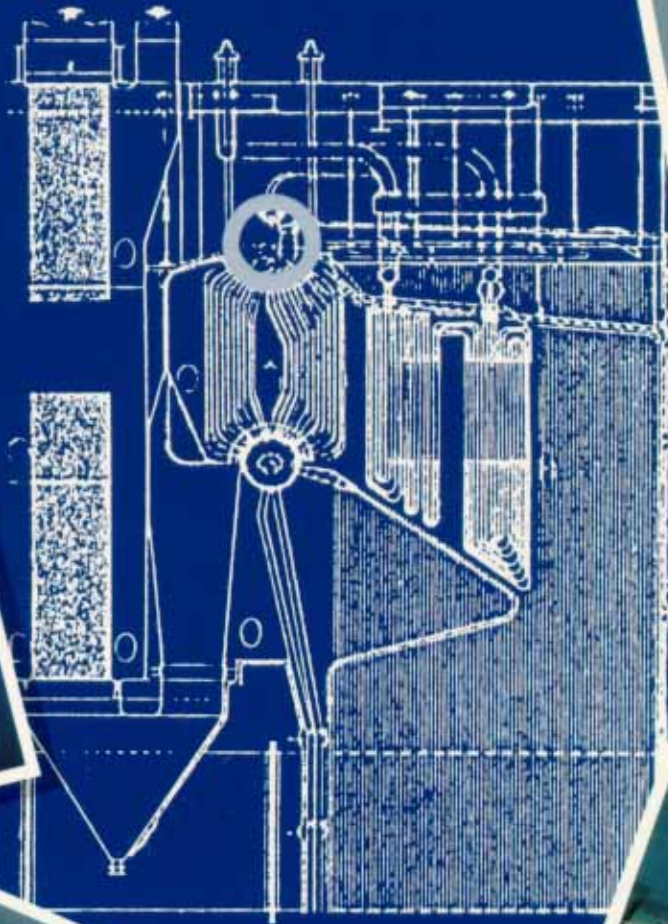
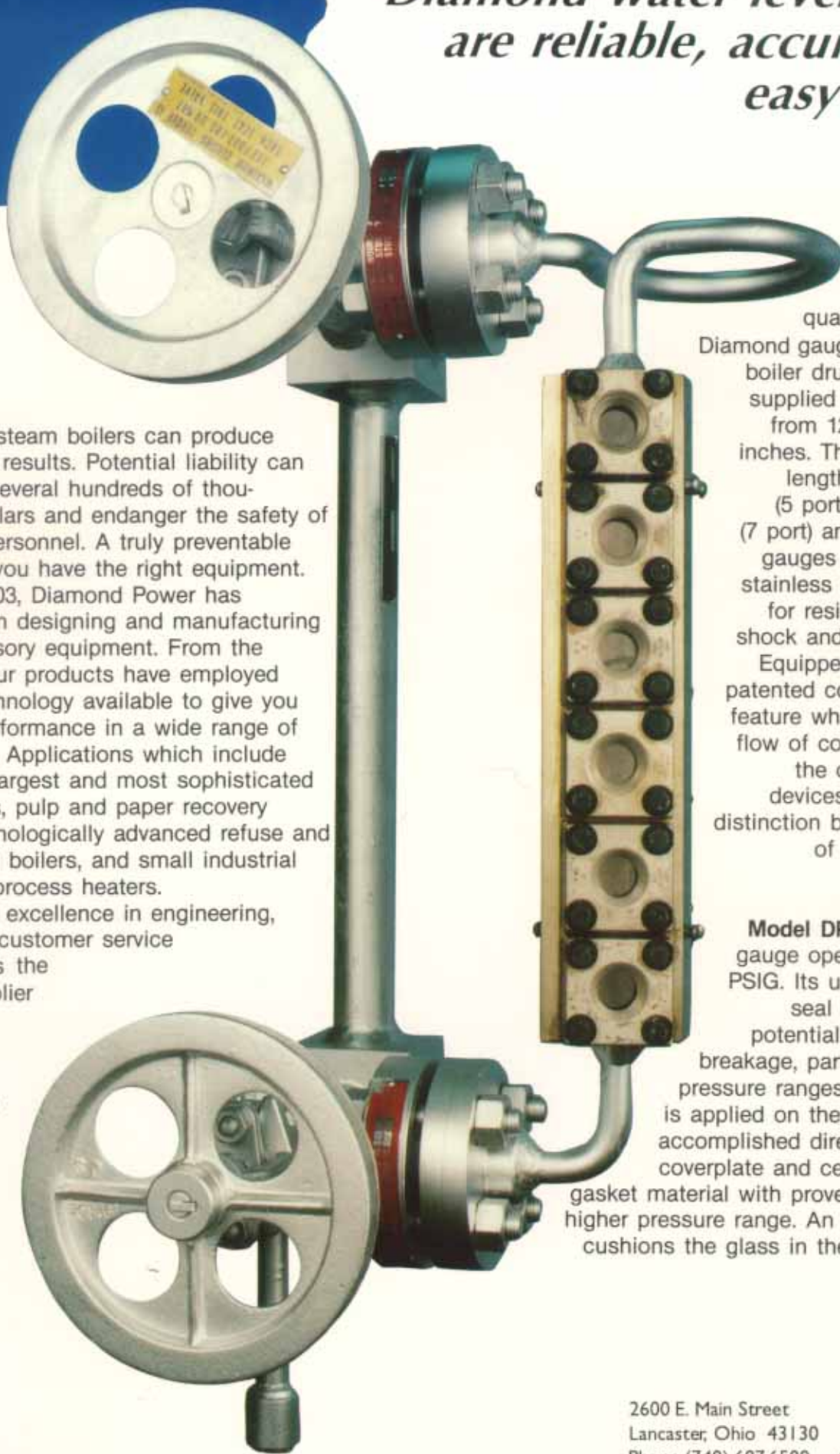


