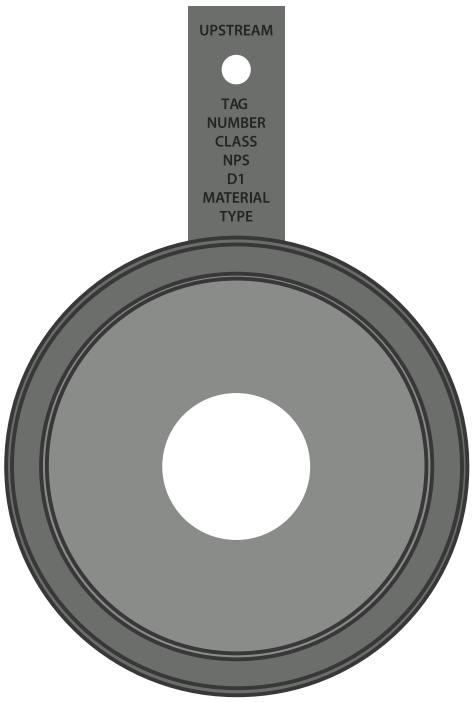
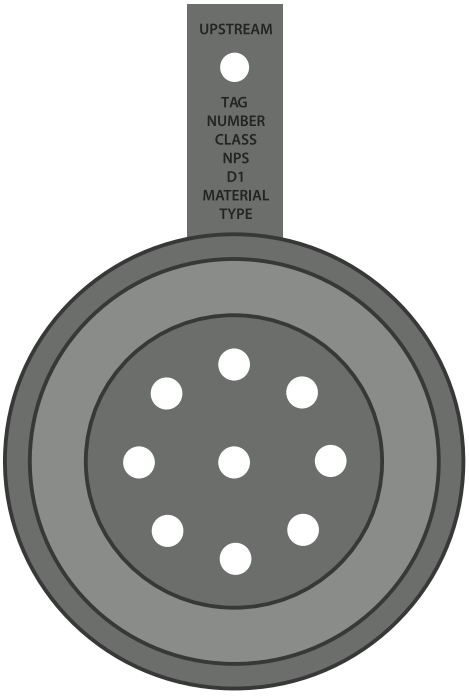
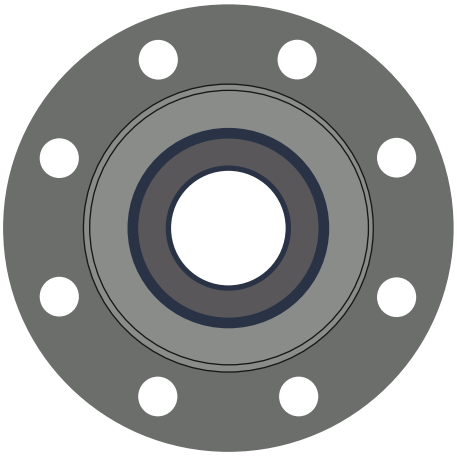
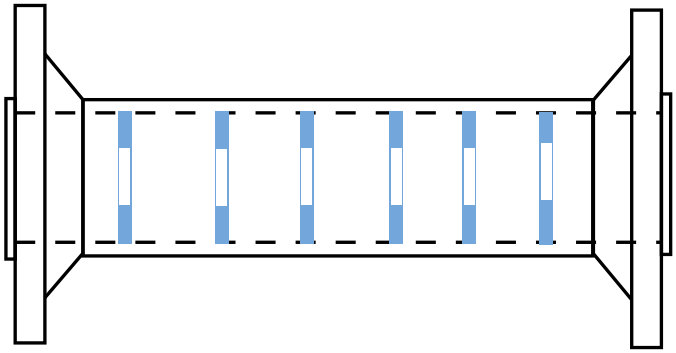
TEK-DP 1610F

Restriction Orifice









Quick Start Guide

1. Before you begin

This guide provides basic guidelines to assist you in quickly getting started.

