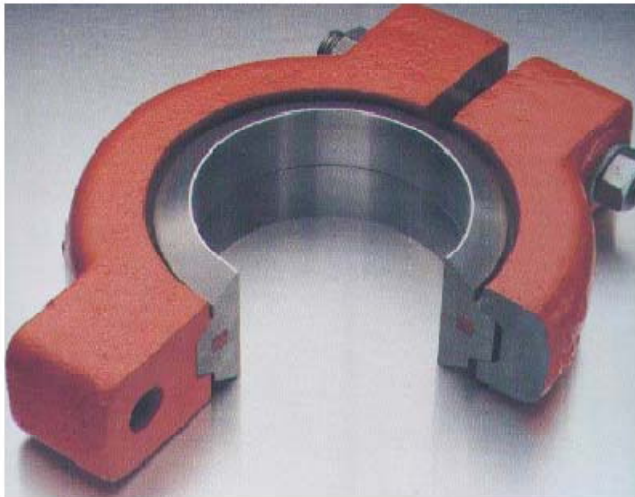


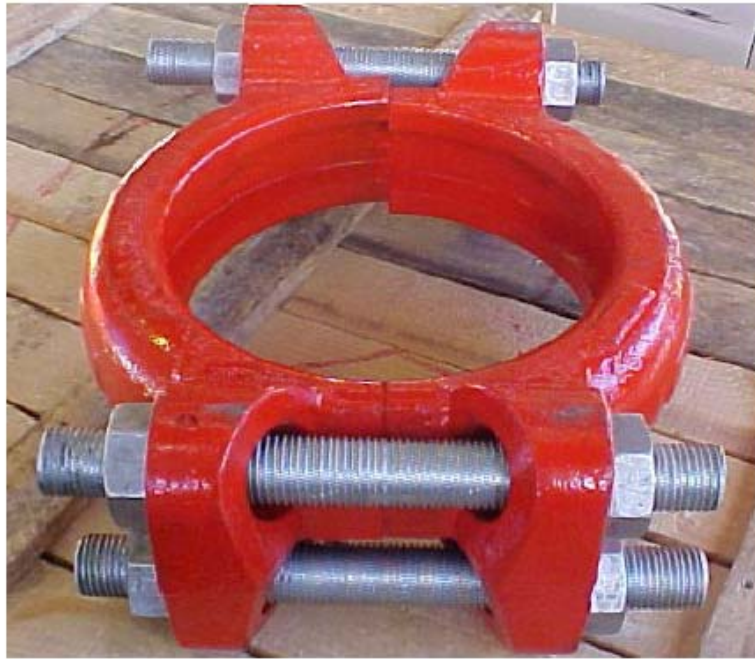
HPE High Pressure Pipe Couplings

PURPOSE

Pipe clamps and hubs are a safe, easy and economical way of joining high pressure pipes compared with traditional flanges.



Hydro Power Equipment is manufactured in South Africa and is represented by Upwey Valve & Engineering Pty Ltd.



DESCRIPTION

A pair of clamps with a tapered recess machined into them fit over tapered hubs which are welded onto the ends of the pipe. A firm, but elastic seal ring fits into grooves machined in the faces of the hub and provide an alignment spigot for assembly and an effective seal. The clamps are pulled together with either two or four bolts.

The 15 degree taper of the hubs is sufficiently large to make initial fitting and tightening easy.

50 to 100NB clamps are held together by 2- bolts and nuts while 150 to 300NB clamps are pulled up with 4 studs with self-aligning nuts. These clamps are all ANSI class 1500 (MPa) rated. All the fasteners are low tensile (grade 4.6), galvanized and have generous corrosion allowances.

An earlier range of two bolt clamps is also available for low pressure applications (ANSI class 900 and below—16MPa).

The hubs are made of wrought steel with guaranteed properties and are factory welded onto the pipes. The weld is as simple as a normal butt weld done by code welders to a controlled standard.

FEATURES

- Designed in accordance with ANSI/ASME VIII.
- Designs tested and approved by CSIR Miningtek to burst pressure in excess of 5 times the rated working pressure.
- Installation is quick and easy.
- The seals are robust and re-useable many times over.
- No secondary leak protection baffles are needed due to the contorted leak path of a possible leak. This eliminates the risk of a person being jetted by a poorly assemble joint.
- The seal is mechanically and pressure loaded ensuring that the seal will work under positive, negative and alternating pressures.
- The clamp and hub joint is lighter and more compact than flanges of similar rating.
- The clamp and hub joint is less expensive than flanges of similar rating.
- The clamp and hub joint is much quicker to install than flanges of similar rating due the smaller number of bolts.
- The joint can be twisted to any angle eliminating the bolt-hole alignment requirements of flanges.
- The hub is full bore and therefore no flow restriction or turbulence is induced.
- The relief space provided between the clamps allows corroded bolts to be removed with a cutting torch without damaging the clamp.

INSTALLATION PROCEDURE--CLAMPS WITH LOW TENSILE STRENGTH (GRADE 4.6) FASTENERS

(A new range of tapered hub and clamp pipe connectors has been designed to replace connectors with high tensile (Grade 8.8 or equivalent) fasteners.)

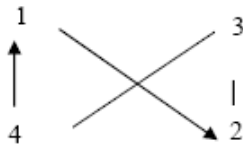
Fasteners:

- Hot dip galvanized.
- Low tensile (grade 4.6).
- High ductility (i.e. will stretch a lot before break rather than snapping).
- Self-aligning, hence
 - Ensure spherical surface of nut engages cone shaped depression on clamp lug.
 - Where supplied with spherical washer, ensure spherical surface engages cone shaped depression on clamp lug.

Tightening:

NB	DRAWING NUMBER	NEW L.T. FASTENER CLAMP	TORQUE DRY (Nm)	TORQUE WET- 'COPPER SLIP' (Nm)
50	GUC 1192 000 00	2 x M16	95	-
80	GUC 2292 000 00	2 x M20	185	-
100	GUC 3392 000 00	2 x M24	320	210
150	GUC 4492 000 00	4 x M24	-	210
200	GUC 5592 000 00	4 x M30	-	410

- Always use torque wrench and 'copper slip' on 4-bolt clamps to ensure even loading.
- Tightening sequence on 4-bolt clamps.



- Repeat sequence until all fasteners are correct torque.
- Ensure gaps between clamp equal within 3 mm.
- Before checking final torque ensure that clamp bedded by tapping with a copper or lead shot hammer on the hammer pad provided.
- Do not hammer the clamps with steel hammers.

Removing clamps:

Never remove bolts and nuts from a clamp fully before loosening the joint. Crack the seal before removing the bolts and nuts. The joint will not fly apart if bolts and nuts can keep the clamps loosely together.

TECHNICAL SPECIFICATIONS

Seal:	Robust UHMPE unit (can be reused time and time again)
Hubs:	ST52
Clamp:	Cast steel (machined to ensure a correct wedge contact surface)
Bolts/Studs:	Gr 4.6 galvanised

Postal Address:
Upwey Valve & Engineering Pty Ltd
PO Box 3206, Nunawading
Victoria 3131, Australia

Street Address:
Upwey Valve & Engineering Pty Ltd
Unit 3, 27 – 33 Thornton Crescent
Mitcham, Victoria, 3132, Australia

Phone: +61 3 9754 7700
Fax: +61 3 9754 7711
Email: sales@upwey.com
ABN: 16 141 462 660