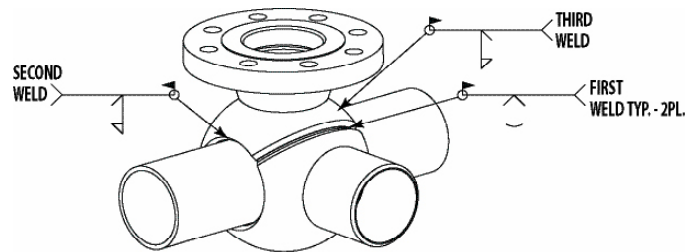
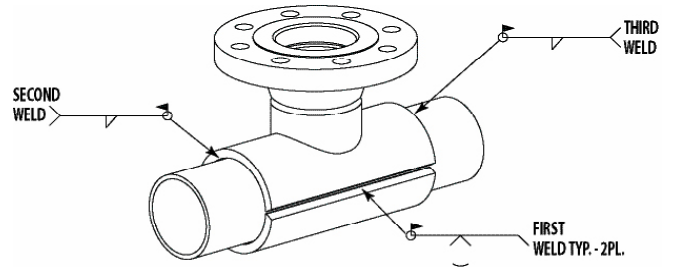


Dresser Blackhawk

Pressure Control Full Encirclement Type Fittings

1. Check the installation location for roundness.
2. Clean the pipe thoroughly. The installation area should be free of all dirt, oil, rust, paint, or other contaminants.
3. Remove plug from fitting. The NPT threaded cap or blind flange may be reinstalled on the fitting to prevent weld spatter from damaging threads and/or O-ring sealing surface. If reinstalling the NPT threaded cap for this purpose, the cap should only be threaded on to the fitting hand tight.
4. Position fitting on pipe. The matched ends of full encirclement fittings are identified by a painted band. The bands must match when placed on the line. Matched full encirclement fittings are also serialized to identify corresponding sleeve halves. Establish a proper gap on the longitudinal weld to avoid fusing the weld to the side wall of the pipe and still allow a full penetration weld. The flange centerline should intersect the centerline of the pipe. The face of the flange should be parallel to the run of the pipe.
5. Welding should be done in accordance with the applicable section(s) of ASME B31. Preheat may not be possible or practical on a flowing pipeline. Blackhawk's standard fitting design and materials do not require preheat under normal pipeline conditions. Tack weld only longitudinal welds, or only longitudinal welds and one end.
6. Welding Sequence for Split Sleeve Fittings and Spherical Fittings:
 - a. Complete the longitudinal welds first. The longitudinal weld bevel should be filled completely for the fittings to meet maximum pressure rating.
 - b. Complete the weld at one end of the fitting and allow sufficient time for cooling. The throat thickness of the circumferential fillet weld should be only slightly greater than the pipe wall thickness (Maximum of 1-1/2 times pipe wall, not the split sleeve wall).
 - c. Complete the weld on the other end.



7. After welding is completed, allow sufficient time for cooling. Inspect and clean threads and/or sealing surfaces of fitting as required, both internally and externally.
8. Visually inspect for cracks, lack of fusion, undercuts, etc. Additional non-destructive examination may be required as part of the pipeline operator's standards or other regulatory requirements.
9. Pressure test fitting installation before hot tapping. Care must be taken not to exceed collapse pressure of pipe.

NOTE: USE QUALIFIED TAPPING OPERATOR AND WELL MAINTAINED EQUIPMENT TO ASSURE TAP IS MADE IN GOOD ALIGNMENT WITH FITTING



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