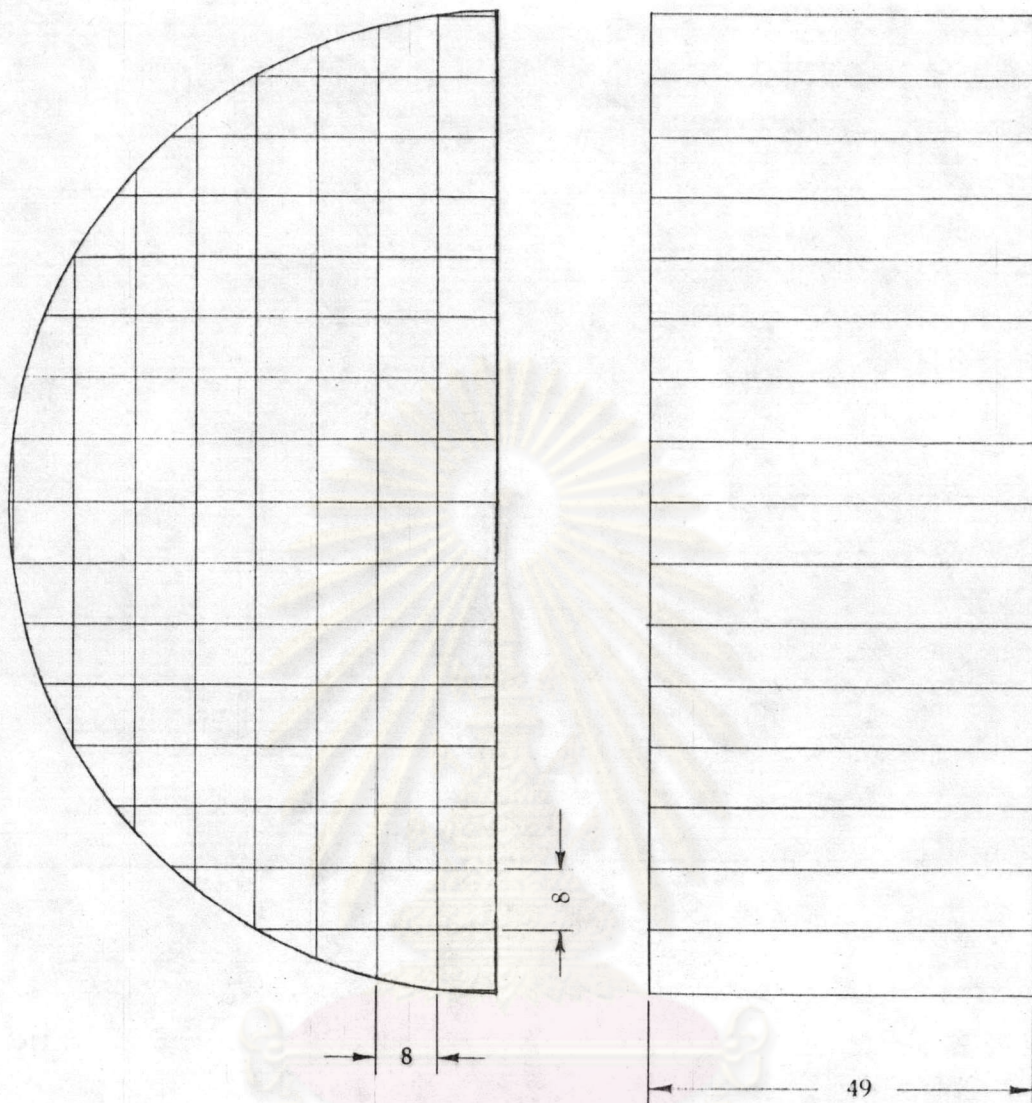
$$V_{MAX} = 2.5 \text{ M/S}$$



ศูนย์วิทยุทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย



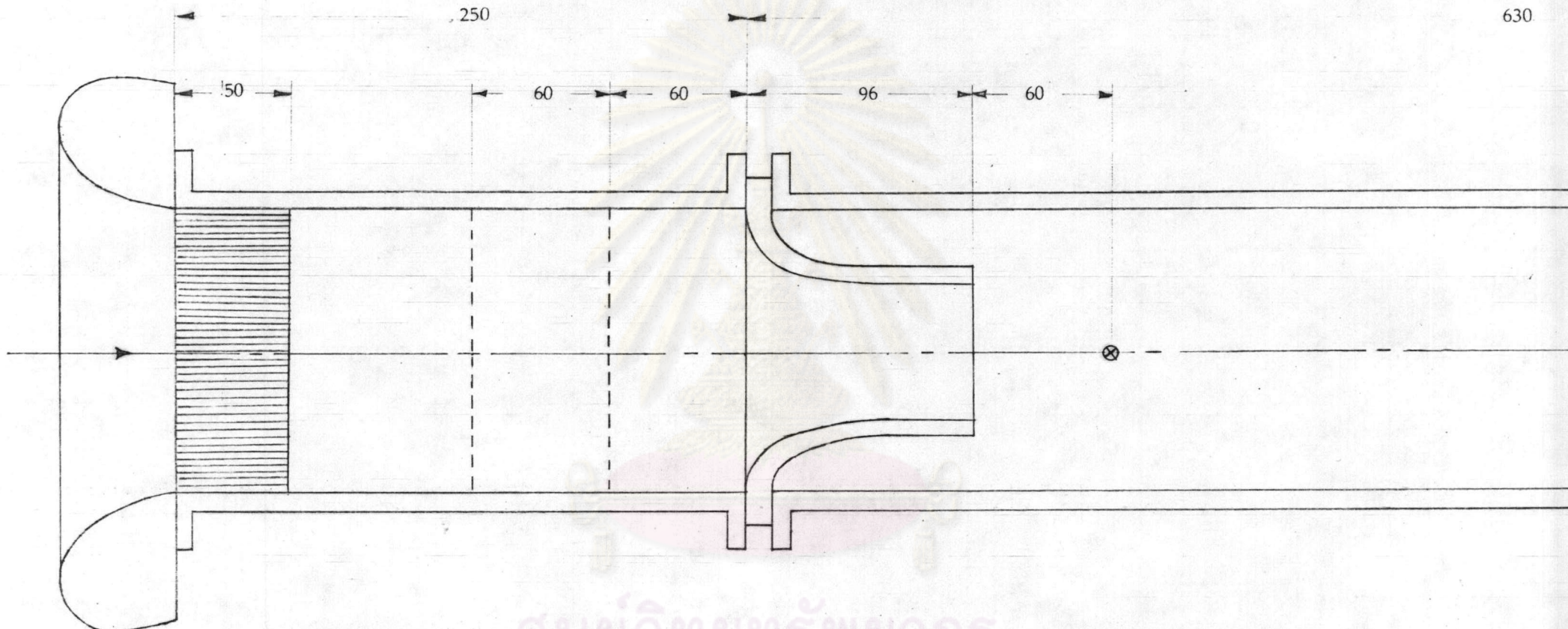
Nozzle contour



ศูนย์วิทยทรัพยากร

Honeycomb flow
straightener

จุฬาลงกรณ์มหาวิทยาลัย



ALL DIMENSION IN M.M.

