



SAND MONITORING HIGH RESOLUTION INTRUSIVE

SMS provides sand monitoring using best in class, field proven technology. After extensive testing of intrusive monitoring systems we identified the instrumentation to give our clients the edge they require.



Technical Benefits

- Highest resolution available on market
- 256 times greater sensitivity than standard ER sand monitoring systems
- Flexible serial interface options based on Modbus and OPC
- Logging probe metal loss every minute
- Excellent temperature compensation feature
- Unique 'plug and play' probe connector system ensures highly accurate probe readings

Operation Benefits

- Reduced risk over 'standard' intrusive market offerings
- Increased reliability
- Significant cost saving
- Increased safety through pressure bearing cap assembly for double block & bleed seal system
- Online retrieval for probe replacement



Service Applications

- Well Testing
- Frac Operations
- UBD Operations
- Process Systems
- Integrity Management

For Well Service applications SMS supply as standard 4 "elbow spools c/w 3" 1502 hammer unions & access fitting rated to 414 Bar (6000PSI). Spools can be custom fabricated to client specifications as required. For high pressure environments a 689Bar (10,000PSI) rated intrusive probe can be supplied.

SMS combination of unparalleled sand services field experience combined with our leading edge intrusive sand detection system offers the best intrusive sand monitoring package on today's market.





SPECIFICATIONS

Functional Characteristics

Output: Metal Loss: μm , mm, mils
Erosion Rate: $\mu\text{m}/\text{yr}$, mm/yr, mils/yr

Sand Probe

Model: S4700 Angle Head (Standard*)
Classification: NACE standard MR0175
Installation: Installed in flow line / spool assembly through access fitting
Probe Material: 316L Stainless steel body c/w PPS (Polyphenylene Sulphide)
Thermoplastic potting compound
Probe Element: F20 Hasteloy element (254 μm / 20 mil thickness) (Standard*)
Max. Temp Rating: 260C / 500F
Max. Pressure Rating: 689Bar / 10000PSI (for high pressure version)
*Probe options can be specified on client request

Transmitter Unit

Transmitter: Model ST-9485A
Voltage: 24 VDC
Current Consumption: 17mA @ 24 VDC
Ex Classification: EEx d IIC T6
Location: Hazardous Area, Zone 1 or 2
ATEX Classification: DEMKO 03 ATEX 0215219
Ambient Temp. Range: -40C to +70C (-40F to 158F)
Weight: 1.6kg (3.5lbs)
Dimensions: 115mm (4.5") Diameter X 108mm (4.25") High
Ingress Protection: IP 66
Installation: Direct to probe through connector assembly
Resolution: 18 Bit/256 times higher than standard ER probes

Field Cables

Cable Type: Individually screened two pair cable 16 – 22 SWG wire dependent on cable length

Portable Interface Unit

IIU: 19" rack assembly c/w Intelligent Interface Unit – embedded pc, power supply, repeaters and converters for two channel multi-drop acquisition. Provides data and configuration parameter storage and back up. Data can be uploaded via LAN, USB, serial and modem connections. Each channel is capable of monitoring up to thirty two (32) locations simultaneously through proprietary software. Two channels provided for system redundancy

MK9300: Armour case data acquisition system for rugged applications. MK 9300 system c/w power, repeaters and converters for two channel multi-drop acquisition. Supplied laptop runs proprietary software for real time erosion monitoring. Two channels supplied for system redundancy

Voltage: Input 110 VAC – 240VAC
Output 24 VDC

Weight: IIU 12kg
MK9300 15kg

Dimensions: IIU 48cm (19") x 46cm (18") x 18cm (7")
MK9300 49cm (19.5") x 39cm (15.5") x 19 cm (7.5")

Communication: RS 485 two wire, 2400 Baud Rate, 8 data bits, 1 stop bit, no parity
Proprietary serial communication protocol based on Modbus RTU and OPC Server/Client

Addresses: 0-31 per communication link