Drum Level Indicating Systems



Gauges and Viewing Accessories

Diamond water level gauges are reliable, accurate and easy to read



Setting industry standards for quality and reliability, Diamond gauges for measuring boiler drum water level are supplied for vision lengths from 12 3/8 inches to 69 inches. The standard vision lengths include 12 3/8" (5 port), 15" (6 port), 18" (7 port) and 21" (8 port). All gauges are supplied with stainless steel centerplates for resistance to thermal shock and stress corrosion. Equipped with Diamond's patented condensate bypass feature which minimizes the flow of condensate through the center bore, these devices achieve superior distinction between the levels of water and steam.

The **DURA-PORT Model DP-3000** water level gauge operates up to 3,000 PSIG. Its unique gasket and seal design minimizes potential leakage or glass breakage, particularly in higher pressure ranges. No bolting load is applied on the glass. Sealing is accomplished directly between the coverplate and centerplate using a gasket material with proven success in the higher pressure range. An additional gasket cushions the glass in the coverplate seat.

Dry-firing in steam boilers can produce catastrophic results. Potential liability can easily cost several hundreds of thousands of dollars and endanger the safety of your plant personnel. A truly preventable situation, if you have the right equipment.

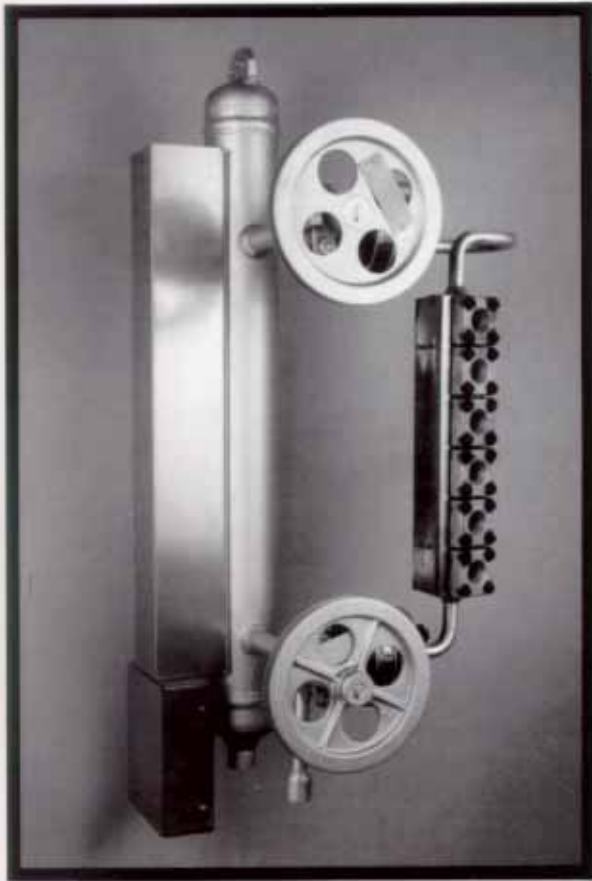
Since 1903, Diamond Power has specialized in designing and manufacturing boiler accessory equipment. From the beginning, our products have employed the best technology available to give you optimum performance in a wide range of applications. Applications which include the world's largest and most sophisticated utility boilers, pulp and paper recovery boilers, technologically advanced refuse and fluidized bed boilers, and small industrial boilers and process heaters.

Diamond excellence in engineering, quality, and customer service has made us the leading supplier of boiler accessory equipment in the world.