SCALE 2.5:1

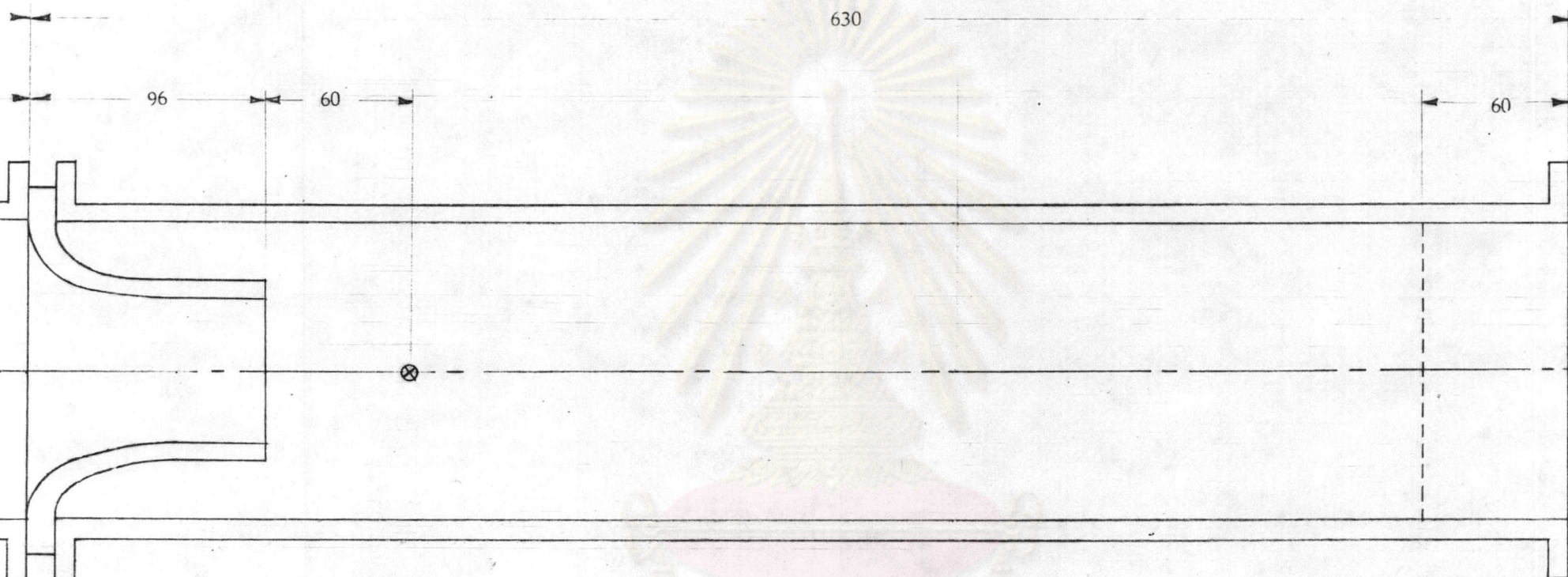
ENTRY CONTOUR
FIBER CASTING

STRAIGHTENER
COPPER SHEET

THICKNESS 0.18 M.M.

NOZZLE
FIBER CASTING
B.S. 1042 STANDARD
 $\beta = 0.47$

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย



2.5:1

ENER

SHEET

S Ø.18 M.M.

ศูนย์วิทยุทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

NOZZLE
FIBER CASTING
B.S. 1042 STANDARD
B = 0.47

299

TUBE
STEEL PIPE
SCHEDULE 80 STANDARD WEIGHT
O.D. 141 M.M.
I.D. 127 M.M.

ภาคผนวก ง
รายละเอียดของเครื่องมือวัดบางส่วน



ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

INSTRUCTION MANUAL

FC012 & FC014 MICROMANOMETERS



Please read carefully before using

ศูนย์วิทยุทรัพยากร

MANUFACTURERS:

FURNESS CONTROLS LIMITED

Beeching Road, Bexhill, East Sussex TN39 3LJ, England
Telephone: (0424) 730316 Telex: 957012 FURCON G

CONTENTS

Calibration Chart and Test Certificate	1
General Introduction	2
Operation	3
Instrument Controls	4
Layout Drawings	5/6
Velocity Scale Temperature Correction Chart	7

To all users and owners of Furness Controls Limited instrumentation

THE HEALTH AND SAFETY AT WORK ACT 1974

The instruments manufactured by Furness Controls Limited may be classified as electro-pneumatic devices for use in industry, universities and research establishments. All instruments manufactured by Furness Controls are designed to be used by personnel experienced within their own field of technology and with a basic understanding of electronics and pneumatics.

These instruments, when used in normal, prescribed circumstances falling within the applications as described in their corresponding leaflets or discussed with Furness Controls personnel will not cause any damage to health or safety.

All instruments are fully tested by trained personnel before delivery.

However, it must be noted that all instruments are operated by:

- 1 Mains voltage
or
- 2 Re-chargeable battery packs

Furness Controls therefore stress that:

- 1 At no time are the instruments to be operated without the casing.
- 2 Only qualified electronics technicians be permitted to attempt repairs or fault-finding.
- 2a The wiring diagrams supplied with the instrument are only for the use of such persons.

Furness Controls will be only too pleased to advise upon any problems arising.

N.B. The output current available from a full re-chargeable battery is in the order of 100 amps, regardless of the instrument being switched on or off.

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

CALIBRATION CHART AND TEST CERTIFICATE

FCO11, FCO12, FCO14, FCO16 MICROMANOMETERS

THIS IS TO CERTIFY THAT the following instrument has been tested in accordance with the standards laid down and adhered to by Furness Controls Ltd, Bexhill, England.

All instruments are calibrated using transfer standards which are regularly checked against a reference standard traceable to national standards. The accuracy is better than 1% of reading for differential pressures of 10 Pa to 20 KPa. They are checked for linearity using the same standard and adjusted to give optimum accuracy of reading.

