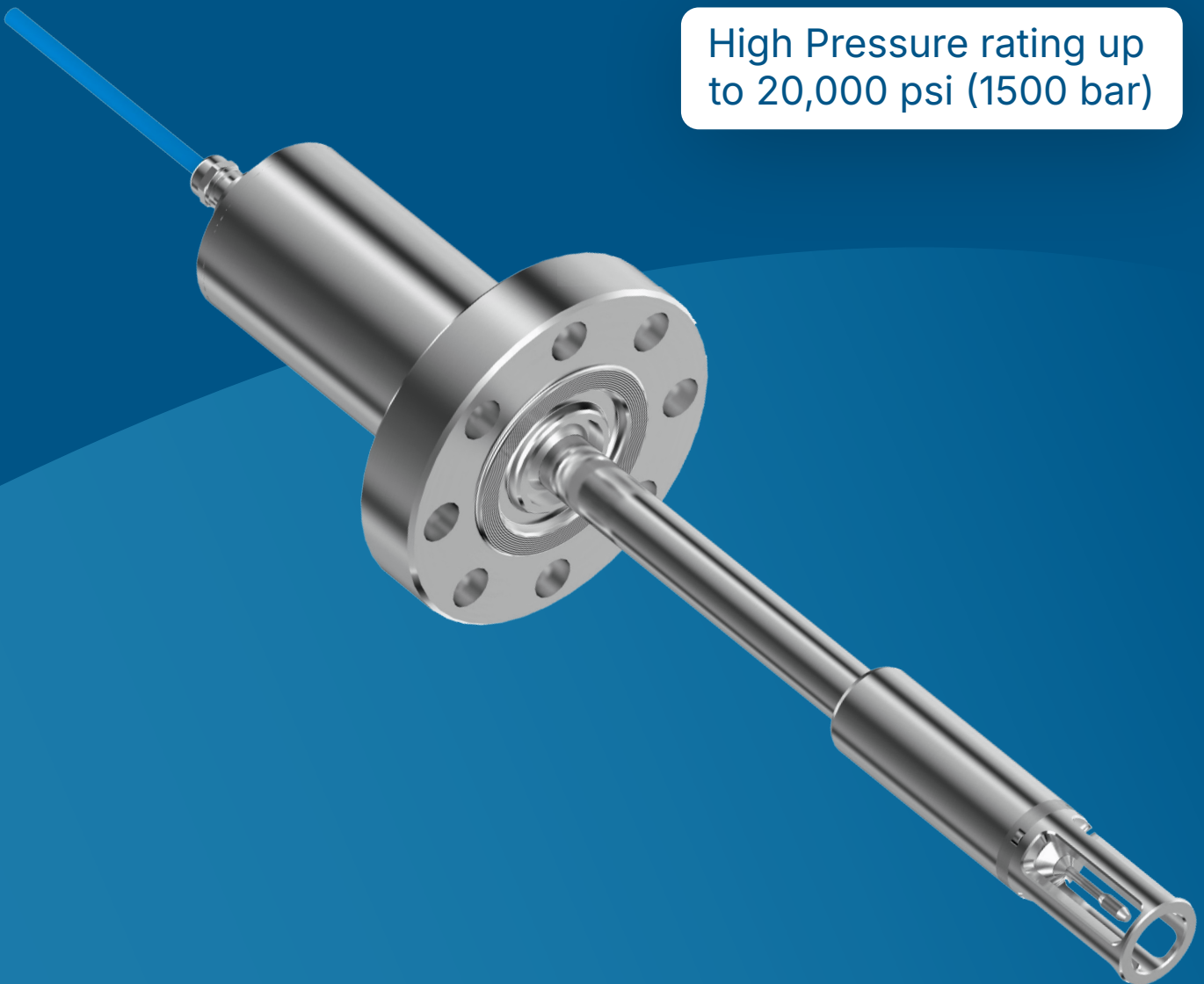




Rheonics SDP Sand Detector Sensor for Sand Management

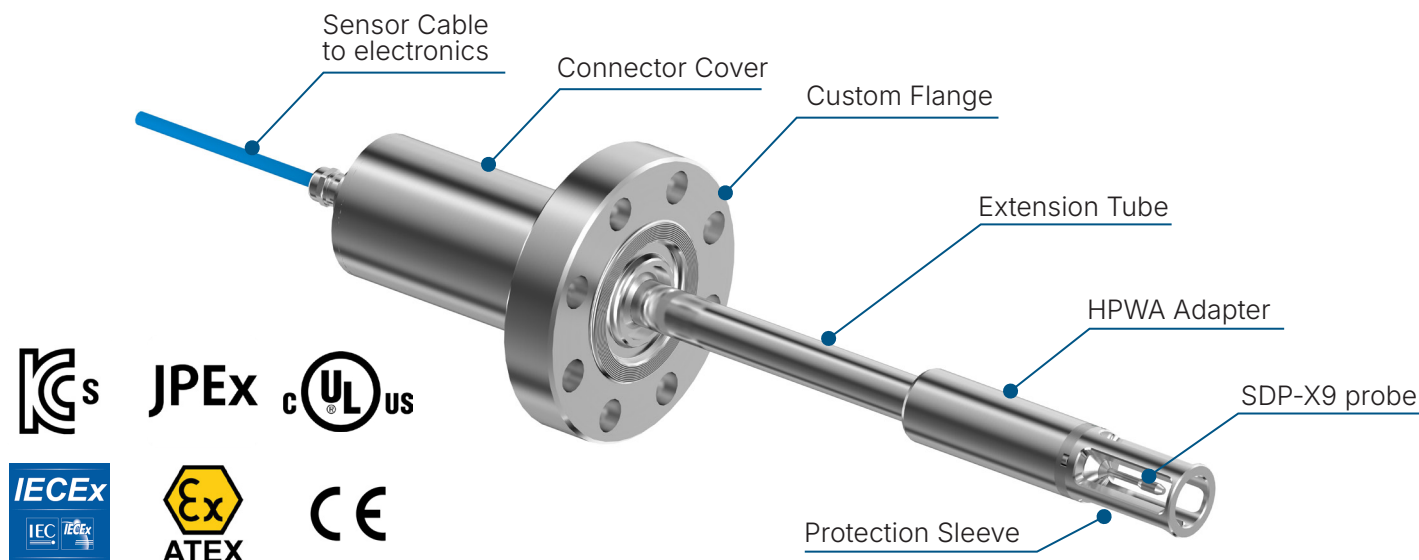
Automated sand level detection in desanders and accumulators, up to 1500 bar.

High Pressure rating up
to 20,000 psi (1500 bar)



Rheonics SDP

Rheonics SDP is a sand level detection sensor for sand management. Installed in accumulators, desanders and separators, it detects the presence of sand, water, or a mixture of both, and automates sand slurry purging through valves, jet nozzles or other actuation methods. Based on the Rheonics HPHT Balanced Torsional Resonator technology, the SDP is designed for high-pressure applications up to 1500 bar (20,000 psi) and is available with custom insertion length and process connection for any vessel geometry.


JPEX


Parameter	Value
Sensing element length	~ 50 mm (1.94 in)
Probe head	Ø 51.5 mm (2.03 in) × 87 mm (3.43 in)
Extension tube	Ø 32 mm (1.26 in)
Total length	Custom, customer defined
Process connection	API 6A, ASME (ANSI), EN (DIN), others on request

Parameter	Value
Max operating pressure	Up to 1500 bar (20k psi)
Material (Sensing Element)	Stainless Steel 316L
Material (Flange, Extension)	Customer provisioned, in SS316, SS304, Duplex and Super Duplex
Installation place	Accumulators, desanders, tanks, pipes, separator

Probe variants

- Balanced torsional resonator**
Frequency and damping shift evaluated against predetermined ranges.
- Direct contact detection**
The sensing element detects the presence of fluid upon contact, and interprets whether it is sand, water, or a mixture.
- Replaceable HP sensor probe**
SDP-X9 probe can be treated as a consumable in the harsh and abrasive environments.
- Ex-certified**
ATEX, IECEx, cULus for gas and dust environments.


