

## GAS MIXING STATIONS

### Task

For energy efficiency and environmental protection reasons, the iron and steel industry is increasingly using internally-produced process gases as combustion gas for thermal processes within the plant (e.g., for hot rolling) instead of flaring them. The unavoidable fluctuations of energy content in process gases are compensated for in mixing stations where natural gas is added in a precise amount determined by measurement.

### Solution

Both calorimeters and gas analyzers are used for determining the controlled variable for the mixing station. UNION Instruments uses the modular **CWD2005 / 2005 PLUS** (calorimeter) and **INCA (multi-gasanalyzers)** devices for this and even combines the two devices into a single system in highly-optimized cases. To take into account the effect of line dimensions, which is relevant to gas mixing operations, UNION Instruments has developed an adaptable measured value computer model based on time-delay elements.

### User Benefit

By reliably conditioning the process gases produced in each case based on a defined composition using mixing stations, process gases can also be used as combustion gases for exacting thermal processes, for example, with explicitly defined excess air. This has major financial benefits while simultaneously assuring quality for thermally treated workpieces or products.

