Schlumberger

Diligens SEP

Mobile production testing unit

APPLICATIONS

- Land production testing
- Appraisal and development well testing
- Cleanout and flowback operations
- Reservoir performance optimization
- Extended well testing

BENEFITS

- Meets specific production testing needs with fit-for-purpose and modular design
- Improves speed and ease of transit from well to well with trailer-mounted mobility
- Delivers reliable shut-in controlled by an emergency shutdown (ESD) system and surface safety valve
- Operates continuously in harsh environments
- Improves operational efficiency with rapid rig-up and rig-down
- Eliminates need for crane on site
- Separates flow into three phases (gas, oil, and water) for effective disposal and storage

FEATURES

- Fail-safe remote activation and automatic well closure in case of abnormal flowing conditions
- Inline pressure safety valve in the event of separator bypass
- Postmeasurement effluents commingling for flow recombination to production pipeline
- Three-phase separator with automatic level and pressure control
- Orifice meter for gas rate measurement; turbine meters for liquid measurement
- Wide range of capacity and flow rates
- Compliant to applicable industry standards (API, ASME, and NACE International)

The Diligens SEP* mobile production testing unit combines robust technologies with experienced personnel to provide dedicated well testing that is readily customized to fit your project needs. Fitted on a trailer, the unit's compact and modular design enables fast rig-up without needing an onsite crane. With the highest-quality Schlumberger technologies and services suited specifically for your operation the unit efficiently optimizes flowback and production testing operations while reducing operating costs. Multiple wells can be tested per day to deliver an accurate production profile.

The unit is compliant to applicable industry standards for safety and data accuracy to serve any phase of surface well testing operations. It operates continuously and reliably in various environments.

During the well cleanout phase the Diligens SEP unit receives and handles returns to efficiently support workover operations. As part of measurement operations, the unit delivers high-quality flow data to enable accurate production profile and forecast building.

The Diligens SEP unit comprises a surface safety valve, choke manifold, ESD system, and separator. The inlet is connected directly to the wellhead, while the outlets can be recombined to flow back to production, or the separated fluids can be treated, stored, or disposed individually. High-quality separation is achieved with optimized vessel internals.

To improve data quality and process monitoring during operation the unit can be equipped with the DigiSWAN* surface wireless acquisition network.

With three-phase separation capabilities and highly effective safety and well control technologies the Diligens SEP unit enhances efficiency at any wellsite.

Diligens SEP

Specifications		
Model	**PTSH (High-Rate Separator)**	**PTSL (Low-Rate Separator)**
Service	H_2S	H_2S
Working pressure, psi [mPa]	10,000 [69]	10,000 [69]
Operating temperature, degF [degC]	32 to 250 [0 to 212] for high-pressure section 32 to 212 [0 to 100] for low-pressure section	32 to 250 [0 to 212] for high-pressure section 32 to 212 [0 to 100] for low-pressure section
Nominal diameter of subsurface safety valve and choke manifold, in	3⅛	2⅛
Separator pressure, psi [kPa] at degF [degC]	1,440 [9,930] at 100 [37.8] 1,305 [9,032] at 212 [100]	1,440 [9,930] at 100 [37.8] 1,305 [9,032] at 212 [100]
Vessel size (horizontal), in × ft [cm × m]	42 × 10 [106 × 3.05]	26 × 6 [66 × 1.83]
Maximum gas flow rate		
Low-liquid level, MMcf/d [m^3/d]	60 [1.69 million]	15 [0.4 million]
High-liquid level, MMcf/d [m^3/d]	40 [1.13 million]	6.3 [0.2 million]
Maximum liquid (oil and water) flow rate at 1-min retention		
Low-liquid level, bbl/d [m^3/d]	8,000 [1,271]	1,405 [223]
High-liquid level, bbl/d [m^3/d]	14,000 [2,225]	3,100 [493]
Minimum gas flow rate, MMcf/d [m^3/d]	0.05 [1,416]	0.15 [4,248]
Minimum liquid flow rate, bbl/d [m^3/d]	170 [27]	75 [11.9]
Liquid meters, in	Turbines: 1 × 2 and 2 × 3	Turbines: ½ × 2 and 1 × 2
Gas meters, in	Orifice: 2 and 6	Orifice: 3
Skid dimensions (L × W × H), ft [m]	30 × 8 × 9.8 [9.1 × 2.4 × 2.9]	20 × 8 × 8.5 [6.1 × 2.4 × 2.6]
Maximum gross weight, lbm [kg]	49,604 [22,500]	22,046 [10,000]
Connections		
Effluent inlet	3-in Fig 1502 female	2-in Fig 1502 female
Gas outlet	3-in Fig 602 male	2-in Fig 1502 male
Oil outlet	3-in Fig 602 male	2-in Fig 1502 male
Water outlet	3-in Fig 602 male	2-in Fig 1502 male
PSV outlet	4-in Fig 602 male	3-in Fig 602 male
Applied codes	High pressure: API Spec 6A H_2S: NACE MR0175 Vessel: ASME VIII, Division 1 Surface safety system: API RP 14C	High pressure: API Spec 6A H_2S: NACE MR0175 Vessel: ASME VIII, Division 1 Surface safety system: API RP 14C

slb.com/MobileTest

Schlumberger