

## Quickflange™ Weldless Connectors



### Permanent repair – gas tight and mechanically strong flange-to-pipe connections without welding

ICR is a leading provider of high performance weldless, flange to pipe connection solutions. The patented technology is a permanent solution for improving pipeline integrity and flow assurance to the Oil & Gas industry. Our safe and cost-effective solutions are standard weld neck flanges which are quickly mounted involving no hot work or welding.

#### UNDER PRESSURE

The mechanically robust weldless flange to pipe connection combines a modified standard flange with a hydraulic tool and patented internal groove pattern to machine in such a way that it slides over the pipe end and is activated with a cold-forging tool. The two processes generate

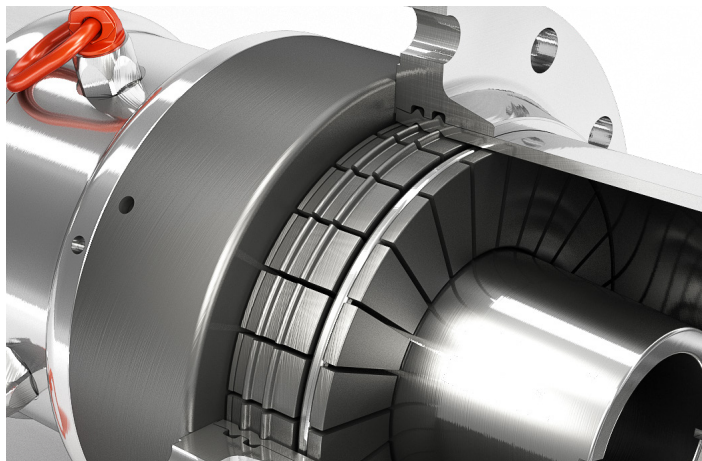
huge contact pressures, forming a seal and grip on the pipe. No spark or heat is generated and the process secures a metal to metal seal with no moving parts, balls, springs or gaskets.

#### APPLICATIONS

Quickflange™ was developed to support construction, maintenance and modification of new and existing pipework. To date, the weldless connection solutions have been used around the world with over 10,000 applications.

#### TYPICAL APPLICATIONS INCLUDE:

- Replacement of damaged or corroded piping/existing flanges
- Replacement of Insertion of valves and tees
- Re-routing and de-bottlenecking
- Pipe work and new spool tie-ins
- Fitting flanges in restricted areas
- Difficult to weld materials including CuNi, Monel and Duplex



<b>Pipe Size</b>	3/4" to 14"
<b>Pipe Wall</b>	2mm to 14mm
<b>Pressure Rating</b>	150# to 1500#
<b>Pipe Material</b>	Carbon Steel, Stainless Steel (316, 6Mo, 22Cr, 25Cr), Copper-nickel Nickel alloy
<b>Flange Geometry</b>	ASME B16.5; EEMUA 145; EN 1092-1



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### TECHNICAL FEATURES

Partnering closely with leading Oil & Gas industry certifying authority, Det Norske Veritas (DNV), the Quickflange™ has passed vigorous testing and qualification for pressure containment properties and high load resistance values.

The range of solutions are constantly evolving with new combinations of pipe diameters, materials and pressure ratings.

### TECHNICAL FEATURES INCLUDE:

- No heat, no spark, no hot work
- Permanent full-strength connections
- Activated in minutes
- Light and simple one part design
- Crevice corrosion protection
- DNV Certified Installations Zone 1 and 2



### RESULTS & BENEFITS

- **IMPROVED SAFETY** As the flange is slid over the pipe end and activated with a cold-forging tool, no hot work is required. By avoiding the use of gases, ignition sources and flames traditionally required for welding, ensures increased safety.
- **QUICK** The whole connection process takes no more than 15 minutes for the largest size (14") and less for smaller pipe diameters. Furthermore, Quickflange™ uses a modified standard self-contained flange so it can be shipped and delivered within hours bringing significant time savings.
- **FLEXIBLE** Installation can take place in contained areas with no impact to production and with a wide range of pipe diameters, this is a fully flexible solution. The Quickflange™ weldless connection is also compatible with numerous materials.
- **REDUCED COSTS** With simple application and installation, personnel requirements compared with traditional welding techniques, ensures a cost effective weldless pipe connection solution.