
Question 45: What are the safe and reliable options for rodding out plugged bleeders such as hydraulic ram pumps, packing gland / drill assemblies or tangential bleeders? How are these options used in a best practice for ensuring piping is hydrocarbon free and ready for maintenance?

CASEY LANG (MERRICK & Co.)

Rod out tools or bleeder cleaners are safe and effective at clearing clogged drain, vent and instrument valves to be cleaned during normal operations. Most include some type of drill bit and local pressure gauge and are designed to handle high temperature and pressure applications. Packing material should be selected based on stream corrosivity, pH and pressure requirements. Several arrangements are available direct from manufactures, for example: Straight, Flexible, 90°, 135°.

Reliability Guidelines:

1. Ensure annual leak test and hydrotests are documented.
2. Verify design Temperature, Pressure, packing material for intended service.
3. Maintain tool functionality (i.e., sharp drill bit, valve integrity, threaded connections)

Safe Use Guidelines:

1. Ensure drill bit has been fully retracted with measurements and markings before closing process valve.
 2. The handle and drill bit should ONLY be turned to the right (clockwise) to prevent 'unwinding' during insertion and retraction.
 3. Do not flow process fluid through device; Temperature and Pressure rating based on zero process flow.
 4. Always remove tool after use, not intended as permanent drain valve.
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Manual hydraulic ram pumps have also been successfully employed at Refineries. Diesel type product is pumped directly through the (bleeder) valve using a portable PD pump.

Main column bottoms and HCO circuits are most prone to pugged drain and vent valves.

ALEC KLINGHOFFER (Coffeyville Resources)

Bleeders and taps are cleaned out using a tool like the one shown in the picture. The tool is attached to the bleeder and the obstruction is drilled out. The apparatus is contained, and line pressure can be vented. These tools are available from several different vendors.

DEWEY STUART (Motiva Enterprises)

The primary tool used for plugged bleeders are packing gland/hand drill assemblies. These tools come with a pressure gauge to verify if the bleeder is unplugged. Choosing the correct assembly for both connections and system pressures is critical to prevent releases while also clearing the bleeder. The packing gland rating and current condition needs to be verified and checked for each connection location.

We also use Multi-Pressure Bucket Pumps and on occasion, primarily used for instrument taps, is a small, fixed volume nitrogen container.

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