

The logo for REOTEMP, featuring the word "REOTEMP" in a bold, white, sans-serif font with a white swoosh underline, set against a dark green background.

REOTEMP

INSTRUMENTS

“Service Inspired, Quality Driven”

REOTEMP Diaphragm Seals & Actuation Facilities



1. What Is a Diaphragm Seal?
2. Hot Markets for Diaphragm Seal Usage
3. REOTEMP's Diaphragm Seal Offering
4. Upselling Diaphragm Seals
5. REOTEMP Advantages

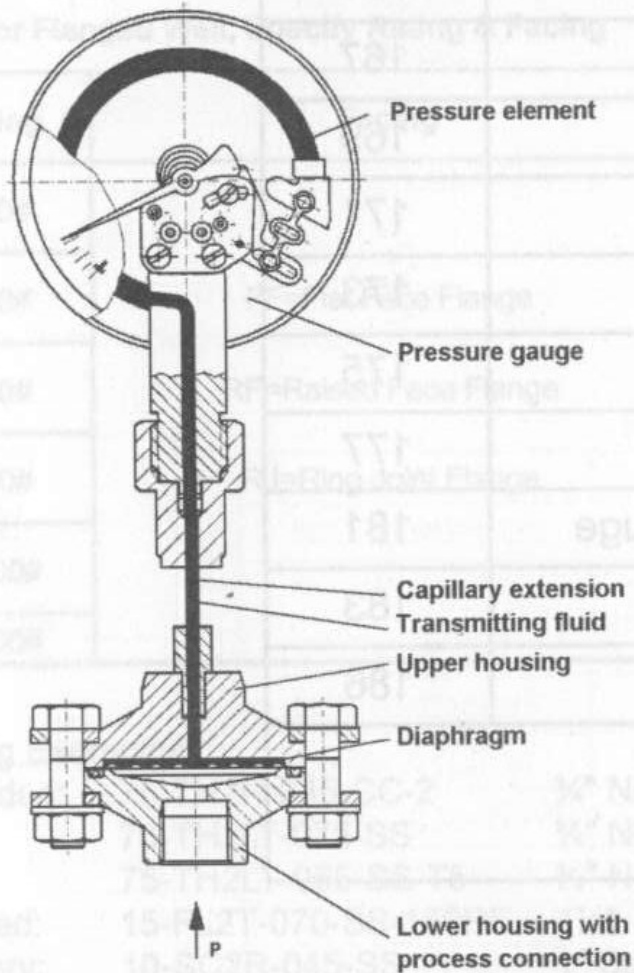


1. A Diaphragm Seal is a protective barrier used to isolate pressure gauges, transmitters and switches.
2. Diaphragm Seals prevent clogging and protects against corrosive process media.
3. Diaphragm Seals extend the service life of pressure instruments and help reduce maintenance costs



- **Corrosive Media** (would chemically attack the instrument)
- **Viscous Media** (contains particles that could clog press. port)
- **Remote Installation** (direct mount is not accessible)
- **High Process Temperature** (requires remote mount or cooling mechanism)
- **Sanitary** (requires instrument interface w./o dead spaces or cavities)
- **Toxic and/or Hazardous** (may pollute environment)
- **Overpressure Protection**
- **High Vacuum & High Temperatures**





A pressure instrument is mounted directly to a diaphragm seal or attached to a seal by a capillary system. The diaphragm within the seal separates the instrument from the process medium. A correctly prepared seal is first evacuated by a vacuum pump and then filled with a transmitting fluid or fill actuation fluid. The pressure applied by the process Media is hydraulically transmitted to the Pressure element of the instrument thus Producing the pressure reading on the Gauge/transmitter/switch.