SDP-X1-34N

Up to 500 bar
Small insertion

SDP-X5

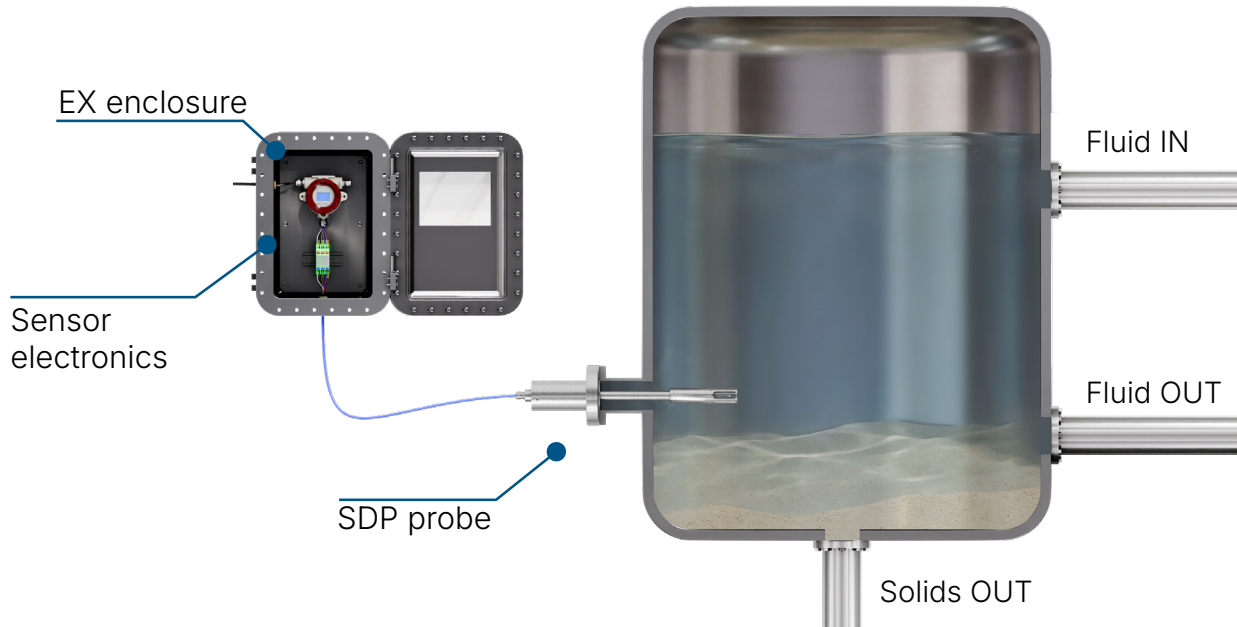
Up to 100 bar
Custom insertion

SDP-X9-HPWA

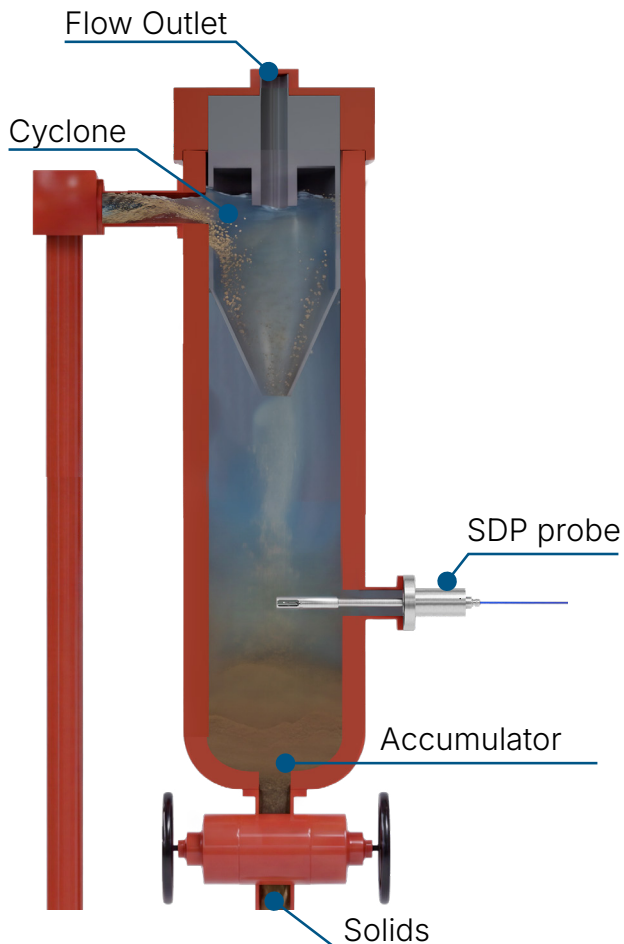
Up to 1500 bar
Custom insertion

Operation

Hydrocyclone desanders are the primary line of defense against abrasive solids produced alongside oil and gas. Centrifugal separation forces the denser sand particles against the outer walls, where they spiral down into a collection chamber or accumulator (the underflow), while the clean fluid exits through the top (the overflow). Purging sand at the right time is key to preventing erosion in the main process stream and avoiding plugged cyclones. The SDP is placed at the pre-selected alarm sand level: when sand reaches the sensing element, an alert is generated or a control signal operates the sand removal valve.



Installation Point



Switch-type level detection

Reports sand presence and media type, air, water, water+sand or sand, with no moving parts



High-pressure rating

Available for 10k psi (690 bar), 15k psi (1035 bar) and 20k psi (1500 bar) service



Customizable design

Extension tube and flange can be sourced and assembled by the client or Rheonics



Electronics and Software

Electronics is integrated to local system to indicate sand presence and initiate action

Electronics & Communication

Rheonics Sensor Electronics interrogates the sensor probe and converts them to measurements of sand level alerts and media information. It is available with a wide variety of industry standard protocols for transferring the measurements to standalone alarms as well as to PLC and SCADA system.