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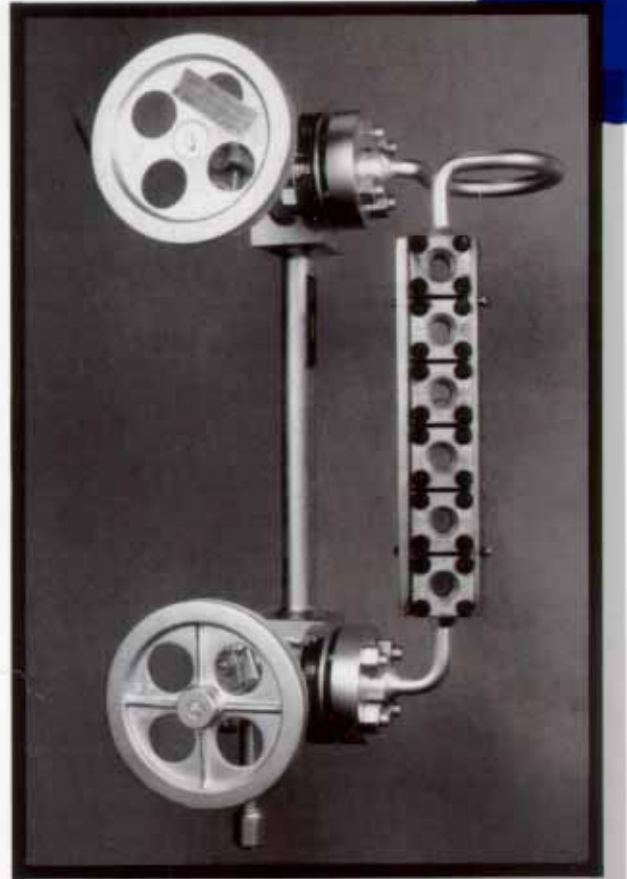

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a McDermott company

Gauge Mounting Assemblies



Gauge and Valves Mounted on an Alarm Column

The column may be either the EACII™ or a MERLI™. Both columns have alarm and cut-off capability.



Gauge and Valves Mounted on a Support Tube

The support tube provides a structural member for ease of installation and facilitates gauge washdown.

Mounting Assemblies Feature:

- Right and left hand positions to achieve clearances and optimize viewing.
- Level indication and control capabilities throughout the pressure range of 0 to 3,000 PSI at 696 °F.
- Drain connections to satisfy code requirements.
- Uniquely designed Diamond gauge valves to allow washdown for a distinct water level indication.

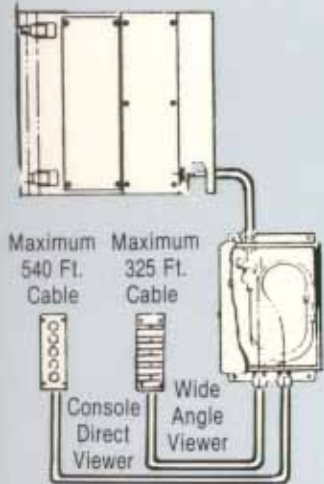
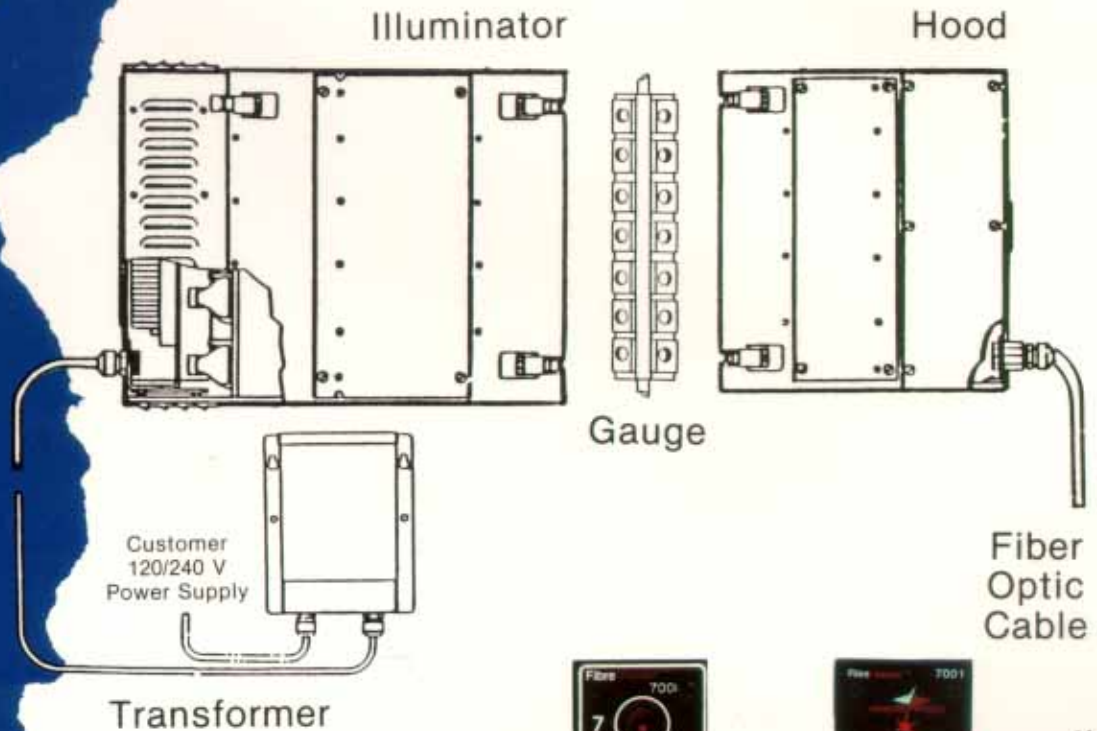


