

Cylinder Packing Diagnostic

Benefits

- Increased production
- Higher efficiency**
- Compliance with environmental regulations
- Availability and Reliability**
- Life extension

Customer benefits include:

- Monitoring cylinder packing condition
- Evaluating the expected seal elements residual life
- Provision of alarm/trip signals for predicting maintenance
- Recording historical data and trends



What it is

The monitoring system, as shown in *Figure 1*, consists of a data acquisition system directly connected to the gas recovery lines, and a PC-based control unit to manage the system, analyze the measured field data and to communicate with the customer's DCS. The objective is to determine the flow of gas leakage from the packing of each individual cylinder to monitor the health of this critical component.

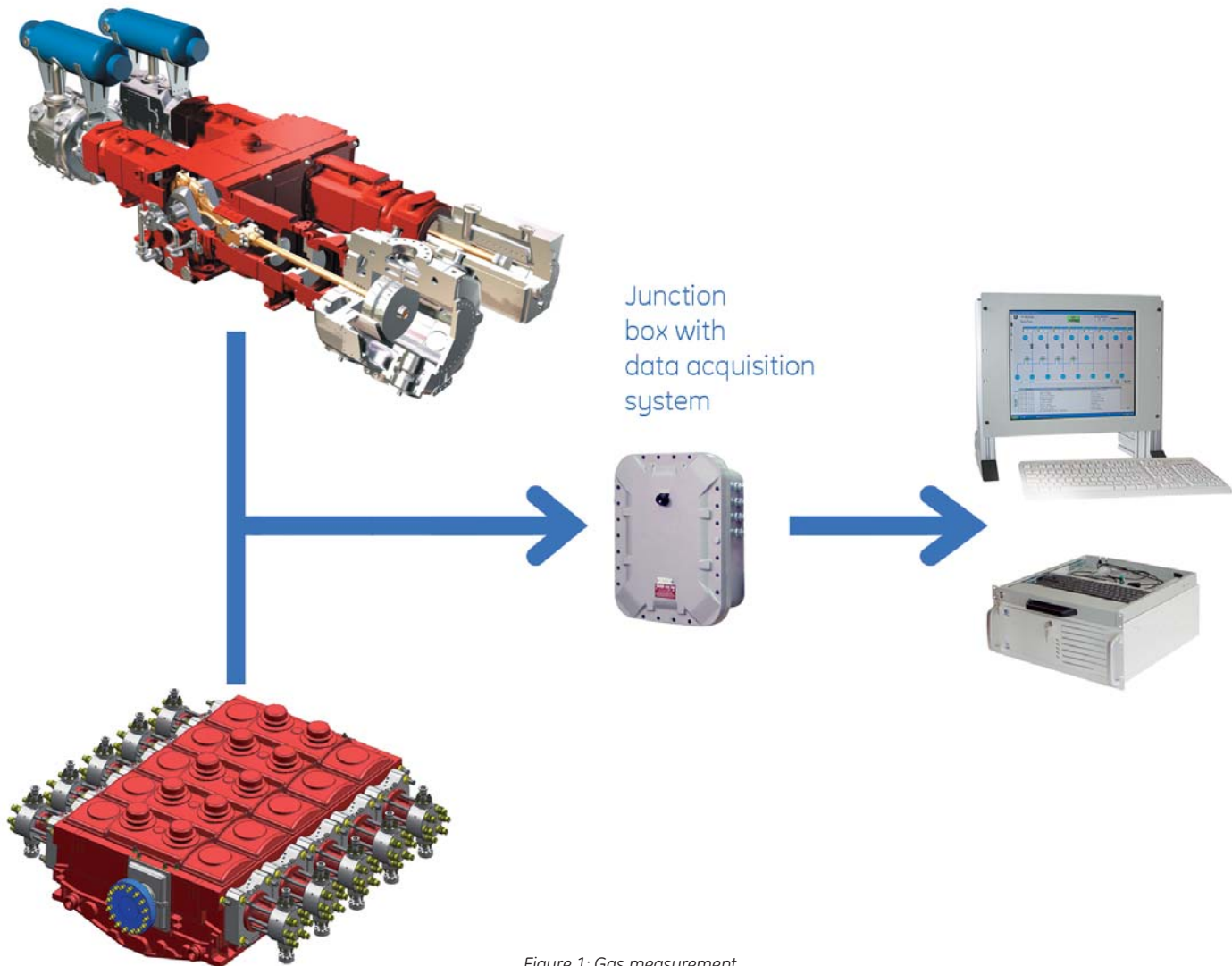


Figure 1: Gas measurement

How it works

The data acquisition system is equipped with a calibrated orifice for each cylinder and with a differential pressure transmitter common to all recovery lines, as shown in *Figure 2*.

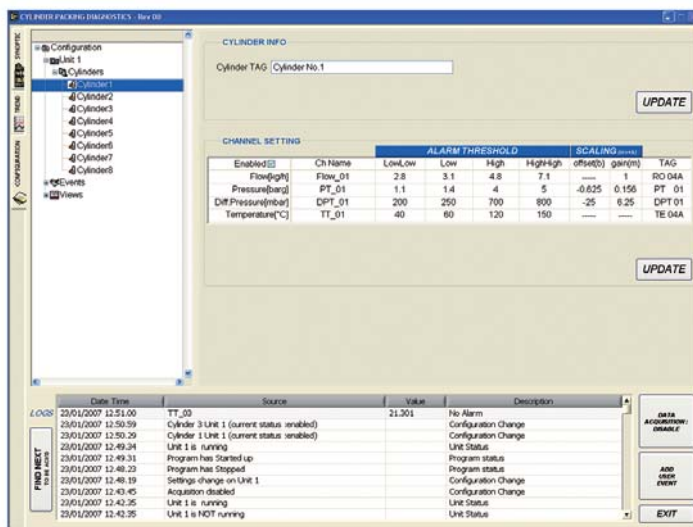
By periodically actuating solenoid valves each recovery line can be connected to the differential pressure transmitter to measure the leakage gas flowing through

the calibrated orifice.