Customer name KING MONCKUT'S INSTITUTE OF TECHNOLOGY
 Serial No. 8808273
 Description DIGITAL MODEL 2
 Instrument type FCO 12
 Our SO/SB Ref SB5557 Temperature coefficient: 0.04% per 10 °C
 Supply voltage 220VAC CHARGER INPUT Output signal ±5VDC
 Meter scale ±19.99mm H²O Time constant 0-10 SECS
 ±1.999mm H²O/0-18 m/s Leak tight YES

LINEARITY OF SELECTED RANGE

	20%	40%	50%	80%	100%
Range 1% +					
Range 1% -					
Range 10% +	-0.5%	-0.35%	-0.1%	±0%	+0.25%
Range 10% -	-0.2%	±0%	+0.15%	+0.3%	+0.4%
Range 100% +	+0.2%	+0.2%	+0.25%	+0.15%	-0.05%
Range 100% -	+0.3%	+0.25%	+0.1%	-0.1%	-0.1%
Range Flow	+0.4%	+0.3%	+0.2%	+0.05%	-0.25%

Signal output noise level < 1mV

Signed *[Signature]* Date 27th September 1988
 Chief Test Engineer

GENERAL INTRODUCTION

Furness Controls micromanometers are sensitive differential pressure measuring units capable of reading air pressures from 0.0001mm H₂O to 2000mm H₂O according to the model chosen. Calibration accuracy is 1% and each instrument is calibrated at 20 points for optimum linearity and accuracy of reading.

The overload capacity of each instrument is ten times the maximum pressure range or 50mm H₂O whichever is the greater. Maximum static pressure is 4 Bars. The instruments cannot be used with any conductive fluid and must therefore generally be used with air or gas.

The flow range is the square root of the 100% pressure range and has the effect of linearizing the output of a pitot static tube. The velocity readings are given for air at atmospheric pressure 15°C and a pitot 'K' factor of 1.

Pressure to the two sides of the measuring head is taken via an equalizing valve from two fittings on the front panel of the instrument. The equalizing valve is controlled by a toggle switch on the front panel. When the switch is in the equalized mode the transducer is isolated from the incoming pressures and both sides of the transducer are connected together. In the equalized mode the instrument is safe from any accidental overpressure. It can also be zeroed using the manual zero potentiometer. When the instrument is switched into the auto zero mode the auto zero control circuit will automatically check and correct the zero position of the transducer. Any readings will not be affected by an auto zero control function taking place.

The transducer will respond to pressure inputs at up to 5 Hz although the time constant potentiometer can be used to dampen response to 10 seconds. The rear panel output DIN socket gives an output of 0-5V d.c. per range for recorder or data capture systems.

On analogue instruments a selector switch allows the instrument to be used with a central zero position or a left hand zero position. The centre zero allows the monitoring of differential pressures which vary around zero, while the left hand zero gives maximum resolution.

A leather carrying case is provided and a separate mains charger unit to recharge the internal batteries and operate the instrument from mains when required.