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FIBREVIEWER™ 7001 Viewing System

The FIBREVIEWER 7001 Viewing System is state-of-the-art technology for conveying a direct image of the water level to the control room and/or other remote locations.

A Direct Gauge Reading Device:



Two Viewer Option:

- a second panel viewer.
- junction box.
- optic cable between hood and junction box.

CONTROL ROOM DISPLAY UNITS

Maximum 1000 Ft. Cable

Maximum 700 Ft. Cable



Console Direct Viewer



Wide Angle Viewer

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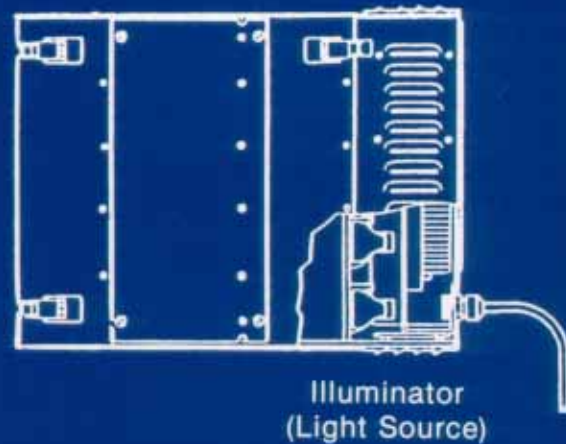
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Sighting Equipment

The application of sighting equipment to Diamond Power gauges assures distinct water level indication with red and green colors.

To accurately define the water level a viewing hood is required.

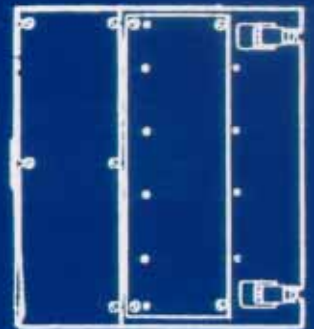
The water level may be viewed locally or transmitted to the control room or other remote locations by using an illuminator in conjunction with one of the following viewing hood arrangements.



Illuminator
(Light Source)

ASME Direct Reading Arrangements

- Direct Hood — Local see-at-a-glance reading from 45° right or left and 60° up or down from the gauge location. (frosted glass)
- Reflector Hood — The water level image is reflected to a mirror at a lower elevation.
- Fibreviewer™ 7001 — The water level image is conveyed to a remote location by an optic cable.



Viewing Hood

ASME Section I 60.1 Water Level Indicators

60.1.1 Each boiler, except forced-flow steam generators with no fixed steam and waterline, and high-temperature water boilers of the forced circulation type that have no steam and waterline, shall have at least one water gage glass. Boilers operated at pressures over 400 psi shall be provided with two water gage glasses which may be connected to a single water column or connected directly to the drum.

Two independent remote level indicators may be provided instead of one of the two required gage glasses for boiler drum water level indication in the case of power boilers with all drum safety valves set at or above 900 psi. When both remote level indicators are in reliable operation, the remaining gage glass may be shut off, but shall be maintained in serviceable condition.

When the direct reading of gage glass water level is not readily visible to the operator in his working area, two dependable indirect indications shall be provided, either by transmission of the gage glass image or by remote level indicators.

Optional Valve **Flanged/Flanged Rotatable**

Hydrostatically shell tested according to ASA B16.34 and hydro-tested with MSS SP-61.