Primary Diaphragm Seal Markets

- Oil, Gas & Petrochemical Refining
- Food & Beverage Processing
- Waste Water Facilities
- Pharmaceutical
- Paper & Pulp
- Chemical





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REOTEMP Diaphragm Seal Types

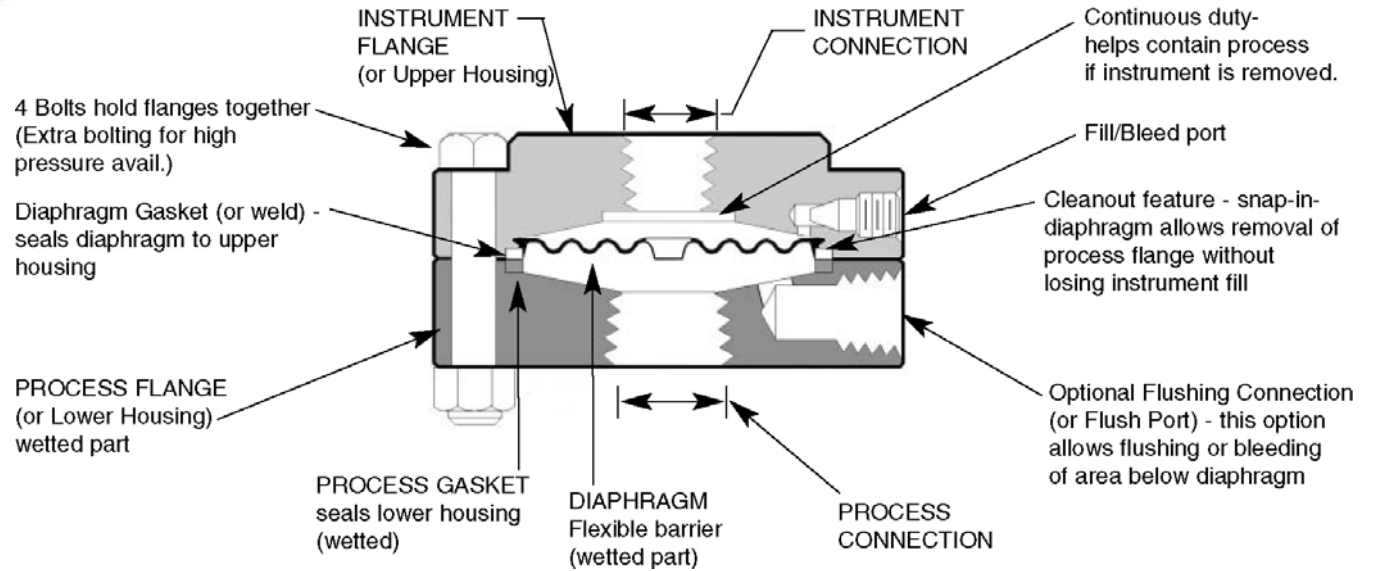
- Threaded & Flanged (most common)
- Mini Seals
- Flush Face Seals (mini, pancake)
- Plastic Seals
- In-Line Diaphragm Seals
- Annular Ring Seals
- Pancake
- Saddle Mount
- Sanitary



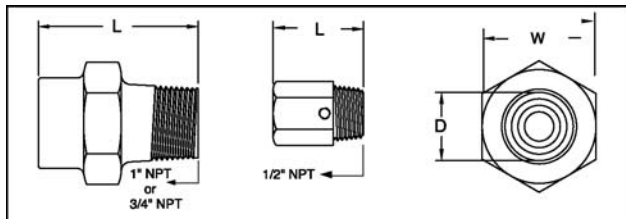


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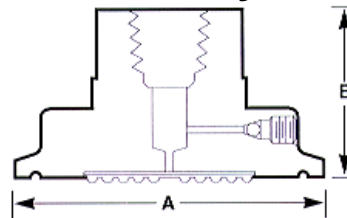
Seal Configurations



