

APPLICATION NOTE

Energy Provider – Dam Head Creek Power Station

AVERAGING PITOT TUBES - FROM SYSTEC

BACKGROUND:

The power station is a combined cycle gas turbine CCGT generating 793 MW. It is a highly efficient generator of electricity and supplies enough electricity for approx 800,000 people.

THE PROBLEM:

The station was required by the Environment Agency to monitor the volume of gas emissions being discharged to atmosphere via the stacks. There are two stacks of 6.2m diameter and 75 meters in height. The problem for flow measurement is to ensure that there is enough straight length of pipe before and after the measurement point to obtain a reliable accurate and repeatable measurement.

FLOWLINE'S METERING SOLUTION:

The DF50 Averaging Pitot Tube from Systec has been designed for extremely large ducts and stack applications where local variations in velocity can be averaged to give an accurate over all flow in a duct or large stack. The sensor was installed by the user and a dp cell added to give the flow. Full mass correction was later added using a MVT to provide normalized flow rate and total.

EQUIPMENT DESCRIPTION:

The Systec range of DF8, DF10, DF25 DF44 and DF50 range of sensors are available for very small pipes to very large stacks up to a maximum size of 10m. They can be used for high pressure steam and can be supplied as a fully hot tap system. Full mass correction can be supplied with integral or separate Temperature and Pressure Sensors, and the correction can be supplied by the Systec Flowcom that comes with many data tables preprogrammed in the unit and it includes the GERG88 Natural Gas Calculation. The DF range of sensors are suitable for liquids gasses and steam, and a range of dirty flows such as pulverized coal feeding coal fired power stations. The ports are of an over sized design so that blockage does not occur and condensate will not form in the impulse lines causing false dp readings. Multi Variable transmitters are also available on request.

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SPECIALISTS IN FLOW MEASUREMENT

Further Information



For Further information on the Systec DF25 Deltaflow range of sensors contact Flowline on 020 8207 6565

www.flowline.co.uk; sales@flowline.co.uk

EQUIPMENT DESCRIPTION:



EQUIPMENT SPECIFICATION:

Differential Pressure Primary Element:-
Systec DF50, 6200 mm ID with end support, over sized dp ports, MVT measuring dp, static pressure, temperature and giving a 4-20mA output for mass corrected flow.

Tested by the TUV (German Technical Inspection Authority) for compliance with the 13th and 17th Federal Emission Control Ordinance.