

Total Solutions

Petracarbon (Thailand) Co., Ltd is a hi-tech company with their primary goal to promote advanced repair & maintenance technologies for oil & gas, chemical, petrochemical, oil refining industries in Thailand and in neighbouring countries.

We are able to provide full scope for pipeline tie-in services:

- Cold Cutting
- Pipeline Isolation
- Hydrotesting of weld integrity
- Bolt tightening
- Flange Management Program

Achievements

Petracarbon (Thailand) Co., Ltd, has been certified by DNL-GL for all the 3 Management System Certifications. Namely;

- ISO9001:2015
- ISO14001:2015
- ISO45001:2018

Contact us:

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Flange Weld Testers

Petracarbon provides an extensive range of flange weld test equipment. Flange weld testers (FWT) and internal weld testers (IWT) are isolation tools that have been designed and manufactured for the oil & gas and process industries, to carry out localised pressure testing of weld neck and slip on flange joints to ensure weld integrity.

We have a comprehensive standard range of flange weld testers cover a wide range of pipe sizes from ½" to 36" available for rental with full ancillary equipment.

In addition, we can design, manufacture and test non-standard systems for special applications; these include remotely positioned, activated flange weld testers and joints above 36".

All weld testers has undergone quality checked in-house and are ready for immediate mobilisation. These weld testers come with single or double seals to meet various flange configuration, with testing pressure up to 230bar.

Training will be provided by our highly trained personnel to support weld testers rental and services.

Advantages of using weld testers

- provide hot work barriers and localized hydrostatic testing to verify the structural integrity of welds or fittings.
- by minimizing pressure test volume and system limits, it increasing worksite safety and minimizing environmental impact.
- reducing downtime required to undertake the maintenance or modification work.
- provide a fast and efficient method of installing temporary test caps on plain end pipe to perform hydrostatic leak and strength tests during piping repair, tie-in or capping of redundant pipework.
- save time and reduce costs by limiting test area to only the new weld or welded component.
- No requirement to flood & de-water the whole pipe work.
- No requirement for full system pressurization beneficial

this issue

Weld Testers **P.1**

Pipeline Tie-in **P.2**

Cold Cutting **P.3**



Key features

- Simple, straight forward installation and activate the tester in a matter of minutes.
- Suitable for use with most test mediums (liquid or gas).
- Self locating capability with no special tools are needed.
- Large section high quality elastomer seals ensure a leak tight seal, even in heavy pitted pipework.
- Designed with generous radial clearance to cope with typical internal obstructions such as weld beads, ovality, etc.
- Tools can be configured to suit applications whereby hydrotest is required on butt weld between flange and welded fitting such as an elbow or tee.
- High performance polyurethane elastomer seals provide excellent radial expansion and relaxation properties, even after many operating cycles.
- Robust construction ensures years of trouble free operation even in the harshest environments.
- Suitable for installation in horizontal, vertical and inclined applications.
- Designed according with ASME PCC-2, Type III & IV, Test devices for localized pressure or tightness testing

Pipeline Tie-in

The term 'Tie-in' is generally used to describe the connection of a pipeline to a facility, to other pipeline systems or the connecting together of different sections of a single pipeline.

It also refers to additions or modifications to existing systems, for example to connect re-construction pipelines, insert Tees, spool pieces, valves etc.

Tie-ins are normally performed with the pipeline already in the trench or on pipe supports. As the joint has to be made between 2 ends of pre-completed pipeline sections there is no way for introducing any internal equipment into the pipe.

All operations are therefore carried out externally and the accuracy of cutting, preparation and alignment of the pipe ends prior welding.

In a process plant, line isolation by putting blinds on flanges, line breaking and disconnecting from the process is critical as it may presence of combustible gases inside or outside the pipe. Thus, all hot work-related activities have to be properly assessed prior commencement of work.

Pipeline has to be purged with inert gases, isolate with plugs and/or ballons to avoid any sudden gas flow from the pipe before cold cutting. Constant monitoring the % LEL is



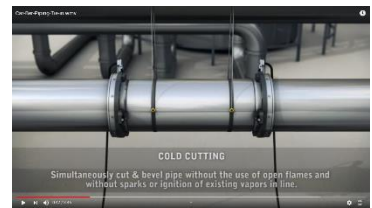
Pictorial procedures on Tie-in with cold cutting and welding.