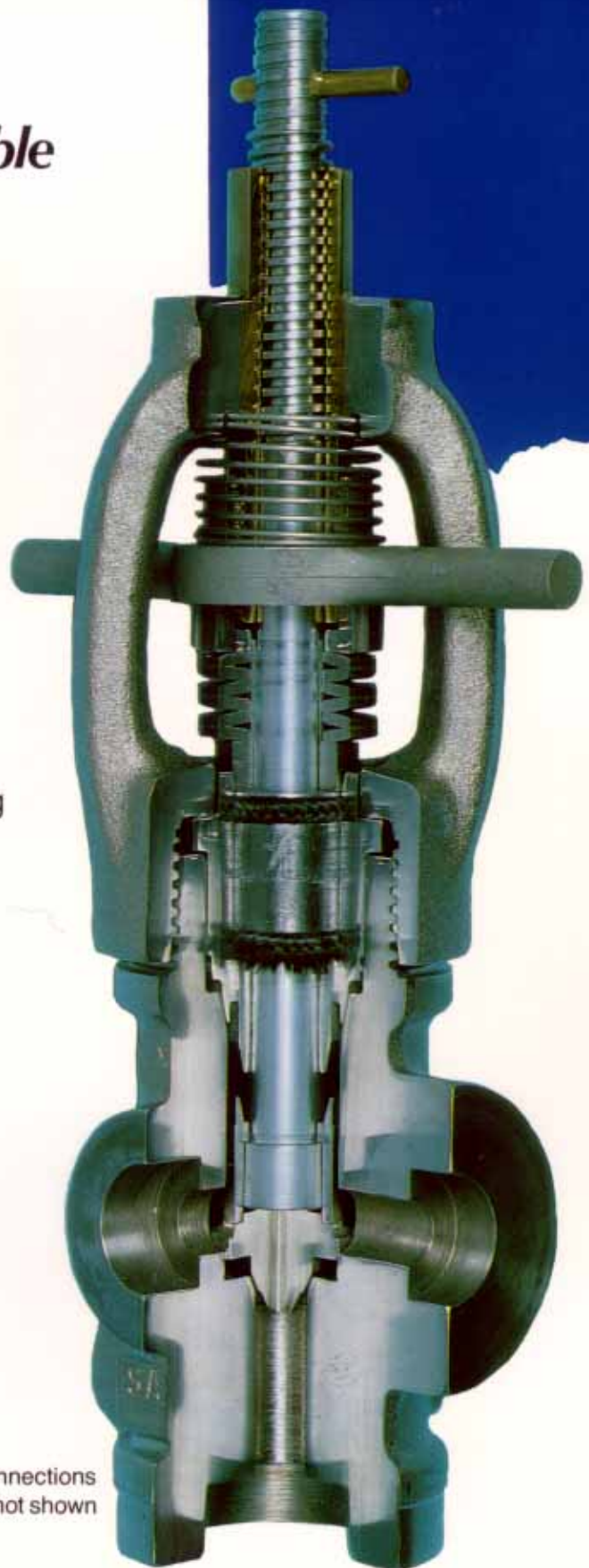
Clampseal® Valves are designed for rapid in-line maintainability to ease the demands on maintenance resources and can be renewed, in-line, without welding or nondestructive testing.

Features:

- Back seating extends packing life
- Live loaded packing
- Integral wrench provides easy packing adjustment
- Spare parts availability
- Service tool kit available

Optional feature:

- Ballcheck



Flanger/connections
not shown



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Fibreview Imaging System™

Color Monitor Water Level Indicator

- Brilliant level indication
- Water level displayed at gauge
- Easy gauge access — no re-alignment
- 100% solid state camera
- Adapts to existing fiber optic systems
- No expansion concerns
- No prisms to adjust
- No cooling air required — less maintenance
- No after image or burning of monitor



Control Room Monitor

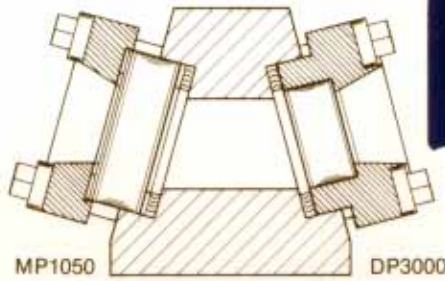
Red Indicates Steam
Green Indicates Water



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Gasket Sealing Arrangement

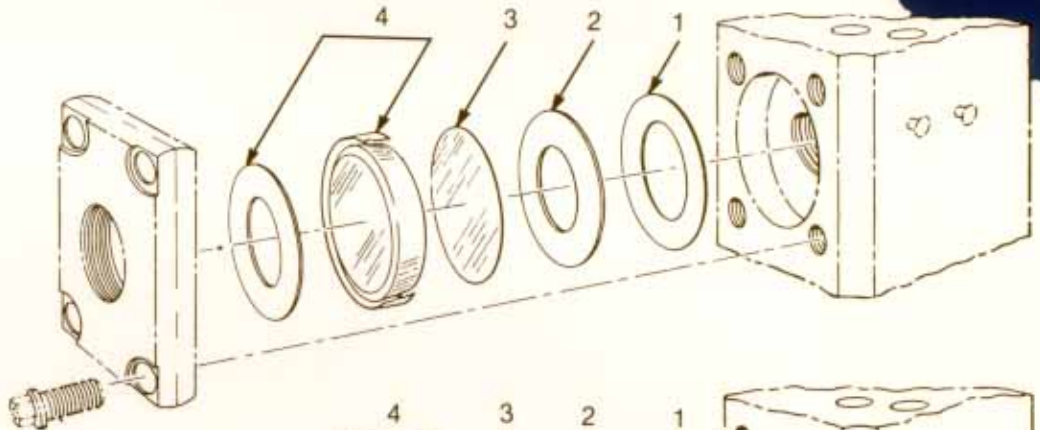
Do it right — use complete kits for optimal performance.