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

OPERATION

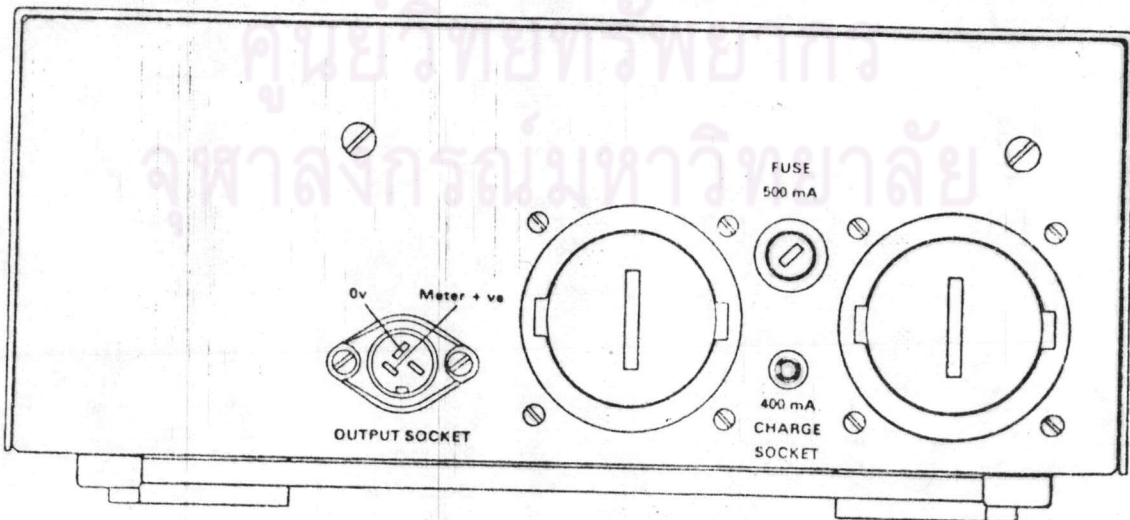
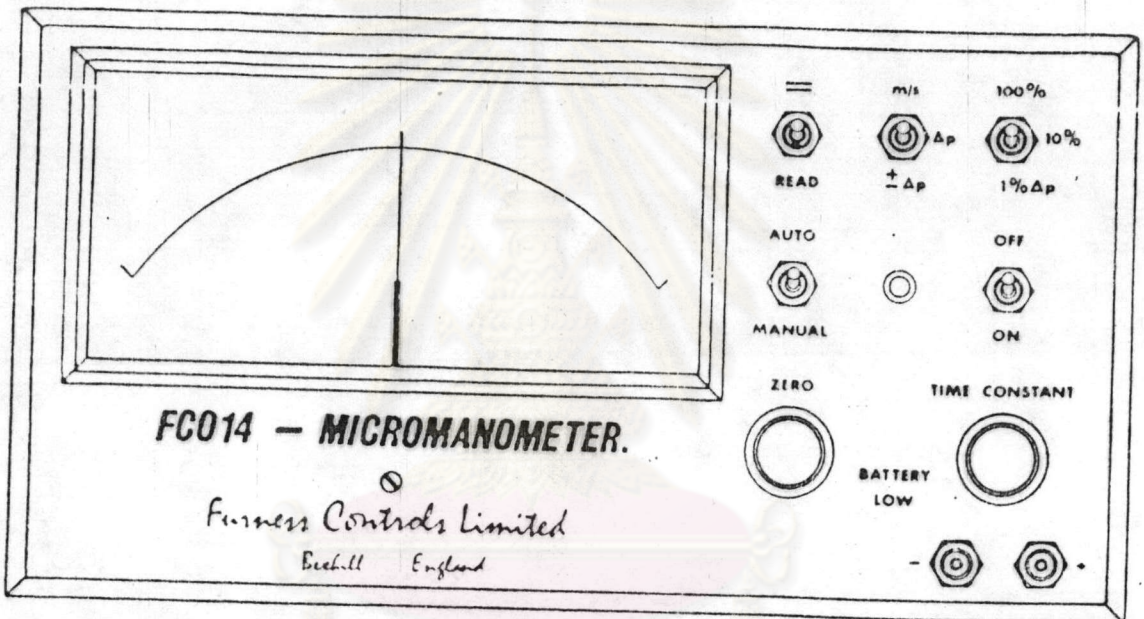
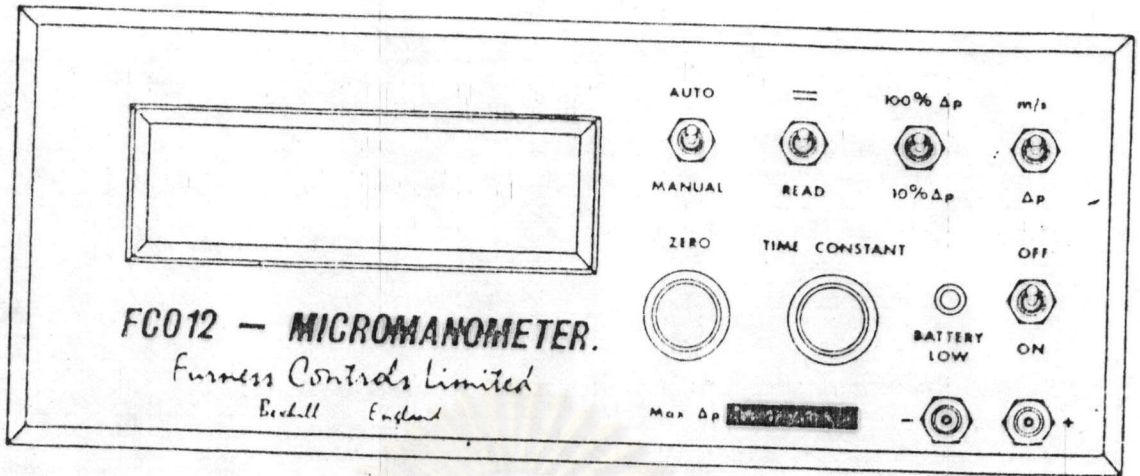
- 1 Unpack the unit carefully and check for damage.
- 2 Connect a 3-pin fused mains plug to the input side of the charger unit. Maximum rating 2 amps. This plug must be earthed and the charger can only be used with the correct supply voltage as shown on the label.
- 3 The charger/mains unit can be used to operate the instrument from mains continuously trickle charging the instrument, or to re-charge the batteries after a period of battery use. Battery life from full is 14 hours (FCO12), 40 hours (FCO14) and the re-charging time is 15 hours. The battery comprises four 'D' size cells which are readily available should replacements be required.
Warning: Do not use the instrument once the battery warning light is on as incorrect readings will result.
- 4 Plug the charger/mains unit jack plug into the jack socket at the rear of the micromanometer and switch the mains on. Switch the on/off switch on the micromanometer on.
- 5 Switch the auto-manual switch to manual and zero the instrument using the zero potentiometer. A Δp position must be used.
- 6 Either select auto zero or continue to use the manual position zero if dead end pressures are to be measured.
- 7 Select the required pressure or flow range and select equalize on the equalize/read switch.
- 8 Connect the required pipes to the front panel ports. $\frac{3}{16}$ " ID tubing is provided with each instrument but only rated to 1 Bar. Other tubing up to 4 Bars can be used.
- 9 When the differential pressure is established switch the equalize/read switch to read and adjust the time constant to obtain the required response.
- 10 Changes of range, equalize, auto/manual Zero, time constant switches can be made at will during measurement to obtain the best results.

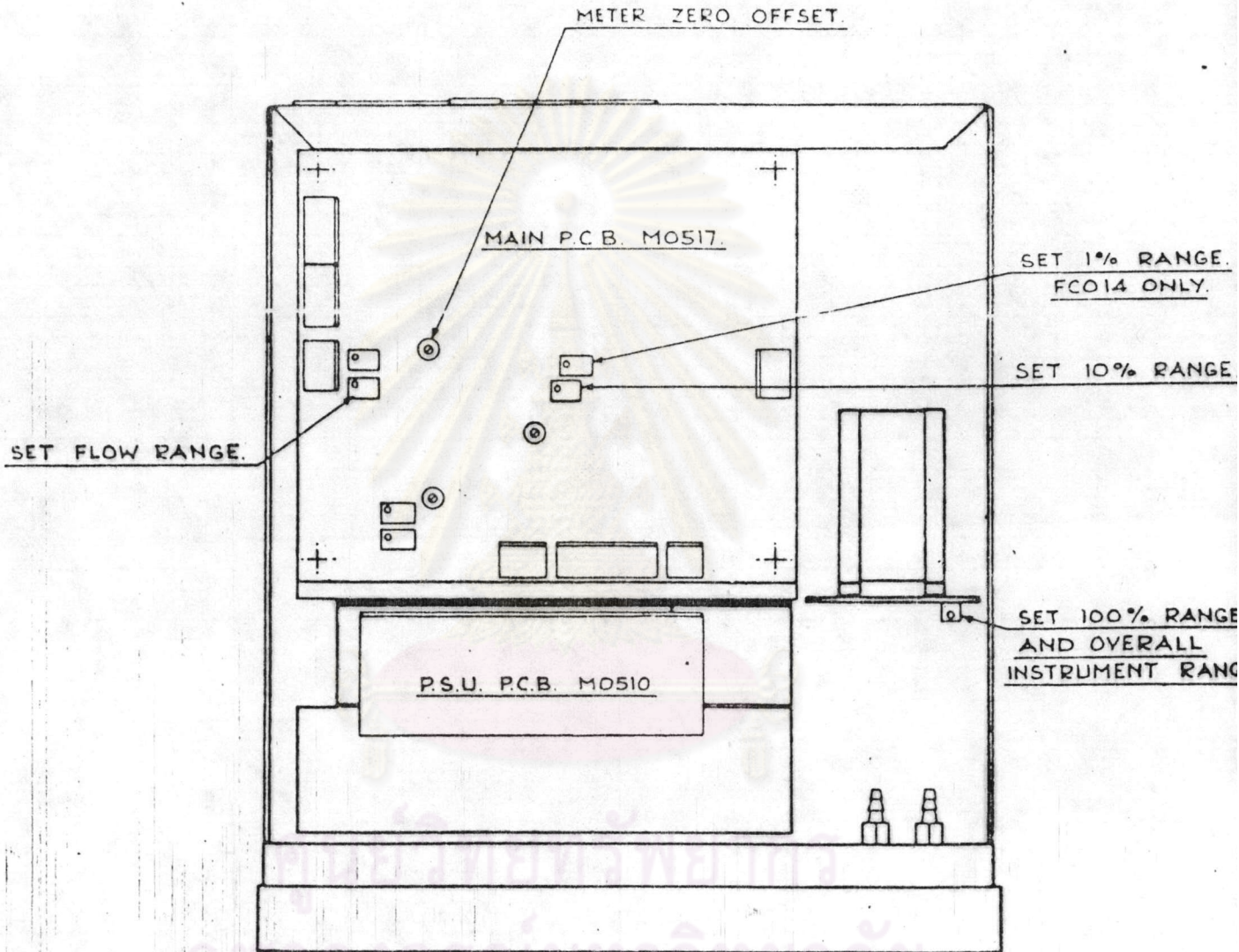
Note: To protect the instrument when not in use, the equalize/read switch should be set to equalize BEFORE the instrument is switched off.