Make sure only qualified personnel perform the installation.

Remove pressure and drain the pipe assembly prior to installing or removing the orifice plate.

If the process fluid is caustic or otherwise hazardous, follow the instruction closely to prevent mishap.

2. Unpack

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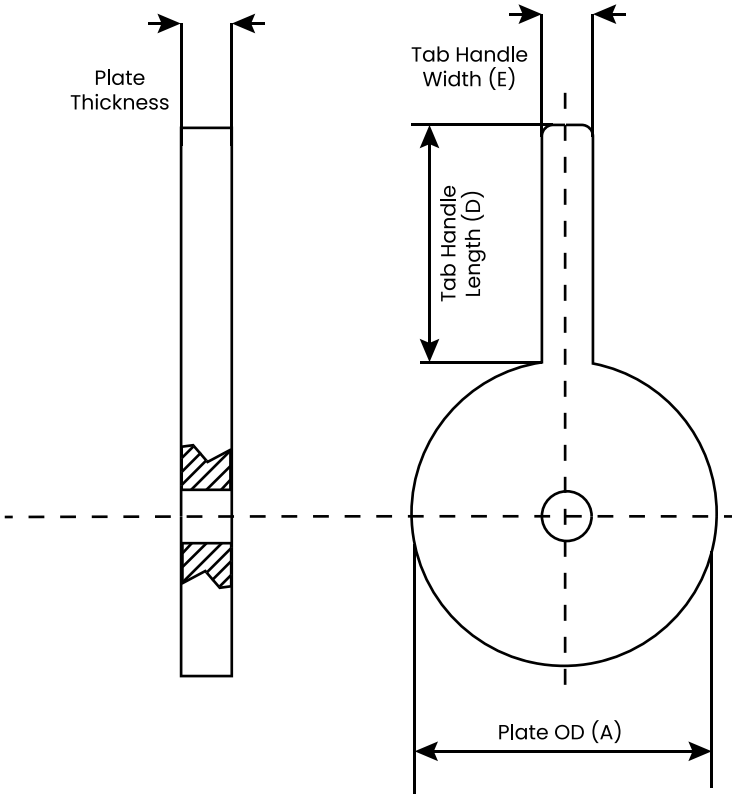
3. Dimensional Drawing



4. Installation

The design and sizing of the Tek DPro restriction orifice has been reviewed by a specialist for stress and noise related evaluations plus applicability for use in your application and confirmed at the quotation stage supply. Tek-DPro Restriction Orifice (R.O) Systems are designed with a substantial plate thickness to withstand the high differential pressures applied, manufactured with a bore in the centre and either inserted between two flanges of a pipe (single unit), or in a multiple plate / stage device.

The following installation parameters should be confirmed before installation:

1. Inspect the shipping container that the R.O. unit has been supplied in for any damage, if so, report the incident back to after sales service with the serial number and also, if possible, a photograph. Inspect the R.O. unit itself for damage if any has occurred and also confirm back to after sales service.

2. Confirm that the data sheet supplied with the unit meets the pressure and temperature parameters for the application and that the serial / tag numbers are intact and meets the technical specification data sheet or purchase order details.

3. Inspect the flanges where the restriction orifice plate (single) is the be installed for scratches / damage and make sure that the correct gaskets are used for the application (client responsibility).
4. Make sure the installation is per local regulations for pressure containment devices i.e., pressure ratings are correct for the required pressure and temperature and the steel type is also confirmed for the pipeline and orifice unit (single plate type).

5. For multi-stage units which are supplied in a housing consisting of a pipe and flanged assembly based on the client's originally supplied data sheet parameters, inspect the flanges for scratches, review the hydrotest certificate to confirm the operating pressure meets the install location pressure and temperature requirements.

6. Install the multistage restriction orifice unit between the users flanges without applying a bend force to the housing or use the R.O. to align the receiving flanged pipes. Support the installation piping with a stanchion if possible either side of a multi-element R.O.