MP1050 Gasket Kit

For Applications
Up to 1050 PSIG.

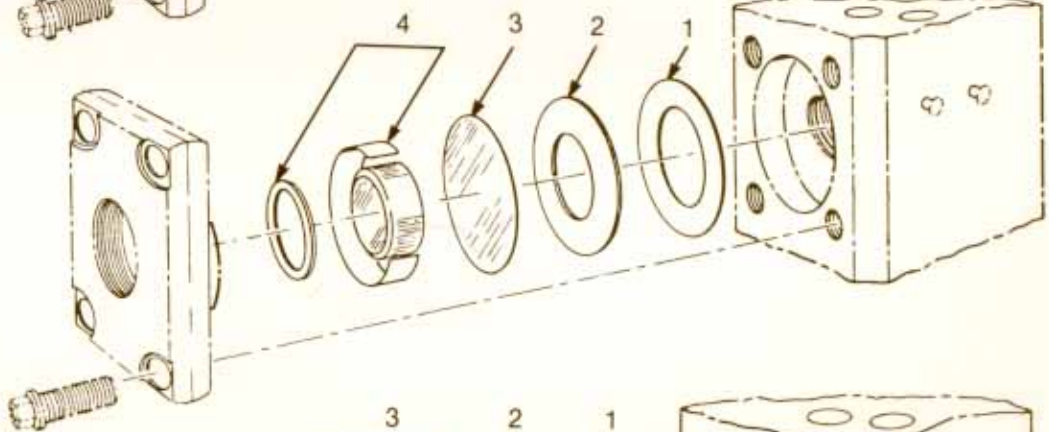
1. Sealing Gasket
2. Protective Gasket
3. Mica
4. Glass Assy
Packing Strip
Cushion Gasket



DP-3000 Gasket Kit

For Applications
Up to 3000 PSIG.

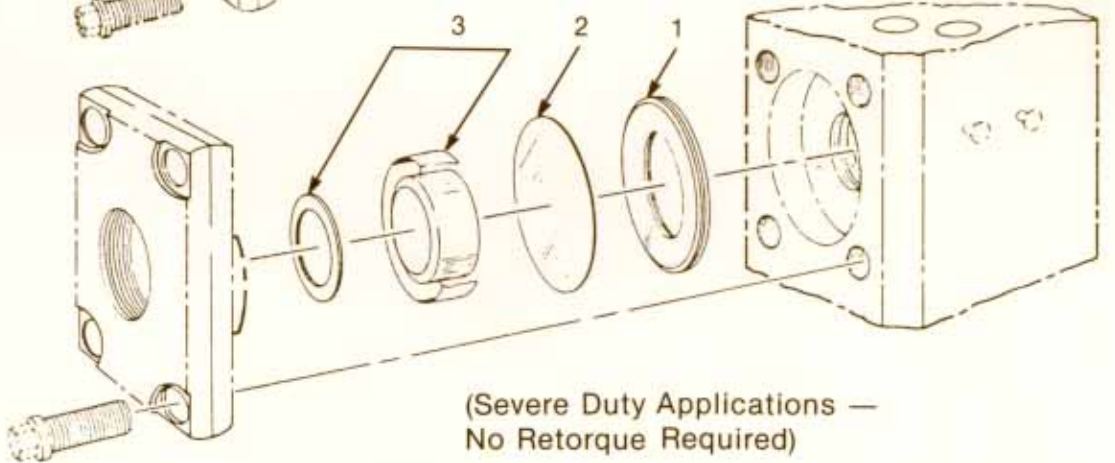
1. Sealing Gasket
2. Protective Gasket
3. Mica
4. Glass Assy
Packing Strip
Cushion Gasket



Premium DP-3000 Gasket Kit

For Applications
Up to 3000 PSIG.

