



## Application notes V-cone flowmeter

Date: 94.05.24  
Ref: 94-23160/1028

**Application:** Hot air measurement in square ducts without  
strait pipe runs in or out of the meter

**Customer:** Shell Refinery, Gothenburg Sweden

### THE PROBLEM

Shell Refinery had the need to measure hot air in **2** locations with a low **pressure drop**. The problem was that the hot air was blown through square ducts with a dimension of 1400 x 502 mm and 1200 x 451 mm. There were was a split off from a larger duct in two legs and where the flowmeter was to be placed there was litterly **no strait pipe runs**. **The total strait section available was 1800 mm**; for all ducts the same.

Since Shell needed the flow information for enviromental reasons it was important to find a quick solution to the problem.

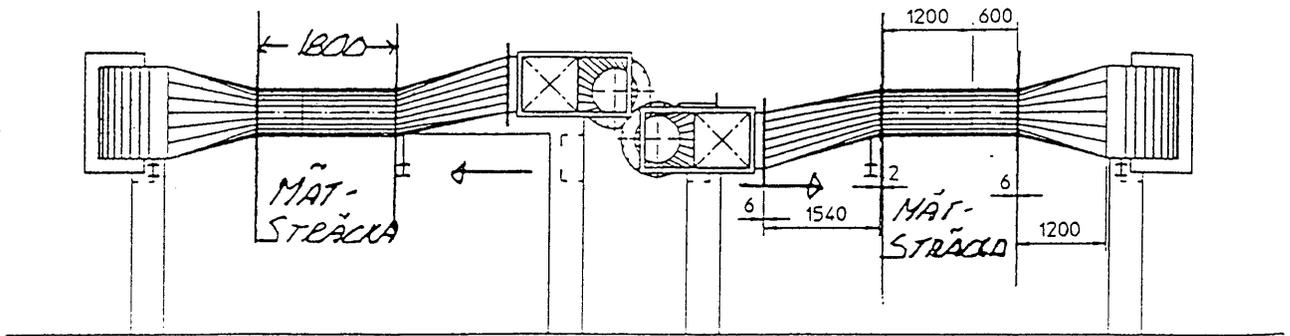
### THE SOLUTION

Since a V-cone for square ducts is not available Ansko as the V-cone rep in Sweden thought to resolve the problem with thermal mass insertion flowmeters with multipoint sensors . Two meters were to be used. Due to information given by the manufacturer of the thermal mass meters a guarantee for good accuracy could not be stated and in addition to this the price was unacceptable to the customer,

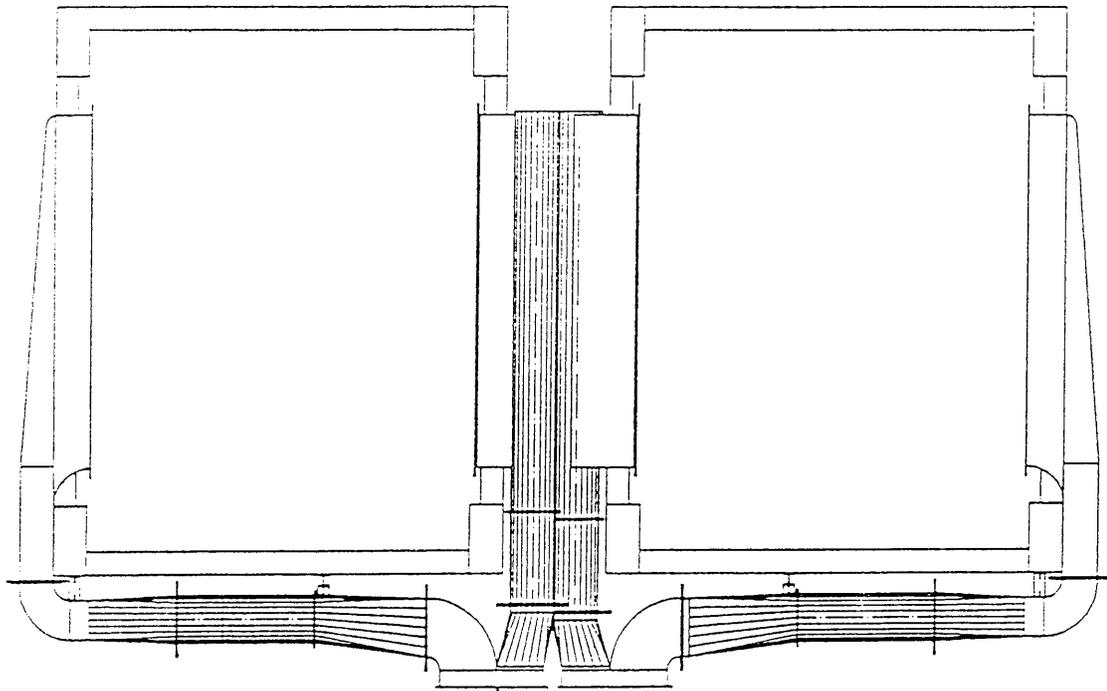
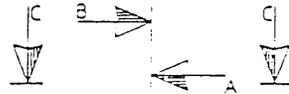
With the experience from a great many V-cone installations without strait pipe runs Ansko got the idea to cut the square duct and make a passover to a standard V-cone inline flowmeter. The McCrometer company was contacted for the application and with their immediate positive response to the application Shell was quoted 4 V-cones 600 mm in diameter. Shell reacted positively but informed that **they needed all 4 meters within 4 weeks** due to their production stop.

McCrometer shipped the meters within 3 weeks including transportation and the meters were fitted immediately since customer had already made provision for the passover with cones from the square ducts to the piped V-cones.

*ANSKO never heard back from the customer so after a month or two we contacted Shell Refinery and they confirmed that all V-cones performed excellently and to their total satisfaction.*



SKALA 1:50



SKALA 1:50

