Under Pressure Drills

Live Tap In Under Pressure Drill Kits
Under Pressure Drills

Overview

Hot Tap-In Solutions for Operational & Pressurized Pipelines

Application
Thomas Pipe Products are specialists when it comes to under pressure drilling; or hot tapping as it is commonly known. Under pressure drilling is the precise process of drilling a hole into a flowing pipe system without leaking its contents or interrupting flow. We can design, manufacture and install tap in saddles and tees to any size that can be tailor made to your individual requirements.

Advantages
Our Under Pressure Drills (UPD’s) provide an opportunity for a flanged pipe to branch out from a live line without the need for any costly disruption to the flow. Our in-house design facility ensures the tapping saddle or tee can be manufactured to any bespoke size then bolted to the existing pipe. We have special cutters allowing operators to cut through virtually all pipe materials including steel, PVC and AC. Under Pressure Drill (UPD) kits are sold in a steel tool box ready for use.

There is no downtime of the pipeline or costly cutting of a section of the pipeline out. Hot tap into a live pipeline within 1 hour.

Easy to Operate
Our Under Pressure Drills are designed for drilling and tapping into ‘LIVE’ pipelines, i.e. an operational and under pressure pipeline. The drilling machine is connected to an isolation valve that is mechanically bolted to the pipe via either a Buffalo Universal Saddle, a Thomas Ultra Clamp Saddle or an Easi Tee. The drilling machine is water tight and can be removed from the pipeline within minutes of drilling. Leaving an isolation valve connected to the live pipeline.

Cutting Head Sizes
- DN15mm - DN150mm

Industries
- Water

Pipe Materials
- Ductile Iron
- Cast Iron
- Steel
- Stainless Steel
- PVC
- HDPE
- AC
Under Pressure Drills

Specifications

Pressure Rating
The Working Pressure of a standard Under Pressure Drill is equal to WP = 16 bar.
Test Pressure = 1.5 x WP = 24 Bar.

Pipe Preparation
The surface upon which the saddle seal seats should be clean, smooth and free of deep scratches, dents and grooves. The UPD must be securely fastened to a valve in order to isolate the saddle once drilling is complete.

Simple Operation
1. Assemble saddle onto the pipe
2. Connect barrel nipple into saddle
3. Connect full bore ball valve onto barrel nipple
4. Connect threaded Under Pressure Drilling machine adaptor onto the ball valve. Each nominal bore requires an adaptor to suit
5. Connect Under Pressure Drilling machine to the adaptor. The correct size hole saw must be fixed to the end of the drilling machine shaft
6. Connect the drilling ratchet to the Under Pressure Drilling machine shaft
7. You are now ready to drill
8. Open the ball valve
9. Feed the hole saw and drilling shaft through the open ball valve until it comes into contact with the pipe outer wall
10. By turning the ratchet in a clockwise motion, the hole saw will begin to cut a hole into the outer wall of the pipe
11. Drive the hole saw down by turning the top handle in a clockwise direction
12. When the hole is cut the pipe segment will be lodged into the hole saw by the pilot drill
13. Loosen the top handle in an anti-clockwise direction
14. Withdraw the hole saw through the open ball valve
15. Close the ball valve
16. Disconnect the Under Pressure Drilling machine from the ball valve

Material Specification

<table>
<thead>
<tr>
<th>Drilling Machine</th>
<th>O-Rings</th>
<th>Cutting Saw</th>
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<tbody>
<tr>
<td>Various steels</td>
<td>Nitrile</td>
<td>Tool Steel</td>
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</tbody>
</table>

Coating
Where applicable the mild steel is electro-galvanized

Steel Box
Mild Steel

Box Coating
Fusion Bonded Epoxy - 100 microns
Choosing the Correct Tap-In Product
It is important to choose the correct tap-in product when planning a connection. Different tap in saddles and tees offer varied advantages and performance characteristics.

Possibility of Pipe Cracking
When tapping into old and damaged pipes there always exists the possibility of the pipe wall cracking. Particularly with Asbestos & Fibre Cement pipe, where, a full circle rubber mat seal is essential. Therefore the installer should select an Easi Tee or Ultra Saddle / Tee.

<table>
<thead>
<tr>
<th>APPLICATION</th>
<th>PRODUCT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BUFFALO SINGLE STRAP</td>
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<tr>
<td>Tap In Connection</td>
<td>√</td>
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<tr>
<td>Impact Damage</td>
<td>X</td>
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<tr>
<td>Corrosion Holes</td>
<td>X</td>
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<tr>
<td>Longitudinal Cracks</td>
<td>X</td>
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<tr>
<td>Circumferential Cracks</td>
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<tr>
<td>Joining Pipes</td>
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