

JIACH GAS-PRO Ex SYSTEM

Advanced Gas Detection & Monitoring for Oil & Gas Drilling Operations

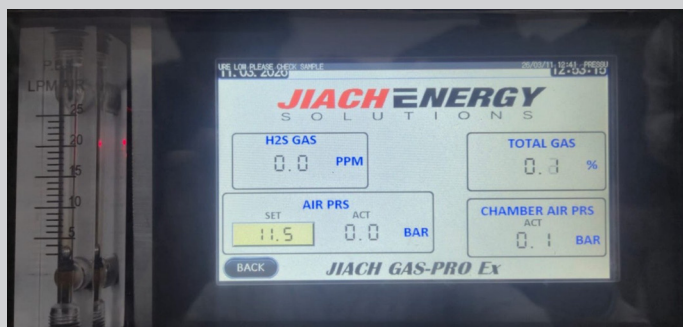
Real-Time Hydrocarbon Detection | Drilling Safety | Mud Logging Integration

The **JIACH GAS-PRO Ex System**, developed by **Jiach Energy Solutions Private Limited, India**, is an advanced **infrared-based gas detection and monitoring system** engineered specifically for **oil and gas drilling rigs and mud logging units**.

Designed using a **PLC-based control architecture**, the system integrates **precision EPC flow control, gas sampling, gas separation, and advanced detection technologies** to provide accurate real-time monitoring of gases released from the wellbore during drilling operations.

The system is controlled through a **10-inch colour touch screen HMI**, allowing operators to monitor **real-time gas concentrations, system parameters, set values, and actual operating values** for safe and efficient drilling operations.

The **JIACH GAS-PRO Ex System (GasWatch / Gas Chromatography)** is an essential component of the **Mud Logging and Safety Monitoring System** used on drilling rigs.



Key Capabilities

Total Hydrocarbon Detection (THC)

- Measures **hydrocarbon gas concentration up to 100% volume in air**
- Provides early detection of hydrocarbon influx during drilling

Hydrogen Sulfide Detection (H₂S)

- Detects **toxic H₂S gas**, a major hazard in drilling operations
- Gas extracted and analysed from drilling mud using a **Gas Trap Unit**

Hydrocarbon Gas Composition (C1–C5)

Real-time C1–C5 analysis assists mud loggers and drilling engineers in formation evaluation and well monitoring.

Sensors & Detection Technology

H₂S Sensor

- Detection Range: **0 – 100 ppm**
- **Digital display**
- **Non-intrusive catalytic sensor**
- **Automatic calibration**

Total Gas Sensor

- Detection Range: **0 – 100% Volume in Air**

- **Infrared sensor technology**
- **Non-intrusive design**

Detector Technologies

- **FID – Flame Ionization Detector**
Highly sensitive hydrocarbon detection.
- **TCD – Thermal Conductivity Detector**
Detects a wide range of gases.
- **ECD – Electron Capture Detector**
Used for detection of halogen compounds.

System Certifications

The system is designed to meet **international hazardous area standards**.

Sensors

ATEX Class 1

Purge System

ATEX Zone 1 / Zone 2

Control Panel

ATEX Zone 1 Certified

Ingress Protection

IP66

Panel Certification

Class 1 Div 2 Group C & D – PESO Certified

Key Features

- Cost-effective solution customized for drilling operations
- Modern **digital PLC architecture**
- **Patented infrared spectrometry technology**
- **Fast C1–C5 gas data processing** with real-time ratio calculations
- Easy installation and fast start-up
- Integrated **safety and security protection systems**
- Supports **Total Gas monitoring or full C1-C5 gas composition**