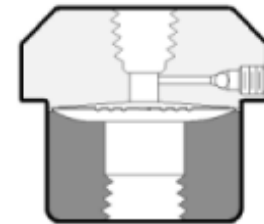
Threaded Flush Face



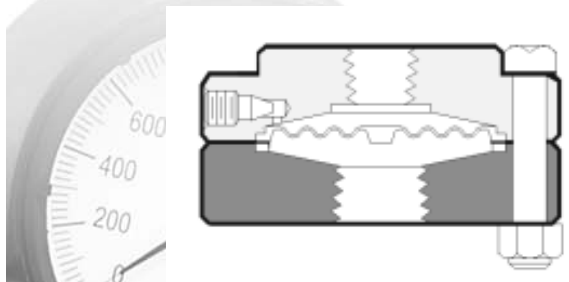
Sanitary



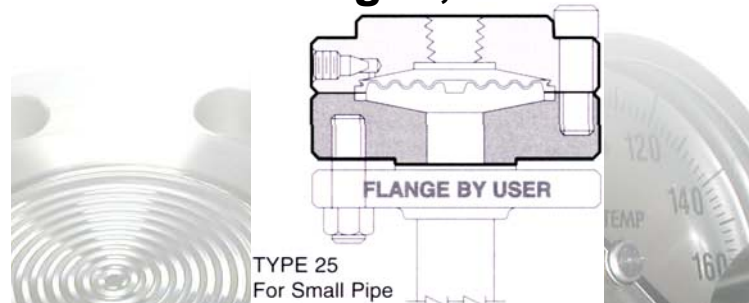
Mini-seal



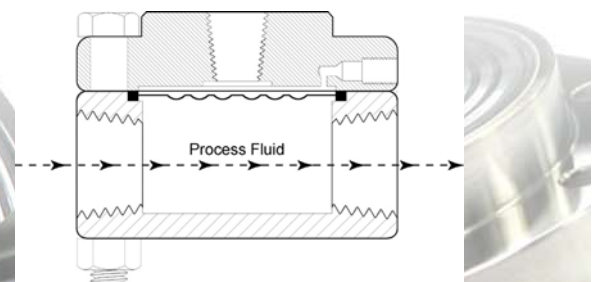
Threaded Off-line



Flanged, Off-line



In-Line, Flow-Thru



REOTEMP Selection Factors

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1. Spring Rate

- The diaphragm is another spring
 - small diaphragm = large spring effect
 - large diaphragm = small spring effect

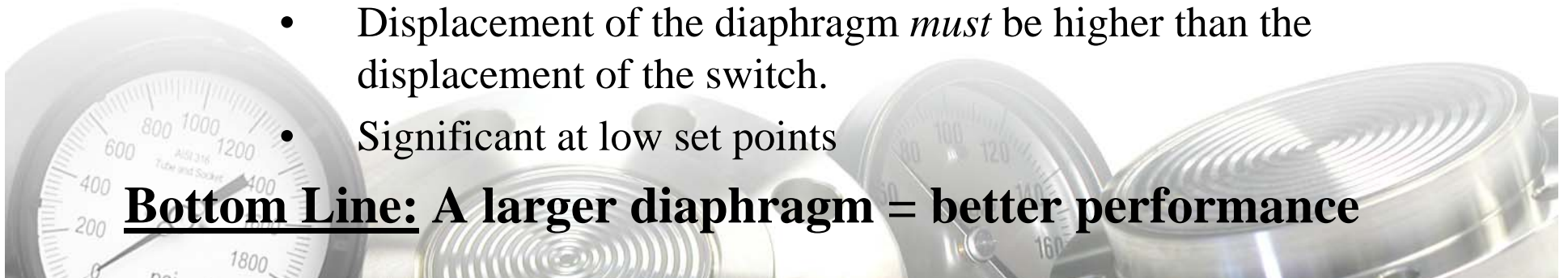
2. Temperature

- All fill fluid expands with temperature, which increases internal pressure in the pressure port.
 - Small diaphragm = significant effect
 - Large diaphragm = negligible effect
 - Cooling element may be needed

3. Displacement

- Displacement of the diaphragm *must* be higher than the displacement of the switch.
- Significant at low set points

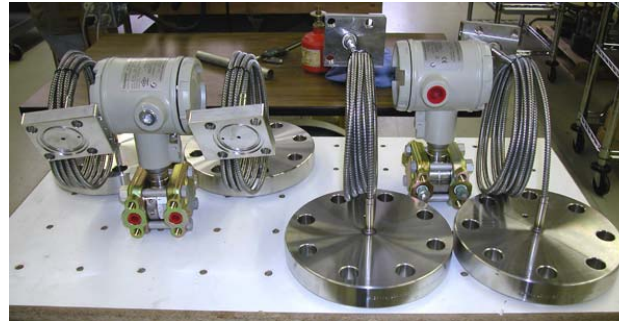
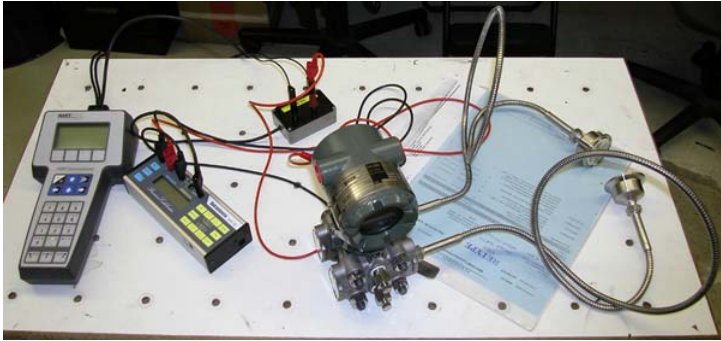
Bottom Line: A larger diaphragm = better performance



