3DDAS[™] Data Acquisition System

Quick, Easy and Accurate 3D Duct Flow Measurement



System combines rugged hardware with sophisticated, precise, easy-to-use software



Makes duct testing easy and accurate

This custom data acquisition system has been utilized for duct and stack flow measurements for over a decade. The 3DDAS combines high accuracy instrumentation and data acquisition, rugged, field-ready construction, and our powerful, fully-featured, and easy-to-use software, 3DPROBE[™]. The system is fully compliant with EPA Methods 2 and 2F.



Powerful 3DProbe Program Ensures Accurate, Reliable Data

The 3DDAS uses program 3DPROBE to more accurately and efficiently perform 3D duct flow measurements. The program includes complete test configuration information, data recording and reduction, report generation, and error checking.



Main Menu Provides Easy. Intuitive Navigation Through Each Screen

- The 3DPROBE program guides the user through a test in an intuitive, step-by-step approach.
- All the screens in the program are only one step removed from the Main Menu.
- Results can be saved to Excel® and exported to EDR for EPA compliance testing.

The Power Company - Springfield Generating Station

Use Remote Control

☑ Use Remote Display

Port Spacings [in]

6 70

75

Remote Display Backlight

Accept Bad Transducer Zero

Test from Last Port to First

Don't Warn Me if I Skip a Point

Assume Equal Area Port Spacing

Use Decimal Withdrawal Distances

Withdrawal Distances in Centimeters

[IHg@32F

Dry Gas Mol. Wt., Md [g/mol

28.967

March 27, 200

DONE

0.0

Display Damping [s] 1

SAVE

Probe Used 3D012 (3D)

Cal. Date

LOAD

Site

Task

ersonnel mmf, brd

Location Condition MCR

Unit 1 ID Fan Test

A Fan South Inlet

Project Code SGSU1

48

Test Number

Rectangular

Duct Depth, Insertion-Wise (in)

Duct Width, Port-Wise [in] 96

Number of Test Ports

Number of Traverse Points per Port

Averaging Period Isl

Easily Perform and Document Leak Checks

· Leak checks are performed in full compliance with EPA Methods 2 and 2F specifications.



Prism Head Probe

3D Duct Flow Test	System - Wedr	nesday, February 27,	2008 - 10:54:19 PM		
ATM Press	29.52 IHg	@ 32 F	Continuous Display Enabled	UNDO LAST Reading	į
Probe WD	0 3/	4		Ready .	
P2-P3/Null		447	MAIN MENU	REAL TIME	
Press (IWC)	-0.	11/	PREVIOUS PORT	€ B3 <u>P</u> REVIOUS POINT	
			1	=)=	ì
Probe Yaw Misalign. [deg]		2.9	P1-P2 / Velocity Press [IWC]	0.396	
Rsio (deg) -1	.3		P4-P5/Pitch Press [IWC]	-0.078	
	P2-P3/Null Press [IWC]	0.019	P1.Pbar/Total Press [IWC]	-0.13	
	Yaw Angle [deg]	24.3	Temperature [F]	767.9	

Set Up Screen Allows You to Choose Unique Specs for Each Test

- Duct Shape
- Duct Depth
- Duct Width
- Number of Ports
- Number of Traverse Points
- Probe Used
- Test Description
- 1D Probes (Pitot, S Type, Dirty Air)
- 2D Probe (S Type Rotated)
- 3D Probes (Prism, Spherical)

Flow Test System Leak Check				
Time 15 seconds eck Standards: Max loss of 0.1 KWC at 10 KWC over 15 s fethod 2 - Max loss of 0.1 KWC at 3 KWC ov	Start Pressure [NVC] Decay Time [s] Decay Rate [NVC/(15s)] rer 15 s	Min. 0.00 15.0	M9x. 50.00 50.0 START LEAK 0.10 CHECK	
P1-Pbar	13.46 [IWC]			
Start Pressure	13.41 [IWC]		Passed	
End Pressure	13.43 [IWC]			
DP	-0.02 [IWC]			
st Check: Wednesday, February 27, 2008 10:31 pm				
Save leak check results in Excel t	est report			
s:			<u>M</u> AIN MENU	



Test Screen Takes You Through the Test Point-by-Point, Port-by-Port

- Real time and time-averaged results are displayed along with fully reduced data for the selected probe.
- Automatic generation of fullyformatted Excel test report at the end of each test.

www.airflowsciencesequipment.com







SPECIFICATIONS

Software		
Operating System	Windows®	
User Interface	Keyboard, Touchscreen, Three Button RF Remote Controls (2)	
Test Programs	3DPROBE Program, MS Excel	
Documentation	3DDAS and 3DPROBE Users Manual	

Hardware		
Dimensions	11.0" H x 17.5" W x 16.5" D (with optional computer)	
Weight	22 Pounds (with optional computer)	
Housing	Heavy duty polypropylene copolymer with O-ring sealed latched cover	
Electrical Supply	120 VAC / 2A	
Environment	25°F to 135°F	

Instrumentation		
Primary Air Temperature	Type K-Thermocouple, 32°F to 1000°F, Accuracy +/- 2°F	
Velocity DP	0-5 IWC, Accuracy +/-0.25% FS	
Yaw Angle DP	+/- 2.5 IWC, Accuracy +/-1.0% FS	
Pitch Angle DP	+/- 2.5 IWC, Accuracy +/-0.25% FS	
Static Pressure	User-Specified Range, from +/- 5 IWC to +/- 100 IWC, Accuracy +/-0.25% FS	
Data Acquisition System	16 Bit USB Based, 500V Electrical Isolation	

Note: All pressure transducers supplied with NIST traceable calibration.

Information		
Support	10 hours telephone technical support	
Warranty	One (1) Year Parts & Labor on DAS hardware and software. Manufacturer's warranty on computer hardware and non-ASE software.	
Delivery	2-6 weeks, depending on options	

OPTIONAL EQUIPMENT







Tripod mount

Remote display

12190 Hubbard Street Livonia, MI 48150 (734) 525-0300 www.airflowsciencesequipment.com

Probes (3D, S-type)

Yaw angle encoder

Airflow Sciences Equipment