ศูนย์วิทยุทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

INSTRUMENT CONTROLS

- On/Off* Switches the micromanometer on electrically allowing the instrument to be used provided enough battery power is available.
- Green LED* Confirms that the on/off switch is on. (FC014 only).
- Battery Low* Flashing red LED which advises that insufficient battery power is available and that the instrument must be connected to the charger unit before it can be used again.
- Auto/Manual* Allows the selection of automatic or manual zero control. Automatic zero is generally most convenient for flow and dynamic pressure readings. Manual zero is necessary when dead end pressures are being measured. It is also useful when first switching on, for instantaneous readings and when an off-set zero is required.
- Zero Potentiometer* Used to set zero when in the manual mode.
- Time Constant* Varies the response of the display and output signal to a pressure source. Useful in damping turbulent flow. Adjustable 0.2/10 seconds.
- Pressure Connections* Marked + and -
The higher pressure is normally connected to +. This is the total head pipe when connected to a pitot static tube. Maximum static is 4 Bars.
- Read/ = Switch* Used to equalize applied differential pressures during connecting of pipework to protect the transducer from overload. Also used to allow manual zero adjust during readings.
- M/s/ Δp / $\pm \Delta p$* The $\pm \Delta p$ function is fitted on FC014 analogue instruments only. FC012 digital instruments automatically display + or - signs on the DVM. The m/s position indicates velocity at NPT 15°C K factor of 1 on a pitot static tube of ellipsoidal or hemispherical nose. Any length or diameter. See graphs for correction factors. When set to m/s, the range switch is inoperative.
- 100%, 10% 1% Switch* ... 100% and 10% only on FC012 digital instruments. This switch selects the full scale range of the display as a percentage of the indicated pressure as shown on the scale or the maximum DP label.
- DIN Socket (rear panel)* ... Carries the output signal of 0-5V d.c. per range $\pm 5V$ C.Z. Minimum load 10 K. No maximum.
- Battery Compartment (rear panel)* Houses the four 'D' size nickel cadmium rechargeable batteries. Only nickel cadmium batteries can be used.
- Jack Socket* Receives the jack plug from the charger to operate the micromanometer from mains or to recharge it with the instrument switch off. The nickel cadmium batteries must be fitted in the battery compartment when the charger unit is connected.



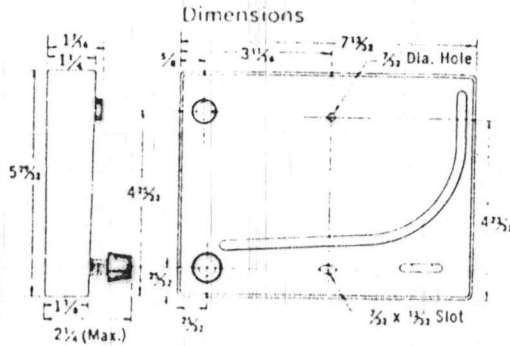


ศูนย์วิจัยและพัฒนา
อุตสาหกรรมมหาวิทยาลัย

VELOCITY MULTIPLIER FOR TEMPERATURE CORRECTION
Read factor 'x' for actual temperature and multiply indicated velocity by this factor



MARK II MANOMETER INSTRUCTIONS



APPLICATION DATA

Draft Gage

Run iron pipe, 1/2" or larger, from source of draft to a point within five feet of gage. Provide a means for periodic clean-out to remove soot accumulation. Make gage connection to right hand connector.

Static Pressure Indicator

Air velocities of 1000 fpm or greater are a possible source of error. For greater accuracy, static pressure tips should be installed, with the tips directed into the air flow. If static pressure tips are not used, make connections enter the duct perpendicular to the air stream and finish off smooth on the inside.

Air Filter Gage

Mount gage within three feet of filter bank and install a tubing adapter on each side of the filter element. Run the tube from the fitting on the discharge side of the filter to the right gage connection and the tube from the other side of the filter to the left gage connection. Remove paper from back of green and red arrows and install adjacent to indicating tube to indicate clean and dirty filter readings.

Air Velocity Meters

A pitot tube is required for air velocity indications and care must be taken in installation to insure accuracy. Select a location for the pitot tube with smooth, straight sections of duct at least four

diameters in length both upstream and downstream. Install with the tube centered in the duct and the tip directed into the air stream. Connect the right angle pitot tube fitting to the right gage connection. Connect the straight pitot tube connection to the left gage connection. The velocity reading now indicated on the gage is the center or maximum velocity. For average velocity across the full area of the duct multiply by a factor of .9. The velocity indicated is for dry air at 70° F., 29.9" Barometric pressure and a resulting density of .075-cu./ft. For variations from these standard conditions, corrections may be based upon the following data.

AIR VELOCITY CALCULATIONS:

$$\text{Air Velocity} = 1096.2 \sqrt{\frac{P_v}{D}}$$

where P_v - velocity pressure in inches of water

D - Air density in #/cu. ft

$$\text{Air Density} = 1.325 \times \frac{P_B}{T}$$

where P_B - Barometric Pressure in inches of mercury

T - Absolute Temperature indicated temperature °F plus 460

Flow in cu. ft. per min. = Duct area in square feet x air velocity in ft. per min.