Through the interpretation of other readings including differential pressure, relative pressure and gas temperature, dedicated software calculates the mass flow of the gas leaking from each cylinder.

The dedicated software installed in the control panel provides the following capabilities and output:

- Computing and display of gas leakage and temperature for each packing
- Provision of alarm/trip signals
- Storing of data in a history file (including "Special Events" selected by the customer)
- Interpretation of field readings
- Transmission of the recorded data to GE Oil & Gas to assist the Customer in the diagnosis of problems
- Cost of gas leakage for each packing and/or total (optional)
- Evaluation of expected seal element residual life (through analysis of the stored historical data)



How it works

Scope of Supply

The typical scope of supply consists of the following items:

- 1 flow measuring element (flanges with orifice)
- 1 differential pressure indicator
- 1 pressure transmitter
- 1 temperature transmitter for each compressor cylinder
- 1 solenoid valves for each compressor cylinder + 1 common
- Tubing, valves and associated fittings
- Junction box with data acquisition system
- 1 gauge board with above instruments, valves and junction box
- 1 PC, modem and diagnostic software (for installation in safe area)
- RS485 cable between field junction box and PC

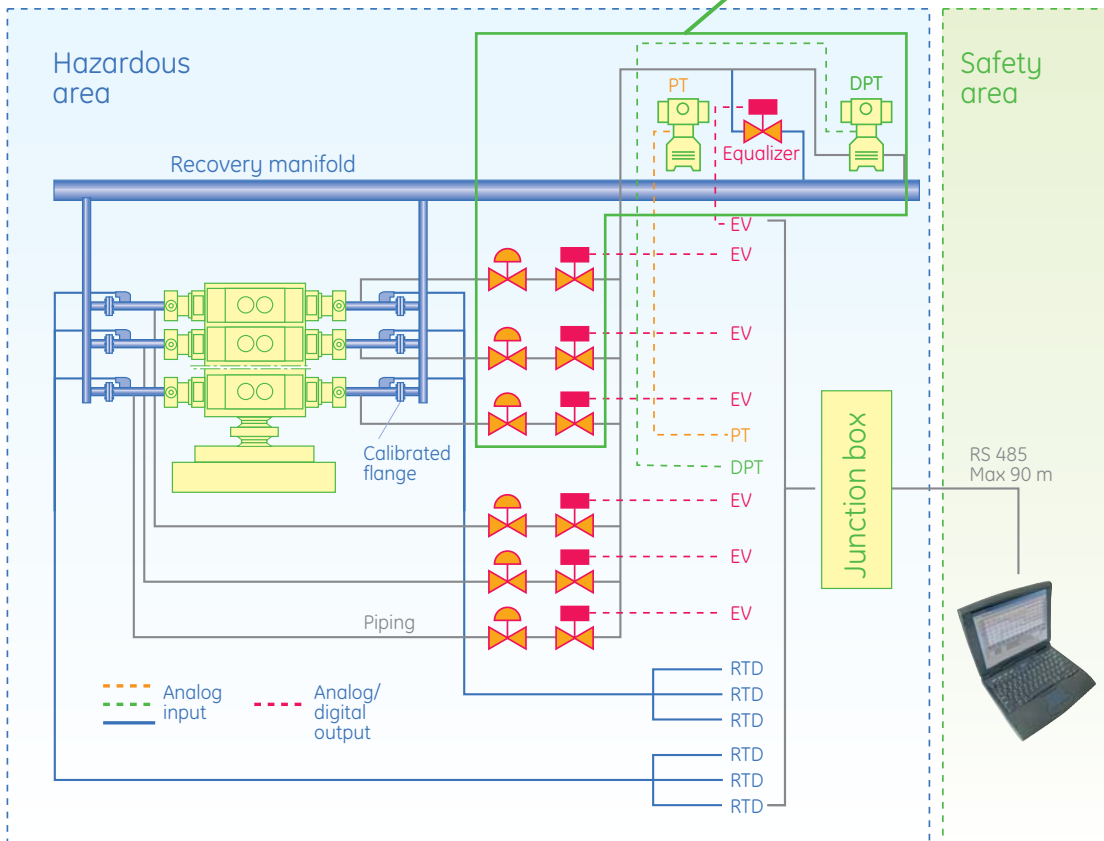
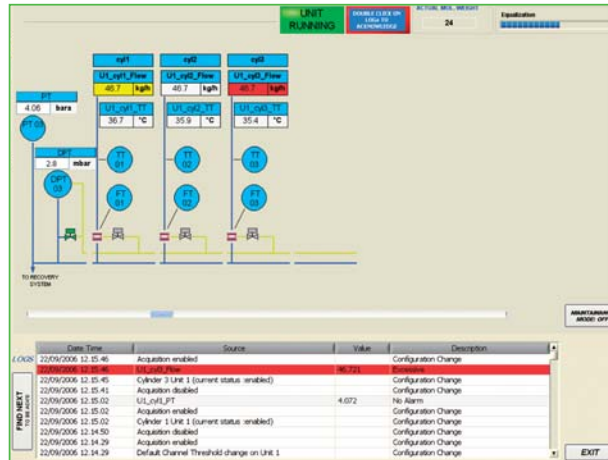


Figure 2: Typical data acquisition system and control unit



GE imagination at work