7. All multi element /stage units are designed to withstand the high restriction forces applied to the stated pressure and pressure reduction limits, note: Do not use / install the unit in any location that it has not been specified or designed for. This could cause a catastrophic failure of the elements and at worst case a support pipe housing failure.

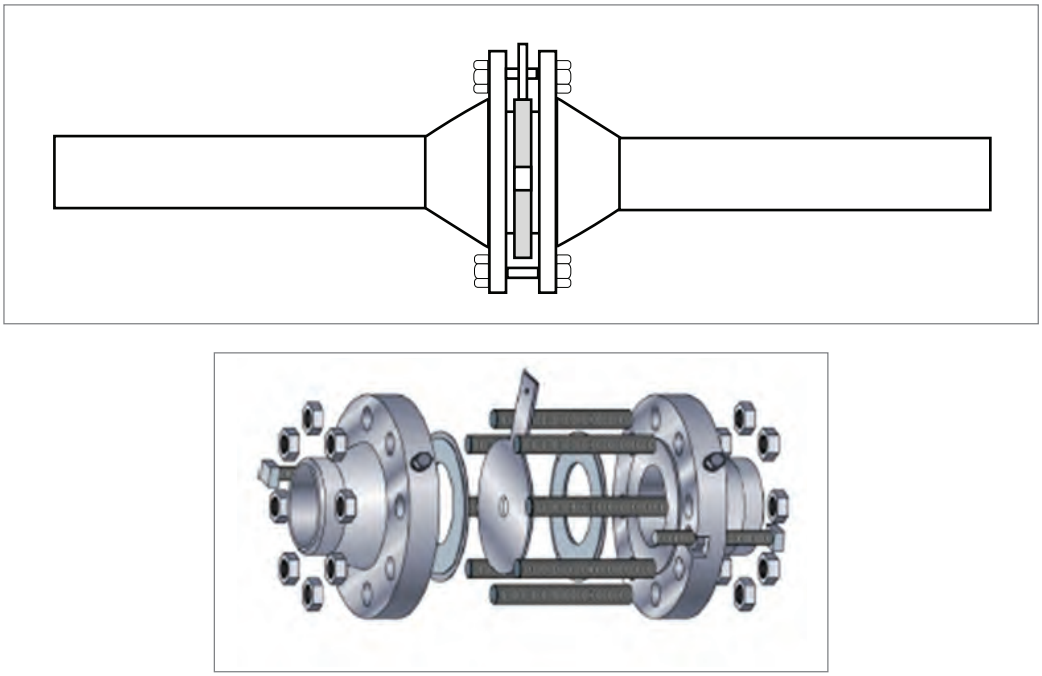


Fig 2: Typical Single Stage Installations

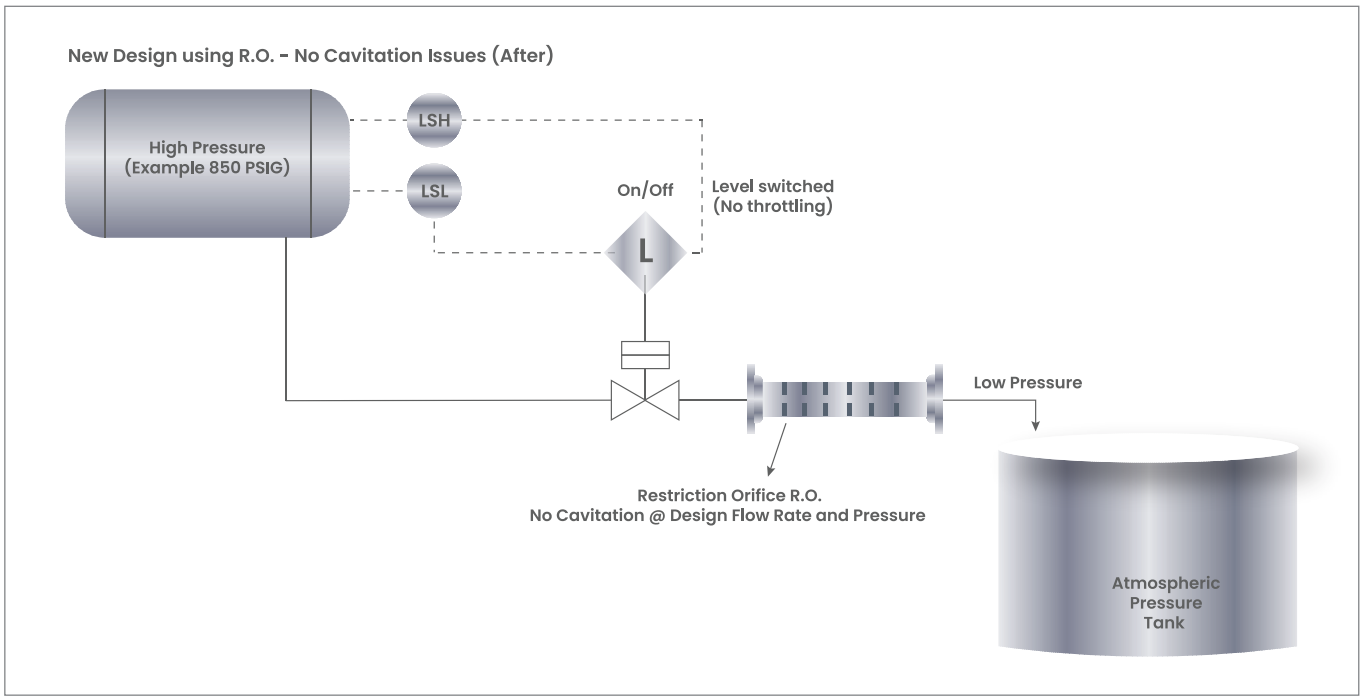


Fig 3: Typical Multistage R.O. System Installation

5. Maintenance

Dismantling and inspection

1. Unscrew the bolts and separate the flanges so that the restriction element and gaskets can be removed.
2. The best way to disassemble the fasteners is to use the opposite procedure of the one you used to tighten them : use a cross bolt untightening procedure, proceed with several passes, gradually release the nuts by running then back along the fasteners but don't remove them (the nuts should be removed only when the fasteners are sufficiently loose to check that the seal has been correctly broken), handle the flange and fastener components carefully to avoid damage.
3. On opening the flange and removing the previous gasket, the flange faces will often be contaminated with fragments of the old gasket which must be removed before a new gasket can be safely installed. Cleaning the faces of the flange is then necessary.
4. Check that the element and the flanges are free from any mechanical damage : material corrosion, erosion or wear that could occur during operation. Replace gaskets every time

Reassembly

1. Check that the interior of the pipes are clean. Dirt which can readily detach from the pipe or any metallic pipe defects shall be removed.
2. Providing the flanges are already welded into the line, you can insert the appropriate gaskets between the element and the flange faces (which can be either RF or RTJ male or female).
3. Tighten the bolts on the flanges, observing the maximum torque according to the relevant specifications.