SME-TRD (E1)

IP 66 housing with display



SME-TR (E2)

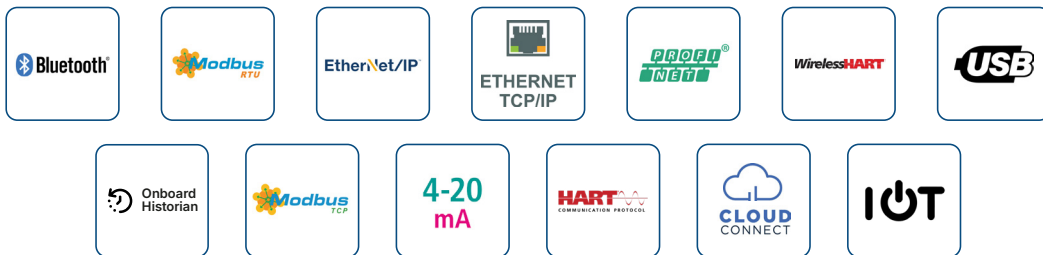
IP 66 housing with solid cover



SME-DRM (E3)

IP 20 DIN rail mount

Representative visuals may look different than actual products



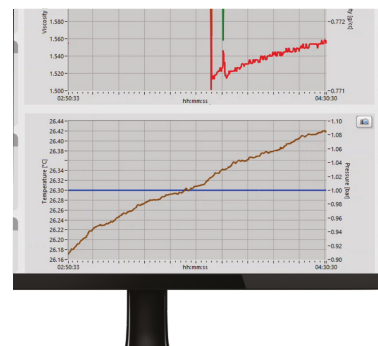
Rheonics Application, PC Data Acquisition & Analysis

The Rheonics ecosystem allows for instant connection to the sensor via Bluetooth, Ethernet, or USB. Whether you are using a smartphone or a PC, our intuitive interface provides real-time insights into sensor measurements.



Connect using:

- Bluetooth
- Cloud
- Real-time data
- Process view
- Alerts
- Configure
- Android
- iOS

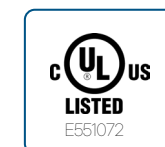
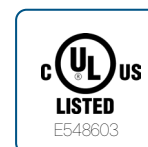


Connect over:

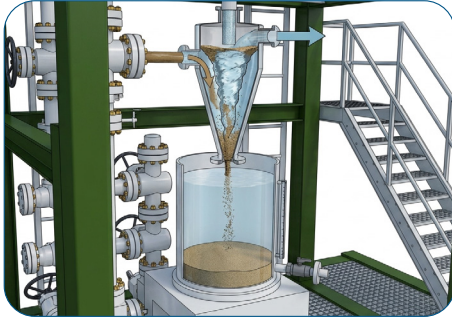
- USB
- Ethernet
- Bluetooth
- Cloud
- Configure sensor
- Check calibration
- Firmware upgrade

Certifications

Designed for critical applications, our probes can be supplied with most international approvals, ranging from hygienic and sanitary certifications (EHEDG, 3-A), to compliance standards (ISO, CE), and explosion protection for hazardous areas (ATEX, IECEx, JPEX, KCs, OrdLoc, Hazloc, cULus).



SDP Industry Applications



Wellhead desander / Hydrocyclone accumulator

Applications: Sand level monitoring in wellhead desanders during ongoing production



Installation Point

Accumulator pot, one probe at the alarm level, optionally a second at the low level



Key benefit – Safety

Signals the controller the moment sand reaches the set level, so the purge valve opens on demand instead of on a fixed cycle.



Production separators and FWKO vessels

Applications: Gravity separation with sand jetting.



Installation Point

Vessel bottom, at the pre-selected alarm sand level.



Key benefit – Automation

Releases the jetting cycle only once sand is confirmed present at the set height, less wash water, less produced-water load downstream, and a discharge valve that strokes only when there is something to remove



Produced-water treatment train

Applications: Solids carry-over ahead of reinjection



Installation Point

De-oiling hydrocyclone underflow, skim-tank and CFU / IGF vessel bottoms.



Key benefit – Reliability

Confirms the solids / water interface at the probe without a calibration against the actual produced fluid, so the underflow is drawn on solids.



Well Testing & Flowback packages

Applications: Sand level monitoring on temporary desander packages during well testing and coiled tubing cleanup



Installation Point

Test package accumulator, two probes signal low and high level.



Key benefit – Efficiency

Low and high level signals close the discharge valve before fluid escapes through the underflow.



Underbalanced Drilling

Applications: Sand level monitoring in separators and sand trap accumulators



Installation Point

Separator and sand trap accumulators, at the pre-selected alarm level.



Key benefit – Uptime

Ex-certified level reading from inside the pressurised vessel. Flags accumulation while the bed can still be flushed.



rheonics

Ready to automate your sand management?
**Get in touch, we'd love to help you integrate
the SDP for reliable sand detection and
automation!**



<https://rheonics.com/products/sdp/>



✉ info@rheonics.com

☎ +1 713 955 7305