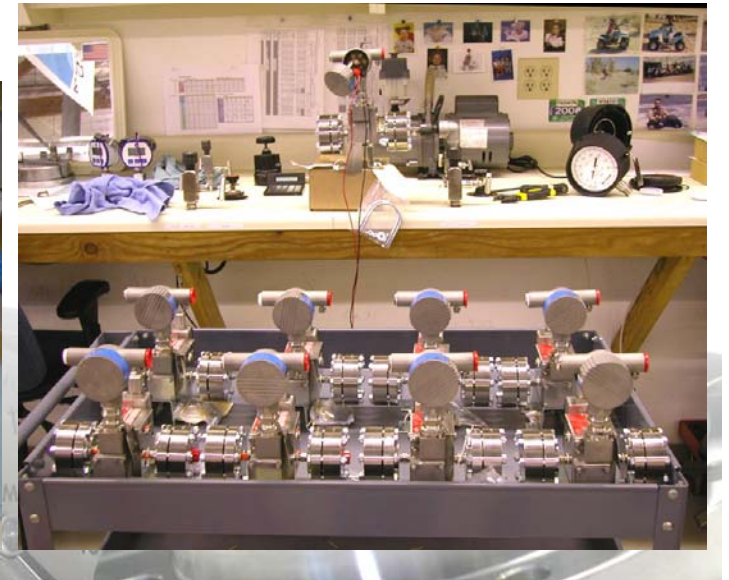
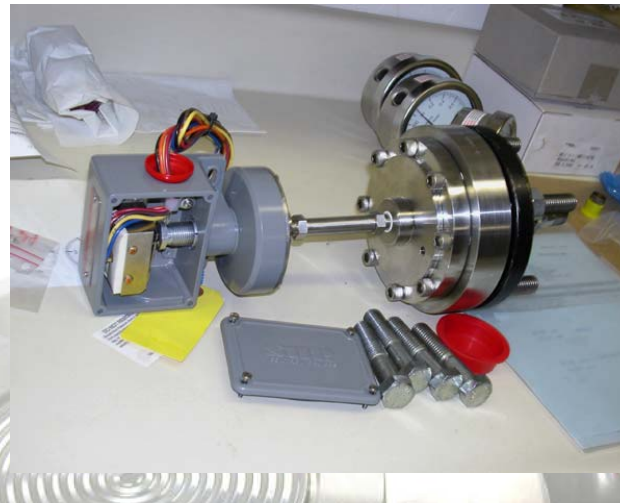
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Pressure Assemblies



- REOTEMP can build assemblies to meet your needs.



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Fill Station



Tig-Welding



Fill and Calibration Facilities

Leak Detection



Calibration and Analysis



- Experienced & highly trained staff
- Fast & Dependable
- High tech fill station (10^{-9} torr +), multiple ports & fluids, Helium leak detection.



REOTEMP Value Added Benefits

- Factory Direct Service
- Trained Technicians
- Located in San Diego
- Fill, Calibration & Repair Facility
- Fast/Dependable Technicians & Customer Service
- Drop Shipping & Inventory Capacity
- ISO 9001 Manufacturer





REOTEMP Advantages

- Independent Seal Supplier
- Knowledge & Experience
- Dedication to Customer
- Fast & Dependable Technical Service
- Reputation (quality, service, custom solutions)
- Flexibility
- Custom Seal Solutions
- Challenging Applications Encouraged
- Diversity of Seal Offering





Partnership for Seals

- You provide the data, we'll provide the solution
- We help specify right configuration
- Consider seals a solution rather than an ordinary option
- Co-engineering
- Co-customer service
- Co-marketing
- Share process and instrument information

