

Diamond Power® Series II — Gauge Aftermarket Parts

Level Probe and Column

The Diamond Power® Series II level probe and column from Babcock & Wilcox (B&W) are designed for steam/water level measurements using conductivity type electronic level detection systems. The probe and column can now replace leaking probe gaskets, failed probes, and corroded columns with superior technology, which is fully compatible with any existing electronic systems. The use of a junction box that is pre-wired to the probes makes installation simple.



Diamond Power® Series II Brazed Probe

Features

Diamond Power® brazed probes

- High density zirconium oxide ceramic wetted insulator improves steam and water detection through minimized contaminant build-up and enhanced water shedding
- 304 stainless steel body and tip
- Body and tip are vacuum brazed to insulator
- Conductivity sensing to 0.25µmho through high joint integrity
- Simplified construction using brazed joint eliminates requirement for Belleville washers, copper cushion washer and critical rod bolt tension preload
- 100% gas tested to 2000 psi (14 MPa)
- Hydro tested to 6000 psi (41 MPa)
- Maximum pressure 3000 psi (21 MPa)
- Maximum temperature 1200F (650C)
- Swagelok® seal profile machined into bar stock probe body



Diamond Power® Series II Level Columns

Title 1	Title 2
Design Pressures	650, 2000, 3000 psi; 1200F maximum (4.5, 14, 21 MPa; 650C)
Materials	A106 carbon steel, chrome moly and various stainless steel materials
Connections	Pipe stub, NPT, butt weld and flanged connections
Options	Column mounted junction box with all probes pre-wired to the terminals lifting lug isolation valves

DP5500 Ball Check Valve & DP5501 Flow Restrictor

The Diamond Power® Series II ball check valve and flow restrictor from B&W are designed to be used with visual level gauges to prevent excessive discharge from the gauge in case of glass failure. The ball check valve is installed on the lower gauge connection and the flow restrictor orifice is installed on the upper gauge connection. If the gauge glass or sealing gasket should fail catastrophically, the ball check will close, reducing the discharge of hot water and steam from the gauge to the atmosphere.

The ball check valve and flow restrictor are available in a number of mounting configurations. These can be incorporated into the gauge isolation valve flange, welded into the pipe line, or inserted as a "wafer style" valve between 0.75 in. (19 mm) Class 2500 large male/large female flanges. This design configuration ensures that the check valve cannot be installed in the system backwards.

The ball check valve can be inspected in-line by first shutting the gauge isolation valves and then removing the lower access plug.

Features

- Forged steel body, stainless steel ball
- Flange configuration prevents improper orientation
- Meets ASME Section 1 and Appendix A-18 requirements
- Reduces excessive steam discharge in case of gauge glass failure
- Has no effect on normal gauge operation
- Can be inspected in-line
- Rated for 3000 psi (21 MPa) steam service at 696F (370C)



Level Gauge Isolation Valves

B&W offers a variety of high quality Diamond Power® Series II valves designed for visual level gauge isolation. All valves are forged steel and constructed to meet the rigorous demands of high pressure steam boiler service. The valves meet the requirements of the ASME Boiler and Pressure Vessel Code, Section 1.

DP5100 Valve

- 1 in. (25 mm) angled globe valve
- 0.75 in. (19 mm) flanged gauge connections
- Conval clampseal body construction
- Pressure seal threaded bonnet/yoke
- Rated Class 2155
- Outside screw and yoke (OS & Y) constructions
- SA-105 forged steel body and yoke, nickel plated
- Stellite seat and disc (free rotating)
- Pressure actuated fixed leak-tight backseat
- "T" handle or chainwheel operated
- Optional 0.5 in. (12.7 mm) SW vent/drain
- Integral packing gland wrench
- In-line repairable seat
- Optional ball check safety valves



DP5100 Valve



DP5200 Valve

DP5200 Valve

- 1 in. (25 mm) angled globe valve
- 0.75 in. (19 mm) flanged gauge connections
- Rated Class 1500
- Outside screw and yoke (OS & Y) construction
- SA-105 forged steel body and bonnet
- Bolted bonnet, SA-193 B7 bolts
- Stellite disc, free rotating
- Hardened SS seat with stellite overlay
- Handwheel or chainwheel operator
- Optional 0.75 in. (19 mm) SW vent/drain
- In-line repairable seat
- Optional ball check safety valves

DP5110 Valve

- 0.75 in. (19 mm) angled globe valve
- 0.75 in. (19 mm) pipe nipple gauge connections
- Rated 1500 psi (10 MPa) and 597F (314C)
- Outside screw and yoke (OS & Y) construction
- SA-350 LF2 forged steel body and bonnet
- Bolted bonnet, SA-193 B7 bolts
- Stainless steel stem and hardened seat
- Non-rotating stem
- Handwheel or chainlevel operator
- 0.5 in. (12.7 mm) NPT vent/drain standard
- In-line repairable seat
- Optional ball check safety valves



DP5110 Valve

High Pressure Ported Boiler Level Gauge Repair Kits

B&W's Diamond Power® Series II ported boiler level gauge repair kit is configured to fit Diamond Power level gauge designs. All repair kits use high quality material and are rated for 3000 psi (21 MPa) saturated steam service.

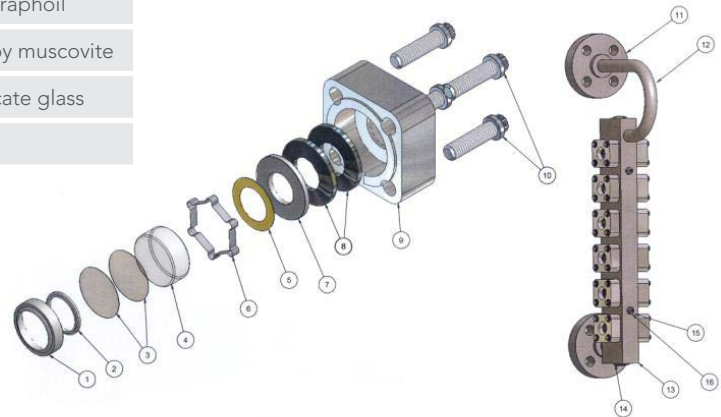


Assembled Repair Kit



The repair kit consists of five (5) components as shown in the photo, table and illustration.

1	Glass Retainer	300 Series stainless steel
2	Sealing Gasket	Laminated and die formed Graphoil
3	Mica (2)	Premium V-1 quality clear ruby muscovite
4	Window	Precision ground aluminosilicate glass
5	Cushion Gasket	High temperature Graphoil



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