

GENERAL

The Caproco HT-1001 Hot Tap is a specialized tool designed to bore into a fully-pressurized pipe or vessel via a high pressure access fitting, in order to gain an entry point where internal corrosion monitoring equipment can be exposed to the operating system. The hot tap tool is used in conjunction with the Caproco service valve.

The drilling machine offers a safe and reliable means of drilling a clean hole without distortion. The service valve acts as a guide to ensure straight alignment for the cut, and acts as a seal, containing line pressure when the hot tap tool is removed. With its 18" reach, the high pressure drilling machine may be used for a variety of applications.

APPLICATION

The procedure that is followed when an access fitting is attached, tested and hot tapped under pressure, is outlined below.

The first step is to determine the wall thickness of the vessel or pipe (an ultrasonic thickness tester may be used). The access fitting is then welded onto the structure and the weld is pressure tested using the hydrostatic test assembly.

The service valve is threaded onto the access fitting and the hammer nut on the valve is tightened using a brass hammer. When the service valve is installed, a check should be done to verify that the bleed valves are closed and the service valve itself is open.

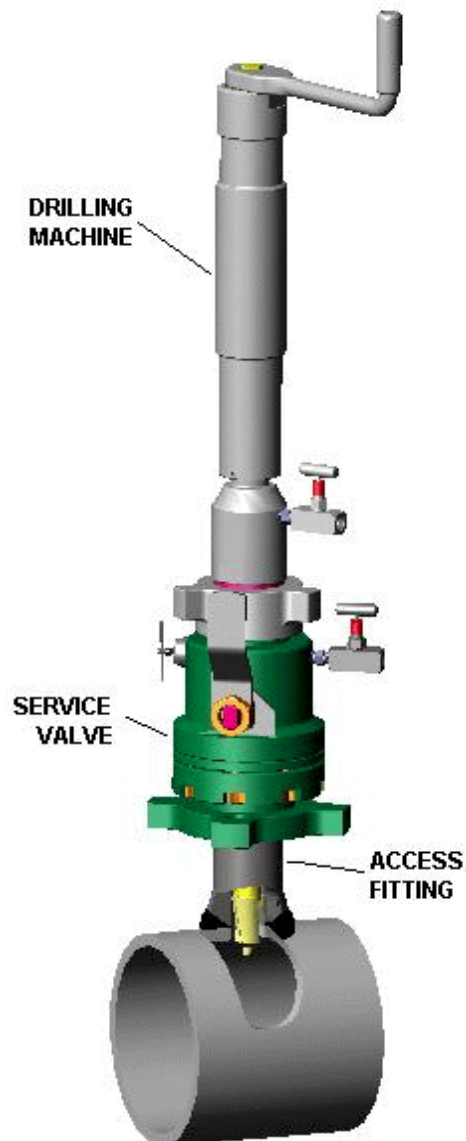
The drilling machine is then attached to the service valve and the hammer nut on the drilling machine is tightened with a brass hammer. At this point, an important feature of the Caproco high pressure hot tap may be utilized. Before drilling commences, the whole assembly may be pressure tested, using a back pressure pump and diverter hose. This feature ensures the safety of operators as well as preventing the possibility of hazardous material spillage.

The drill is now lowered to the surface of the structure and a clean hole is drilled. A step-type drill is supplied for more accurate hole placement and ease of drilling. In addition to the step-type drill, Caproco offers other types of drills and cutters for special applications. When drilling is completed, the drill bit is simply raised above the valve, which is then closed. The bleed valve

on the drilling machine may then be opened to release the contained pressure. The drilling machine can then be removed from the service valve.

At this point the Caproco retriever is installed with a chip remover assembly, followed by a magnetic swab, which cleans any cuttings out of the access fitting threads. A surge tube may also be used for this purpose.

The system is now ready to have a corrosion monitoring device installed, through the use of a Caproco solid or hollow plug.



The hot tap machine is strongly recommended when installing access fittings on un-pressurized locations (cold tapping), for example at the pipe/system fabrication stage, to avoid any difficulties in improper alignment. An adapter for the machine to attach directly to an access fitting is available for this purpose.

SPECIFICATIONS

The Caproco high pressure hot tap is manufactured from stainless steel with hardened high speed drill bits.

MAXIMUM OPERATING PRESSURE (AT 100°F / 38°C)	1,440 PSI (9.9 Mpa)
Maximum Operating Temperature (at 700 psi / 4.8 MPa)	700°F (371°C)

HT-1001 HOT TAP DRILLING MACHINE KIT (P/N 11591)

INCLUDES:

Hot Tap Machine, Service Valve Adaptor w/ Hammer Nut, Step Drill, Packing Retaining Nut w/ Bar, Brass Hammer, Heavy Duty Carry Case, Teflon Tape and Lubriplate Grease.

SPARE PARTS

DESCRIPTION	PART NUMBER
Thrust Bearing	11599
Bearing Retainer Nut	11600
High Temperature Packing	11602
Packing Retainer	11603
Retainer Spring (2)	11604
Teflon Tape (½" x 45')	11607
Tube Lubriplate Grease (10 oz.)	11608
Drill Bit Step-Type (1 23 / 64")	11629
O-Ring (Viton)	11609

OPTIONAL EQUIPMENT

DESCRIPTION	PART NUMBER
Hydrostatic Test Assembly	11675
Magnetic Swab Assembly	11676
Chip Remover Assembly	11677
Back Pressure Pump	11673
Diverter Hose Assembly	11612
Surge Tube Assembly	11613
Seat Reamer	11740
Thread Chaser	11533