OPERATING RANGES

No.	Range	Fluid
25	0-3 In. W.C.	.826 sp. gr. red oil
26	0-7 In. W.C.	1.9 sp. gr. blue oil
M-80	0-80 M.M. W.C.	.826 sp. gr. red oil
M-180	0-180 M.M. W.C.	1.9 sp. gr. blue oil
M-700 Pa	10-0-700 Pascals	.826 sp. gr. red oil
27 *	0-7,000 fpm	.826 sp. gr. red oil
28 *	0-10,500 fpm	1.9 sp. gr. blue oil

* Nos. 27 and 28 require pitot tube at additional cost. See Bulletin H-100.

Litho in USA 5/82

67-440215-00



DWYER INSTRUMENTS, INC.

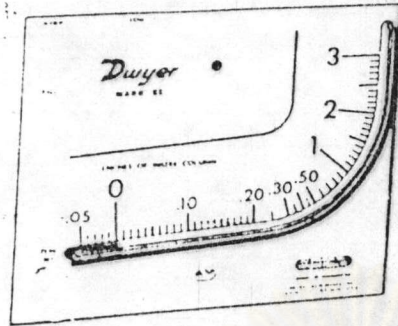
P.O. Box 373, Michigan City, Ind. 46360

Phone: 219/872-9141

FOR

MARK II

MOLDED PLASTIC MANOMETERS



Mark II
Model No. 25 molded
plastic manometer.

Installation

Locate the Mark II on a convenient vertical surface. The installation should not be exposed to strong chlorine atmospheres or solvents such as benzene, acetone, carbon tetrachloride, etc. The instrument is suitable for total internal pressures up to 10 PSI and ambient temperatures of 140° F. DO NOT EXCEED THESE LIMITS! 60°C

Drill two 1/8" or 9.64" holes on a vertical line 3 15/16" apart. Install gage with self-tapping screws provided, turning the screws down snug, but not tight. Adjust the gage until the bubble is centered in the spirit level. Tighten the mounting screws, check to be sure the instrument remained level and relevel as necessary. To adapt gage for portable use, order optional A-612 Portable Stand.

Filling

Back out (turn counter clockwise) the zero adjust knob until it stops; then turn in approximately three full turns so that there is room for adjustment

in either direction. Remove the fill plug and fill with gage fluid until fluid is visible in vicinity of zero on scale. Caution: Use .826 specific gravity red gage oil for Gage Nos. 25, 27, MM-80 and M-700 Pa. Use 1.9 specific gravity blue oil for Gage Nos. 26, 28 and MM-180. Adjust for exact zero setting with zero knob and replace fill plug. If the unit is overfilled to the extent that there is insufficient zero adjustment to accommodate it, the excess oil can be removed by inserting a pipe cleaner through the fill port and blotting up the excess.

A five foot length of double column plastic tubing is included with the gage along with adaptors for connection to 1/4" NPT fittings or sheet metal ducts. Connect the tube with red code stripe to the high pressure (left) connection at top of gage and to the positive or more positive pressure to be sensed. The low pressure (right) connection should similarly be connected to the uncoiled tube and it in turn to the negative or more negative pressure to be sensed.

Maintenance

Check oil level occasionally and adjust zero knob as required. Be sure all pressure is removed by disconnecting tubing at top of gage before adjusting zero knob. Add oil only when necessary. Use Dwyer red or blue oil only. Other fluids may damage the gage. Clean with a soft cloth using a little pure soap and water. Use of a small brush will aid in cleaning the knobs. Avoid cleaning fluids and liquid soaps which may have chlorinated solvents in them as they may damage the gage.

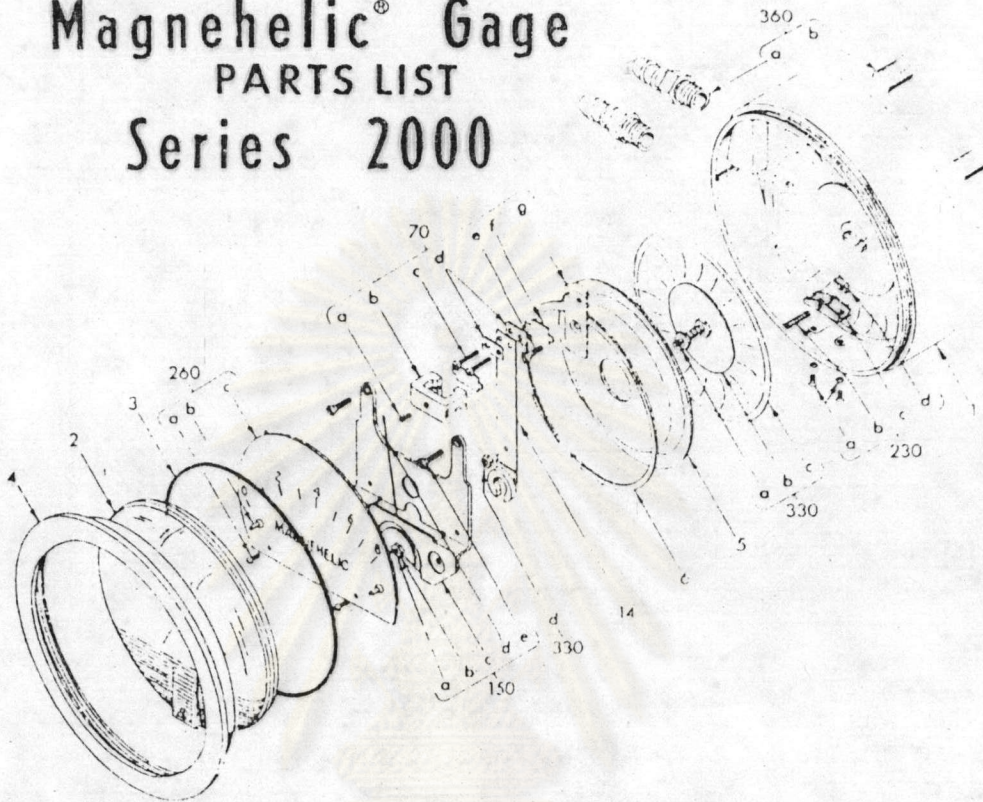
Copyright 1982 Dwyer Instruments, Inc.

DWYER INSTRUMENTS, INC.
P. O. BOX 373 • MICHIGAN CITY, INDIANA 46360, U.S.A.

