

Active Monitoring to Maximize Life of Mechanical Seals

The Flowserve IPS Wireless Mechanical Seal Reservoir Monitoring Technology offers real-time condition monitoring and is specifically designed to interface into Mechanical Seal Piping Plans 52 and 53.

Maximizing Mechanical Seal Life

The effectiveness of Plan 52 and 53 systems depends on maintaining fluid level, pressure, and temperature parameters within the **seal reservoir** and **external fluid circulating lines**. The IPS Wireless Mechanical Seal Reservoir Monitoring Systems feature multiple pre-engineered systems for monitoring these parameters as well as multiple options for providing information to customer operations and maintenance teams.

Customers can interface with the information via:

- Wireless communication back to an IPS Wireless Smart Receiver interfaced to: DCS System, IPS Ethernet Plant Platform, or to the Flowserve-hosted IPS Technology Platform
- Local data logger
- Visual light system (red/green) to give status (Normal, Alert or Past Alert)



IPS Wireless Series 103 Multi-port
with Visual Alert

Specifications:

Operating Frequency: 868 MHz or 900 MHz
 Area Classifications: CSA Class I, DIV 1, groups A,B,C,D, Atex/IECEX Zone 0
 Humidity: 0–95% non-condensing
 Enclosure: PVC tube
 Battery: 3.6 VDC
 Base: 316L SS
 Operating Temperature: -40°C (-40°F) to 85°C (185°F)



Solution 1

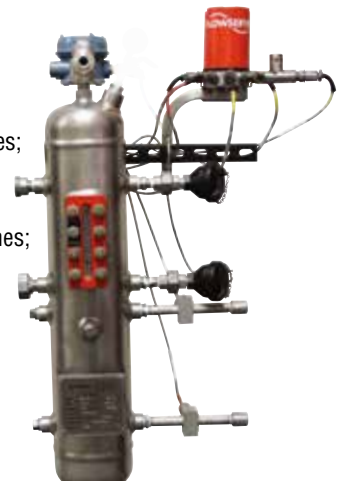
IPS Wireless Series 102 Single-port with two discrete switches

- Plan 52 low- and high-level switches
- Plan 53 low-level and low-pressure switches

Solution 2

IPS Wireless Series 103 Multi-port

- Plan 52 low- and high-level switches; high-pressure switch; seal flush temperature (in and out) (°C/°F)
- Plan 53 low- and high-level switches; low-pressure switch; seal flush temperature (in and out) (°C/°F)



Solution 3

IPS Wireless Series 103 Multi-port*

- Plan 52 and 53 actual level (%), actual vessel pressure (psi/Bar), seal flush temperature (in and out) (°C/°F)
- Plan 53 option, add seal chamber pressure (psi/Bar)

DETECTION CAPABILITY	SOLUTION 1	SOLUTION 2	SOLUTION 3
Inboard or Outboard Mechanical Seal Face Leak	•	•	•
High (Plan 52) or Low (Plan 53A) Barrier Fluid Level	•	•	•
High (Plan 52) or Low (Plan 53A) Vessel Pressure		•	•
Inadequate Barrier Fluid Differential In/Out Temperature		•	•
Inadequate Barrier Fluid Cooling		•	•
Actual Seal Reservoir Pressure			•
Actual Barrier Fluid Level			•
Inadequate Differential Pressure (Vessel vs. Seal Chamber)			*
High Leakage Rate for Flashing or Liquid Product Across Inboard Seal Face			*

* Solution 3 with connection to the IPS Technology Platform

The IPS Technology Platform

To run a productive and profitable operation, plant operators need information, not just data.

Flowserve offers the IPS Technology Platform, a hosted system that enables plant managers and operators the ability to monitor real-time equipment performance.

Mechanical seal reservoir monitoring through the hosted IPS Technology Platform offers users the ability to:

- Review key reservoir parameters over time
- Set automated alarming based on preset thresholds
- Receive alarm notifications via email, cell phone or SMS text



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To find your local Flowserve representative:

For more information about Flowserve Corporation, visit www.flowserve.com or call +1 937 890 5839.

USA and Canada

Flowserve Corporation
5215 North O'Connor Blvd.
Suite 2300
Irving, Texas 75039-5421 USA
Telephone: +1 937 890 5839

Europe, Middle East, Africa

Flowserve Corporation
Parallelweg 13
4878 AH Etten-Leur
The Netherlands
Telephone: +31 76 502 8100

Latin America

Flowserve Corporation
Martín Rodríguez 4460
B1644CGN-Victoria-San Fernando
Buenos Aires, Argentina
Telephone: +54 11 4006 8700
Telefax: +54 11 4714 1610

Asia Pacific

Flowserve Pte. Ltd.
10 Tuas Loop
Singapore 637345
Telephone: +65 6771 0600
Telefax: +65 6862 2329