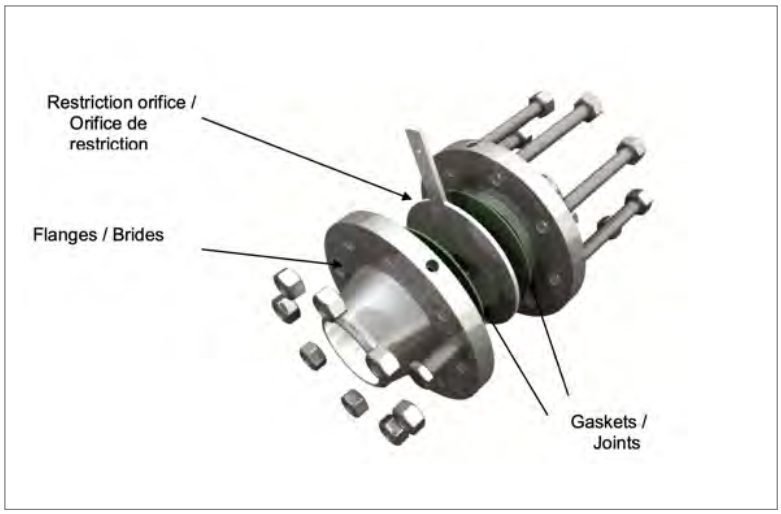


Fig 3: Assembly of the restriction orifice single plate between

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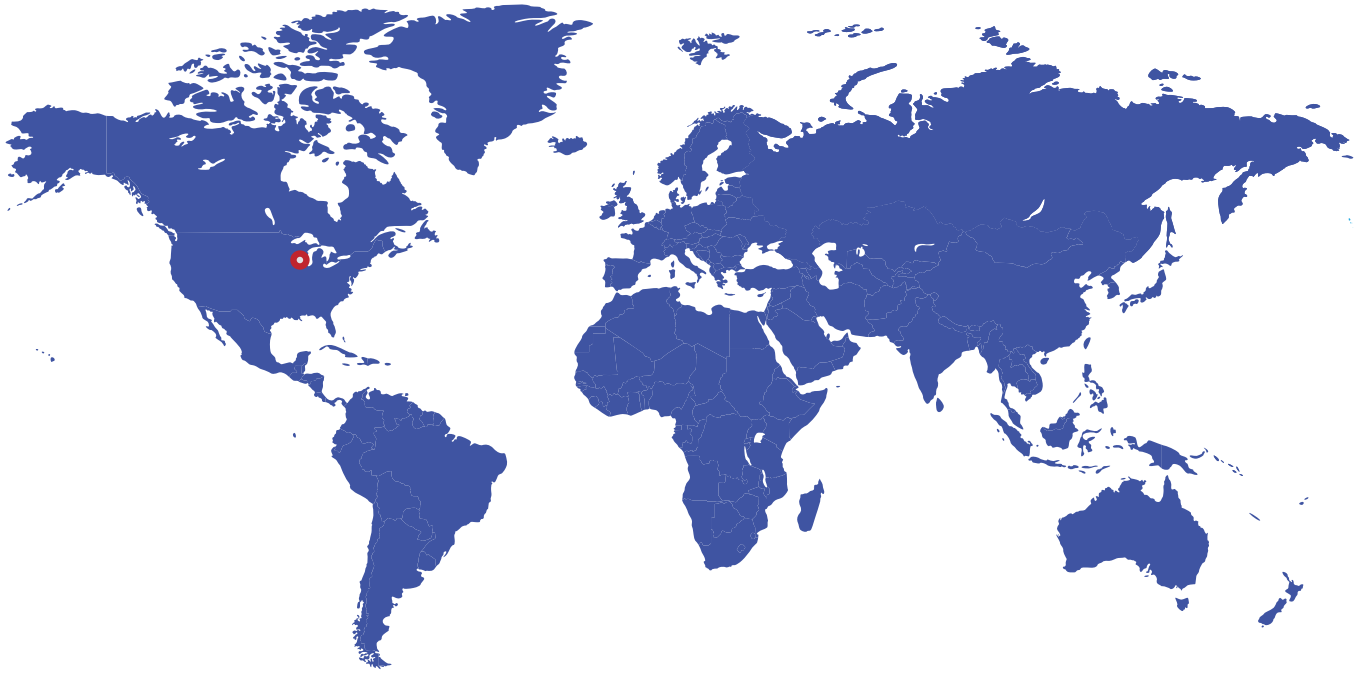

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