

Closure Flange Support Hinges for Blind Flanges

An Innovative Method and Apparatus for Supporting a Medium to Heavy Duty Blind Flange

Hinge Assembly Pivots the Mount Blind Flange to the Pipe Weld Neck Flange

- Allows blind flange to open without using crane or heavy lifting devices
- Opens up to 180° providing access for maintenance or inspection on the weld neck flange or inside the pipeline
- PT&P offers two types of flange hinges: Removable and Permanent
- Design for blind flange and manway cover of any size and/or weight.
- Quick and easy installation (depending on flange size)
- Safe to use and no floor space required
- Can be installed on the right or left side of the flange
- Bolting type: Expansion bolts (PT&P Design)
- Aerospace, oil-field, petrochemical and refinery industries and more
- No deflection or required welding



PT&P recently designed 159 closure flange support hinges for up to 72" diameters (pictured below), We can accommodate for larger sizes upon request.



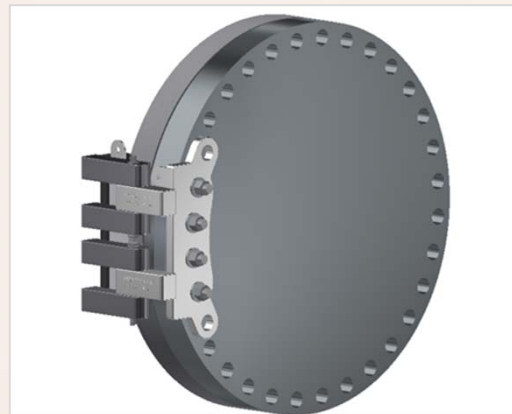
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Presently, flanges are used to provide an airtight cover to various piping systems that include pipelines in the oil industry, heat exchangers, ships, tanks, etc.

Routine maintenance requires the heavy duty blind flange to be removed for cleaning and repairs. However, for these types of flanges, it is quite difficult to disassemble, clean and repair. It typically requires employing a forklift, crane, or other lifting devices. This can require excessive man hours, and the alignment of the flanges can remain unpredictable.



PT&P introduced a closure flange hinge with specially designed self-locking bolts and two self-lubricated hinge studs to support the blind flange when all the fastening bolts are removed for maintenance or replacement. The blind flange can be opened like a "door" with little effort. Our product opens up to 180 degrees, providing full accessibility to work on the pipeline, heat exchanger, or other equipment.



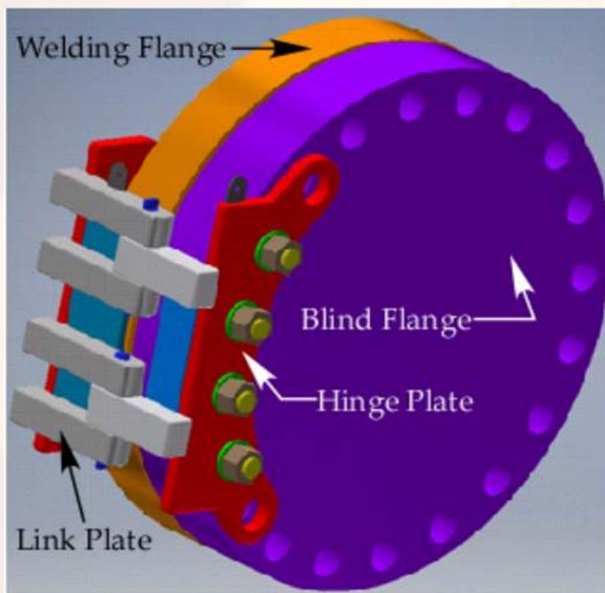
Removable type of closure flange support hinge is for opening and closing blind flange or air tight cover on weld neck flange. After the completion of the operation, it is removed and reinstall the blind flange on weld neck flange.

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To solve the issues, PT&P invented two versions of hinges for blind flanges:

PERMANENT FIXED HINGE

- Permanent hinge remains with the flange even after repair /maintenance
- This is typically used for small size blind flanges



Finite Element Analysis

TEMPORARY/REMOVABLE HINGE

- Temporary Hinge designs are typically for large flanges
- The hinge is attached to the blind flange during installation / repair / maintenance
- After installation / repair / maintenance, all the bolts except for the hinge are fixed to the weld neck flange
- After the blind flange is secured to the weld neck flange by the fastening bolts, the hinge is removed and replaced by the fastening bolts