Phone 219/872-9141

DWYER
Magnehelic® Gage
 PARTS LIST
Series 2000

BULLETIN A 27
 Page 4



- | | |
|---|---|
| <p>1. Case - die cast aluminum</p> <p>2. Cover with zero adjust assy. - C-11 plastic</p> <p>3. "O" ring seal - Buna-N</p> <p>4. Bezel - die cast aluminum</p> <p>5. Diaphragm sealing plate - aluminum</p> <p>6. Retaining ring - steel</p> <p>70. Range Spring Installation Kit - consists of:</p> <p style="padding-left: 20px;">a. Clamp set screws (2 req'd.)</p> <p style="padding-left: 20px;">b. Clamp - aluminum</p> <p style="padding-left: 20px;">c. Mounting screws (2 req'd)</p> <p style="padding-left: 20px;">d. Clamping shoe (2 req'd) - steel</p> <p style="padding-left: 20px;">e. Clamp plate screw</p> <p style="padding-left: 20px;">f. Spacer (2 req'd) - steel</p> <p style="padding-left: 20px;">g. Clamp plate - steel</p> <p>*14. Range Spring with Alnico magnet</p> <p>150. Wishbone Assembly - consists of:</p> <p style="padding-left: 20px;">a. Front jewel - sapphire/brass</p> <p style="padding-left: 20px;">b. Locking nut - front jewel - brass</p> <p style="padding-left: 20px;">c. Wishbone - aluminum</p> <p style="padding-left: 20px;">d. Pointer - aluminum (can be ordered separately)</p> <p style="padding-left: 20px;">e. Mounting screws (2 req'd)</p> <p style="padding-left: 20px;">f. Helix assembly - Iron (not shown)</p> <p style="padding-left: 20px;">g. Pivots - steel (2 req'd) (not shown)</p> <p style="padding-left: 20px;">h. Rear jewel - sapphire/brass (not shown)</p> | <p>230. Zero Installation Kit - consists of:</p> <p style="padding-left: 20px;">a. Foot screws with washers (2 req'd)</p> <p style="padding-left: 20px;">b. Adjust screw</p> <p style="padding-left: 20px;">c. Foot - aluminum</p> <p style="padding-left: 20px;">d. Finger - aluminum</p> <p>*260. Scale Assembly - consists of:</p> <p style="padding-left: 20px;">a. Mounting screws (2 req'd)</p> <p style="padding-left: 20px;">b. Bumper pointer stop (2 req'd) - rubber</p> <p style="padding-left: 20px;">c. Scale - aluminum</p> <p>*330. Diaphragm Assembly - consists of:
 (Arbor press needed to install)</p> <p style="padding-left: 20px;">a. Linkage assy., complete</p> <p style="padding-left: 20px;">b. Front plate - aluminum</p> <p style="padding-left: 20px;">c. Diaphragm - silicone</p> <p style="padding-left: 20px;">d. Rear plate - aluminum (not shown)</p> <p style="padding-left: 20px;">e. Plate washer (not shown)</p> <p>360. Mounting Hardware Kit</p> <p style="padding-left: 20px;">a. Adapter - pipe plug 1/8" NPT to rubber tubing - (2 req'd)</p> <p style="padding-left: 20px;">b. Pipe plug 1/8" NPT - (2 req'd)</p> <p style="padding-left: 20px;">c. Mounting lug (3 req'd)</p> <p style="padding-left: 20px;">d. Long screw (3 req'd)</p> <p style="padding-left: 20px;">e. Short screw (3 req'd)</p> <p style="padding-left: 20px;">f. Stud (solid)</p> <p style="padding-left: 20px;">g. Stud washer</p> <p style="padding-left: 20px;">h. Stud nut</p> <p style="padding-left: 20px;">i. Stud (hollow)</p> |
|---|---|

ORDERING INSTRUCTIONS:

1. TO SPECIFY the proper number when ordering a replacement part, use the number of the part as a suffix to the full catalog number and suffix, if any, of the gage. For example, the scale for a 1" gage would be Part No. 2001-260.
2. *Parts marked with a (*) differ with pressure range. Part number and range must be specified when ordered.
3. Components of assemblies cannot be purchased separately except where indicated. Purchase complete assembly.

Note: Magnehelic differential pressure gages are high precision instruments assembled and calibrated in a modern factory. If trained instrument mechanics are not available, we recommend that any instruments requiring repair be returned to the factory.

1. No lubrication or periodic servicing is required. If the interior is protected from dust, dirt, corrosive gases and fluids, years of trouble free service may be expected.

2. For service requiring a high degree of continued accuracy, periodic calibration checks are recommended, using the following procedure.

a. As a comparison gage, use a hook gage, micromanometer or inclined gage of known accuracy.

b. Connect the Magnehelic gage and test gage together with two leads from a "T." Connect rubber tubing to the third leg of the "T" and impose the pressure, slowly.

c. Be certain no leaks exist in the system and provide adequate time for comparison gages to reach equilibrium, since fluid drainage and different dynamic characteristics can affect the reading.

3. To recalibrate:

a. Remove plastic cover.

b. Remove two screws holding scale and slide scale out, using care not to damage pointer.

c. Loosen two set screws in range spring clamp, Part No. 70b and move toward the helix to increase the range and back to decrease. Secure the clamp with the set screws, replace scale, check zero and compare reading as in preceding paragraph.

d. To replace cover. Note that cover must be tight and leakproof for accurate readings on high pressure side. Observe following procedure.

1. Place cover in position with notch engaged and with "O" ring properly seated.

2. Jockey zero adjust screw into position so its hex end is inserted in the socket set screw which actuates the zero adjusting mechanism.

3. Hold cover in position and screw bezel down snug. Note that "O" ring must take some squeeze in order to effect an air tight seal.

Caution: If bezel binds due to galling action of aluminum on aluminum surfaces lubricate sparingly with light oil or molybdenum sulphate compound.

4. Trouble shooting.

a. Gage sluggish.

1. Leads may be plugged or leaking.

2. Cover may be loose or leaking.

3. Pointer may be touching scale.

4. Jewels supporting helix over tightened.

b. Gage fails to indicate zero properly.

1. See comments above regarding sluggish readings.

2. Iron particles in strong magnetic field between helix and magnet. If found, they may be removed by touching each particle and withdrawing it with a small screw driver.

3. Magnet shifted and touching helix.

c. Apparent inaccuracy.

1. See preceding comments.

2. Improper connections to pick up desired pressure differential. For example, static pressure connections also sensing velocity pressure, pitot tube improperly located, etc.

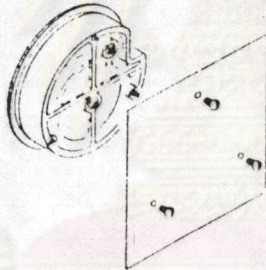
d. Consult factory for unusual conditions of temperature, pressure, etc., and the effect on gage operation and accuracy.