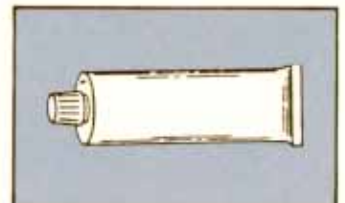
1. Sealing Gasket
2. Mica
3. Glass Assy
Packing Strip
Cushion Gasket



(Severe Duty Applications —
No Retorque Required)

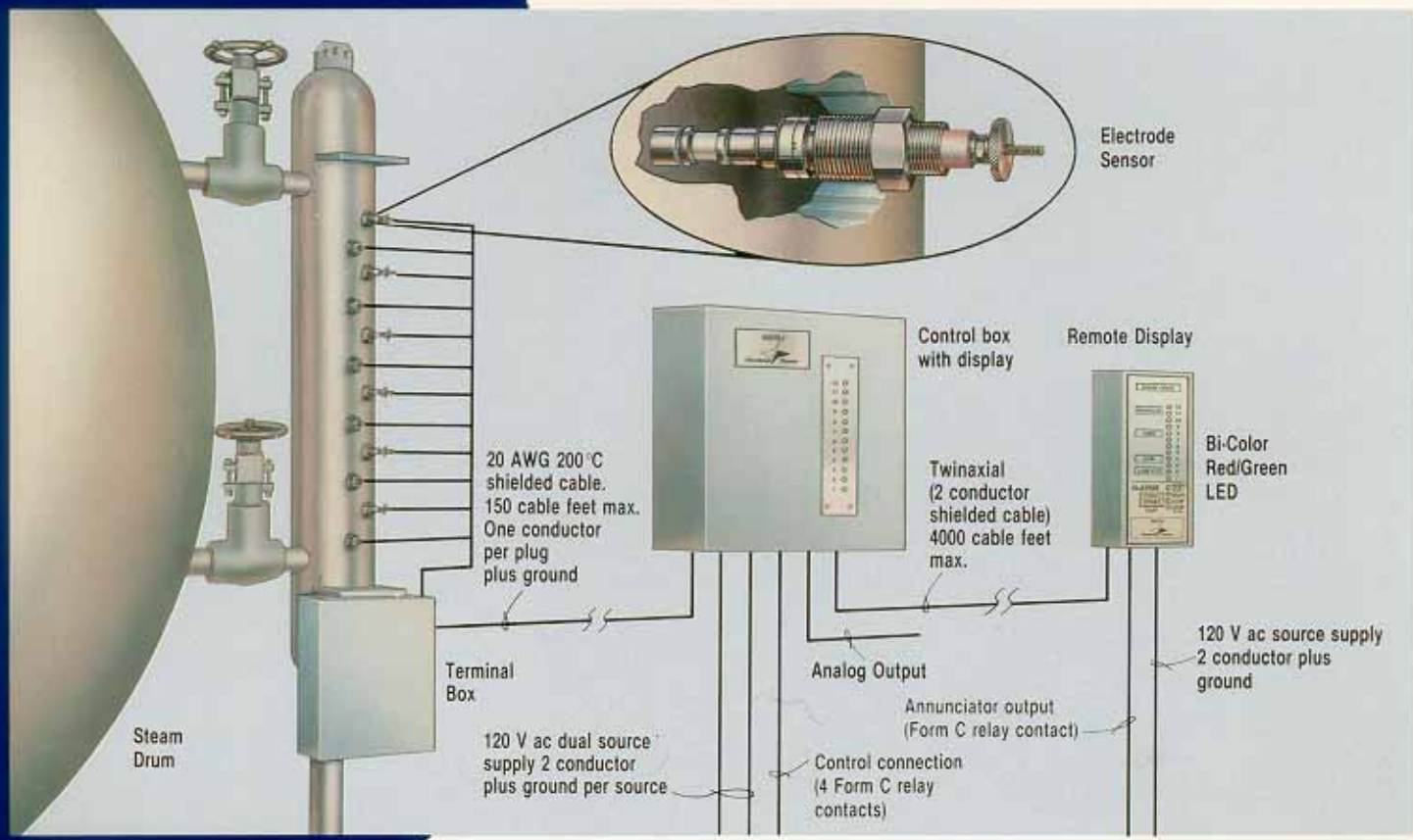
The Above Gasket Kits Do **Not** Contain Asbestos.

Lubrication is
Provided in All
Kits for Bolt
Thread Application.



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An Indirect Level Reading Device



Advanced Technology provides reliable Indirect Level Indication. Enhanced circuitry for reliable water/steam discrimination from start-up through operation.

Features:

- Column (0-3000 psi), control box and display, and remote display.
- Indications 8, 12, or 16 elevations.
- Bi-color water level indications, red/green LED.
- Redundant power source.
- Fault detection: process, system, and remote display.
- Analog output for computer interface or other equipment: 4-20 mA or 0-10/1-5 volts (terminal block in control box). Built-in integrator provides smooth response for modulating control valves.
- Annunciator connection.
- Self-adjusting to conductive changes.
- Control connections (terminal block in control box).
- Protective electrode cover.
- Drum connections: socket welded, butt welded, or flanged.
- Electrode plugs are prewired to terminal box.