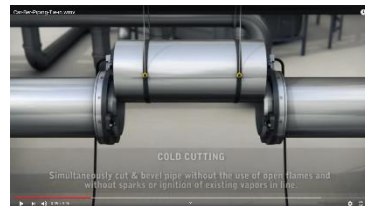
Step 1 (Identify the pipeline for tie-in)



Step 2 (Mark out and secure the portion)



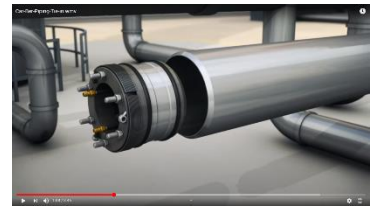
Step 3 (Install clamshell cutters & cut out)



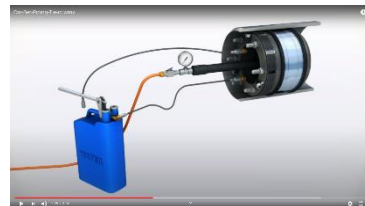
Step 4 (Remove the cut out section)



Step 5 (Pipe end preparation and cleaning)



Step 6 (Select appropriate weld tester)



Step 7 (Install and set up equipment)



Step 8 (Isolate and perform gas test)



Step 9 (Inert gas purging & welding of flange)



Step 10 (Shift weld tester to required position)



Step 11 (Perform hydrotest at required pressure)



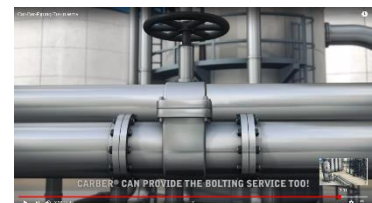
Step 12 (Completed of test & depressurized)



Step 13 (Prepare flange ends for joint fit-up)



Step 14 (Perform tie-in with appropriate equipment)



Step 15 (Equipment bolt-up & ready for start-up)

The above pictures have been extracted and used with courtesy of Carber Isolation Services.



Pipe cutting machine which you can trust...

Clamshell Cutter, also known as Split Frame Cutter or Cold Pipe Cutter, which deliver outstanding performance when cutting and beveling large pipe diameter. Industries using these cutters in construction, decommissioning, maintenance, component replacement, fabrication, and refurbishment works.

Our Clamshell Cutter uses pneumatic or hydraulically powered motors, specifically in potentially explosive environments where sources of ignition (open/sparks) caused by hot cutting cannot be used.

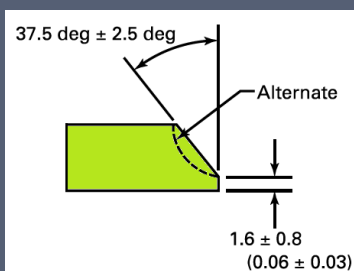
The machines are engineered to cut, bevel, counter bore, single point and flange face on pipes ranging from 2" to 54" on all types of materials and wall thicknesses. With ten distinct model of machines, with an array of accessories and three drive options, which give an ideal configuration in meeting most of the on-site machining application.

Technology Solutions for pipe cutting

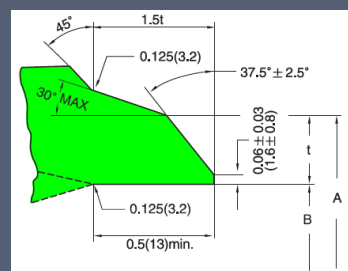


ASME B16.25 – Buttwelding Ends

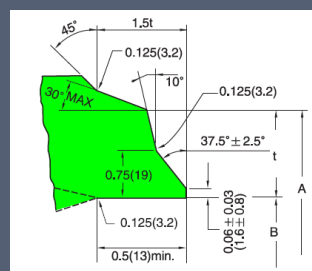
ASME/ANSI B16.25 is the standard covers the preparation of butt welding ends of piping components to be joined into a piping system by welding. The standard includes the butt welding ends information of general scope, welding bevel designs, preparation of inside diameter of welding ends and the tolerances involved.



For wall thickness (t) 0.12" to 0.38"
(3mm to 10mm)



For wall thickness (t) 0.12" to 0.88"
(3mm to 22mm)



For wall thickness (t) more than 0.88"
(> 22mm)