



## Applications:

- Measurement and monitoring for Natural gas transmission systems
- Control during steel production for Blast furnace and Coke oven gas
- Monitoring and control of flare gases in petrochemical/refineries
- Control of LPG/Air gas plants

Three 4-20mA outputs are supplied:

Heating value  
Specific gravity  
Wobbe index

Four additional 4-20 mA outputs signals are available as an option.

## Description

The CWD 2005 is a high speed process gas analyser for monitoring and control of Calorific value, Wobbe Index and Specific gravity and as an option, the Air/Fuel ratio of process gas.

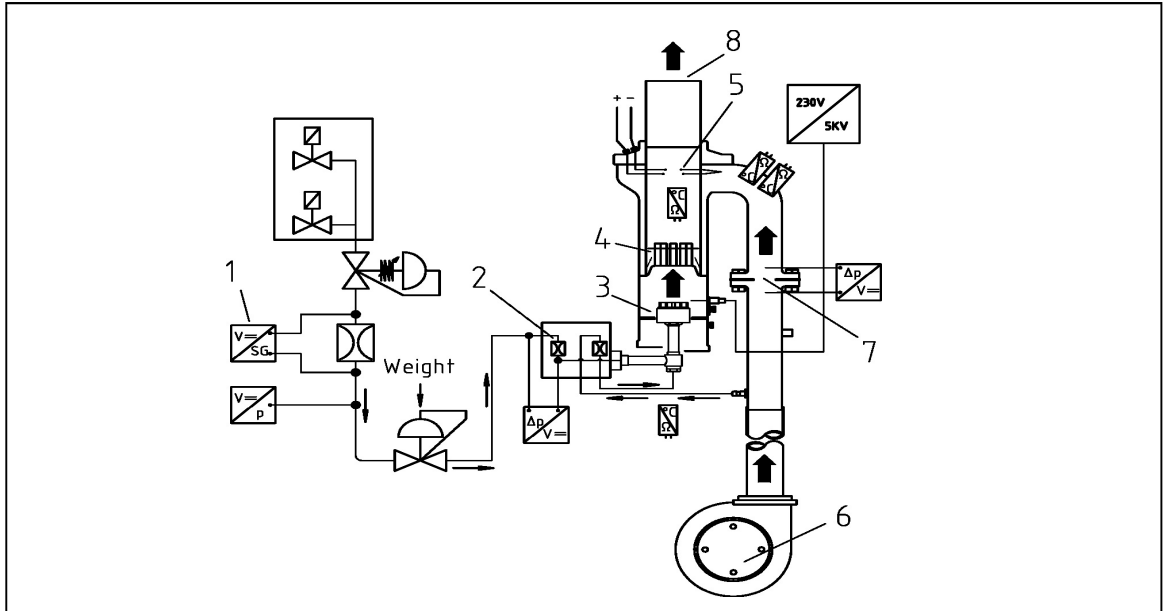
Gas is first passed through an ultrasonic measuring cell to analyse the specific gravity and then the continuous process gas sample is burned under controlled conditions in the combustion chamber. The computer calculates the heating value online from these measurements.

Ambient temperature changes are fully compensated in the instrument and changes of  $\pm 7^{\circ}\text{C}$  do not influence the measurement accuracy.

A complete self diagnostic software program with automatic calibration is provided with time based process trend logging and an event recorder.

For wide range process gas applications an automatic dual range option extends the measuring range of the instrument from 40-100% to 10-100%.

A response time of 7 seconds to 50% of the process gas step change is achieved when using natural gas.



- |                            |                  |            |
|----------------------------|------------------|------------|
| 1. Specific gravity sensor | 2. Wobbe jet     | 3. Burner  |
| 4. Heat exchanger          | 5. Thermopile    | 6. Air Fan |
| 7. Cooling air orifice     | 8. Flue gas exit |            |

## Technical Data

### Dimensions, weight

Dimensions: 750x1220x320mm

Weight: 53.5 kg

### Measuring ranges

Range 40-100%

Dual range 10-100%

example 1 700-1750 kcal/Nm<sup>3</sup>

example 2 2500- 25000 kcal/Nm<sup>3</sup>

Carrier gas support option for gases with very low BTU values

Dual gas stream measurement option

### Outputs - analogue

Calorific value, Wobbe, Specific gravity

4-20 mA with max load of 600 Ω, isolated

Option for 4 additional outputs 4-20 mA

### Outputs - digital

RS 232

8 x programmable relay contacts

### Inputs - digital

3 configurable remote input contacts

### Accuracy

Measured using Natural gas:

C.V., Wobbe : ± 0.5% full scale

S.G. : ± 0.5% full scale

Linearity : ± 0,2%

Repeatability : ± 0,5%

Zero drift : ± 0.2% per month

### Ambient temperatures

Min 5°C Max 40°C

±7°C change per hour

### Power supply

230/115 V 50/60Hz at 450 VA

### Gas connections

Inlet pressure: 25 mbar

Connection : 6 mm Gyrolok  
1/4" NPT optional

Gas flow rate: 12-200 l/h  
depending on gas type

### Response time

Calculated from point the process gas enters the instrument - using Nat. gas

50 % time : 7 sec

90 % time : 20 sec

99% time : 45 sec

### Process computer

- Pentium 120
- 32 MB Compact flash
- VGA colour display
- USB support
- Data export to MS Excel
- Languages: English, German or Chinese
- Trends for 10 days and event recorder for 1000 operations