Options: Valves and wiring.

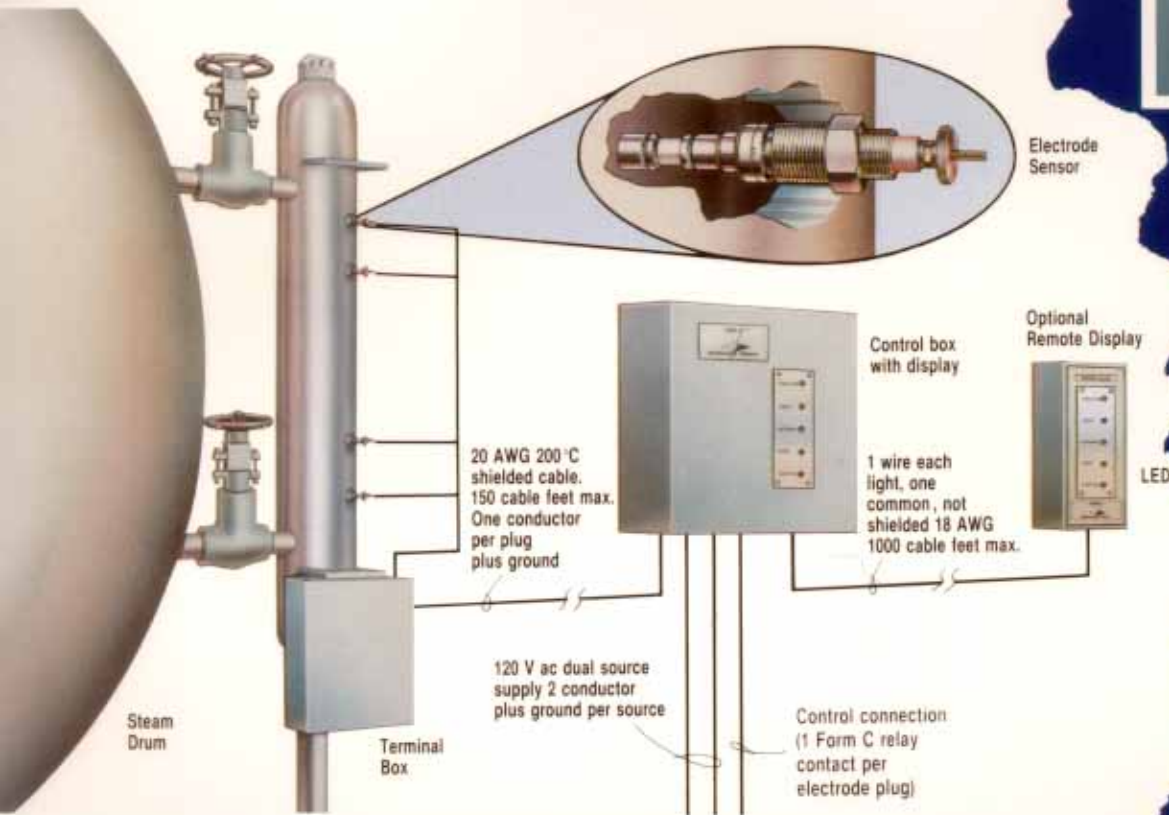
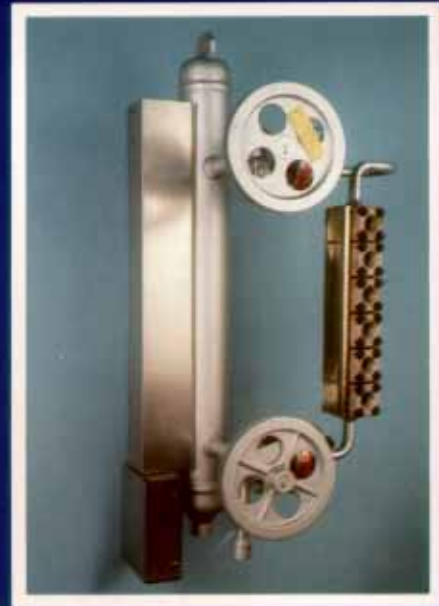
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EACII™

ELECTRODE ALARM COLUMN

State-of-the-art sensing technique provides reliability for indirect indication accompanied by a direct reading gauge.



Features

- Column (0-3000 psi), control box and display, and remote display.
- Indications 2, 3, or 4 alarms.
- Water level indications, LED.
- Redundant power source capability.
- Plug fault indication.
- Reserve circuitry redundancy.
- Adjustable conductivity.
- Control connections (terminal block in control box).
- Protective electrode cover.

- Drum connections: socket welded, butt welded, or flanged.
- Electrode plugs are prewired to terminal box.
- Fault tolerant logic.
- Optional remote display.

NOTE: Valves by others.

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