

V-Cone Application Guide

Industry: Metals & Mining

Process: A steel mill producing rolled sheet stock.

Application: Measure dirty Coke-Oven Gas in a continuous production facility.

Measurement Challenge/Difficulty: Flow monitoring of coke-oven gas is difficult due to solids build up on the inside of piping and other process line components. The heavy accumulation often rendered venturi or orifice plate flowmeters incapable of accurate flow measurement. The pressure-sensing ports would become plugged making measurement impossible. These meters had to be changed or cleaned at least every month.

Previous Method: The customer was using venturi, orifice and segmental orifice flowmeters.

Solution: A 150 mm V-Cone was installed for one month and then inspected by the customer. The meter was clean and had no obvious wear on the cone. The same unit was reinstalled for an additional two months before its next reinspection. Again, the unit was in excellent condition. The customer stated that "the V-Cone performed much better than we had expected and no sign of wear on the cone has been found although our gas is heavily contaminated". The V-Cone solved the build-up problem and the subsequent beta ratio change. This is accomplished because of the way the V-Cone interacts with and re-profiles the flow to create an optimum flow profile.

Date Installed: March 24, 1989

System Diagram: See back

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Additional Comments: None.

Literature No.

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Industry:

Metal Mills

Niche Market:

N/A

Process:

Coke Production
for Rolling Mill

Product:

Steel Sheet

Fluid:

Coke Oven Gas

Viscosity:

1.2000E-02 CP,
4.4000-01 Sp.G.

Flow Rate:

80 - 743 scm/h

Pressure:

.08 - .105 bar g

Temperature:

35 - 60 degrees C

Size:

150 mm

Date:

March 24, 1989

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