MAGNEHELIC® INSTALLATION

1. Select a location free from excessive vibration and where the ambient temperature will not exceed 140° F. Sensing lines may be run any necessary distance. For example, 250 foot lines will not affect accuracy but will damp the reading slightly. Do not restrict lines. If pulsating pressures or vibration cause excessive pointer oscillation, consult factory for means of providing additional damping.

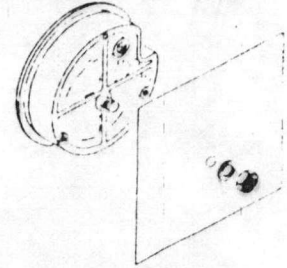
2. The gage may be mounted in any desired position, scale vertical or horizontal, without affecting its accuracy, but must be rezeroed if position should be changed from horizontal to vertical or vice versa. The model 200½, range 0-½" W.C. should be used only in the position for which it is calibrated. Standard is the vertical position and the gage is so tagged. If the gage is to be used in the horizontal position, this should be specified with the order.

3. Surface Mounting



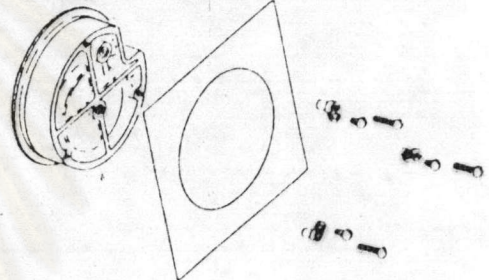
Locate mounting holes, 120° apart on a 4½" dia. circle. Use No. 6-32 machine screws of appropriate length.

4. Single Stud Surface Mounting



Locate mounting hole. Use double ended ¼" thread stud. Part No. 360-f, securely inserted in center low pressure opening. Mount through a bulkhead with washer and jam nuts as in sketch. As an alternate, mount the gage with the stud using a ¼" pipe thread flange or other ¼" pipe thread opening.

5. Flush Mounting



Provide a 4½" dia. opening in panel. Insert gage and secure in place with No. 6-32 machine screws of appropriate length, with adaptors, Part No. 360f, firmly secured in place.

6. To zero the gage after installation
Set the indicating pointer exactly on the zero mark, using the external zero adjust screw on the cover at the bottom. Note that the zero check or adjustment can only be made with the high and low pressure taps both open to atmosphere.

Important Note :

Two pairs of high and low pressure taps are provided, one pair on the side and the other on the back. Be certain the pair of openings not in use are securely sealed. When only one connection, of a pair, is used, the other must be open to atmosphere. For example: if only the high pressure, side connection is used, the low pressure, side connection, should be open to atmosphere & both back connections should be sealed. Also, the high pressure tap leads to the space inside the plastic cover. The cover must therefore be in place to have gage sense high pressure.

- For portable use or temporary installation, use ¼" pipe thread to rubber tubing adapter and connect to source of pressure with rubber or Tygon tubing.
- For permanent installation, ¼" O.D., or larger, copper or aluminum tubing is recommended. See accessory bulletin S-101 for fittings.

OPERATING INSTRUCTIONS and PARTS LIST
Magnehelic® Differential Pressure Gage

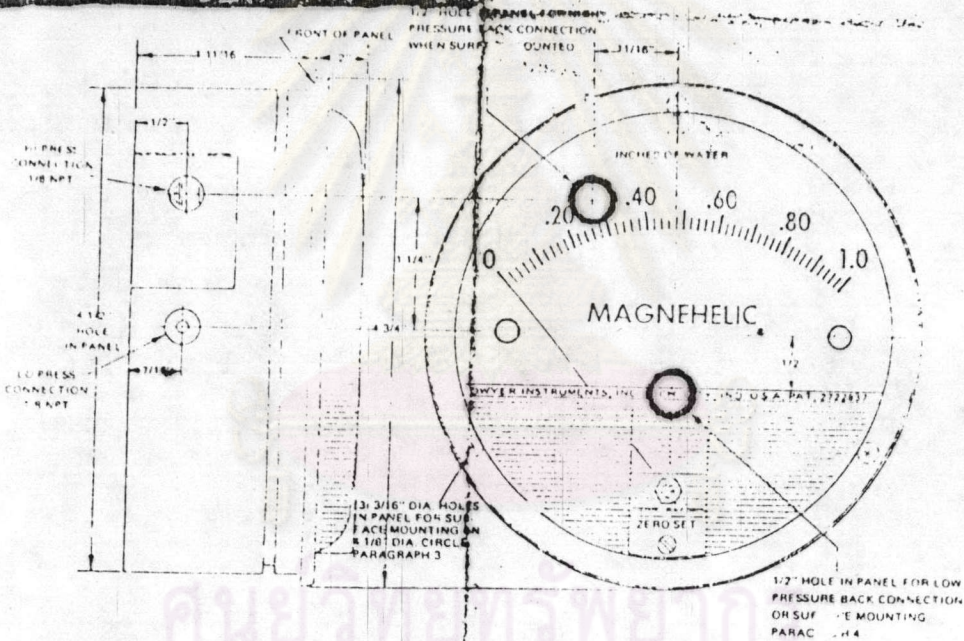


AE1105

SPECIFICATIONS

- Dimensions: 4-3/4" dia. x 2-3/16" height.
- Weight: 1 lb. 2 oz.
- Finish: Baked dark gray enamel.
- Connections: 1/8" S.P.T. High and low pressure taps, duplicated, one pair side and one pair back.
- Accuracy: Plus or minus 2% of full scale, at 70°F.
- Pressure Rating: 25 PSIG. Sustained or highly repetitive pressures, 15 PSI.
- Ambient Temperature Range: 30° to 140° F.

Standard gage accessories include two 1/8" N.P.T. plugs for duplicate pressure taps, two 1/8" pipe plugs to rubber tubing adapters, back mounting stud with two washers and jam nut and three flush mounting adapters with screws.



DWYER INSTRUMENTS, INC.
 P. O. BOX 373 • MICHIGAN CITY, INDIANA 46340 U.S.A.
 Telephone: 219/872-9141 or Chicago 312/733-7883

ประวัติผู้เขียน

นาย พัฒนา เนตรสุวรรณ เกิดวันที่ 11 สิงหาคม พ.ศ. 2505 ที่อำเภอเมืองจังหวัด
ชุมพร สำเร็จการศึกษาชั้นปริญญาตรีจากสถาบันเทคโนโลยีพระจอมเกล้าธนบุรี สาขาวิศวกรรม
เครื่องกล เมื่อปีการศึกษา พ.ศ. 2528



ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย